

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE
SUCCEED
FOUNDED 1882

Director, Central Exp. Sta. 8111

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

VOL. LI.

ENTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1915.
LONDON, ONTARIO, FEBRUARY 3, 1916.

No. 1219

PURITY FLOUR

"More bread and
better bread"

Ask your dealer





Rebuilt Portable and Traction Engines and Threshers

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

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

Good Ensilage is Canned Sunshine

It puts your cows on June pastures in January. When you have a—

HYLO SILO

You are always assured of sweet ensilage. The HYLO SILO is air-tight, frost-proof, durable and convenient. Write to-day for free catalogue describing special features of material and construction.

Gilson Mfg. Co. Ltd.
69 York St.
Guelph

GRAND TRUNK RAILWAY SYSTEM
Winter Resorts

SPECIAL ROUND TRIP FARES
Leads, Intermediate Stopovers

Ashville and Hot Springs, N. C.; Charleston, S. C.; Nassau, N. P.; Hot Springs, Ark.; French Lick Springs, Ind.; Jacksonville and all Florida points; Havana, Cuba, and New Orleans, La., via New York and rail (or steamer, according to destination) or via Buffalo, Detroit or Chicago

Bermuda and West Indies

Other Health Resorts:
Mount Clemens, Mich.; Battle Creek, Mich.; St. Catharines, Welland County, Ont.; Preston Springs, Ont.

Further particulars on application to Grand Trunk agents



"London" Cement Drain Tile Machine

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

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

NONE-SUCH SEED CORN
Our Guarantee

If not satisfied in ten days, return corn at our expense and money will be refunded. Bags furnished.

Don't delay. Write at once for our price list giving free delivery offer.

R.R. No. 1, Cottam, Ont. **JACKSON BROS.**
The Roselands and Alfalfadale Farms

PATENTS TRADE MARKS
DESIGNS
PROCURED IN ALL COUNTRIES

Special attention given to Patent Litigation.

Pamphlet sent free on application.

Ridout & Maybee
CROWN LIFE BUILDING, TORONTO, ONT

CUT THIS OUT

Farmer's Advocate Pen Coupon, Value 4c

Send this coupon with remittance of only \$1.52 to the Fleet Pen Co., 119 Fleet Street, London, England. In return you will receive by registered post, free, a splendid British-made 14ct gold nibbed self-filling Fleet Fountain Pen, value \$4 (25c ad.). Further coupons for 15c will each count as 4c. off the price, so you may send 14 coupons and pay only \$1. Say whether you require a fine, medium or broad nib. This great offer is made to introduce the famous Fleet Pen to Canada. Over 100,000 have been sold in England

Agents Wanted. Liberal Terms.



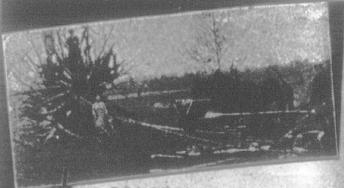
The production of Milton Brick has kept our plant running all year round for a period of over 25 years. This tremendous production is an evidence of the fact that shrewd buyers all over this country show a preference for this high quality brick. It costs no more than ordinary brick.

Prices will not be lower. Catalogue free on request.

The Milton Pressed Brick Co., Limited
Dept. B, Milton, Ont.

Toronto Showrooms:
50 Adelaide Street West

MILTON BRICK



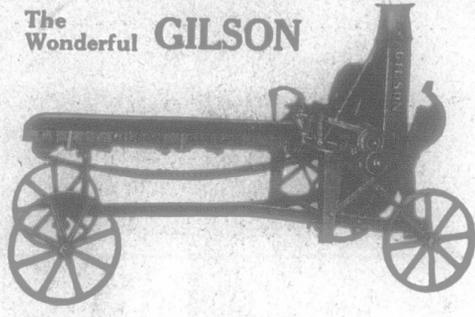
NO STUMPS too big. Get the richest, most productive land into crops. Make more money. Hercules on 30 days' free trial. Three-year guaranty. Safe and fast. Send post card for free book. Introductory price offer now.

HERCULES MFG. CO.
1936 24th St., Cantonville, Iowa

For Sale Baled Hay, car-load lots. Alfalfa, clover, and mixed Hay. Apply to **W. E. Todd, Hay Dealer, HAGERSVILLE, P. O. ONT.**

Please mention "The Farmer's Advocate."

The Wonderful GILSON



"Everyone Said We Couldn't Do It."

Writes J. Geldner, of Berlin, Ont. He further adds: "We filled and re-filled a 12-ft. x 40-ft. silo in 16 1/2 hours with a 6 h.-p. Gilson and an N-13 Gilson Cutter. The outfit also made a record in cutting straw, at the rate of five loads an hour."

YOU need one of these cutters. It will make you independent of the Cutter Gang. The two smaller sizes of Gilson Cutters are for light power—4 h.-p. to 12 h.-p. gasoline. They are farm machines, the same as your binder and your mower. With a Gilson you can silo your corn at just the right time—extending the work over several days if you wish, allowing the silage to settle. The best quality of ensilage is thus secured, without the expense of re-filling.

Gilson Pneumatic Ensilage Cutters

The Gilson is not a one-season machine—it is built for many years of hard service. It is made entirely of steel and iron, with the exception of the feed table. All five main bearings are a part of the one-piece semi-steel frame, thus insuring perfect alignment of the cutting mechanism for all time. The drive is direct, and the power is transmitted throughout by heavy gears—thus chain troubles are completely eliminated.

The patented safety reverse makes accidents practically impossible. The drum or casing is steel—not dangerous cast-iron. The wheel is indestructible—steel bound, with no breakable parts, such as spokes or bosses. It runs at slow speed—600 to 800 r.p.m.

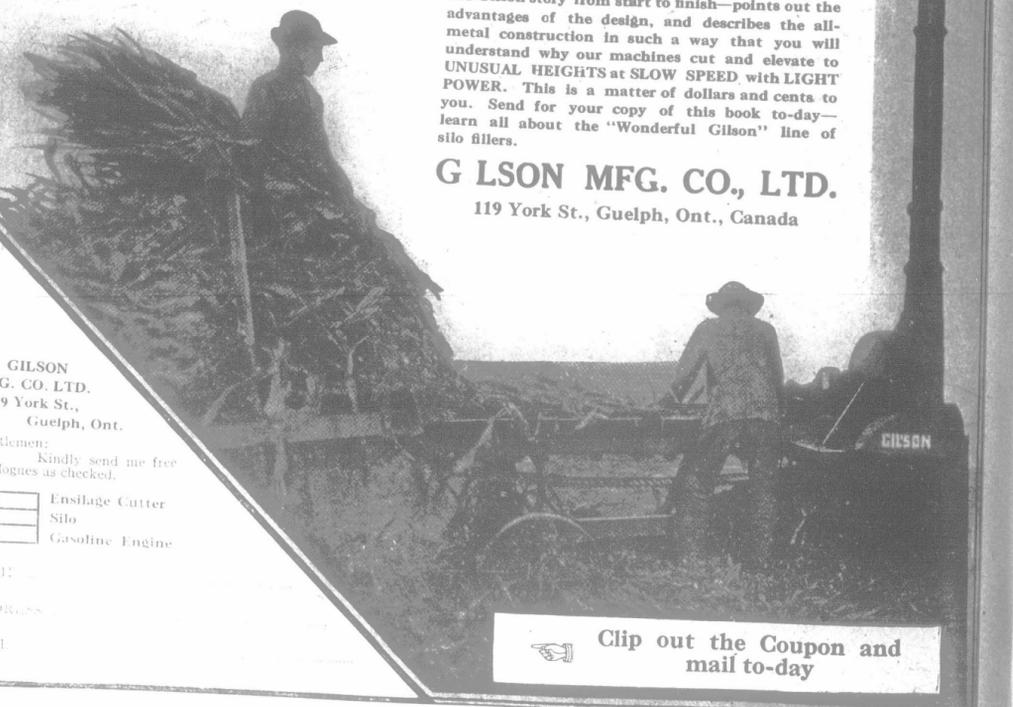
Every Gilson Cutter has six fans in place of the usual four. This is one of the reasons why the Gilson elevates in a larger and more constant stream. Also why it elevates heavy green corn so high with so little power.

"Surprised the Whole Community"

Writes J. K. McLennan, of Dalkeith, Ont. "With our 0-10 Gilson Cutter and 4 h.-p. Gilson Engine we filled and re-filled three silos, sizes 14 ft. x 25 ft., 12 ft. x 28 ft. and 13 ft. x 28 ft., in six days."

WRITE FOR FREE SILO FILLER BOOK. It tells the Gilson story from start to finish—points out the advantages of the design, and describes the all-metal construction in such a way that you will understand why our machines cut and elevate to UNUSUAL HEIGHTS at SLOW SPEED with LIGHT POWER. This is a matter of dollars and cents to you. Send for your copy of this book to-day—learn all about the "Wonderful Gilson" line of silo fillers.

GILSON MFG. CO., LTD.
119 York St., Guelph, Ont., Canada



Clip out the Coupon and mail to-day

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

Gentlemen: Kindly send me free catalogues as checked.

Ensilage Cutter
 Silo
 Gasoline Engine

NAME _____
ADDRESS _____
DATE _____



To every man who is building or remodelling his barn

THIS BT Barn Book shows you how to build your barn from start to finish; tells how to lay the cement floors, foundations, and how to build the walls; shows how to install an effective, inexpensive ventilation system, and build the cupolas for the roof of the barn. It shows you how you can frame your barn by a method that saves half the cost of the old way. You can build or remodel your barn yourself with this book, because every point is clearly illustrated by full-page photographs and blue print working plans.

This new 336-page book

It is the most elaborate and complete book on barn building ever published in Canada. It contains 336 pages and over 75 views of modern barns. Photographs of up-to-date dairy barns were obtained in all parts of this country, and have been reproduced with full-page and double-page cuts, which show clearly every detail of construction. There are useful tables, showing the best measurement for mangers, gutters, cattle-stands and passages; costs of cement work; best sizes for doors and windows; amounts of ventilation for different kinds of stock; capacities of silos; capacities of mows. There are also working plans for 14 different barns and exterior views of the completed barns.

BT Galvanized Steel Stalls, Steel Horse Stable Fittings, Steel Cow Pens, Calf Pens, Steer Pens, Bull Pens, Manure, Feed and Hay Carriers, and Water Bowls are shown in actual use in many of the barns. This book is printed in colours and is bound with hard covers. It is not a mere catalogue. It is a work of reference, which you will prize and keep for years.

A copy of it should be in the hands of every man who is thinking of building or remodelling a stable, or who is going to put in sanitary stalls or labor-saving fittings.

Mail Coupon

Thousands of dollars were spent in obtaining information, plans, photographs for this book and in printing it.

Yet we offer it without charge to any man who will write and state if he is building or remodelling, when he expects to start the work and the number of head of stock he keeps. Simply fill in the blanks of the coupon, and you will receive the book by first mail. You do not obligate yourself in any way.

The great expense has forced us to limit the first edition to 8,000 copies. Make sure of your copy by sending for it to-day.

Beatty Bros., Limited

K214 Hill Street

FERGUS, ONTARIO



FREE COUPON

Beatty Bros., Limited, K214 Hill Street, Fergus, Ont.
Gentlemen: Send me your new 336 page barn book, without charge or obligation. I have filled in the blanks below.

Are you thinking of building a barn?.....

If not, are you going to remodel your barn?.....

When will you start?.....

How many cows, horses or young stock will you keep?.....

Are you thinking of putting in Galvanized Steel Stalls?.....

.....Steel Horse Stable Fittings?.....

Manure Carrier?..... Hay Carrier?.....

Your name.....

P.O..... Prov.....



The Long Arm of the Telephone

reaches out for the man you want and gets him—no matter where he is. Gets him on a moment's notice. Gets your message to him and his answer back instantaneously.

Listen, man, don't deny yourself this "Shining little friend in time of need." Don't close your door a day longer to the freedom, the friendliness and fun it brings into your household.

Get "on the line" with the other progressive farmers who have helped their communities forge ahead, who have made their own farms more profitable as businesses, more attractive as homes. Nearly 130,000 of these up-to-date farmers gladly confirm everything we have ever said about the telephone.

Our free book "How to Build Rural Telephone Lines" is what you should have if there is no telephone system in your community. This book will make you the best informed man in your district on the subject of organizing and building Rural Telephone Systems.

If you are a "phoneless farmer" in a district that already has a telephone system, the book that will most interest you is "How the Telephone Helps the Farmer." This book was written by farmers who now have telephones installed in their homes.

Just tick off on the coupon the book you want and mail it to us.

Northern Electric Company LIMITED

MONTREAL TORONTO REGINA VANCOUVER
 HALIFAX WINNIPEG CALGARY

"The Makers of the Nation's Telephones" ask you to send your name on the coupon for the story of the Telephone. It will interest you.



600 LFA

- Tick off which book desired.
- How to Build Rural Telephone Lines
 - How the Telephone Helps the Farmer

Name _____
 Address _____

LI.
 Ke
 pay.
 A
 togeth
 Son
 at the
 and th
 Wo
 farmer
 and co
 The
 constan
 leave t
 Whe
 ty, it
 some t
 Ever
 trees sl
 They co
 Some
 forget
 only at
 produce.
 Fewer
 worrying
 before, t
 health o
 Some
 others s
 ence, bu
 methods
 Whate
 potentat
 earned
 of the pe
 war.
 With
 conspirac
 President
 row Wils
 admonitio
 Lusitania
 A cons
 the Ontar
 permanent
 Royal con
 selves out
 endless pr
 A corre
 his distric
 acres of la
 should ma
 tricts. R
 per hundre
 Ontario.
 these men
 should be t
 tion does n
 of being ur
 same time.



LI.

LONDON, ONTARIO, FEBRUARY 3, 1916.

1219

EDITORIAL.

Keep it going. Those who cannot fight can pay.

A lesson of war time for men on the land: Get together and pull together.

Some of those who point the finger of scorn at the rural districts would do well to talk less and think more.

Would that all speakers were like the Scotch farmer who just "said what he ought to ha' said and coom'd away."

The hardest part of the drama of restlessness constantly playing, is to get people who once leave the land back to it again.

When people have been getting wrong physically, it has been said there is nothing more wholesome than a good, honest pain.

Every man with an orchard or a few fruit trees should preserve last week's and this issue. They contain information of value to him.

Some of Canada's platform orators seem to forget our country's national needs, and look only at individual requirements. Canada must produce.

Fewer hands and multiplying duties add to the worrying cares of the farm, and point, as never before, to the importance of preserving the good health of the patriots of production.

Some men appear to be born stock feeders, others slowly acquire the art by personal experience, but all can gather help from the tried-out methods of others published in these pages.

Whatever may be said of the conduct of other potentates, His Majesty, King George V., has earned commendable distinction by quiet service of the people outside the flaring lime-light of the war.

With the ramifications of the Kaiser's world conspiracy seething about him and the next Presidential election looming up, Thomas Woodrow Wilson seems to have followed the railway admonition of "Safety First," Belgium and the Lusitania later. Time will tell.

A conspicuous recommendation of the report of the Ontario Unemployment Commission, is that a permanent provincial labor commission be created. Royal commissioners are not likely to work themselves out of a job. The idea develops like an endless prayer chain.

A correspondent explains in this issue, that, in his district, every man who enlists throws 100 acres of land non-productive. The Government should make plain what is expected of such districts. Reports indicate only about one man per hundred acres of land in many sections of Ontario. If it is more important that these men enlist than work their farms they should be told by those in authority that production does not matter for a year or two, instead of being urged to produce more and enlist at the same time.

National Efficiency.

The bugle calls! Daily the call is answered by hundreds of Canada's strong, true and virile manhood. We refer to the military bugle with its clear, clarion notes echoing and re-echoing on the stillness of a quiet night or upon the early-morning, frosty air as it carries the ozone of life to the awakening strength and hope of our country. Duty calls! And here is where notes from other bugles, perhaps not so penetrating but none the less impressive, may cause the man to stop and think; and as he thinks, mayhap, these other calls grow stronger and stronger, as understood, they come nearer and nearer the heart of the thinker. The last echo of the call to military arms may die away, but the call for a greater and more complete national efficiency grows always and is ever coming nearer and nearer. The greater the need the more imperative is it that the call be heard. In time of crisis it must be heard. The bugle, drum and poster draw many to don the khaki and "get in on a man's job," but behind it all, subdued it may be, but silently, relentlessly tearing at the very heart-strings of those who stop to study the affairs of the State and the national condition: is the call for a greater national efficiency. Right now every Canadian's first duty is to do his best to promote national efficiency on the firing line at the battlefield, or in the world of affairs at home. We leave the former to the military men—to the leaders and to the privates who have thrown and will yet throw off their "civies" and put on the King's uniform. But if they are to win and win quickly they must be backed up by efficiency at home. How? By the elimination of all graft. A loyal Canadian hates the term, and yet it is often applied, and we fear with all to substantial foundation in fact, to many of the bigger transactions carried out in this Dominion, even when one out of every fourteen of our population, and they the best our fair land has produced, are called upon and are responding nobly to offer their lives that our country may be free. Shame to him who would pocket undue profits accruing out of the advantage he has over the man who fights for his very safety. Graft is disgraceful at any time; it is a crime in war time. But he who grabs has no shame. His conscience is benumbed. The law should deal with him. Strange it is, however, that the man who grabs the biggest haul generally gets away with it. All allegations of graft should be investigated, and, if proven, the instigators should be promptly incarcerated and made pay the full penalty of their crime against national efficiency.

But we have not yet hit the bullseye at which we were aiming in the beginning. We hear a great deal about individual responsibility in order strenuous times, and no individual is without it. Individually this war hits every Canadian. But all cannot go to the front. The finger of scorn has been pointed at the rural districts because they have not sent more men. Country boys have been called cowards and shirkers, but we are proud to say that the men who make the remarks are not justified in allowing them to pass their lips. They should be forgiven, for they know not what they are talking about. Rural Canada has done and will do its just share. Those who do the loud talking, belittling what the rural districts have done, rarely get their feet off the city pavement, and when they do they are tucked away in the cosy robes of a big automobile in which they race through the country of

which they cannot know anything. Did you ever stop to think how many of the boys who have enlisted from the country districts have done so in some city or town which gets the credit for sending the men? It would be interesting to know what percentage of the Canadian-born, who have enlisted, were born and raised in the rural districts. Besides, rural Canada was very short of men before the war started. The shortage is much more acute now, and is daily growing more so. There are no unemployed in the country—no over-crowded pool rooms and dance halls. Correspondents tell us that the number of men, old and young, averages about one to each one hundred acres of land in many districts. What about the national efficiency if these men go? What about production if a large percentage of them enlist? Each one leaving the land means another hundred-acre farm idle. Increase production? Yes or no? We have on our desk a letter citing the case of a Peel County farmer who has enlisted, leaving a two-hundred-acre farm to do it. His motive is the highest, but can the country afford to encourage this sort of depletion of the farm population? Seriously, can it? If so, what of our national efficiency? Business must go on in Canada. The seven millions left behind by the soldiers must be fed, and must have opportunity to earn their living by the methods at which they are most proficient. Canada must supply surplus food for the Motherland. To do it the farms must be manned. Who will man them? A speaker at the Ottawa Winter Fair stated that it would be quite possible to increase production by fifty per cent. in Ontario. We agree, only on one condition, and that is the necessary men must be forthcoming. No one would say that the men in the national munition factories should go to the firing line. Who would send all the able-bodied men from the food factories—the farms? Would such a course be conducive to greater national efficiency? If so send the men, and they are ready to go to a man. But there is no more use of calling for an increased production from our farms and at the same time calling for the few men left to join the army. Such go-as-you-please campaigning cannot be satisfactory. Canadians would like to know which our leaders consider the more important right now. Both cannot be done. That most needed, once understood, will be entered into with all the earnestness and vigor characteristic of rural manhood. Britain has left many of the men really essential to good farming in that country on the land. If this practice is not advisable in Canada let us have a clear statement of the facts, and if necessary let us all drop the hoe and the fork and do the job most urgent. In the meantime let him who feels that he can and should, enlist, and him who sees his duty on the land, farm his very best.

Frequent Changes Necessary.

Did it ever occur to you that the oftener changes are made, the more likely the country is to get clean, straight-forward government? During the past few decades grafters seem to have been a good crop in Canada until accusations are made against almost all departments of government from the pathmaster and school trustee to parliamentarians, and sometimes cabinet ministers. Everybody seems to ask first of all: "What is there in it for me?" The man looking for unfair advantage is always on the job, and the longer the office-holder is in office the more of this class of friends gather around him. It is

arm
one
 matter
 ets your
 ly.
 ng little
 a day
 t brings
 munities
 ctive as
 ve ever
 have if
 he best
 ephone
 ne sys-
 armer."
 n their
 CIABILITY.
 BOUR.
 RE
 ase
 your
 about
 desired.
 e Lines
 Farmer
 Name
 Address

The Farmer's Advocate AND HOME MAGAZINE. The Health of the Man on the Farm.

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.
3. ADVERTISING RATES.—Single insertion, 25 cents per line, space. Contract rates furnished on application.
4. THE FARMER'S ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrears must be made as required by law.
5. THE LAW IS, that all subscribers to newspapers are held responsible until all arrears are paid, and their paper ordered to be discontinued.
6. REMITTANCES should be made direct to us, either by Money Order, Postal Note, Express Order or Registered Letter, which will be at our risk. When made otherwise we will not be responsible.
7. THE DATE ON YOUR LABEL shows to what time your subscription is paid.
8. ANONYMOUS communications will receive no attention. In every case the "Full Name and Post-office Address Must be Given."
9. WHEN A REPLY BY MAIL IS REQUIRED to Urgent Veterinary or Legal Enquiries, \$1.00 must be enclosed.
10. LETTERS intended for publication should be written on one side of the paper only.
11. CHANGE OF ADDRESS.—Subscribers when ordering a change of address should give the old as well as the new P. O. address.
12. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve "The Farmer's Advocate and Home Magazine," Descriptions of New Grains, Roots or Vegetables not generally known. Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
13. ADDRESSES OF CORRESPONDENTS ARE CONSIDERED AS CONFIDENTIAL and will not be forwarded.
14. 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.
Address—THE FARMER'S ADVOCATE, or
THE WILLIAM WELD COMPANY (Limited),
London, Canada.

said that our municipal life is not free from such influences. What is wrong? Is the race degenerating? There is a remedy, and the voter holds it. Houseclean more frequently from cellar to garret. Make the man who holds office by the will of the people understand that that will must be obeyed, and he must not abuse the confidence placed in him. How can the office-holder be made to realize that he must do all things in the best interests of the people? By frequent changes. Men can be voted out, as well as in, and it should be done oftener. There would soon be fewer hangers-on, and the professional grafter would become practically extinct.

Optimism in Live-Stock Circles.

There is a reassuring optimism prevalent among Canada's live-stock breeders. Speakers at live-stock meetings in connection with our Winter Fairs and at Conventions, prophesy good times ahead for the breeder of the right kind of the different classes of live stock. Stockmen must not, however, rest upon their oars. Every effort toward improvement in quality is necessary. And Canada has room for more good live stock. This country must be, for all time, a mixed-farming country. Now is the time for breeders to strengthen the foundations of the business. We never believed that scrub pure-breds should be used for breeding purposes. They have no more right to reproduce their kind than have scrub grades. If they should not reproduce, why should they be sold for breeding purposes? Would it not be better to fit the inferior animals for the block rather than sell them to go into other herds and flocks, there to damage the reputation of the breed which they represent, and pure-breds generally. We often get letters complaining that certain pure-breds are not as good animals as certain grades. True, they are not. But the best of pure-breds are more desirable than the highest grades. Of course, it is the business of the individual what he shall do with his inferior pure-breds and every breeder gets one once in a while, but there is a bright future for Canada's live stock. Let us hope that it be made the best in the world.

The prime essential to the success of the individual farmer is not a herd of pure-breds, a four-furrow tractor, a car load of fertilizer, nor a hundred acres of rich land, but good health. If we could begin with our forefathers we would have less trouble in keeping ourselves physically fit, and take a great deal more satisfaction out of farm life; but we can only make the best of ourselves, and if we live aright and take the occasional counsel of a competent physician, it will mean deliverance from a lot of pit-falls, and make the way easier for our lineal heirs.

DISEASES DUE TO EXPOSURE.

Men of the farm are less liable to ailments and are longer lived than those of the town. This is due to abundance of fresh air, natural exercise, ample food and freedom from the tension of city life. And yet, there are certain physical ailments that arise out of the conditions of farming. Among them are those of a bronchial nature, caused by exposure to wet and cold, particularly after physical exertion inducing heat and perspiration which, under normal conditions, is a most healthy function. Lumbago and certain forms of rheumatism sooner or later are prone to follow such exposure. Farmers take too great hazards in this respect. Waterproof clothes, hats, rugs and umbrellas are cheaper than medical bills. A good thing for the farmer, and an aid against taking "colds," is the first thing after getting out of bed to souse the face, arms, neck and chest with cold water, and rub till dry and warm with a coarse towel.

STOMACH DISORDERS.

But more widespread and serious is the class of disorders that invade the locality of the stomach, that most useful, misunderstood, and abused organ of the body. The liability of farmers to stomach troubles is in some cases directly due to an unequal distribution during the year of nutriment and physical exertion. Throughout the long, out-door working season from spring until early autumn, a large quantity of food is consumed to sustain the requirements of the system. The secretions are then fairly well maintained, perspiration especially so, and the toxic poisons constantly accumulating in the body are eliminated. In winter food consumption is whetted by cold weather. A great deal of the winter work of the farm is now in the basement barn with live stock. Heavy bush or road work has changed to getting out building materials and hay to market, or hauling manure and milk. Many make the trip hurriedly to town in the motor car, top buggy, or the cutter. Over considerable areas of the country, the local grocer and baker come to the door and carry away the butter and eggs. Speaking of the country generally, the undermanning of the farms has seriously increased the burdens of work, both in winter and summer, on those remaining. The strain or worry and hurry has a very detrimental effect upon the system, and particularly the stomach. The digestive and excretory tracts become overloaded and clogged to such an extent that the liver, kidneys, stomach, pancreas and intestines, instead of taking out the poisons discharge them into the system. Indigestion, constipation, appendicitis and a long train of complications follow.

IMPROPER EATING.

The condition referred to is naturally aggravated by fast eating and improper chewing. A man may be justified in hurrying his horses in with a load of grain out of the rain, but above all things he should take time at his meals and make them a cheerful event. Better than doses of pepsin is plenty of good-natured laughter at the table. A ten-minute rest before and after eating is a great help to digestion. As you value your stomach, do not make a rush order of your meals. We have seen men in the restaurants forking food into themselves as they would hay into a mow. A dog may do so with apparent impunity, but no human stomach can stand such abuse. Thorough chewing of food is a great aid to digestion, but it is not necessary to reduce food before swallowing to a fluid because a certain amount of bulkiness is desirable to promote the activity of the intestines. For this and other reasons, what to eat is most important. Food should be sufficient. Many wasting diseases, like consumption, arise from under nourishment, which leaves the system unable to resist them. A man who tried the fasting fad says it cured him of one thing—fasting.

THE FOODS TO EAT.

The three chief classes of foods are proteids, such as milk, eggs and lean meat; carbohydrates, found largely for example in bread, potatoes and corn; and fats, like those of cream and the fat of meats. Plainly then, to supply tissue, energy and heat in the body, a variety in diet is needed. Though to a less extent than in the case of townsmen, heavy meat eating is a source of ailment to farmers, as it is constipating for the reason that it digests completely without residue.

More water drinking is required with a meaty diet, which, also, tends to irascibility of temper. For children, and especially men advancing in years, meats are undesirable, and the quantities consumed should be reduced.

The diet of the farm man should contain plenty of fruit and vegetables, and there is no excuse for being without them, for he can grow them and have them pure, fresh and in plenty. It is deplorable to find that sometimes a town man's table will be better supplied with them than that of his country cousin. As a laxative and wholesome food, too much cannot be said in favor of the apple, raw and cooked. Celery, lettuce, raw cabbage, parsnips, turnips, potatoes, asparagus, tomatoes, cauliflowers, are bulky foods and tend to prevent or relieve constipation, for which onions are recommended. Plenty of good wheat bread, all the better if "home-made," should be included. An occasional loaf of brown bread is good for a change, if nice and moist as our mothers used to make it. The cereal foods prepared from wheat, corn and oats, preferably not reduced to too fine a condition, should have a liberal place on every farm breakfast table, with plenty of whole milk.

Advanced medical research with animals indicates, in order to sustain life and growth, the necessity in food of a living element, called "vitamines," which has not been destroyed by cooking. Hence, there is a sound basis in science for the use of whole, uncooked milk, butter, celery, lettuce, cabbage, and apples, and some of them are available for the farm table the year round. Babies, by the way, require "vitamines."

THE PLACE OF WATER.

In addition to the moisture in foods and the liquid taken at meals, an American writer has advised drinking six to ten glasses of water per day. About 2½ pints per day can be recommended safely. Drink water freely on going to bed and on rising to flush out the system. If perspiration is free more should be used. Drinking at meals does not hamper digestion to the extent commonly supposed. The importance of the free use of water will be seen when we remember that two-thirds by weight of the body is water, and it is the conveyor of waste and essential in tissue building. The fact that digesting machinery needs rest, and that about four to six hours are required to digest a meal, point their own moral.

NERVE DISORDERS THE REAL SEAT OF TROUBLE.

Now, while to the stomach is attributed most ailments common to the farmer, the real seat of trouble is in disordered nerves, of which there are millions, radiating from their centre to every part of the body, which are just as tangible things as the veins or intestines. In discussing this subject, the Dean of the London, Ont., Medical College, Dr. H. A. McCallum, whose attainments and wide experience attach special significance to his judgment, confirms this view. He defines the stomach as the instrument of the nervous system. The latter breaks down from such causes as want of rest, malnutrition, poisoning by waste products, and, observed the Dean with grave emphasis, from ill-nature and lack of the cultivation of the higher emotions of love, trust, confidence, gladness, and peace. The narrow selfishness that wraps up a man in his personal interests, or even those of his own family, neglectful of the appeal of wider needs, will react injuriously upon his nerve organization, culminating in a condition that leaves him an easy victim to some acute stomach disease.

REST ESSENTIAL.

From these considerations a further word may be deduced that one who works and thinks as hard as the farmer does needs ample rest, and eight hours per night in a room where the air is pure and comfortable is none too long. Retire early. Relax. It is folly to perform the work of the farm twice over, or to spend hours in bed worrying if the price of hogs is likely to fall next week.

A day of real rest, as far as practicable, and attention to higher things once per week at least, is necessary even to preserve one's physical condition aright and avoid the danger of falling into a rut of sordidness. More and better work can be done on the other six days. Take a vacation once in a while to get away from the grind, and see what some other good farmer or institution is doing. Cultivate the old-fashioned, personal neighboring. In addition to a reliable periodical about your own business, have other good ones coming to the home, and broaden out by some book reading on subjects other than those of the farm. In view of the waste and deception involved in the use of patent "curealls," there need be no hesitation in counselling the man of the farm to rely upon enlightened and trained experience just as he would in dealing with contingencies arising in farming. If the system goes wrong, consult a capable physician.

To conclude: A clean, well-nourished body

On the Farm.

is required with a meaty ends to irascibility of temper. especially men advancing in undesirable, and the quantities reduced.

farm man should contain vegetables, and there is no without them, for he can grow pure, fresh and in plenty. find that sometimes a town better supplied with them try cousin. As a laxative and much cannot be said in favor cooked. Celery, lettuce, raw turnips, potatoes, asparagus, are bulky foods and tend to constipation, for which plenty of good wheat if "home-made," should be a loaf of brown bread is. If nice and moist as our make it. The cereal foods, corn and oats, preferably fine a condition, should have very farm breakfast table, with

research with animals in sustain life and growth, the of a living element, called has not been destroyed by is a sound basis in science, uncooked milk, butter, and apples, and some of for the farm table the year way, require "vitamines."

OF WATER.

moisture in foods and the, an American writer has to ten glasses of water per ts per day can be recom- water freely on going to flush out the system. If ore should be used. Drink- hamper digestion to the posed. The importance of er will be seen when we rds by weight of the body he conveyor of waste and ing. The fact that digest- st, and that about four to l to digest a meal, point

THE REAL SEAT OF DOUBT.

stomach is attributed most the farmer, the real seat of nerves, of which there from their centre to every which are just as tangible intestines. In discussing of the London., Ont., A. McCallum, whose at- experience attach special ment, confirms this view. as the instrument of the latter breaks down from rest, malnutrition, poison- and, observed the Dean from ill-nature and lack of higher emotions of love, and peace. The nar- raps up a man in his per- those of his own family, of wider needs, will re- nerve organization, cul- that leaves him an easy stomach disease.

ESSENTIAL.

tions a further word may no works and thinks as es needs ample rest, and a room where the air is none too long. Retire olly to perform the work or to spend hours in bed hogs is likely to fall next

s far as practicable, and es once per week at least, rve one's physical con- the danger of falling in-

More and better work r six days. Take a vaca- get away from the grind, r good farmer or institu- e the old-fashioned, per- dition to a reliable peri- ussiness, have other good e, and broaden out by uments other than those the waste and deception patent "curealls," there counselling the man of enlightened and trained old in dealing with con- ing. If the system goes physician.

n, well-nourished body

and a contented mind are the best defence against disease. If he will avoid excesses, indulgences and exposure, eat proper food in sufficiency, use plenty of water inside and out, take the needed rest, nurture the nerves and live cheerfully as one ought in a Christian community, the man upon the farm should preserve his efficiency longer, extract as much or more real satisfaction out of life than anywhere else upon the earth, and leave upon his trail a grateful residue of helpfulness.

Nature's Diary.

A. B. Klugh, M.A.

The plant formation which we have next to consider is that composed of Marsh Plants. By Marsh Plants we mean those plants which grow "with their feet in the water," that is with their roots under water and their upper portions in the air.

The usual conception of a marsh is that it is a decidedly wet environment, and it is one of the surprises which the plant ecologist encounters when he finds that most Marsh Plants are adapted to resist dryness. But careful study of marsh conditions gives him the explanation of this fact. A marsh is an open place, and the plants growing in it are exposed to the full strength of the sun's rays and also to the sweep of the wind, and the combination of these two factors produces an extremely dry environment for the aerial parts of Marsh Plants. A secondary consideration is the fact that many marshes often dry up in the middle of a dry summer, and at these times if the plants were adapted only to meet wet conditions they would die out.

The main adaptations by which Marsh Plants meet the dry conditions to which their aerial parts are exposed, are by developing thick cuticles and by having the stomata sunk in deep grooves. An adaptation which meets the action of strong winds is the narrow or cylindrical character of the leaves, so that the wind blows through without encountering much resistance and the leaves bend before the wind. Another factor which Marsh Plants have to meet is the scarcity of air in the water or mud in which their roots grow. This is met by the development of air passages in the stems which lead down to the roots.

Our next formation is that which we have termed Salt Plants, meaning those plants which grow in salt marshes, or on the sea-shore where the water which their roots take up is heavily charged with salt. To properly understand the adaptations to their environment of these plants requires a study of a physical process known as osmosis, one of the most important, but one of the most complicated of all physical processes. A brief statement of the facts of osmosis is that if on one side of a membrane there is water containing a large percentage of salts, and on the other side of the membrane there is pure water or water containing less salts, then the pure water or the weaker solution will be drawn through the membrane into the stronger solution. Consequently we can see that if a root-hair is to be able to take up water from the soil its cell-sap must have a larger percentage of salts in it than is present in the water of the soil. We have then as a result the first adaptation of Salt Plants—a cell-sap of high concentration. The other adaptations of plants of this formation are the result of the fact that as water is hard to obtain, it is decidedly advantageous for the plants to conserve it as much as possible. This is brought about in various ways in different species, by a thick cuticle, by coatings of wax, by reduction of the leaf-surface in proportion to the mass or volume of the leaf resulting in thick or cylindrical leaves, by water-storage cells in the leaf, by folding or rolling of the leaf, etc.

Of these adaptations the commonest is a combination of thick leaves and an abundance of water-storage tissue, and thus it is that most of our Salt Plants are "fleshy-leaved."

The next formation which we have to consider is that composed of plants which grow on rocks. While we may include all such under the term Rock Plants, we very soon find when we study actual conditions that there are three quite different classes of these plants—those which grow on bare, dry rocks, those on moist rocks, and those which grow in crevices in the rocks. The first two are true rock plants the last class, those of the crevices are really plants of other formations, since they really grow not on the rocks but in soil in the crevices.

The plants which grow on dry rocks are all either Lichens, Mosses or Algae. As the substratum is absolutely physically dry, these plants must be capable of absorbing over their whole surface the water derived from rain, dew, melting snow or running down over the rocks. Many of these plants possess matted rhizoids (root-like structures) which hold water. The rock is to many plants only a basis of support, but in other cases, as for example the Lichens, it is likewise a nutritive substratum. The plants of bare rocks must be able to stand severe drying up, as

both in the heat of summer and in the cold of winter they are exposed to extreme dryness.

The plants which grow on moist rocks, that is on rocks over which water trickles during the greater part of the summer, are mainly Algae, though some are mosses. The Algae adhere to the rock by means of the mucilaginous layer of their cell-walls.

The plants which grow in crevices in the rocks are not, as has already been mentioned, true Rock Plants. There are, however, plants which are enabled by means of various adaptations to withstand drought, as the soil in the crevices often during the heat of summer becomes very dry. They are also mainly "rosette plants," that is they have a comparatively compact root-system and leaves which spread out in the form of a rosette. They are mainly perennials, as on account of the scarcity of suitable places for the germination of seeds annuals are not well adapted to this habitat.

THE HORSE.

Lameness In Horses VII.

SHOULDER LAMENESS.

Shoulder lameness in horses is not as common as many people think. By many, all obscure lamenesses in the fore legs are supposed to exist in the shoulder. At the same time, shoulder lameness is not by any means uncommon. It exists in three forms: 1, disease of the shoulder joint; 2, sprain of the muscle that passes over the front of the joint, (this muscle is principally tendin-



With the Hounds.

ous; that is, it contains little flesh); 3, sprain of the muscles of the shoulder blade, some of which are attached inferiorly to the point of the elbow, and some to the anterior and external surface of the arm. This lameness is usually called sweeney or shoulder slip.

Disease of the shoulder joint is not common, and may arise from strains, bruises or rheumatic affection. Inflammation is set up in the joint. The ligament (called the capsular ligament) that encloses the joint becomes thickened and distended with synovia (usually called joint oil). The articular cartilage (a cartilage that covers the ends of all bones that go to form true joints) becomes removed by ulceration, or, in rheumatic disease, converted into a porcellaneous deposit.

SYMPTOMS.—The horse is very lame. In all shoulder lameness the peculiarity of gait is, to a more or less marked degree, an indication of the seat of the trouble. The patient does not move the limb straight forward, but with a rotary motion, the foot being made to describe the segment of a circle. He fetches the leg forward with a somewhat sweeping motion, in some cases the foot being dragged or trailed forward along the ground, and he has difficulty in lifting the foot over any object, and is inclined to stub the toe and stumble. In shoulder or knee lameness, the signs of pain are often more noticeable when the patient lifts the foot from the ground; while in disease below the knee, pain is expressed when the foot comes in contact with the ground. Upon manipulating the joint, pain, heat and swelling will be detected. In order to detect the swelling, it is often necessary to press to one side a muscle that passes loosely over the joint. If the foot be lifted and moved backwards and forwards, the patient will evince pain, caused by the movement of the bones of the joint. In some cases this will cause the patient to rear. It must be understood that uneasiness when these movements are performed, is not of itself sufficient grounds for diagnosis, as some horses are fidgety, and will not tolerate such handling; but if there be the peculiarity of gait noted, along with pain, heat and swelling, we may conclude that the joint is the seat of trouble.

TREATMENT.—If properly treated in the early stages, a perfect recovery is probable, but if change of structure, especially sloughing of the

articular cartilage, has taken place, the most favorable termination we can expect is a stiff joint; and, as an animal with a stiff shoulder joint is practically useless, unless valuable for breeding purposes, it is better to destroy him. In the early stages, rest in a comfortable box stall, soothing applications, as bathing frequently with hot water, and rubbing well with an anodyne liniment, as one made of 2 oz. laudanum, 1 oz. acetate of lead and water to make a pint, for a few days, until the acute inflammation is allayed, and following this by repeatedly blistering the parts, will, in most cases, effect a cure in the course of a few months. But if the injury be severe a speedy cure cannot be effected.

SPRAIN OF THE FLEXOR BRACHII.

This muscle, as stated, is principally tendinous. It passes over the point of the joint in a double groove on the upper part of the bone of the arm, somewhat as a rope passes over a pulley. Both muscle and groove are covered with cartilage and enclosed in a synovial sheath. The function of this muscle is to raise the fore arm and fetch it forward. Sprain is usually caused by the horse slipping and falling forward.

SYMPTOMS.—The peculiarity of gait is similar to that of shoulder joint lameness. There will be pain on pressure to the part, also heat and some swelling, but on account of the muscle being principally tendinous, the swelling is not well marked. If the foot be lifted and the leg carried backwards, the patient will evince well-marked pain, and if it be a severe case, he will rear off both fore legs. In most cases lameness increases on exercise. The result of sprain of this muscle, is inflammation of the tendons and structure of the sheath which encloses them, which, if not arrested, will run on to ulceration of the cartilage and decay of the bone, and finally to ossification (conversion into bone) of the whole structure. The usual cause of this sprain is the horse stumbling and falling forward, with the feet backward. This puts great strain in the region of the shoulder joint, and the muscle under discussion is often severely stretched.

TREATMENT.—It is well to put a high-heeled shoe on the foot, as this enables the patient while standing to hold the diseased part in a state of comparative repose. Perfect rest must be given.

The same local treatment as for disease of the joint. It must be understood that in all cases where horses that have been worked and highly fed, are given rest, it is good practice to administer a purgative of 6 to 10 drams aloes, according to size, and reduce the grain ration, or discontinue it entirely and feed on bran, hay and raw roots. In cases where pain is excessive and long continued, the patient may be noticed to fail in condition. He, under such conditions, should be fed sufficient grain to keep up his condition. The third form of shoulder lameness, viz., shoulder slip or sweeney, will be discussed later.

WHEP.

The Horse Question Again.

Editor "The Farmer's Advocate":

I have been interested in what you have said re Canadian Horses for the Army, and hope with you that the new commission will be able to solve the problem and bring about better results for the Canadian farmer. Some time ago I knew horses were being inspected for the British army in Toronto, and knowing a number of farmers who had horses to sell near Hamilton, I offered to guarantee to have a car load ready for inspection at Hamilton any day they would appoint, but was informed they could not inspect in Hamilton. I see by a Toronto paper that there has been a great increase in the number of horses passing through the Union Stock Yards during 1915, and 1914 was ahead of previous years, and they make the inference that this was owing to the removal of the duty in 1913, when, as a matter of fact, the increase is since the war broke out, and the export of Canadian horses outside of the British Empire has been prohibited till very recently, and there is little or no doubt that these figures represent, to a very large extent, the number of horses brought into Canada from the United States for war purposes that passed through the Union Stock Yards. Below are the figures as they appeared in the Toronto paper, except that I give the total for 1915 as 10,000 more, as they made that error in their addition: 1911, 4,557; 1912, 5,607; 1913, 2,135; 1914, 20,396; 1915, 122,091.

During this time it is needless to say to your readers that it has been very difficult for Can-

adian farmers to sell horses at any price, and at the same time the horses sales stables in Toronto were continually advertising rejected horses for sale by auction.
Lincoln Co., Ont. PETER BERTRAM.

LIVE STOCK.

Build a Silo.

There has been a wonderful change in the attitude of the farmer regarding the silo in the past decade. It is a difficult matter, indeed, to raise an argument with anyone who has had experience with growing and ensiling corn. There is only one side to this question anyway, but for the sake of argument, in many cases, it is usually quite easy to find a supporter for the negative. The claims are no longer advanced that the acid of silage "will eat the teeth out of the animal's head" and cause abortion. We no longer expect to see retribution fall upon the man so unorthodox as to store corn in this way and show utter indifference to the old, time-established custom of digging stocks of corn out of the snowbank in February. Silos are established, they have proved themselves, and the only question which now remains in the minds of many farmers is when and how to build one.

Stockmen disagree as to minor details regarding the management of live stock, but they are unanimous in that silage forms the basis of all rations; around it they build up their daily allowance of concentrates and roughage. Steer feeders depend upon silage in these days of small margins; dairymen must have it to produce milk in winter and keep their animals up to a high standard of productive efficiency. The very fact that in 1915 patrons of factories in Eastern Ontario erected 1,258 new silos, which is an increase of 446 over the previous year, is conclusive proof that corn stored in this way is an influential factor in the production of milk.

Formerly silage was fed only to cattle. Now feeders are less careful with it and dispense it to horses and sheep as well. For the latter two classes of animal kind it should be of first-class quality; moldy or improperly cured silage is dangerous in the horse manger or sheepfold. Every farm, situated within the territory where corn will arrive at a fair degree of maturity, should be equipped with a silo of some description. If a wooden structure is preferred, arrangements should be made this winter to have the material sawed and ready. If a cement silo is more desirable, haul the sand and gravel when the farm work is lightest and the roads are good. There are many good types of silos on the market which can be put on short notice, and will be guaranteed to give satisfaction. If the difficulties are of a financial nature, the farmer can rest assured that the profits from such an investment will more than meet the interest charges on the capital so expended.

Attention to Details.

In his "Adventures in Contentment," David Grayson tells a story of old Dr. North, which illustrates very aptly the principle of care which should appeal, especially to young men, undertaking the care of live stock through the winter. The doctor had engaged Baxter, the village carpenter to make a table for his office, and calling at the shop one day found the wood-worker with the table upside down very carefully finishing the under side of the drawers. "What's the use of being so particular about that," said the doctor, "who's ever going to know if you put on those finishing touches?" "Why, I will," said Baxter looking up with surprise. So with work in the stable as anywhere else, the young man of the farm should be just as particular about the dark corners and the small details that no one will see and the results of which, for the time being, will not be apparent as with work which shows in full sunlight. If out-of-the-way nooks are kept free from dirt the open spaces are very sure to be clean. Save time by having a place for the tools and stable conveniences, and put them there when not in use. If they get out of repair fix them at once. Be particular about the tie chains, halters or stanchions to avoid trouble and perhaps loss through animals getting loose during the night. Watch the feeding of the individual calf, cow, steer or horse. Like human beings their ways vary, and sometimes they get out of condition before the happy-go-lucky feeder is aware of the fact. No better rule could be suggested for the hired help on the farm, or the farmer's son responsible for the care and feeding of live stock than to do things correctly, not simply because it will pay but because it is right, and doing the right thing always pays in the long run. Baxter made a better table and was a more contented carpenter, because he satisfied himself by finishing the underside of the table just as carefully as the top.

For Veal or For Beef.

Editor "The Farmer's Advocate":

For many years on the free grass of the Western Provinces and the Western States across the border, beef cattle were produced at a cost with which Eastern feeders and farmers could not compete. It is not many years since light beef was sold at a disadvantage, and a four-hundred to a six-hundred-pound carcass was priced at from five to seven cents per pound. Then Eastern farmers turned their attention to dairying, learning by experience that a special-purpose breed was best adapted and most profitable, and gradually the beef breeds gave place to the dairy breeds. Then, as the Western free grass lands began to be settled, ranching became less and still less possible, till, like the buffalo, it bids fair to become extinct, with a resultant rise in the price of beef, until every one able to quote statistics tries to bolster arguments for the rearing of more calves on the farms of Eastern Canada, and points out some remedy for this alarming condition, namely: eight dollars per cwt. for prime, live cattle.

In the Jan. 13 edition of "The Farmer's Advocate" under (The Slaughter of Calves), an attempt is made to show, by statistics, that it is calamitous for 50,000 calves to be sold for veal at the Toronto market last year. That these calves had an average value of ten dollars is quite a conservative estimate, and an average age of possibly four weeks, which would make a return to the owner of \$2.50 per week for their existence, which, even though short, was profitable, while on the other hand, if they had been



En Route to France.

British farmers shipping pure-bred breeding stock to France as gifts to aid in building up the shattered stock business in that country.

raised as suggested in the same article, they, at two years old, would, if well finished, weigh 1,000 pounds each, which is a very liberal estimate. By taking the present price which is paid for the quality of cattle to which the dairy-bred steer belongs, which is about six dollars per cwt., would give an average return of \$60.00 for two year's feeding, which is about sixty cents per week or about the same per month as he has given per week as veal. That the beef breeds are not profitable for dairying is a recognized fact. Also, anyone familiar or dependent on feeding beef cattle knows by experience, not prejudice, that no dairy breed will give satisfactory returns as feeders, without the cattle are purchased at very low prices. Then, why bolster the rearing of dairy-bred steers which show a loss even when finished by the breeder, to say nothing of those that are sold to professional steer feeders? Again, is beef above the cost of production? The experiments made at Weldwood farm show that beef prices of the present time are just about at the bare cost of production, which experiment was verified by the O. A. C. experiment that prime beef costs about eight dollars per cwt. live weight to produce.

It is not far back to last winter when prime, live cattle sold for less than seven dollars per cwt., with millfeed selling for thirty dollars a ton, and cattle hay selling at twelve dollars a ton at the barn. There were enough cattle last

winter to make it a very difficult problem to feed cattle at a profit. If a lesson is to be taken from experience, it is not good business to enter extensively into a boom. So let the dairy calves not eventually needed for dairy matrons go undisturbed to the market as veal, and the beef breeds will come to the rescue of those who will pay the price for beef. The two classes of cattle (beef and dairy) are as different in their utilities as the heavy draft and the light horse.

York Co., Ont. H. STUART CLARRY.

[Note.—The article to which our correspondent refers did not advise keeping dairy-bred calves for beef. In the very beginning of the article readers would notice that we agreed with the practice of selling inferior and dairy-bred calves as veal. Strictly dairy-bred cattle are seldom profitable as beef animals, and we would not advise that they be kept as such, but some grades might and do make good beef. The good farmer should know whether or not his calves would or would not make beef. In the article referred to and in a lengthy Editorial in the same issue we tried to emphasize conditions as they are and have been. Because many calves have been slaughtered and there is a world-scarcity of beef, is no reason why calves which would be useless as beef should be kept until 18 months or two years of age. Also, we should like to mention that it is obviously unfair to compare a calf at four weeks of age and sold at \$10 with a steer sold at \$60 at two years of age on a gross-return basis. What about service fees? What about new milk necessary to make a ten-dollar calf in four weeks as compared with skim-milk for the steer? It is net returns that count, and in these manure and the future of the herd must be considered. There is no beef boom now, but there is a world depletion of beef cattle. We would just like to refer to the allusion made by our correspondent to our experiments at Weldwood. The only work with steers which we have reported from Weldwood was that carried on in the winter of 1913-14, and described in our issue of March 12, 1914, page 474. Five steers were fed, and the total cost of these steers charged against them. They were sold at 8 cents per lb., but it did not cost 8 cents per lb. to produce them, as our correspondent states, for they returned an average profit of \$27.72 per head.—Editor.]

Killing Sheep Ticks in Winter.

Editor "The Farmer's Advocate":

Having read your article re a winter tick destroyer, I may say that I have been in the sheep industry for many years, and I find the ticks one of the worst enemies. I have never used but the one remedy, namely, creolin, and it is very easy to use; you can use it on the coldest winter day without any ill effect, but it would be just as well to use it on a mild day (mid-day is best). I take a pail of good hot water to the pen with me, also my creolin in a separate can. I have a pint bottle there also. I take two tablespoonfuls of creolin to each bottle, fill the bottle full of the very warm water, shake well and apply one bottle on each sheep by pouring it just up and down the back of the sheep. I hold the sheep still for a minute or so to let it drain down the sides and then let it go, and find the first thing the sheep will do will shake itself, thereby spraying the whole fleece. If the sheep is examined the next day the ticks will be found to be dead. I have never done this more than once in the winter, but I always dip my lambs a few days after shearing my sheep, using creolin for it also, using 1 gallon creolin to 20 of water. I have a very simple and cheap way of dipping; my neighbor and I dip together. We dip from 30 to 50 lambs with 1 gallon of creolin to 20 of water. We use a caldron kettle. There are usually three of us to do the job; one takes hold of the front legs and head while the other takes the lamb by the hind legs, and the third one immerses the lamb (all but its head) and squeezes out all he can from the wool, while the others hold him above the kettle, and if any is left we put it in a sprinkling can and put it on the ewes while we have them in. So you can see that there is none wasted. Now, this can be done in about one hour, and it is an hour well spent. We usually dip lambs again in two weeks. We have done this for years, and the sheep show it. We are the only two in the neighborhood that do it. Others don't seem to think it pays to spend the time. I also shear very early, sometimes three weeks before my neighbors. The sheep seem to do better shorn early.

Norfolk Co., Ont. CHAS. A. DUNKIN.

[Note.—Most of the proprietary dips advertised in these columns could be applied the same as our correspondent applies the creolin, and might, under certain circumstances, be found cheaper. It is surely advisable to kill the ticks.—Editor.]

A provincial royal commission reports that this "token of loyalty" to the motherland in the form of a gift of 100,000 bushels of potatoes for the army and navy from New Brunswick, is being financed out of a government loan of \$1,500,000, which a patriotic posterity will share in the pleasure of paying.

a very difficult problem to feed. If a lesson is to be taken is not good business to enter room. So let the dairy calves be bred for dairy matrons go undisputed as veal, and the beef breeds those of those who will pay the different in their utilities as the light horse.

H. STUART CLARRY.

to which our correspondent keeping dairy-bred calves for beginning of the article read- at we agreed with the prac- tor and dairy-bred calves as ury-bred cattle are seldom animals, and we would not kept as such, but some grades good beef. The good farmer or not his calves would or f. In the article referred to editorial in the same issue we conditions as they are and use many calves have been e is a world-scarcity of beef, calves which would be useless pt until 18 months or two e, we should like to mention unfair to compare a calf at d sold at \$10 with a steer years of age on a gross-re- out service fees? What about to make a ten-dollar calf in red with skim-milk for the urns that count, and in these re of the herd must be con- o beef boom now, but there e of beef cattle. We would the allusion made by our experiments at Weldwood. n steers which we have red was that carried on in the d described in our issue of e 474. Five steers were fed, these steers charged against old at 8 cents per lb., but it per lb. to produce them, as ates, for they returned an .72 per head.—Editor.]

Ticks in Winter.

Advocate":
article re a winter tick de- that I have been in the sheep ars, and I find the ticks one I have never used but the creolin, and it is very easy it on the coldest winter day t, but it would be just as mild day (mid-day is best). hot water to the pen with in a separate can. I have so. I take two tablespoon- ch bottle, fill the bottle full er, shake well and apply one by pouring it just up and e sheep. I hold the sheep so to let it drain down the go, and find the first thing will shake itself, thereby cece. If the sheep is ex- the ticks will be found to be done this more than once in ways dip my lambs a few y sheep, using creolin for it creolin to 20 of water. I d cheap way of dipping; my igher. We dip from 30 to on of creolin to 20 of water. e. There are usually three one takes hold of the front e other takes the lamb by e third one immerses the d) and squeezes out all he while the others hold him if any is left we put it in ut it on the ewes while we u can see that there is none an be done in about one ur well spent. We usually o weeks. We have done e sheep show it. We are neighborhood that do it. think it pays to spend the ery early, sometimes three hors. The sheep seem to

CHAS. A. DUNKIN.
e proprietary dips adver- could be applied the same applies the creolin, and circumstances, be found ly advisable to kill the

commission reports that to the motherland in the 00 bushels of potatoes for om New Brunswick, is be- overment loan of \$1,500,- posterity will share in the

Some Protein Feeds.

Editor "The Farmer's Advocate":

At this season the careful feeder is in search of the best and cheapest concentrates wherewith to supplement his home-grown grains. He knows that an unbalanced ration is wasteful; that if the quantity of digestible protein is too small the animals produce less milk or beef. Furthermore, the other feed components, starch, carbohydrates, fat, etc., if in excess of the animal's capacity for assimilating them, are, to some extent, passed out of the body, incompletely digested. Having tried a good many different millfeeds in my cow stable, I am tempted to offer a few notes on the more common kinds that, in my experience, seemed to possess the highest nutritive value.

As a concentrate rich in protein, cottonseed meal is unexcelled. Both as a milk and beef producer it deserves consideration. Analyses establish its high feeding value and clearly demonstrate that it holds the premier position for the largest amount of digestible protein to be had in any concentrate. For growing yearlings and other young stock it is unequalled, if fed moderately. It should not be fed to calves under six months of age, or be included in a ration for young pigs. A small quantity may be fed to ewes after parturition with advantage.

This valuable concentrate is the by-product in the manufacture of cottonseed oil. The hull of the cottonseed is removed, the kernel cooked and subjected to pressure to remove the oil. The residue or cotton cakes are then pulverized, in which form they are placed on the market.

Cottonseed meal is frequently adulterated. If one is familiar with the genuine article, the difference can be easily detected. The pure meal is a light, golden color, and should be free from black and brown specks. Hulls are generally used to adulterate the meal.

Linseed meal gives good results when fed to all classes of animals. On account of its concentrated nature, it, of course, must be fed in moderate quantities, and will be found valuable to correct the deficiency of protein in some of our home-grown feedstuffs. Containing a high percentage of crude fat, it has a beneficial mechanical effect in rendering the passage of the other components of a ration through the alimentary canal less difficult.

This product is the residue left after extracting the oil from flaxseed with naphtha, benzene, or a similar solvent of oily matter. In the extraction of linseed oil by the old process, the flaxseed was subject to pressure. The new process admits of more perfect removal of the oil from the seed; therefore, linseed meal obtained from the "new process" generally contains more protein and less fat than the "old process" meal.

Gluten feed and gluten meal are two important by-products from corn. Unfortunately these names are often confused. The terms are very much alike, and yet there is quite a wide difference in the composition of the two products. Gluten meal is very much richer in protein and fat than gluten feed, whereas gluten feed is considerably higher in carbohydrates than gluten meal.

Gluten meal is the residue, or part of the residue from the manufacture of starch and glucose. The process consists essentially in the separation, first, of the germ and hull from the starch and gluten; and second, the final separation of gluten from the starch. The residue may then consist either of three products: a mixture of gluten, germ and hulls, a mixture of any two of these components, or any single component. In any case, the by-products are part of the original corn, but when prepared for market they differ from it, and from each other in the amount of nutrients, and also in appearance. The entire residue is called gluten feed. It is a bright, yellow color, and more bulky than corn meal. The increased bulk is due to the presence of a larger proportion of bran in the gluten feed. Gluten by itself is distinguished by a high content of protein, and a deeper yellow color. This product is called gluten meal. Both the "meal" and the "feed" are exceedingly valuable feeds for dairy cows, when it is desired to increase the proportion of protein in the ration. The former would, of course, be more effective, but it is an exceptionally heavy meal, and a little more care would be necessary with its use.

Dried grains and malt sprouts are frequently used as cattle feed, and are valuable for their protein content. These are by-products from distilleries and breweries. They are obtained by first causing the grain to sprout, and as a result of this growth the starch of the grain is changed to sugar. The sprouts (malt sprouts) are then removed and sold to dealers. Brewers' grains are sold both dry and wet.

Wheat bran is one of our best-known by-products. It contains protein, fat, ash and soluble carbohydrates in such proportion as to make it an exceedingly valuable component of a dairy ration. Owing to its bulky nature it is a splendid material with which to mix the heavier feeds mentioned.

Elgin Co., Ont.

AGRICOLA.

Says Potatoes Prevent Retention of Afterbirth.

Editor "The Farmer's Advocate":

I saw in "The Farmer's Advocate" of Jan. 15 where A. M. has asked for a prevention of retention of afterbirth, and I thought, as a reader, I would let him know what we have done. Feed a few raw potatoes a day or two before the cow is expected to come in. In the last thirty years or more we have done this, and have had no trouble with any of our cows. The starch does the work. We feed about two quarts of the cut potatoes at each of two or three feeds.

Wellington Co., Ont. CHARLES BOGLE.
[Note.—We would not advise placing too much confidence in the potato preventive. Is it too possible that our correspondent might not have had any retention of afterbirth in his herd had he not fed the potatoes?—Editor.]

European Shortages.

"For the reasons we have repeatedly stated, beef, mutton and pork are not likely to suffer any great slump from the present prices, and they would amply repay increased output. There is already a great shortage of stocks in the chief continental countries, which will make a demand for the first time of any importance on the foreign supplying countries, and there seems to have been no great effort to increase the numbers of cattle and sheep in these places; while Canada is beginning to make more demands on her own surplus herds."—Weekly Irish Times.

THE FARM.

Believes in Punishment for Wrong-Doing.

Editor "The Farmer's Advocate":

About a week ago I was vesitin' a friend o' mine who is actin' as principal in a High School in his spare time, an' who has had considerable experience, one way an' another, w' the risin' generation an' w' their parents as well. A mon canna' be very lang in the business o' educatin' an' disciplinin' the young folk w'oot rinnin' up against their parents, as na doot ye ken yersel'. They will aye be thinkin' that their Jimmy or Mary is no gettin' enouch attention, or maybe is gettin' over muckle punishment, an' they will be askin' the teacher to gie an explanation o' his conduct. It was no' that way in oor day, ye'll mind, for gin ony o' us made any complaint about the teacher it was mair nor likely tae lead tae a cross-examination as tae oor ain behavior, an' maybe anither lickin' besides the ane we got in schule.

But I wis gaein' tae tell ye aboot this friend o' mine who is gettin' his trainin' by trainin' ithers. "Weel Mac," says I aifter I had asked him aboot his wife an' bairns an' some mair things o' no' muckle consequence, "hoo gaeis it w' ye in the teachin' business?" "Oh, no' sae bad, Sandy," he replied, "at least no' sae bad but that it might be waur. I'm gettin' enouch salary tae keep the family in blackstrap an' Johnny-cake, an' their clathes besides. This last is no sma' item as ye will ken. The ither day when I was startin' doon toon the wife says tae me, 'Mac,' says she, 'ye'd better get shoes for the bairns the day. They're a' complainin' o' wet feet.' 'A'richt,' says I, 'gie me the bran-sack.' Ye see Sandy, I maistly carry a bag o' some kind noo when I gae tae the stores. It's mair handy for a mon that is, what ye might say, in the wholesale boot an' shoe business."

"O weel," says I, "it's a great thing tae hae the family, even gin ye hae tae buy shoes for them. They'll na doot return ye guid interest on the investment. They'll tak' care o' ye when ye're over auld tae be teachin' ony mair." "Maybe they will, gin they're different tae some ithers I ken aboot," says Mac, "but I tell ye what it is, Sandy, there's a hale lot o' young people growin' up in oor country at the present time that are thinkin' mair o' their ain pleasure than they are o' gettin' ready tae look aifter their parents or onyone else. There's a lot o' young chaps in the schule here that hae their automobiles an' aboot half the time they're awa' tae some o' the ither toons in the next county, an' when ye dae get them intae the schule ye canna' get them doon tae business for their minds are on ither things o' what they conseed o' mair importance. Their parents hae lost all control o' them, gin they ever had ony, an' what can a teacher dae gin he isna' backed up by those in the hame. The trouble is that a lot o' the feythers an' mither's o' this generation are wantin' tae mak' things easy for their bairns. They dinna' like tae punish them for disobedience, an' ye may be sure there's not many youngsters will dae as they're tauld gin they ken they haven't got tae. Gin the only knew it they're makin' it unco' hard for these same bairns some day, for there's naebody can gang through this world w'oot learnin' their lesson o' obedience sooner or later. An' the later in life they learn

it the harder they'll find it. I mind when I was a young gaffer masel', I wis no muckle better than the rest o' them, in fact, for bein' contrary an' headstrong I'm thinkin' I wouldna' tak' second place in ony crowd. Ma feyther wad scold me an' sometimes gie me a clout on the side o' the held, but he didna' seem tae like tae gie me what by rights was comin' tae me, which was a real, guid switchin'. Mony's the time since I wished he had, for it wad hae kept me oot o' a peck o' trouble an' made a better mon o' me, I'm sure o' that. Generally there's juist one way tae mak' a child realize that he's done wrang an' that is tae mak' him suffer for it. Gin he finds that a certain course o' action is followed by pain he soon changes his ways. It may be instinct as weel as reason that mak's him dae it, but the result is the same. He has learned his lesson. An' what he learns as a child he isna' likely to forget as a man. Habit that is right is juist as strong as the habit that isn't right, an' it's when we are young we hae the chance tae get the richt one."

"An' dae ye think Mac," says I, "that ye canna' get the bairns tae form these habits some way besides the painful method ye hae been recommendin'. What about moral suasion that some teachers mak' oot warks sae weel?"

"It may be a'richt in some cases, Sandy. Children are no' a' alike, an' talk will mak' an impression on some o' them gin ye come at them in the richt way. The trouble is that in these High Schools we hae practically naething else tae depend on but moral suasion, an' oor pupils ken it. Gin we were in a position tae pack it up w' the cane, in the case o' the boys at least, we wad mak' mair o' an impression, I'm thinkin'. I'm no' ane o' those that want mair pupils tae obey me through fear or juist because I say so, but I want them tae obey me because the thing I ask them tae dae is richt, an' gin they refuse, then I want tae be in a possession tae mak' them. They must ken, an' the sooner the better, that there are things in this world that they've got tae dae, na mather how muckle against their inclinations it may be. Gin we're goin' tae keep on sendin' soldiers tae fight the battles o' the Empire we may as weel begin their discipline in the schools."

"I'm thinkin' Mac," says I, "that ye'd agree well w' ma sister. Ye ken she used tae be a school teacher in her young days, an' she said that when it cam' tae whippin' the bairns ye should na' stap until ye made them cry. It wis the only way tae conquer them. I gave her a callin' doon for it once an' tauld her that gin a wee laddie wis man enouch tae try an' hauld back the tears he should na' be whipped for it, an' that was what her method amounted tae."

"Weel Sandy," says Mac, "ye ken I dinna' believe in gaein' tae extremes. Whippin' like ony ither guid thing, may be carried too far. But yer sister turned out some weel-trained scholars in her day, did she no'?"

SANDY FRASER.

Does Not Apply Manure In Winter.

Editor "The Farmer's Advocate":

I have been reading your articles on winter manuring of land, and as I was renewing I thought I would send a few remarks.

We used to draw nearly all our manure out in the winter, but think it a mistake. Land that is winter-manured we found out could not be worked for about a week later than other land, on account of the manure holding the snow, which kept the land wet, and also when it was worked up we never could get it in the same condition, because it was always sticky, and when it got dry was hard and lumpy. We find better satisfaction by putting it in a heap, where we thoroughly mix it and where it is tramped by the cattle and horses, and in the spring is put on the land with a spreader, which puts it on a good deal finer than when spread by hand. It is then worked in with a cultivator.

You stated in your last edition that manure lost more in the heap than when spread out right from the stables. I do not disagree with you, especially if the year be dry, but I do think that manure that is applied in the winter and gets the winter and spring rains, will lose more of the strength by leaching and run off in the drains, especially on rolling land.

We practice summer-fallowing and find it a great help, as the manure is put on in the fore part of the summer and by fall is well worked into the land, which saves it a great deal from leaching. Some farmers think that to summer-fallow you lose a crop, but we don't think so. It puts the land in excellent tilth for fall wheat, and kills a large number of weeds which take the strength out of the land; and, also, in manure that is left in a heap until after spring work is nearly finished, large numbers of weeds will be destroyed by heating.

Of course, farmers who put out their manure in winter save considerable labor in the spring, especially those who put it out for next spring's crop. What I would like to know is, which way do you lose the more of the strength of the manure?

RICHARD JOHN PETHICK.
Huron Co., Ont.

Can They Fight and Farm?

Editor "The Farmer's Advocate":

The article by Peter McArthur, entitled, "The 500,000," appearing in your issue of Jan. 13, is well worth the sober consideration of everyone who is interested in the welfare of Canada. As is usual, Mr. McArthur hits the nail squarely on the head, and very little need be added to his statement of the case, as recruiting affects the rural communities. In order to ascertain whether conditions, as he found them in his district, were similar to those elsewhere, I also took a census in my own neighborhood, and here is what I found. On a block of 2,500 acres the population is 90. There are 7 unmarried men and 13 married of military age, 10 of the latter have young families. Four of the unmarried ones are supporting widowed mothers or unmarried sisters, one supports an invalid father and his mother, one is the only hired man on a 400-acre farm, the owner and owner's son, of which are both partially crippled and inefficient, and the remaining one is a beekeeper and poultryman, running three apiaries, and with an output last year of honey and poultry products of about \$2,000. There are 8 other men in the block, two of whom are past work, and one who is retired but is able to do some work still. All told there are 24 more or less able-bodied men to run 25 hundred-acre farms. Just 2 of these are hired men, and one of them is over military age and has serious physical disabilities as well. Two or 3 young hired men enlisted last fall. Only one family has boys old enough to do anything on the farm. It is interesting to note that the census here on the borders of Wellington and Grey Counties is almost exactly the same in numbers and proportion of various ages as Mr. McArthur found in Middlesex. Take any one of these able-bodied young men away and you put at least 100 acres out of commission, take 4, 5 or 6 and you reduce production by considerably more than the numbers would indicate, because these men have been helping one another and each one is more or less dependent on his neighbors, take away one and you not only stop his production, but you lessen the power of production of the neighbor whom he used to help. We are glibly told that the women and children must do more. This is arrant nonsense; the women and children are doing, and will do, all they possibly can; they cannot do more. If you take away the man then the women and children will be helpless, and in the majority of cases would have to close up the house and move into town. Their services would then be lost altogether.

We are often told by the newspapers what a large proportion of its population Great Britain is sending, and we are urged to follow their example. Well, let us see what agricultural England is doing. In the first place the English farmer uses three men to do the same work that one does in Canada. It follows that he could spare half his men and still be in a better position than we ever were. The British Government, like our own, urged the farmers to increase production. Did the English farmer do what he was told and say nothing. Not much he didn't! He promptly told the Government that if they wanted production the farmer must have men, and the Government saw the reasonableness of the demand; they recognized the necessity of production and they not only exempted certain classes of agricultural labor from military service, but they absolutely refused to accept them even if they volunteered. At the present moment agricultural laborers are practically non-existent in Ontario, and I am not afraid to say that production next season must drop from 20 to 25 per cent. on account of the drafts that have already been made on our rural population. If the season should be adverse and crops light it may easily drop 40 or 50 per cent. below the high mark of last year.

There is another factor that exists in Canada, but which is not found in Australia, New Zealand or rural England, that is our large proportion of population that is not British. We have hundreds and thousands of Germans and Galicians. What are you going to do about them? I feel that a great injustice is being done to British Canadians, and especially the farmers of Ontario, when comparisons are made between this country and other parts of the Empire, or between one section of the Dominion and another, by the failure to take these facts into consideration. As to whether it is more important to raise a few thousand more men, or to endeavor to keep production as near high-water mark as possible, is not for me to judge; but I do think that the effects of the present recruiting campaign on Canadian agriculture should be fully understood by the Government before it is too late to prevent a disastrous falling off in the production of foodstuffs. I do not know of any better medium for this purpose, than the agricultural press.

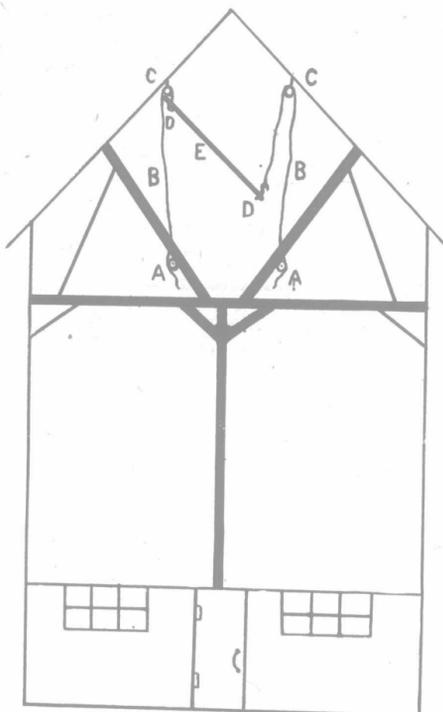
ALFRED HUTCHINSON.
Wellington Co., Ont.

Two Labor-Savers.

Editor "The Farmer's Advocate":

During the past season this district suffered considerably from the wet; still, in looking at things as they are, we must admit we had a very good year. But the present year looks as if, in troubles for the farmer, it will be even worse than the past. With the present call for two hundred and fifty thousand more men for the war, and hired men on the farm already very few and far between, things do not look bright. The farmer who needs help the coming summer should, instead of taking all winter to find a man, who when he does come will hardly be the best, plan how to get the most done under the most trying conditions.

One thing which would help many farmers along with their summer's work, is to get their manure spread on the land this winter. Many in this district consider spreading manure in the winter a very great waste. We have done this for the last five years, and have even spread it on when there was a foot of snow, and can truthfully say the results fail to show a waste but rather a goodly increase in every way. You get



Arrangement for Distributing Hay in Mow.

A—Pulley hooks; B—Rope; C—Pulleys; D—Where rope fastens to scantling; E—Board across center of slide.

over more land with your manure. It has not lost any of its good qualities through heating. You save handling it in a very busy season. You do not sweat spreading and drawing in the winter like you do in spring or summer.

No doubt there are plenty of farmers who will argue against this way of handling manure, but I still have one other item to save labor and time which I have yet to find a man to argue against. Perhaps it is because so few have tried the scheme or ever thought of it. This is a device for spreading hay in a mow. Make a slide of two three-by-four-inch scantlings 12 or 14 feet long. Nail on these elm lumber one inch thick and twelve feet long and about four inches apart. Have the scantling about one foot from the ends of your boards. Nail one board across the centre of your scantling. Get four pulleys and some three-quarter-inch rope. Fasten pulleys to rafters. Fasten ropes one on each corner of your slide around the ends of your scantling, run them through the pulley and down to a pulley hook put in the purlin post. Pull one end of slide up near to the pulley. Leave the other down with enough slope that the hay will slide off. When one side of mow is full, reverse slide, pull opposite side up to pulley and let other side down. This is also very handy if one wants clover hay in one side of mow and timothy in the other.

If your hay mow is in end of barn, as many are, fasten pulley to third rafter, then you can let a forkful of hay go right to end of track and it will fall down past the slide. This device has proven very satisfactory, and there is scarcely any spreading to do in mow. Our county engineer happened to come in one day, and he considered it one of the best schemes he had ever seen. I am sending a sketch of the same.

PERTH FARMER.
Perth Co., Ont.

Registering the Pull of an Engine.

Editor "The Farmer's Advocate":

In a recent issue of your most valuable paper a question was asked, re calculating the horsepower of a gasoline engine. Might I suggest a method which I find to be very effective? This works somewhat on the principal of the brake-test, and registers what the engine is pulling at the time the test is being made. The equipment used differs considerably from a pencil and paper, and does not stop at telling merely what the engine should develop. Figuring the bore, stroke and speed in steam engines gives very close results, but does not get the point nearly so well in the gas engine, owing to the fact that the power diminishes rapidly during the stroke of the piston. Whereas, in the steam power, the pressure remains the same during the entire stroke, thus figuring the gas the same as the steam would prove very inaccurate and unfair to the former. These figures, of course, are very necessary to the manufacturer in designing an engine to develop a certain power, thus thousands of engines are sold each year rated at a certain horsepower, but do they develop their rated power? No doubt they do if they are fed well and kept in first-class running order, but these engines in the hands of inexperienced persons are very likely to go down under the load, due, of course, to various causes, so it is that many engine owners would like to know what their engines are actually doing.

Procure a spring-balance and a piece of leather strap one-half to one inch wide, of sufficient length to reach once round the engine flywheel. This is all the equipment that is necessary. After the engine has been thoroughly warmed up and the middle valve has been closely regulated, fasten the spring-balance to the floor or to the engine truck, in fact anywhere that a convenient fastening place can be found, directly under the flywheel or a little backward or forward. This matters little so long as it is kept in line (belt-line, of course). Punch a hole in one end of the strap and slip it on the hook of the balance. While the engine is running, pass the strap around the flywheel, and standing on the same side of the wheel as the balance is fastened apply a little tension to the band. This causes it to grip the face of the wheel and pull outward on the balance. Pull lightly at first, then strengthen the tension till the engine is idling one in four or six. Every ten pounds thus pulled indicates the development of one horsepower. The balance will not, of course, be of sufficient capacity to test large engines, but is very effective in its action.

For larger engines this will give excellent results. Set a pail of sand on the floor under the flywheel, not directly under the shaft but even with the face of the wheel. Attach an inch strap to the bail of the pail; pass it around the flywheel, and, standing beside the pail, take hold of the end and apply the brake as it were. Take from or add to the contents of the pail as the occasion necessitates, till the pail is lifted and suspended clear of the floor at the exertion of the engine as heretofore stated. When this operation has been completed simply weigh the contents of the pail (pail included) and divide by ten. By this method you will be able to ascertain exactly what the engine is actually pulling.

In making the test care should be taken to use the flywheel opposite from the working side of the engine, otherwise the band, which is liable to slip off the flywheel might become entangled in the valve or half gears, causing serious damage.

Bruce Co., Ont. W. E. JACKSON.

Marl, a Source of Agricultural Lime.

Editor "The Farmer's Advocate":

I have read with interest the special article by Prof. Harcourt, on "The Value of Lime in Agriculture," in your issue of Jan. 13. A timely article, its teaching should, I believe, be tried out wherever possible.

Clover and other legumes having of late years failed to succeed on my land, I had been considering for some time the advisability of applying lime in some form, as, although no tests have been made for acidity, I am convinced that a good deal of the soil is decidedly sour. However, situated as we are, a considerable distance from limestone quarry or railroad, the prospect of obtaining a supply of lime at a reasonable cost did not appear very encouraging. When reading Dr. F. T. Shutt's efficient bulletin "Lime in Agriculture," published last season by the Dominion Department of Agriculture, I noticed particularly the value placed upon marl as a source of lime for agricultural purposes. Situated in the northwestern part of this township (Flos) there is a deposit of marl covering an area of possibly one thousand acres. In the centre of the deposit is a small lake; the outer portions of the area being under cultivation. It produces very fine crops of cereals and hay where newly broken, but appears to require very careful handling to maintain a sufficiency of humus. I had heard of this material having been employed in pioneer days for the purpose of interior whitewashing, and also as a satisfactory substitute for

The Pull of an Engine.

er's Advocate":

of your most valuable paper asked, re calculating the horse engine. Might I suggest a and to be very effective? This on the principal of the brake what the engine is pulling at is being made. The equipment erably from a pencil and paper, p at telling merely what the lop. Figuring the bore, stroke m engines gives very close re get the point nearly so well owing to the fact that the rapidly during the stroke of eas, in the steam power, the the same during the entire ng the gas the same as the very inaccurate and unfair to e figures, of course, are very manufacturer in designing a certain power, thus thousands l each year rated at a certain do they develop their rated t they do if they are fed well lass running order, but these ds of inexperienced persons are down under the load, due, of causes, so it is that many ould like to know what their y doing.

y-balance and a piece of leather ne inch wide, of sufficient length d the engine flywheel. This is that is necessary. After the thoroughly warmed up and the een closely regulated, fasten to the floor or to the engine here that a convenient fasten- nd, directly under the flywheel rd or forward. This matters is kept in line (belt-line, of hole in one end of the strap ook of the balance. While the pass the strap around the fly- g on the same side of the ce is fastened apply a little This causes it to grip the and pull outward on the bal- at first, then strengthen the ne is idling one in four or six. thus pulled indicates the de- orse-power. The balance will of sufficient capacity to test s very effective in its action. es this will give excellent re- of sand on the floor under the y under the shaft but even the wheel. Attach an inch of the pail; pass it around the ing beside the pail, take hold y the brake as it were. Take e contents of the pail as the e, till the pail is lifted and e floor at the exertion of the stated. When this operation simply weigh the contents of ed) and divide by ten. By l be able to ascertain exactly ctually pulling.

ct care should be taken to use e from the working side of e the band, which is liable to ight become entangled in ars, causing serious damage.
W. E. JACKSON.

of Agricultural Lime.

s Advocate":

interest the special article by 'The Value of Lime in Agri- of Jan. 13. A timely should, I believe, be tried

er legumes having of late ed on my land, I had been time the advisability of ap- form, as, although no tests acidity, I am convinced that oil is decidedly sour. How- are, a considerable distance y or railroad, the prospect of f lime at a reasonable cost encouraging. When reading efficient bulletin "Lime in d last season by the Domin- Agriculture, I noticed par- ced upon marl as a source al purposes. Situated in rt of this township (Flos) marl covering an area of d acres. In the centre of lake; the outer portions of r cultivation. It produces eals and hay where newly o require very careful hand- efficiency of humus. I had l having been employed in purpose of interior white- a satisfactory substitute for

oyster shell in the feeding of poultry. It is com- posed largely of the shells of countless genera- tions of fresh-water animals.

To decide whether the lime content of the de- posit was high enough to justify its use, a sample was submitted to Dr. Shutt for analysis; the following data being obtained: Mineral mat- ter insoluble in acid, 6.10; oxide of iron and alumina, 1.43; carbonate of lime, 87.57; carbonate of magnesia, 2.16; organic matter, etc., (undeter- mined), 2.68.

The analyst adds the remark that it "is an excellent sample of marl, and one eminently suited to employment for agricultural purposes." It would appear, therefore, that farmers of this district have at hand a cheap, convenient and apparently inexhaustible supply of agricultural lime in a form which is suitable for the majority of soils, and easily applied; simple exposure to the action of frost and air rendering it sufficiently fine. I am now applying this material to a field which is to be seeded to sweet clover next spring, certain portions being left untreated in order to observe results the more readily.

There are, I believe, numerous deposits of marl throughout Eastern Canada, and I am giving the

results of my investigations in the hope that others similarly situated may be encouraged to do likewise.

Simcoe Co., Ont.

W. J. GALBRAITH.

Fire Protection and Prevention.

Editor "The Farmer's Advocate":

When a fire breaks out in a farmer's buildings he cannot ring in an alarm at the nearest corner, and have the services of a fire brigade, and salvage corps with the very latest, up-to-the-minute apparatus for fighting flames and saving property. His isolated condition prevents this sort of an arrangement. His fire alarm is the dinner bell and the rural telephone, and his fire fighters are those of his neighbors who can be on the scene in time to help.

But on a number of our rural telephone lines the fire alarm is the same as the general call,—viz.—five long rings. On most of these lines also are such private calls as three and four long rings, as well as these combined with a number of shorts. Many phone holders seldom hear or notice any call but their own or some ring that is unusual. A neighbor's barn was burned in the

night, a few weeks ago, and few helpers were on hand soon enough to be of any use. Many heard the alarm, but a person in a drowsy condition does not trouble to distinguish telephone rings not meant for him. So the five rings passed unnoticed by many men who could have rendered assistance.

Might I, through your paper, respectfully sug- gest to the managers and directors of any tele- phone company where such an alarm is in use, that the fire alarm be changed to one very long ring? Say, ten times of the ringer crank. The ordinary long ring is about three times. It need not be confused with call for central.

Subscribers might well bring this matter up at the annual meetings. It is a change urgently needed.

One thing more—it might save property some time if a farmer had a few inexpensive chemical fire extinguishers hanging around where they would be handy when needed. Seconds count when a fire starts, and the average farmer makes little provision for such cases beyond an insur- ance policy—on which he is rather disposed to be economical.

Elgin Co., Ont.

ELGINITE.

Farm Problems Discussed by Practical Men.

The program of addresses was a strong fea- ture of the Ottawa Winter Fair. Large crowds listened with interest to timely and practical problems discussed by men, conversant with their subjects.

Farm Management.

In commencing his remarks, A. Leitch, Guelph, stated that "farm management was just a study of farm business." Many farmers failed to make their business a success because of poor manage- ment. It was believed that farming, as prac- ticed on the average farm, was not a financial success, when wages, interest on investment, and depreciation were considered. No figures were available in Ontario to prove this, but from a survey taken in New York State, about 27 per cent. of the farms gave the farmer and his family less than hired man's wages. The farmer carried on his business on a close margin, therefore, he was obliged to make every move count. Mr. Leitch advised reducing the cost of cultivation by using larger machinery, and then the most should be made of the crops produced by feeding only stock that gave returns for feed consumed. The cost of production was increased by poor pasture. A good annual pasture was advised, to tide the stock over the summer, when natural grass was dried up. A mixture of one bushel each of spring wheat, barley and oats, with six or seven pounds of red clover, sown on an acre of land, was recommended. It was claimed that an acre of this would give better pasture than any three acres of the best natural blue grass that ever grew. In order to make the greatest success of farming everything about the place must be efficient. Produce maximum crops with the minimum of expense, and feed stock that pay their way. In conclusion Mr. Leitch recom- mended that pastures be provided for yearly in the same way as other crops, and to specialize in quality of cows rather than in numbers. If possible, it would be best to diversify the operations on the average farm rather than specialize in any one branch of the business.

Prof. Grisdale, of the Experimental Farm, Ottawa, also dealt with the subject, "Farm Management," but spoke along more general lines than did Mr. Leitch. He was of the opinion that the proper line of development in Canada to-day was to increase the output from the land. By proper crop rotation, thorough cultivation and good management, Mr. Grisdale believed it could be increased by 50 per cent. One cause of failure on the farm was lack of business ability. In buying a farm the purchaser must be careful of his investment; too many allow little things about the buildings, or improvements about the place, to influence their choice of a farm, instead of paying careful attention to that which is of paramount importance—the ability of the land to produce. The farmer to make a success of his work should get the right idea of values of live stock, implements and certain feeds. This could be secured by attending Winter Fairs, farm sales and by reading. He should then get a knowledge of the value of small things about the place, and have everything put to a profitable use. Prof. Grisdale advised keeping the balance between farm crops and live stock a little heavy on the side of live stock. Even if feed should have to be purchased to run the stock through the winter, it would tend to build up the farm. It was estimated that fully 25 per cent. of Canadian farmers were not timely in their farm operations, but through neglect or procrastination kept putting off for to-morrow what should be done to-day. To be a successful farmer the work must be done at the right time; no more time would be required to do it, and the returns would be greater. Thoroughness in plowing, preparing the seed bed, handling the crops and feeding the stock, were essential if farming was to be made a

success. Then the farmer should produce large crops as cheaply as possible. Plenty of horses on the farm was considered necessary in order to give thorough cultivation, but the horses should be wintered as cheaply as possible, especially when not working. The use of large machinery is a factor in cheap production, and it was be- lieved farmers could profit by a little co-operation in the owning of some of the more expensive im- plements. If a proper rotation of crops could be followed it was believed that the output would be increased considerably. Another item that was considered valuable on a well-managed farm was to do all the work that could be done in the winter, and thus relieve the pressure in the spring. It was also advisable to have some sys- tem about doing the work, and follow it as closely as possible. In closing Prof. Grisdale strongly advised that some method of keeping accounts be followed in order that it might be known ex- actly how the business stood at all times.

Fitting Live Stock for Market.

"Fitting beef cattle for market" was the sub- ject dealt with by Prof. G. E. Day, O. A. C. Owing to the uncertainty of the market and narrow margin that farmers were forced to work on, the feeding of cattle was considered more or less of a gamble, both for the buyer and feeder. When stabling cattle in the fall one takes a chance on the mar- kets being good in the spring. Sometimes they are good, at other times they are the opposite. It was estimated that at present prices of feed it would cost eleven cents per pound for every pound of gain made by the animal. Therefore, it was necessary to have a fair margin between cost of feeders and value of the finished animal if a profit was to be made. The man who used good judgment in buying and was a careful feeder could usually come out all right. But, the big cattle must be finished before going on the mar- ket, especially when in competition with corn-fed steers. This lack of finish tends to keep the price at low ebb. Prof. Day was of the opinion that the feeder would have to start raising the steers to fill his stables, and advised finishing and marketing them as baby beef. It has not been proven that one breed would fatten better than another, but it has been demonstrated that the young animal gives the highest price for feed consumed. The cost of producing a pound of gain on a three- year-old steer was exceedingly high compared with the cost of producing gain on a young animal, and when the heavy animal was finished he must be marketed, as holding him over for a time was risky. On the other hand the young animal grows into money, and can be held if necessary without loss for a better market. Raising and marketing baby beef was considered more profit- able, and gave a much quicker turnover of money invested than keeping an animal until it was three years old. The stables and pastures were also relieved of carrying over stock that was mak- ing only moderate gains, consequently more young stock could be kept. To make a success of baby beef the animal must be bred right and then fed right. From the time the calf is dropped it must not know what it is to want for feed.

E. S. Archibald, Experimental Farm, Ottawa, spoke on "Feeding Swine for Market." Good breeding was considered the foundation of success- ful raising and feeding of swine. Producing the best quality pork with the greatest profit was what all feeders were after, but, to get this the pig must be properly handled from birth until marketed. It was advised to start with the sow, by properly feeding her before and after the pigs were born. The young pigs must then be given a good start, this was accomplished by teaching them to eat before they were weaned. Middlings and skim-milk were considered splendid feeds, for

the young pig, as they tend to produce bone and muscle. After weaning, any of the dairy by-pro- ducts were good, so long as they were fed care- fully. Three to six pounds of skim-milk or but- termilk per pig each day was plenty to feed along with a little grain. A mixture of shorts, 3 parts; barley or corn, 2 parts; linseed meal, 1 part; fed with skim-milk was considered a good feed to produce most economical gains. All the gains possible should be made when the pig was young, as a pound of gain could then be pro- duced for about one-and-one-half cents, while it cost from six to eight cents per pound when finishing the pig. Get all the growth possible, and reserve heavy feeding for the last five or six weeks before marketing. Pasture was found to be an economical feed for growing pigs. It was believed that a good alfalfa or clover pasture would reduce the cost of raising a pig to five months, by twenty-five per cent. But shelter must be provided for the pigs while on pasture, as it was found that pigs with sun-burned backs never did well. Different methods of feeding were experimented with, at the farm, with more or less satisfactory results. A mixture of six parts corn or barley with two parts middlings and one part oil cake gave best results.

Our Market Outlook.

This subject was discussed by several men who have made a study of present-day conditions, and should be in a position to know what the pros- pects, regarding a market for live stock, are for the future. All spoke very optimistically, and even the horsemen began to see a silver lining to the dark cloud. John Gardhouse dealt with the present horse situation, and in his opinion there is a better day coming. The horse market had been subject to its ups and downs as far back as he could remember, but reached its highest point about the year 1911. As history repeats itself, the horse business was due to have a little setback, but it has always come back, and there was every indication that it would be on the up- ward trend before long. Mr. Gardhouse pointed out that in this unprecedented war there was an awful destruction of horses. England and a number of European countries were breeders and exporters of high quality horses; this export is not only stopped, but many of the best horses were requisitioned for war purposes. When the war is over England and all Europe will be look- ing for good brood mares to replenish their stables. It was the opinion that a golden op- portunity confronted Canadian horsemen to sup- ply this demand, and so establish a market. But, horses cannot be raised in a day, it requires time, yet it was estimated that only about fifty per cent. of the brood mares were being bred. It was considered a good time to get into the busi- ness, when the market was dull and many were disposing of their mares. However, the farmers of Canada should pay more attention to the stamp of horse they raise. The good, drafty horse with quality usually finds a market even in dull times, but the horse got by haphazard breed- ing never brings the price. At the present time the market was believed to be brightening for good horses, and the future outlook was con- sidered promising.

Robt. Miller discussed the subject from the cattlemen's point of view, and to him the future for the stockmen looked rosy. For the past year or two the cattle market had been good, but future prospects were considered even better, especially for breeding cattle. At the present time there was a greater number of con- sumers in proportion to producers than ever be- fore. The warring countries will require beef animals, and Canada should put herself in a position to supply the demand. Breeding was mentioned as the first thing to consider. Breed

the right kind of an animal, then feed the rations required to grow and fatten that animal. Increase the number of beef animals of high quality, was the advice given by the speaker. Cattle raising improved the fertility of the land, so that subsequently larger crops may be grown. More cattle and better cattle might well be kept on many of Canada's farms.

That prospects for making money from sheep were never better, was the opinion expressed by Col. McEwen in speaking on the market outlook for sheep. Already circumstances are such as to increase the price of mutton above former years, and the price of wool is still climbing. There was no difficulty in disposing of lambs last fall, as butchers were clamoring for them. Usually there is a supply of mutton in cold storage to meet the market demands, but this year everything was cleaned out; and the trade must depend on what can be purchased locally. The speaker considered there was no industry on the farm that offered such advantages as did sheep raising.

In conclusion John Bright, Live Stock Commissioner, Ottawa, prophesied that it was only a matter of a few months until the horse market would be keen. It was a regrettable fact that farmers were not paying more attention to the breeding of their animals. "As you sow, so shall you reap," was considered as true of live stock as of anything else. By not keeping better live stock many farmers were throwing out, with one hand, what they had gathered with the other. Some men could produce good crops, but were poor feeders. A plea was made for all to produce maximum crops, then feed well-bred stock of all classes, so that Canada may be in a position to supply the big market which the future promised.

Poultry for Profit.

"Efficiency in Poultry Farm Management," was the subject of a very practical address given by L. N. Clark, of Port Hope. Eggs and poultry for market were considered the money-makers, while selling breeding stock and eggs for hatching was a side-line. One reason given why many men fail in the poultry business was because they were failures in other lines before they took up poultry farming. Lack of systematic culling of the flock was another cause of failure. Mr. Clark found that, in his own flock, one hen in ten laid from 15 to 17 dozen eggs during the year, but the average for the flock was 14 dozen. In starting into the poultry business it was advised to secure, "bred to lay stock," and then keep culling out the non-producers. The keynote of poultry farm efficiency was to keep only producers. Culling should be done at different times during the year, first in the fall, then during the winter and again on in the summer. Non-producers usually brought a fair price on the market, and by getting rid of them the average production of the flock was automatically raised.

Trap-nests were considered the only positively sure method of distinguishing between the producer and non-producer. But, other indications were fairly reliable, for instance, time of moulting should be considered, the bird in full dress in October was not a producer when eggs were high in price, but the bird last to moult was considered best. With the breeds having white earlobes and yellow shanks, the color was an indication. The bird with the snow-white earlobes was the producer, as the hens lay the pigment coloring matter out of the lobes. Likewise, with the shanks, it was often the bird with the poorest-colored shanks that was the money-maker. Selection was first in importance, and having the chicks hatched at the right time a close second, in managing for egg production. During the winter months, when eggs were high priced, was considered the time birds should be laying. In Mr. Clark's experience pullets were the best winter layers. He was able to make 90 cents profit from a pullet in December, but only 4 cents from a yearling hen. The chicks should not be hatched too early nor too late in the season. For the heavier breeds, not earlier than the first of April and not later than May 10 was considered the proper time. The lighter breeds did better hatched from April 20 to May 24. When hatched too early they are likely to mature early and moult in the fall, this would upset the egg-laying business for that season. If hatched too late the young birds do not thrive so well, and cold weather catches them before they start laying. In breeding, it was considered best to mate a yearling hen with a cockerel in order to secure the best hatch. There was danger with the pullet laying heavily all winter, that the fertility of the eggs would not be so good, nor the chicks as strong as when hatched from fully-developed, yearling hens.

In answer to questions, Mr. Clark told his methods of housing and feeding. The partly-open front house was used, having about 27 feet open and the remainder of the front glass, in a pen that would accommodate 100 hens. The grain was fed in a deep litter at three o'clock in the afternoon, and again after the birds had gone to roost they were fed for morning. For green feed mangels or sprouted oats were invaluable. The birds were fed a mash at noon, and given sour

milk to drink. Mr. Clark uses a dry mash made up in the proportion of 20 lbs. bran, 100 lbs. low-grade flour, 100 lbs. corn meal, 100 lbs. blood meal, 100 lbs. gluten meal, 33 lbs. bone meal. Careful attention to every detail at all times was considered essential to see if success would be attained in poultry farming.

Breed, Feed, Weed.

In speaking on "Development of Dairy Stock," Prof. Barton, of Macdonald College, Que., stated that "breeding" and "developing" were too very important phases of dairying that go hand in hand if success would be attained. The average farmer should be more thorough in his work, especially in the feeding and care of his stock. There was one method of improvement within reach of all; grade up the herd by use of a good pure-bred sire. It was a mistake to keep non-producing cows on the place, because an old cow will eat her head off to-day quicker than she would a few years ago, owing to increased price of feed, and larger amount of money invested in the cow.

Having bred right, Prof. Barton likes to start looking after the development of the animal before it arrives on the scene, by giving the cow proper feed and attention. "Ten month's work, two month's rest, and the cow calving in good condition," was what he aimed at. Having the cow freshen in the fall was preferred, as fall calves usually did much better than those dropped in the spring. One should be careful with the young animal, as the cause of many a stunted calf was traced to neglect during the first few days of its life. Whole milk is nature's nourishment for the young, but care must be taken not to overfeed the calf. About ten pounds of whole milk per day was advised for the first two weeks, then a gradual change to skim-milk. Twenty pounds of skim-milk per day was the maximum amount that it was safe to feed at any time. Oats were a splendid feed for all young stock and were safe to feed. A little wheat or linseed meal could be added if desired. Where skim-milk was

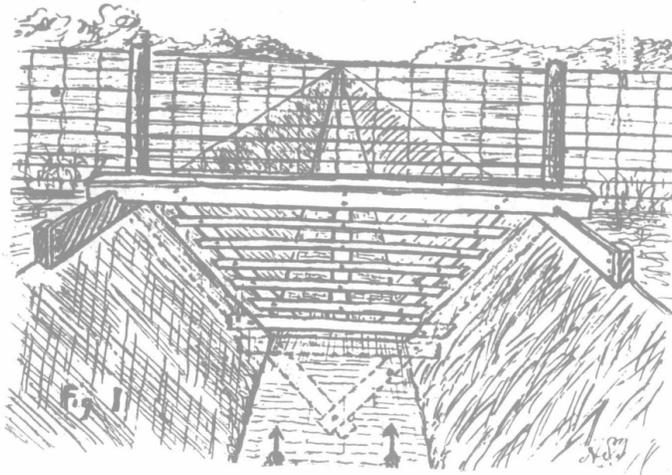
Many make a mistake by breeding the heifer too young. Don't be in too big a hurry to start the heifer working, was the advice given. The cause of many small cows in a herd could be directly traced to breeding the heifer before she was sufficiently developed. Thirty months of age at freshening should be the minimum, and thirty-two or thirty-three months would be better. The heifer should be in good condition at time of freshening, but avoid heavy feeds. Exercise was required, and such concentrates as bran or oats were excellent. The udder should be well looked after, and it was advisable to keep the heifer milking at least ten months the first year.

E. S. Archibald, leading in the discussion, gave a concrete example of the possibilities of grading up the herd. A herd with just ordinary care was producing about 3,000 lbs. of milk per cow during the year. This herd was bought by a man who understood feeding, and the first year the same herd averaged 5,600 lbs., testing 4 per cent. fat. A pure-bred bull from high-producing stock was used, and the heifers from this herd gave over 10,000 lbs. of milk during their first lactation period. This shows what can be done by careful breeding and feeding.

Fencing A Ditch.

Editor "The Farmer's Advocate":

Where fences cross large ditches, they are generally the source of much trouble through animals getting out or in through the opening. Driving stakes across stops the gap for a time, but freshets wash them away. Stakes also have a tendency to turn the water to the outside, thereby washing away the bank which in time become a sort of mudhole. A better way is to hang an apron across, but that also has the same tendency unless something is done to prevent it. I was bothered that way until I constructed the one here described, which has given years of service with no trouble whatever. It was easily made, taking less than a day's work. Its efficiency lies in the 2 x 8-inch plank, the edges of which come flush with bottom and sides of ditch. A second piece 1 by 6 is nailed across. This is for the apron to rest against, when ditch is empty, and also prevents pigs from pushing their way through. The board nailed along the top of the apron I found very handy to walk across on (as a sort of bridge), when ditch was full of water.



The Fence for a Ditch.

not available a satisfactory drink could be made by scalding rolled oats and pouring off the liquid. It was thought that five months should be the minimum time for feeding skim-milk or some prepared feed, longer time would be much better, as the last month or two of special feeding, which the calf receives before going to pasture, pays well. Have the calf well developed before turning to pasture, and then if a paddock is available where the young animal can secure shelter, so much the better. It was considered a mistake to depend altogether on grass; whole oats or bran should be supplemented for a time at least.

It was regretted that so many heifers were poorly wintered, and came out in the spring in worse condition than they were in the fall. Growth and development could be made on inexpensive feeds during the winter. Prof. Barton considered silage to have no equal among stock feeds. Roots were excellent feed, but a little expensive considering the labor problem. For hay clover or alfalfa hay was ideal. But, owing to conditions that the farmer has no control over, the clover or alfalfa may be winter-killed, thus causing a shortage of hay. In such a case, or where the old meadow is past its usefulness, a good substitute is to sow oats and peas in the spring and cut them in the milk stage, when they could be cured the same as hay. Prof. Barton recommends using two bushels of oats to one of peas, and found they made feed that was palatable, nutritious and a good yielder. If, owing to weather conditions, this hay was not saved in good condition splendid results in feeding were secured by sprinkling a little molasses over the coarse fodder.

narrow and bending or clinching it, then I dug a narrow trench on the up-stream side of the posts, deep enough so that the upper edge was just flush with the sides of the ditch. Of course, the nailed end goes down some distance below the bottom of the ditch. I then nailed the 2 by 8 piece across so that the top edge was flush with the bottom of the ditch. I also nailed the 1 by 6 piece across, leaving about 3 inches between the two for the water to pass. Next, I nailed the top of the plank to the fence posts and tramped in the earth. Then the two pieces, also 2 by 8, about 6 feet long, were placed at each side of the edge of the ditch and nailed to the fence post and also to the two large stakes. This protects the edge of the ditch, and is also what the ends of the apron rest upon. In notches at each side now lay the 2 by 8 piece across for the apron, take 3 pieces 2 by 4 and nail on as shown, and on to them nail the cross strips, 1 by 3, as shown. Then lay the board across the top to walk on, and the job is done. For nailing the 2-inch stuff I used large, 40-penny, wire nails. In the one-inch pieces I used 10-penny. The arrows showing which way the water runs, and with the drawing to look at I do not think any one would find it a difficult job to do.

A. S. THOMAS.

Good stockmen have always believed that there are too many scrubs among the breeding stock in this country. We recently heard a practical man make the remark that to get eight or ten good cattle for feeding purposes he generally had to buy four or five inferior individuals. This does seem like too high a percentage of the wrong kind. Better sires would help.

the
up t
com
proc
were
the
T. C
whic
exhib
ease
T
of g
tion
fall,
ers s
seed
Colle
depar
F
Chat
Murr
wheat
calfe;
4, Du
Wm.
Bann
Edwa
Wood
No. 7
Hami
W. J.
Selle
4, J.
Bradl
1, J.
Galt;
Cumm
Lerch
ington
wheat
ming;
variet
B. Wil
W. P.
Gower
Stanst
L. Tu
clover
Woods
1. S. C
Gourla
long, v
2. H. I
Roches
round,
Schmi
Naismi
than w
Potato
Edward
Beaver
Rodney
Tilbury
(Longf
T. J. S
Chatha
(Salzer
Chatha
Corn (C
Brookli
F. A. S
R. Coh
Corn (W
L. Shay
(A. O
inson.
Cohoe.
Hankins
Corn (F
Leitch,
Canham
ming's l
onto);
G. A. B
hurst F
CLA
Sheaf
McColl,
2. R. Mc
J. Woods
Goltz.
R. & J.
Murray;
wheat; 1
oats; 1;
Schmidt;
rowed ba
T. Hall;
(eight-rov
Pearce;
F. A. S
McColl;
Dent); 1;
T. J. SH
variety y
A. Smith
F. A. S
Goltz.

Is it Milking the Shorthorn to Death?

Editor "The Farmer's Advocate":

The British Shorthorn is rapidly coming to the front as a dairy cow, and the progress which has been made by the English Shorthorn Dairy Society is emphasized by the extraordinary returns which have been published. The records of 140 cows are given, all of which have a yield of more than 8,000 lbs. of milk within the year. The greatest yield was that of Rose 44th, which gave 12,809 lbs. of milk, and was in milk 365 days. Other three cows, Blushing Maid 2nd Lady Clara, and Primrose 3rd, gave over 12,000 lbs. of milk, and with the exception of Lady Clara, who was in milk 317 days, were in milk the same length of time as Rose 44th. Four cows gave over 11,000 lbs. of milk, one of them, Sincerity, in milk 361 days, getting within 110 lbs. of the 12,000-lb. standard. No fewer than 20 gave over 10,000 lbs. of milk, and 48 ranged from 9,002 lbs. to 9,979 lbs. Eighty-eight of the cows were in milk over 300 days, and 18 of them milked the year through.

Satisfactory as this is, still it points out a danger of which it is well to be forewarned. Heavy milking is a severe strain on the animal's constitution. It must be remembered that the normal condition of the milking cow in a state of nature is giving just sufficient milk to rear her own calf. By judicious breeding and judicious feeding and management, such records as have been referred to have resulted, and the improvement in our milking herds, which has been achieved during the last quarter of a century, is highly creditable to those who have been responsible for it. At the same time, it is questionable whether the prolonged period of lactation noted in so many cows is not a source of weakness. Nature, we know, calls for a rest, and if she does not get it she exacts payment for the breach of her laws. It may be said, perhaps, that Nature's laws are broken in every breeding herd, and to a certain extent this may be admitted. But it naturally follows that excess has to be made good in one direction or another, and whispers have been heard of irregular breeding and loss of fecundity in cows which have been abnormal milkers.

ENGLAND.

Uniformity in the Cream Test.

Dairymen supplying cream to the creameries frequently find that the percentage of fat in the cream varies considerably from week to week. As every dairymen desires to have his cheque as large as possible, he sometimes is tempted to blame the man who does the testing, when the test is 2 or 3 per cent. lower in fat than it was the week before. Seldom is there a complaint if the test for a week is above the average; it merely accentuates the idea that there was something wrong when the test was low. There may have been something wrong, but was it the creameryman who was a little careless in the test, or was it the dairymen, who was not as careful as he might have been in turning the separator, or in having the milk the proper temperature?

At the recent Dairymen's Convention, held at St. Mary's, Prof. Dean gave the results of investigation work which had been carried on, to determine the cause of the variation in the percentage of fat in cream. Using different makes of separators, it was found that increasing the speed, by even six revolutions per minute above that indicated on the machine, lessened the amount of cream, but increased the percentage of fat. Likewise, a decrease in the speed gave a decrease in percentage of fat.

At the Dairymen's Convention held at Renfrew, Mr. Barr explained the results of a test which had been carried on by the Dairy Division, regarding the variation in the tests of cream. The screw of the separator went unchanged throughout the trials, and the fluctuations in per cent. of fat showed similar results as prof. Dean secured. The temperature of the milk and number of revolutions of the bowl were responsible for considerable variation. The accompanying table is a resume of the results:

VARIATION.	% fat in milk	temp. of milk	Speed of separator	% fat in cream	% fat in skim-milk
In temperature of milk.....	(3.57)	70 deg.	60 rev.	44.2	.040
	(3.57)	95 deg.	60 rev.	29.3	.021
In speed of separator.....	(3.63)	95 deg.	65 rev.	36.6	.018
	(3.60)	95 deg.	50 rev.	19.2	.027
In temperature with low speed.....	(3.60)	70 deg.	50 rev.	28.5	.078
	(3.30)	90 deg.	50 rev.	21.5	.030
In percent. fat in milk.....	(4.50)	95 deg.	60 rev.	27.0	.017
		95 deg.	60 rev.	35.5	.015

Correct speed of separator 60 revolutions per minute.

With the same quality milk and turning at the same speed there was a difference of 14.9% fat in the cream, with a variation in temperature of 25 degrees. Where a dairymen is milking a large

number of cows there is a chance of the first milk becoming quite cool before being separated, and so cause a variation in the test. When the temperature was kept at 95 degrees and the speed varied by 15 revolutions, there was a variation in the cream test of 17.4% fat. A slow speed with 20 degrees difference in temperature gave 7% fat variation in the test. The rich milk also gave a higher testing cream, at the same temperature and speed, than did a poorer quality milk. The table shows that the per cent. fat in the milk, the temperature of the milk and speed of the separator all have a part to play in causing a variation in the test of cream. The man making these tests found it difficult to maintain a uniform speed, and this difficulty would be increased on the farm where the man turning the separator frequently has to stop to put in milk or remove a pail. The temperature of the milk will vary in the ordinary stable, depending on temperature of the stable, and length of time between milking and separating. Even with the greatest care in separating it is hardly possible to secure a uniform test in cream from week to week. But, the variation should not be large if reasonable care is taken in separating. Of course, there is a chance for slight variations in testing. The temperature of the cream must be right, and the correct amount of cream used in testing. Taking samples by weight is the most correct method. In using the pipette for measuring the sample, one must be careful to have the cream come exactly to the point indicated on the glass, and then be sure that every drop is delivered. A slight variation in amount of cream used in testing would cause considerable difference in amount of butter-fat in a can of cream. If the test would be near uniform both the farmer doing the separating and the man doing the testing must exercise every care.

POULTRY.

A Record Year in Poultry.

From the four winds came the feathered tribe to exhibit their fine qualities at the largest poultry show ever held in connection with the Ottawa Winter Fair. Last year a record was made in number of entries, but the event just closed eclipsed all previous records by about 600 birds. Over 3,400 birds were on exhibition, and the quality, as a whole, was considered superior to that shown on any previous occasion. Utility classes were strong—with White Leghorns leading in numbers, closely followed by Barred Rocks and White Wyandottes. Dressed poultry was never better.

The class for eggs in single dozen lots and commercial packages brought out 92 entries, making a total of about 800 dozen eggs. Eggs were graded, specials, extras, and No. 1's. This exhibit created a good deal of interest. If the phenomenal growth of the past year or two continues, more space will be required to house the birds that will be exhibited.

A display of water fowl from the Experimental Farm, and the exhibit by the Live-Stock Branch, showing how to market and how not to market eggs, caused much favorable comment.

Poultry Notes.

Editor "The Farmer's Advocate":

Did you start the new year right by keeping account of the eggs the hens lay, and the cost of the feed? Some poultry keepers have a daily diary of doings in hendom. "Keep the towels comfortable." This advice is passed out quite often, but many who read it do not interpret it rightly. Comfortable does not mean shut up in a close pen without any fresh air, but with plenty of dampness. Hens will stand considerable cold, provided it doesn't hit them in a draft or is a damp cold.

Are you wintering any star boarders? Fat hens are worth a good price now. Weed out the non-layers.

What about the windows in the hen-house; can you see out of them? They are

Don't dump the coal ashes in the hen's dust box without first sifting them. The coarse stuff can be thrown in a pile by itself and the fowls will pick grit out of it, but the fine ashes should be put in a good-sized box for the hens to dust in, and be sure and put the box where the sun can shine on it. The hens will enjoy it better, and it's the happy, contented hen that lays the eggs.

Did you ever notice any wind coming through the cracks these windy days? If so, get a roll of tarpaper and put it on the inside of the house. It will make things more comfortable.

It is said that a pretty safe way to tell which hens are laying is to feel their crops when on the roost at night. The layer is sure to have a good, full crop. Try it and see if it isn't nearly always correct. The hen that is laying is the hustler, and is bound to get a good feed if there is anything to eat.

C. HICKEN.

Hoppers for Chicken Feeding.

Kindly give a description in your columns of a self-feeding hopper for poultry; also a design of same if space will permit.

D. C.

Styles and types of hoppers for chicken feeding are numerous and varied. Industrious poultrymen have translated their own ideas into many different designs, and they all serve the purpose more or less successfully. The aim or purpose of a hopper is to contain meals or mixtures and

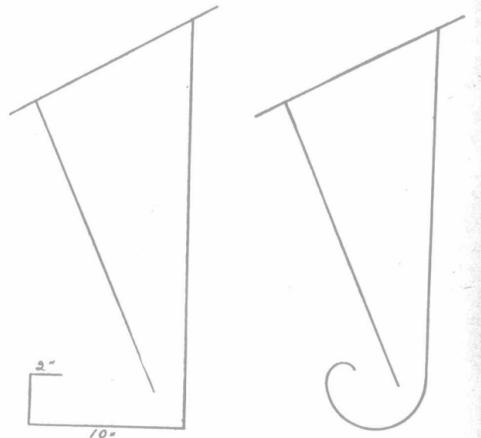


Fig. 1—Lines Representing the Principle of Feed Hoppers.

feed them down as the birds desire. The difficulties are to prevent the feed clogging in the body of the hopper, and to have it so constructed that feed cannot be brushed out on to the floor and wasted. Aside from these problems a self-feeder is simple and easily put together.

For inside use with a laying pen, the style of hopper illustrated on the left of figure 1, is very serviceable. The few lines indicate the principle upon which the box should be built. The back of the feeder, of course, is upright, while a board set on quite a steep incline forms the front of the hopper. The size of this structure should, of course, depend upon the number of birds to

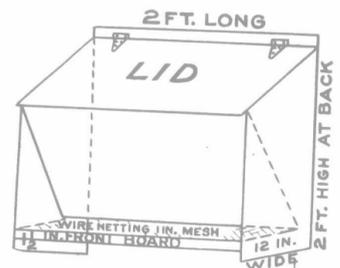


Fig. 2—Hoppers for Out-door Use.

be fed from it. As the feed comes down it is drawn to the front or eaten from under the chute near the bottom of the box. The little two-inch edge at the top of the feed box will prevent the hens brushing the feed out on to the floor.

In figure 2 is illustrated a hopper which is especially valuable for feeding chickens on the range. The front opening is covered with wire netting (one-inch mesh) to prevent chickens wasting feed. A division may be put in so one could feed beef scrap and meals from the same box. This hopper requires about thirteen feet of lumber and can be made in a few minutes by any one

the coal ashes in the hen's dust
sifting them. The coarse stuff
in a pile by itself and the fowls
eat of it, but the fine ashes should
be put in a box for the hens to dust
and put the box where the sun
shines. The hens will enjoy it better,
and they will be happy, contented hen that lays the

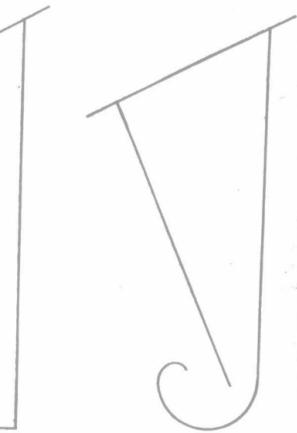
notice any wind coming through
windy days? If so, get a roll
of paper and put it on the inside of the house.
The birds will be more comfortable.

A pretty safe way to tell which
hens to feel their crops when on the
nest. The layer is sure to have a
full crop. Try it and see if it isn't nearly
as good. The hen that is laying is the
one to get a good feed if there
is any. C. HICKEN.

For Chicken Feeding.

A description in your columns of
a hopper for poultry; also a design of
a hopper permit.

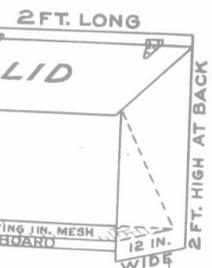
D. C.
The design of hoppers for chicken feed-
ing and varied. Industrious poultry-
men have turned their own ideas into many
forms and they all serve the purpose
successfully. The aim or purpose
of the hopper is to contain meals or mixtures and



Representing the Principle of
Feed Hoppers.

the birds desire. The diffi-
culty is to prevent the feed clogging in the
hopper, and to have it so constructed
that the feed will be brushed out on to the floor
and not from these problems a self-
acting hopper easily put together.

With a laying pen, the style of
the hopper on the left of figure 1, is very
simple. The lines indicate the principle
of the hopper should be built. The back
of the hopper is upright, while a board
is placed to incline the front of
the hopper. The size of this structure should
depend upon the number of birds to



Hoppers for Out-door Use.

the feed comes down it is
eaten from under the chute
of the box. The little two-inch
opening in the front of the
feed box will prevent the
feed from falling out on to the floor.

The hopper shown is
a hopper which is
used for feeding chickens on the
nest. The opening is covered with wire
to prevent chickens wast-
ing the feed. It may be put in so one could
feed about thirteen feet of lumber
in a few minutes by any one

handy with tools. A serviceable though smaller
hopper might be easily made from a soap box.

Many small boxes about the place can easily
be converted into feed-hoppers. Have a good in-
cline in the front; do not make the chute too
small, and have a protection over the front of
the feed box to prevent the feed being brushed to
the floor and wasted.

Sixty-first Annual Meeting of the Western New York Horticultural Society.

Distribution is the subject paramount in the
minds of fruit growers of the present era. At
the Sixty-First Annual Convention of the Western
New York Horticultural Society, held in
Rochester on January 26, to 28, 1916, cultural
methods were discussed, but it was manifest that
interest centered chiefly about the question of
marketing. Several addresses dealt with the
subject of distribution and markets, and they
were listened to attentively, for there was a
mutual feeling among the growers present that
some solution must be forthcoming that will
alleviate the pressure upon the fruit industry,
brought about by heavy production, and the ap-
parently inadequate demand. This is a con-
tinental question, for the fruit growers of On-
tario, assembled in their annual convention at
Toronto two weeks ago, laid particular stress up-
on ways and means of speeding up the railroads
and consumers to more rapidly move and consume
the products of the orchard. There are those,
however, who feel that readjustments will
take place, and after some fluctuations,
to which all industries are subject, the
enterprise will again be considered in
a normal condition, and a narrative to those
who invest wisely their time and capital therein.
It was not a pessimistic group of men who con-
vened at Rochester. They gathered for their
annual repeat of information, and to learn anything
new that might be applied to a business in which
they were engaged.

The fruit growers of Western New York suffered
last year from peculiar climatic conditions
very similar to those prevailing in Ontario. Ex-
cessive moisture produced, on the whole, peaches
of poor quality, which would not stand up well
during transit. Many carloads were not unloaded
in the city of New York, owing to an advanced
degree of decay on their arrival, and this re-
sulted in severe losses to many shippers. The
choice product, it was claimed at the Convention,
sold at handsome prices. Although our neigh-
bors to the south live under a form of govern-
ment somewhat different from ours, the pleasures
and problems of the fruit growers in the Empire
State are, in many cases, duplicated with us in
Canada. Were it not for the Stars and Stripes,
a grower from Ontario attending their conven-
tion might forget at times that he was in an-
other country. The codling moth, the apple
scab, the aphids, the railroad worm, the express
companies and the railways all behave much the
same in the State of New York as in Canada.
Consequently, Canadian fruit growers may, by
making some adaptations in special cases, apply
much of the teaching expounded at the recent
Convention in Rochester to their own conditions.
Soils there must be fertilized; pruning, spraying
and cultivating are live topics. They are of
quite as much interest to us north of the im-
aginary boundary line, and in the following para-
graphs we are reproducing the important parts
of the discussion which took place at that Con-
vention.

One feature in their method of conducting a
meeting is worthy of commendation. The pro-
gram limits each address to 20 minutes, and if
an extension of time is allowed it is through the
courtesy of the chairman and the meeting. No
speaker is cut short in the midst of a good ad-
dress, but if the remarks are not to the point, or
if words are too much in excess of ideas a time
limit obviates the embarrassing situation by
allowing the hammer to fall, and thus preventing
too much indulgence in the good nature of a
tolerant audience. Many good ideas can be ex-
plained in 20 minutes, and the opportunity for
discussion, a valuable feature of any meeting, is
improved. The chairman was indeed lenient at
the Convention in question. A few speakers oc-
cupied the platform more than the allotted time;
nevertheless the time limit and its influence were
there.

Answers to the many questions on the pro-
gram were brief. Two or three minutes proved
sufficient time in which to reply to a query. In
this way much information on a great number of
topics was placed at the disposal of the hearers,
and several could state their experiences along
the same line. This plan appears preferable to
having papers or prepared addresses in answer
to set questions.

An elegant display of fruit was an important
feature of the Western New York Horticultural
Society Convention, and most outstanding of all
was the exhibit of varieties prepared and erected
by the New York Agricultural Experiment Sta-
tion. Baskets, samples of spray material and

HORTICULTURE.

Owing to the advanced price of copper
sulphate, potato growers are now looking about
for a substitute for that compound. Blue stone,

as it is commonly known, has been used largely
for making Bordeaux mixture, which is the best
preventive of blight on potatoes yet known.
Lime-sulphur solution on potatoes is advised
against, so there is a problem for our experts
now to bring forth another mixture or solution
that will not injure the plants, yet will prevent
blight.

nursery stock were all to be seen at the booths
of the representative manufacturing firms. The
State College and State Experiment Station also
had interesting, educational displays, and in the
words of the Secretary, John Hall, there were
four score exhibits to be seen of all kinds of im-
plementations used in connection with fruit growing.

The remarks of Wm. C. Barry, who for twenty-
five consecutive years has been President of the
Society, prepared the audience, to a certain ex-
tent, for the themes of the different sessions. The
matter of distribution was discussed by the Presi-
dent, who advocated public retail markets where
consumers, almost the year round, could supply
their requirements for all kinds of fruits. At
such an institution urban dwellers could purchase
freely, for the price would be within their reach,
and the producer would receive a just return for
the product. People, he said, would then be
able to use an article of diet that makes for
health, happiness and contentment. The question
regarding tillage or a sod mulch for orchards was
answered by Mr. Barry emphatically in favor of
thorough cultivation. He had observed experi-
ments conducted for a term of years, and the re-
sults in barrels of apples were against the sod-
mulch practice. Only on hillside, stony land
and in special cases was it advisable to neglect
cultivating in favor of the sod mulch. Relative
to supply and demand of the fruit industry the
speaker opined that over-production can never
occur so long as the proper market be provided.
"Put the product up," he said, "in convenient
and attractive packages; establish public retail
markets, and the rest will look after itself.

CHANGES NEEDED IN DISTRIBUTION.

The first of a series of addresses was a paper
submitted by Freeman Pintler, Ontario, N. Y., in
which he clearly defined the present expensive and
unwise manner of distribution. According to
methods in vogue, fruit is transported and too
often allowed to double back over the same line
before it reaches the consumer. This adds to
the cost of selling, and detracts from the value
of the product. There is need, he said, of a
direct and complete distribution by freight. The
manner in which fruit is sold in the State of
New York was described as follows: A grower in
the country consigns a carload to Jones &
Co., New York, (an imaginary firm) and, of
course, the transportation charge is collected.
Jones & Co. cart the fruit to their warehouses,
and must be paid for that service. They sell it
again in small lots to jobbers somewhere, perhaps
in the same direction from whence it came. It
is carted once more to the railway and shipped.
The second cartage charge and express rates now
accrue. More than this, there is 10 per cent.
commission for Jones & Co., if they are honest
and more if they are not, for selling. Lastly,
there is the jobber's profit on, at least, half the
car, and the retailer's profit on all of it before
it reaches the consumer. In this way, Mr.
Pintler said much of their fruit was sold. To
eliminate so much expense, the speaker advised
sales direct to retailers, and then some arrange-
ment with the railroads whereby they would
agree to carry carloads to a certain point as
fast freight and thence as local, and distribute
it in small quantities where it is consigned.
Duplicate transportation charges would, in this
way, be reduced to a minimum, and consumers
would use twenty baskets where formerly they
used barely one.

WHAT OF THE FUTURE?

Dr. Jordan, Director of the New York Agri-
cultural Experiment Station, made a few opti-
mistic remarks regarding the future of the fruit
industry. Fluctuations take place in every busi-
ness, he said, and then come the readjustments.
There are certain things that may be replaced,
while there are other products which have a
permanent relation to human needs. Fruit can-
not be replaced. There will be ups and downs.
Those with less courage will drop out. There
may be hardships, but the adjustment will come.
The man most likely to be successful in a certain
line of production is he who fits himself for it
and sticks to it.

THE WAR AND THE FERTILIZERS OF NEUTRALS.

One very timely subject was that dealt with
by Dr. L. L. Van Slyke, Chemist, N. Y. Agricul-
tural Experiment Station, regarding the supply
of fertilizers for use this coming season. The
war, he said, was responsible for conditions in
the fertilizer trade altogether without precedent
in the history of the country. Potash compounds

which came exclusively from Germany are no
longer allowed to leave that country, as they
are largely utilized in the manufacture of gun
powder. Muriate of potash, which formerly sold
in the United States at approximately \$40 per
ton cannot be purchased now at any price
within reason, for it is quoted at \$600 per ton.
Two months ago it was thought also that acid
phosphate would be unobtainable, for great quan-
tities of sulphuric acid, commonly used in the
process of making acid phosphate, were purchased
by the manufacturers of high explosives at figures
five times as high as the prevailing price in times
of peace. High ocean freight rates and traffic
by rail were also influential in raising the price
of acid phosphate. The possibilities at present,
however, are brighter for a more liberal supply
of this fertilizer. Regarding those fertilizers
valuable for nitrogen, the war has had its effect.
Nitrous acid is used in the manufacture of high
explosives, and consequently has risen in price.
Great quantities of nitrates en route from the
mines of Chili were held up by the blocking of
the Panama Canal, and they have not yet
reached their destination. Ocean freight rates
have been high, the ordinary number of vessels
has not been available for the use of neutrals,
and since the price of the chief fertilizers has been
influenced to a very considerable degree, the
minor ones have suffered a sympathetic increase
in price as well.

The recommendations of Dr. Van Slyke were
for more attention to the A. B. C.'s of farming.
He advised more thorough tillage, a conservation
and utilization of all plant food produced about
the farm, the purchase and use of commercial fer-
tilizers that would prove economical, and the
use of indirect fertilizers.

"We shall probably learn," said Dr. Van Slyke,
"that we can get along with less potash than
we have been led to believe." The propaganda
carried on by the German Potash Syndicate in-
duced many to use potash far in excess of their
needs. There is likely some of the applied potash
still in the soil, and growers will probably suffer
little in the absence of a commercial potash sup-
ply. Rock meals, reputed to contain potash,
will be offered for sale, said the speaker. They
are ground from rocks which contain unavailable
potash and "if you want to get 'stung,' use
them." Unleached hardwood ashes may be ob-
tained, and they should contain in the vicinity of
5 per cent. potash. They vary so in composition
that they should always be purchased under a
guarantee to contain a certain fixed amount of
potash. During the coming season some mixed
fertilizers, the speaker said, would contain per-
haps one per cent. of potash. In this form the
potash would be very expensive, and it would not
be profitable for farmers to purchase the potash
in a mixed fertilizer, as the amount contained
therein would be totally inadequate if potash was
required, and, furthermore, the price of it would
be out of all reason.

The phosphatic manures do not present so
difficult a proposition as does potash. Ground
phosphatic rock as a source of phosphoric acid
was, however, advised against as the least
readily available of all forms.

As a compound that will supply nitrogen,
calcium cyanamid was given considerable promi-
nence by Dr. Van Slyke; it should not, however,
at any time come in contact with seeds or root-
lets, as injury to them would be likely to occur.
It would be better applied to the land two weeks
before seeding or planting. The price of nitrogen
in different forms was mentioned. The calcula-
tions are based on United States prices and con-
ditions. They do not include freight, and the
transactions are assumed to be for cash. These
prices would, on account of duty, need to be
modified before being adopted by Canadians.
Nitrogen conveyed in calcium cyanamid would
cost 15 cents per pound; in bone meal, nitrogen
would cost 21 3-10 cents per pound; in tankage
and dried blood, nitrogen would cost 24 4-10
cents per lb., while in nitrate of soda nitrogen
would cost 25 cents per lb.

As indirect fertilizers, lime was mentioned in
its different forms. The speaker also recom-
mended the use of common salt on grass lands
and other farm crops. From 150 to 300 lbs. per
acre, he said, could often be applied with profit.
It was explained that sodium, which is a part
of common salt, changes the insoluble potash
compounds of the soil into available form.

More thorough tillage, conservation of all
plant foods produced about the farm, and the
use of clovers as cover crops were the methods

described to the fruit growers whereby they might maintain the fertility of their soils, and thus do without expensive fertilizers.

THE DUTY OF THE STATE

Another address of interest to the growers of Western New York was that of Dr. B. T. Galloway, Dean of the College of Agriculture at Cornell University. His topic was: Problems in the Marketing and Distribution of Fruit. Dr. Galloway's paper did not excite undue optimism, for he endeavored to point out that in times of stress there were other articles of diet and other commodities that would be purchased before fruit. Bread, meat, vegetables and such were needed to sustain life, and fruit would be used after the prime necessities were provided. Another influencing factor mentioned was the supply of oranges which would tend to keep the price of apples around normal, even in years of small crops. The years, he said, will become fewer in which high prices for apples will accrue. As assistance to the industry, or as a remedy for existing evils, Dr. Galloway suggested that the State be organized in such a way as to command full and complete information regarding production and markets. The growers, too, should unite into a very thorough, co-operative organization, such as was accomplished in California and the Northwestern States. The State of New York would, he said, be doing its duty to assist in all kinds of organizing, and in the collection of data for the use of the growers, but it was not the province of the State to go into business for or support financially the selling and buying enterprise of the growers. Organizations built upon financial props provided by the State would very likely tumble when these props were removed.

OTHER ADDRESSES.

With the use of slides, Prof. Donald Reddick, of the College of Agriculture at Cornell University explained the success which attended the operation of dusting in place of spraying, during the last season. Prof. Reddick has for five years, been experimenting with the operation of dusting, and in 1915 investigations were conducted in five different orchards throughout the State. On the whole these tests revealed that exceedingly fine sulphur mixed with a lead arsenate powder can be blown on the trees in the dry form very successfully. An orchard can be treated much more rapidly than with spray, and it is cleaner work.

Side Worm Injury was a topic discussed by Dr. E. P. Felt, Entomologist for New York State. He intimated that the insect causing the injury was a late-hatched brood of the codling moth, and that it could best be controlled by very thorough spraying just after the petals had fallen. The effects of very careful work would be noticeable the succeeding year. He also advised spraying in seasons when there was no fruit, for many insects that would be parents to those doing injury the succeeding year would be destroyed.

J. Andrew Cahill, of Hancock, Maryland, said that on a large scale they produced apples for \$1.86 per barrel, delivered at the shipping point. He furthermore stated that young Baldwin trees which were tardy about producing fruit had been brought into bearing by summer pruning. The pruning was done after the terminal bud had set, which was about the middle of July.

Nova Scotia Fruit Growers' Convention.

The Fifty-Second Annual Convention of the Nova Scotia Fruit Growers, met at Wolfville, Jan. 18 to 20. Wolfville is the birthplace of the Association, and many of the old members feel that this should be its home.

The President's opening address, by A. E. McMahon, of Aylesford, and Manager of the United Fruit Companies, was full of optimism in spite of the somewhat depressed conditions of the industry. Nova Scotia was very favorably situated as compared with the rest of the Dominion and United States, for several reasons: Nova Scotia can raise apples, the quality and flavor of which is as good or better than any on the continent. We have a decided advantage in marketing our fruit to the consuming centres of the Old Country, costing us from fifty to seventy-five cents per barrel less to get our fruit delivered to the consumer than it costs other apple-growing countries. We have a short land haul to shipping points and comparatively few pests to fight, those present being well under control. The splendid organization of the United Fruit Companies means a cheapened pack, a control of information regarding markets, a strong influence with transportation companies in obtaining the best terms and prompt service. All these factors place the Nova Scotia fruit grower in the lead of the growers of the North American Continent. Prof. Brittain, of the Agricultural College, Truro, gave a very instructive address, illustrated with lantern slides, showing the life-history and injury of various insect enemies of the apple. S. C. Parker reported that some

\$1,000 had been raised by subscription in connection with the Apple Advertising Scheme. P. F. Lawson is in England at present working up the practical end of the advertising of Nova Scotia fruit, and a full report would be forthcoming later.

Prof. W. S. Blair, of Experiment Station, Kentville, advocated thorough cultivation and the growing of clover and other leguminous cover crops in order to supply nitrogen and release potash and phosphoric acid in view of the present high prices of fertilizers. In another address Mr. Blair reviewed the experiments that were conducted in several orchards in the valley in connection with the Station at Kentville. These experiments had shown conclusively that spraying thoroughly would control almost all the scab.

Probably the most important line of investigation from the standpoint of the grower during 1915 has been the testing of the new nozzles recently put on the market by the Friend Mfg. Co. This work was carried on by G. E. Saunders. The new nozzles are for use on power outfits only, as they require 200 lbs. pressure to work properly. The drive nozzle, which is primarily an insect nozzle, throws a narrow, coarse spray at very high velocity, being useful for high or thick trees in any case. It has proved in tests superior to all others in bud-moth and fruit worm control, and is recommended also for aphids and green apple bug. The disadvantage of the drive lies in the narrow spray applied, and in the hands of a careless operator will often leave space of the tree untouched, and so give inferior black spot control. In the hands of careful operators, however, tests have shown that it is much superior to the old, mist nozzle in black spot or scale control. Only one nozzle is required on a rod, as it throws about 1 1/2 times as much spray as the old mist or whirlpool nozzle. The drive is recommended above all others for the two sprays before the blossoms in Nova Scotia.

The Calyx nozzle, like the drive, requires 200 lbs. pressure to work properly. In type of spray it resembles the old mist or whirlpool nozzle, breaking the liquid up very finely, and throwing a wide, even spray. It throws out about three times as much spray as the mist nozzles, and so only one is required on a rod. It is above everything else a black-spot or scab nozzle, and is recommended for all sprays after the blossoms in Nova Scotia. In continuing his bud-moth investigations Mr. Sanders has, in addition to the three species already recorded in Nova Scotia, uncovered during the past season a newly introduced species, the Lesser Bud-moth, the status of which is not yet determined from an economical standpoint. The past season has proved two sprays before the blossoms, one when the leaf is the size of a ten-cent piece, and the next immediately before the blossom, to be very superior to one spray in Bud-moth control.

The Brown-tail moth is present in most sections of the Annapolis Valley, yet Mr. Saunders points with a great pride to the fact that the Brown-tail has never yet done one dollar's worth of harm, although this pest was discovered in the Province as far back as 1907 and the climate is very favorable to its development, and, in addition, there have been repeated flights from the New England States infecting the whole western end of the Province. The last two years have both shown substantial decreases, which reflects great credit on the Brown Tail Moth Inspectors, who are employed jointly by the Dominion and Provincial Governments.

Warning was given of the outbreak of canker worm, which is now on, and spraying about four or five days before the blossoms, or the retarding of the first or advancing of the second spray, was advised using a larger quantity of poison. The eggs of the canker worm hatch about five days before the blossoms appear, and the larvae are most easily killed when very young. Notice was also given of an outbreak of the Tussock Moth, spread throughout the Valley. The Tussock frequently does extensive damage in gnawing at the surface of the apples. The addition of an extra quantity of arsenate of lead in the spray applied about the last of June is recommended, as it is about that date the eggs of the Tussock Moth hatch.

Some very interesting figures were given showing the actual percentage of apples packed out, and the sprays applied by the owners in the Round Hill Fruit Company. The two top lots were sprayed five times with a power outfit, had a drive nozzle; the two next sprayed four times, once before and three times after the blossoms; the next two lots were sprayed four times, twice before and twice after the blossoms. The lots which were sprayed three times came in a long row, and following them two orchards sprayed twice, then one sprayed once, then an unsprayed lot, and lastly a lot very poorly sprayed twice, the actual results being as follows: The table being is of extreme interest in showing the value of spraying, and shows plainly that where the most spray material was used the most clean apples resulted. The spraying this year cost about three

cents per barrel for application in Nova Scotia, and the clean profit of the best-sprayed lot over the best unsprayed lot after the spray was paid for, amounted to exactly 50 cents per barrel. In summing up the spraying situation in Nova Scotia, Mr. Saunders recommended a decrease in the strength of lime sulphur, as a great amount of burning and some reduction in set had resulted from using lime sulphur too strong in 1915. He recommended a weaker solution and a greater quantity of it. For the next season he recommends more spray than ever before, as on it the whole future of the apple industry in Nova Scotia depends on the delivering of clean, high-class apples during the coming year.

The evening of Wednesday was the great event of the Convention, when a lively debate on the relative advantages of exclusive fruit growing, as compared with mixed farming, meaning the carrying of live stock, occupied the entire evening. The leaders in the debate were F. W. Foster, of Kingston, and R. J. Messenger, of Lawrencetown, who spoke on the side of live stock in addition to the orchard, as giving a safe and steadier income. W. H. Woodworth and A. E. McMahon defended the advantages of exclusive fruit growing. After a lively discussion, in which several in the audience took part, the judge, President Culter, of Acadia College, decided in favor of mixed farming.

W. B. Fawcett, of Sackville, showed how the strawberry growers of Nova Scotia, by working together and employing the best methods, are making from 10 per cent. to 25 per cent. profit.

M. B. Davis, of Ottawa, divided his address on pruning into three divisions: 1st, training the young tree; 2nd, pruning the bearing tree; 3rd, renovating the old trees. We prune apple trees primarily not for beauty but for dollars, and in our desire for the carrying out of the other operations, we are prone to forget the importance of pruning. In training the young a combination of the pyramidal and open center form is better than either extremes—the first shuts out too much sunlight, while the latter is not a strong tree. Do not allow the central leader to grow to any great height, while the laterals should not be opposite, as the opposite pull will lead to breaking down when the tree is heavily loaded. After the first year a certain amount of summer pruning is advisable, as this method often brings the tree into bearing earlier. After the tree begins bearing, annual pruning is necessary. This consists mainly of cutting out dead and bad limbs and limbs that cross, with what thinning is necessary. There are many old orchards planted too closely and running too high. These should have many of their trees cut out altogether. The remainder of these high trees must be headed to bring down the fruit-bearing area, and renew the whole top. This bending back should be done gradually.

R. J. M.

FARM BULLETIN.

Raising Money.

By Peter McArthur.

In spite of the good work that is being done in the way of raising funds for the Red Cross and Patriotic purposes, I cannot help feeling that much more could be raised with a smaller expenditure of energy—or rather that the amount of energy being expended should yield greater returns. One hates to even suggest criticism of any effort that is being extended towards these worthy objects, but cases have come under my personal notice that convince me that much valuable energy is being wasted. Recently I examined a statement of the receipts and expenditures for an entertainment in aid of the Red Cross, in which considerably over five hundred dollars was taken in at the door, and the amount turned over to the Red Cross was exactly \$19.50. And yet not one of those who took part in the program received one cent, either for their services or personal expenses. If those who took part could have known in advance how the bills for advertising, rent, lighting, management and general publicity would mount up they would have contributed gladly from their own pockets a much larger amount than went to the charity they wished to help. If they had contributed the amount of their personal expenses they would have netted much more for the purpose they had in view. Mind you, I do not say that any of the charges made were not justified, but the machinery that must be set in motion to give a successful entertainment in a large city is so great and so expensive that it is hard to get results worth while. Raising money by entertainments of this kind is much like raising money for the government by indirect taxation. Most of the money is spent on the work of collecting.

Another case came to my notice where an excellent minstrel show was given to crowded houses for three successive nights, and the amount netted for the charity, under whose auspices the entertainments were given was \$9. I could multiply instances of this kind from other stories that have reached me but I shall not do

for application in Nova Scotia, fit of the best-sprayed lot over red lot after the spray was applied to exactly 50 cents per barrel. The spraying situation in Nova Scotia recommended a decrease in the sulphur, as a great amount of lime sulphur too strong in the solution had rendered a weaker solution and of it. For the next season the spray than ever before, as the nature of the apple industry in Nova Scotia is the delivering of clean fruit the coming year.

Wednesday was the great event when a lively debate on the merits of exclusive fruit growing, as opposed to general farming, meaning the carrying on of other occupations, occupied the entire evening. The debate was between F. W. Woodworth, and R. J. Messenger, of the orchard, as giving a safe bet. W. H. Woodworth defended the advantages of exclusive fruit growing. After a lively discussion, the audience took part, the members of Acadia College, decided in favor of Sackville, showed how the fruit of Nova Scotia, by working out the best methods, are worth 25 per cent. profit. Woodworth, divided his address on the merits of exclusive fruit growing into three divisions: 1st, training the young trees; 2nd, the bearing tree; 3rd, the fruit. We prune apple trees for dollars, and in carrying out of the other side of the coin to forget the importance of the young a combination of the open center form is better than the first shuts out too much light. The latter is not a strong central leader to grow to while the laterals should not be allowed to pull will lead to the tree is heavily loaded. A certain amount of summer pruning is necessary. This is done by cutting out dead and bad wood, with what thinning of the many old orchards planted too high. These should be cut out altogether. The young trees must be headed in the fruit-bearing area, and renewed pruning back should be done.

R. J. M.

so, for fear of creating a false impression and discouraging public-spirited people from putting forth efforts that would be fruitful. I know of many instances in country sections, villages and small towns, where every cent taken in at the door went to the charity for which the entertainments were given. Those who managed and those who gave their services did so without charge, and the results were in every way satisfactory. I have found that the man who wishes to help charities and patriotic funds can accomplish much more by giving his services in the smaller places. Moreover I am about convinced that those who wish to help can do just about as much by giving cash from their own pockets whenever a call is made. What they give will go directly to the fund they wish to help. Such enquiries as I have been able to make have convinced me that all the Patriotic Funds are administered by public spirited men and women in a way that sends practically every cent to the purpose for which it is contributed. No one who wishes to give need fear that any of his money will be wasted. It is the same with money contributed by municipalities, counties and cities. Beyond the necessary clerk hire for handling the contributions, the money is properly spent. Indeed, I have been assured that with the larger funds the interest paid by the banks in which the money is deposited while being distributed is sufficient to pay all the expenses of administration. And please bear in mind that neither the Patriotic Fund nor the Red Cross Fund are in any way to blame for the fact that money raised by entertainments is so trifling in comparison to the energy expended. And those who promote these entertainments are not to blame. The whole trouble is due to the fact that the method of raising the money is too cumbersome. The simple, direct way of making cash contributions, as is being done by municipalities and by individuals, is by far the most satisfactory. The money is given without fuss or feathers, and is applied to its object in the proper way. Of course, much money has been raised by entertainments and much more will be, but those who wish to raise money in this way will do well to investigate first to see if the expenses are going to eat up too great a part of the receipts. Entertainments are all right in small places where the expenses will be trifling when compared with the receipts, but those who attend such entertainments should not be allowed to get the impression that because they pay their admission to an entertainment that is presumably worth what they are paying, that they are doing their part. They should still be ready to give as much direct, in cash, as if they had not attended an entertainment of this kind.

There is one feature of Patriotic work of various kinds that is almost too absurd to be commented upon, and yet it has done so much harm—like many another absurd thing—that I feel disposed to make a few comments. There is a tendency in some quarters to mix patriotism and social aspirations, with the result that all kinds of petty jealousies regarding place and prominence are aroused. So interested do foolish people become in social struggles that they lose sight of the great purpose we all have in view—the prosecution of this horrible war to a successful issue. There are times when a glance at the society columns is enough to make a democratic citizen wonder whether we are conducting a war or a social function. No matter what happens we must not allow this war to increase social distinctions. It is the boast of Canada that we are free and equal, and that freedom and equality must be maintained. Even the distinction which is inevitable between officers and men, so that orders may be obeyed and discipline maintained, necessary distinction while in uniform, must not be allowed to develop an official caste. I doubt if there is an officer in our Canadian army who has not under his command privates who are his equals if not superiors in character and education. The relationship that should exist between such men is of a delicacy unknown in European armies. There must be obedience and discipline, but there must not be any snobbery. While every one who renders service in this war is worthy of due honor, this is no time for people whose aspirations are purely social, to be allowed to entrench themselves or to win place and title. They should be made to realize that a democracy once aroused to a great purpose has little patience with society doings, and that in the end the plain people can administer snubbings more cutting than those of social leaders.

German managed creameries. They are paid 35 cents per lb. for the butter produced, but are compelled to buy for their own consumption at 55 cents per pound. How would Canadian patrons relish this sort of dairy "Kulture"? Belgians who decline to shake hands with Germans in Antwerp or Brussels are jailed for insult, and civil prisoners are sent to Germany to be locked up. Belgian lawyers are crowded out of the courts, because all decisions are given against their clients in favor of Germans. These are only samples of a host of similar persecutions to which the people are subjected following up the wholesale pillage and murders of the earlier days of the war.

A Paint Mixed with Water.

The use of powdered or dry paints is becoming more common in recent years, partly on account of the high price of linseed oil, as such paints need only to be mixed with water before use. According to E. L. Tague, of Washburn College, those containing casein are very good for many purposes, and as prepared in the powdered form, they consist of a mixture of casein, some suitable filler, the pigment, and some alkaline substance. The casein is obtained from milk of which it composes about 3.5 per cent. The filler is frequently kaolin, china clay, lime, or powdered feldspar. For outside work, lime or cement is used, while for an enamel finish various other suitable ingredients are introduced.

To make a fire-proof paint, asbestos is incorporated. The pigments may be quite various, some being mineral and others being aniline colors. The alkali may be soda, borax, water-glass, etc. Protected from air and moisture, the casein powder paints will keep indefinitely.

To make ready for use, the proper amount of water is added, (usually 50 parts to every 100 parts of powder) thoroughly mixed and allowed to stand for some time. The alkali dissolves in the water, and then reacts with the casein. The mixture is thinned down by very thorough stirring with hot water, and is then applied the same as oil paints.

When applying, it is necessary to keep the paint thoroughly stirred. These paints serve to protect almost any surface, and set very hard in a short time. They cannot be used to cover an oil paint; this must first be removed. Unless some ingredient is purposely used to give a gloss finish, these paints are without gloss. They are rendered water-proof by treating with formaldehyde ("formalin"), and are easily cleaned.—C. E. Vail, Colorado Agricultural College, Fort Collins, Colo.

German Rule in Belgium.

Amid all the conflicting turmoil of the war, as recorded in the newspapers, people are liable to forget some of the less spectacular horrors, like the continued crushing of ill-fated Belgium at the hands of Germany. In a statement lately issued by J. F. Stillemans, President of the Belgium Relief Fund, New York City, it is shown that business men are being steadily driven out of the country by harsh and unjust treatment. The country is compelled to pay a war tax to Germany of \$8,000,000 per month, and there are in Belgium 5,000 German officials riding on the necks of the people, whose very soul and life is being ground out. Belgian farmers have been compelled to give up butter-making in their famous private dairies, and send the milk to

Toronto, Montreal, Buffalo, and Other Leading Markets

BULLETIN.

Money.

McArthur. The work that is being done and funds for the Red Cross and cannot help feeling that raised with a smaller expenditure rather than the amount of should yield greater results. Even the most extended criticism of these cases have come under my notice me that much value was wasted. Recently I examined the receipts and expenditure in aid of the Red Cross over five hundred at the door, and the amount was exactly \$19.50. The person who took part in the project, either for their services or for the purpose they had in mind, but the market in motion to give a success. It is hard to get results money by entertainments for the taxation. Most of the work of collecting.

Toronto.
Receipts at the Union Stock Yards, West Toronto, on Monday, Jan. 31, numbered 102 cars, comprising 1,562 cattle, 628 hogs, 354 sheep and lambs, and 94 calves; trade slow. Prices were unchanged from last Thursday's close in every department of live stock.

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	38	391	429
Cattle	558	5,334	5,892
Hogs	750	10,374	11,124
Sheep	162	966	1,128
Calves	19	507	526
Horses	61		61

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

	City.	Union.	Total.
Cars	60	334	394
Cattle	605	3,929	4,534
Hogs	722	8,815	9,537
Sheep	831	1,604	2,435
Calves	47	262	309
Horses	180	509	689

The combined receipts of live stock at the two markets for the past week show an increase of 35 carloads, 1,358 cattle, 1,587 hogs, and 217 calves, and a decrease of 1,307 sheep and lambs, and 628 horses, compared with the corresponding week of 1915.

The butchers' cattle market last week was decidedly weak in tone, and very drabby. Each of the first three days saw a reduction of 10c. to 15c. per cwt. for all classes, and the trading closed fully 30c. to 40c. per cwt. under the previous week. The top price at the finish for a straight load of choice heavy-weight steers was \$7.60, compared with \$7.90 the previous week, and the bulk of the sales was made between \$6.75 and \$7.25, compared with \$7.25

and \$7.75. The mild weather undoubtedly had much to do with the slackening in demand, and the pressure of too many "green" steers and unfinished cattle was another factor. When the market is high, shippers send in "counterfeit" calls to take advantage of the prices, but cattle that will not "kill out" to the desired percentage are easily picked out by the veteran buyers, and will not rise above their market value. The best of the butchers' bulls sold from \$6.15 to \$6.85, and bologna kinds at \$5 to \$5.75. Cows suffered equally, and sold from \$4.50 to \$6.25, in comparison with their previous high values of \$5 to \$6.75. Stockers and feeders, on the contrary, were very strong, due to light consignments and a demand which, while only moderate, exceeded the supply. This refers particularly to breeder steers and heifers. Speculation, however, is nil, as there was no margin between feeders and butchers'. Good feeders sold at \$6.50 to \$7 per cwt.; good stockers at \$6 to \$6.50, and yearlings at \$5.75 to \$6.50. Milkers and springers were very active and firm, and choice cows sold at \$90 to \$105, with not enough to fill the orders, which are in from many distant dairy points. Veal calves opened last week with a demand strongly apparent, and advanced 25c. to 50c. for the best grades, finishing at \$10.50 to \$11 per cwt. Lambs and sheep had the smallest consignments for some time back at this season of the year, and while Chicago markets heralded the unprecedented price of 11c. per lb. for light, native lambs, this market put 1c. per lb. more on, and made 12c. per lb. for the top. Hogs had a good week, with large runs, and sold actively at \$9.75 fed and watered, with a few selected animals bringing 10c. per cwt. more. One-half of 1 per cent. is now deducted from the total selling price by the packers to make up for pork condemned by the meat inspectors.

Butchers' Cattle.—Choice heavy steers at \$7.75 to \$8; choice butchers' cattle at \$7.25 to \$7.50; good at \$6.90 to \$7.15; medium at \$6.50 to \$6.80; com-

mon at \$5.75 to \$6.25; choice cows, \$6.20 to \$6.35; good cows, \$5.75 to \$6; medium cows, \$5 to \$5.50; common cows, \$4.50 to \$5; canners and cutters, \$3.50 to \$4.50; light bulls, \$5 to \$5.75; heavy bulls, \$6.15 to \$6.85. Canners were the steadiest of cows last week.

Stockers and Feeders.—Choice feeders, 900 to 950 lbs., \$6.75 to \$7; good feeders, 800 to 900 lbs., \$6.50 to \$6.75; stockers, 700 to 800 lbs., \$5.75 to \$6.25; yearlings, 600 to 650 lbs., \$5.75 to \$6.50; light Eastern steers and heifers, \$4.75 to \$5.25.

Milkers and Springers.—Choice milkers and Springers at \$90 to \$100; good cows at \$70 to \$80; common cows at \$45 to \$65.

Veal Calves.—Choice, \$10.50 to \$11; good, \$8.50 to \$10; common, \$5.50 to \$7.50; heavy, fat, \$7 to \$8.50.

Sheep and Lambs.—Light sheep at \$7.75 to \$8.50; heavy sheep at \$6.50 to \$7.50; cull sheep, \$4 to \$5; lambs, \$10 to \$11.75; cull lambs, \$7.50 to \$8.50.

Hogs.—Selects, fed and watered, at \$9.75; 50 cents is being deducted for heavy fat hogs, and thin light hogs; \$2.50 off for sows, and \$4 off for stags, from prices paid for selects. One-half of 1 per cent. off all hogs for inspection.

65c.; feed barley, 57c. to 60c., according to freights outside.

Rye.—No. 1 commercial, 92c. to 98c., according to freights outside; rejected, 80c. to 82c., according to sample.

Buckwheat.—Nominal, car lots, 78c. to 79c., according to freights outside.

American Corn.—No. 3 yellow, new, 82c., track, Toronto.

Canadian Corn.—Feed, 76c., track, Toronto.

Peas.—No. 2, nominal, per car lot, \$1.80, according to freights outside; sample peas, according to sample, \$1.25 to \$1.75.

Flour.—Winter, \$4.90 to \$5.10, according to sample, seaboard or Toronto freights, in bags, prompt shipment. Manitoba flour—First patents, \$7.20; second patents, \$6.70 in jute; strong bakers', \$6.50 in jute; in cotton, 10c. more.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, No. 1, \$18 to \$18.50; No. 2, \$14 to \$15.50, track, Toronto, per ton.

Straw.—Baled, car lots, \$6.50 to \$7, track, Toronto.

Bran.—\$24 in bags, Montreal freight; shorts, \$25, Montreal freight; middlings, \$26, Montreal freight; good feed flour, per bag, \$1.75, Montreal freight.

COUNTRY PRODUCE.

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

Eggs.—New-laid eggs are decidedly weaker, selling at 35c. per dozen, wholesale, and cold-storage at 29c. to 32c. per dozen.

Cheese.—New, large, 18c.; twins, 18c. per lb.

Honey.—Extracted, 11c. to 12c. per pound; combs, per dozen sections, \$2.40 to \$3.

BREADSTUFFS.

Wheat.—Ontario, No. 2 winter, per car lot, \$1.13 to \$1.15; slightly sprouted, \$1.09 to \$1.13, according to sample; sprouted, smutty and tough, \$1.01 to \$1.06, according to sample; feed wheat, 90c. to 95c. Manitoba, No. 1 northern, \$1.29, Fort William; No. 2 northern, \$1.27, Fort William; No. 3 northern, \$1.25, Fort William.

Oats.—Ontario, No. 3 white, 44c. to 45c., according to freights outside; commercial oats, 43c. to 44c.; No. 2 Canada Western, 48c., in store, Fort William; No. 3 Canada Western, 46c., in store, Fort William; extra No. 1 feed, 46c., in store, Fort William; No. 1 feed, 45c., in store, Fort William.

Barley.—Ontario, good malting, 63c. to

THE ROYAL BANK OF CANADA

Capital Authorized - - \$ 25,000,000
 Capital Paid up - - - 11,500,000
 Reserve Funds - - - 12,000,000
 Total Assets - - - 180,000,000

HEAD OFFICE: MONTREAL

Branches throughout every Province
 of the Dominion of Canada

Accounts of Farmers
 Invited
 Sale Notes Collected

Savings Department at all
 Branches

Beans.—Prime, \$4.20; hand-picked,
 \$4.50 per bushel.

Potatoes.—Ontario, per bag, car lot,
 \$1.75; New Brunswick, per bag, car lot,
 \$1.90 to \$1.95.

Poultry.—Live weight: Chickens, 14c.
 to 17c. per lb.; ducks, 14c. per lb.; geese,
 12c. per lb.; turkeys, young, 18c. to 20c.
 per lb.; turkeys, old, 15c. per lb.; fowl,
 heavy, 14c. per lb.; fowl, light, 11c. to
 12c. per lb.

HIDES AND SKINS.

City hides, flat 18c.; country hides,
 cured, 16c.; country hides, part cured,
 15c.; country hides, green, 14c.; calf
 skins, per lb., 18c.; kip skins, per lb.,
 16c.; sheep skins, \$1.50 to \$2; lamb
 skins and pelts, \$1.20 to \$1.25; horse
 hair, per lb., 35c.; horse hides, No. 1,
 \$3.50 to \$4.50. Wool, washed, 40c. to
 44c.; wool, rejections, 38c. to 35c.;
 wool, unwashed, 28c. to 32c.

FRUITS AND VEGETABLES.

Apples.—Spys, \$4 to \$6 per barrel;
 Greenings and Baldwins, \$3 to \$4.50 per
 barrel; Russets, \$3 to \$4.50 per barrel;
 Ontario, boxed, \$1.50 to \$2.50 per box.
 Bananas.—\$1.85 to \$2.25 per bunch.
 Lemons.—California, \$4 to \$4.25 per
 box; Messina, \$3.50 to \$4 per box.
 Oranges.—Navels, \$2.50 to \$3, and
 \$3.50 to \$3.75 and \$4 per case.
 Strawberries.—40c. to 45c. per box.
 Tomatoes.—Hot-house, 22c. to 30c. per
 lb.; Floridas, \$5 per six-basket crate.
 Beets.—60c. to 80c. per bag.
 Cabbage.—\$1.25 per barrel.
 Carrots.—75c. to 80c. per bag; new,
 75c. to \$1 per dozen bunches.
 Celery.—30c. to 75c. per dozen bunches;
 California, \$7 per case.
 Lettuce.—20c. to 30c. per dozen; head,
 imported, \$2 to \$2.50 per hamper.
 Onions.—\$1 to \$1.50 per bag; Spanish,
 \$5 per large case.
 Parsnips.—75c. to 80c. per bag.
 Potatoes.—New Brunswick Delawares,
 \$2.10, \$2.15 and \$2.20; British Colum-
 bias, \$1.90 to \$2; Ontarios, \$1.85 per
 bag; new, imported, \$3.50 per bushel,
 \$10 per barrel.
 Turnips.—40c. per bag.

Montreal.

Live Stock.—The weather was very
 variable and unseasonable last week, and
 live-stock men and butchers said this
 had a bad effect on trade. Almost no
 choice cattle were offered, and trade was
 principally in culling stock. Some good
 to fair steers sold at 6½c. to 7c. per lb.,
 while medium stock brought 5½c. to 6½c.,
 and common down to 5½c. Butchers'
 cows sold all the way from 5c. to 6½c.,
 and bulls from 5½c. to 7c. per lb. Cull-
 ing cows ranged generally from 3½c. to
 4c., and bulls from 4½c. to 4½c. The
 market for sheep and lambs was very
 firm, and prices advanced because of the
 excess of demand over supply. Sales of
 Ontario lambs were made at 10½c. to
 10½c. per lb., while Quebec lambs sold at
 9½c. to 10c. per lb. Ewe sheep sold at
 6½c. to 7c. per lb. Hogs were none too
 plentiful, and there was a good demand,
 select stock selling at 10½c. to 10½c. per
 lb., weighed off cars.

Horses.—The United States continued
 to enquire for horses, and shipments of
 limited numbers were made. The mar-
 ket was about steady, at the following
 quotations: Heavy draft, weighing 1,500
 to 1,700 lbs., \$200 to \$250 each; light

draft, 1,400 to 1,500 lbs., \$150 to \$200
 each; small horses, \$100 to \$125 each,
 and culls, \$50 to \$75 each. Fine sad-
 dle and carriage animals continued to
 sell around \$200 to \$250 each.

Dressed Hogs.—Although the weather
 has been unseasonable and unfavorable
 for trade in dressed hogs, demand was
 active, and everything offered was freely
 taken. Prices were higher than the
 previous week, and abattoir-dressed,
 fresh-killed hogs sold at 14c. to 14½c.
 per lb. Country-dressed, light-weight
 hogs sold at 13c. to 13½c. per lb.

Poultry.—There was less activity in the
 poultry market. This was partly due to
 the season of the year, and partly to
 the unusually high prices which prevailed.
 Choice fresh turkeys were quoted at 26c.
 to 28c. per lb., in a wholesale way,
 while ordinary stock was 24c. to 25c.
 Chickens were also firm, the price being
 22c. to 26c., while ducks sold at 19c. to
 20c., and geese and fowl ranged from
 17c. to 20c. per lb.

Potatoes.—This market showed little
 change. Car lots of Green Mountains
 and Quebecs continued to sell at \$1.85
 to \$1.90 per bag, ex-track, while in a
 smaller way jobbers asked 15c. to 20c.
 above these figures.

Honey and Syrup.—The market for
 honey was unchanged, at 15c. to 16c.
 per lb. for white clover comb; 11½c. to
 13c. for brown clover; 11½c. to 12½c. for
 white extracted, and 10c. to 10½c. for
 brown extracted. Buckwheat honey was
 steady, at 8c. to 8½c. per lb.

Eggs.—The milder weather seemed to
 have an influence on the egg market, and
 prices of fresh stock were not so firm as
 they were a while ago. Strictly-fresh
 eggs were quoted at 40c. per dozen, and
 stamped and selected at 38c., while No. 1
 candled stock sold at 30c., and No. 2
 candled at 27c. to 28c.

Butter.—Prices of creamery were well
 maintained. Demand was good, and
 supplies were none too large. Choicest
 creamery was quoted at 34½c. to 35c.
 per lb., while fine ranged from 33½c. to
 34½c., with seconds at 32c. to 33c.
 Dairy butter was somewhat firmer, being
 quoted at 29c. to 30c. per lb.

Cheese.—The market for cheese was
 fairly firm, but the interest in the mar-
 ket is never so great at this period of
 the year as during producing seasons.
 Prices held steady, being 18½c. to 19½c.
 for finest colored, and 1½c. less for white.
 Finest Eastern cheese was quoted at
 17½c. to 17½c.

Grain.—Wheat fluctuated daily. The
 price of oats held very firm, and it was
 said that the embargo on railways has
 caused some of the cereal companies to
 import oats from the United States.
 Sales of Ontario and Quebec No. 2 white
 were reported at 51½c., while 50½c. was
 quoted for No. 3, and 49½c. for No. 4
 oats, ex-store.

Flour.—The continual advance in the
 price of wheat brought about further ad-
 vances in the price of Manitoba grades
 of flour, quotations being 20c. higher.
 First patents were \$7.30; seconds \$6.80,
 and strong bakers' \$6.60 per barrel, in
 bags. Ontario winter-wheat flour was
 steady, at \$6.50 per barrel for patents,
 and \$5.80 to \$5.90 for straight rollers,
 in wood, the latter being \$2.80 per bag.
 Baled Hay.—There was practically no
 change in this market. Carloads of No. 1
 hay sold at \$21 per ton, ex-track; extra
 good No. 2 hay was \$20.50; No. 2
 hay was \$20, and No. 3 hay \$18.50.

Seeds.—There was little change in the
 market. Red clover continued scarce,
 and dealers still quoted \$10 to \$12 per
 bushel for it at country points, with \$7
 to \$10 for alsike, and \$9 to \$12 per
 100 lbs. for timothy.

Hides.—The market was steady. Lamb
 skins were \$2.35 each; beef hides, 20c.,
 19c. and 18c. per lb. for Nos. 1, 2 and
 3. Calf skins were 20c. and 18c. for
 Nos. 1 and 2, and horse hides \$1.50 to
 \$2 each. Rough tallow was 1½c. to 2c.
 per lb., while rendered was 6½c. per lb.

Buffalo

Cattle.—One of the worst markets for
 many months past at Buffalo, as well as
 the Western markets last week. To be-
 gin with, the warm weather was unprece-
 dented—warmest and most unseasonable
 for thirty-six years at Buffalo, causing
 a lessening of dressed-beef demand. Sec-
 ondly, receipts at all markets were ex-
 cessive, and retail butchers are saying

that, the consumer will not stand for
 higher prices than at present prevail for
 beef. Offerings at Buffalo for the open-
 ing day last week reached 175 loads,
 about twenty cars of which were ship-
 ping steers. Only a few loads of desir-
 able shipping steers, and these were na-
 tives, that sold from \$8.50 to \$8.60.
 Most of the shipping steers sold from
 \$7.50 to \$8. Of handy butchering steers
 a load or so sold up to \$8.30 and \$8.50,
 but they were no criterion to the general
 sales. All kinds of steers sold a full
 quarter lower, and fat cows were about
 as mean sale as has been witnessed here
 in many moons, a medium kind of cows
 selling especially bad. Fat heifers were
 not in such large numbers, and sold
 about a dime to fifteen cents lower.
 Canners ruled a dime lower, and bulls
 generally sold under the previous week
 from fifteen cents to a quarter. Milkers
 and springers, for the first time in sev-
 eral weeks, showed a good, healthy out-
 let, and these brought full, steady prices.
 At the close, several loads had not been
 sold on Monday. After Monday, the
 weather continued very warm and unsea-
 sonable, and prices by the close of the
 week were fifteen cents to a quarter under
 Monday, and some medium stuff could
 not be sold at any figure. It will re-
 quire light runs for the immediate future
 to cause anything like a decent reaction.
 Receipts last week were 5,200 head, as
 against 5,625 for the previous week, and
 3,650 for the corresponding week last
 year. Quotations:

Shipping Steers.—Choice to prime,
 natives, \$8.75 to \$9; fair to good, \$8.25
 to \$8.50; plain, \$7.75 to \$8; very coarse
 and common, \$7 to \$7.50; best Cana-
 dians, \$8 to \$8.25; fair to good, \$7.25
 to \$7.75; common and plain, \$6.50 to \$7.

Butchering Steers.—Choice heavy, \$8 to
 \$8.25; fair to good, \$7 to \$7.75; best
 handy, \$7.75 to \$8.25; common to good,
 \$6.25 to \$7.50; light, thin, \$5.50 to \$6;
 yearlings, prime, \$8 to \$8.75; yearlings,
 common to good, \$7 to \$7.75.

Cows and Heifers.—Prime weighty heif-
 ers, \$6.75 to \$7.25; best handy butcher
 heifers, \$6.75 to \$7.25; common to good,
 \$4.50 to \$6.50; best heavy fat cows, \$6
 to \$6.50; good butchering cows, \$5.25 to
 \$5.75; medium to good, \$4.75 to \$5.25;
 cutters, \$3.75 to \$4.50; canners, \$3 to
 \$3.60.

Bulls.—Best heavy, \$6.75 to \$7; good
 butchering, \$6.25 to \$6.50.

Stockers and Feeders.—Best feeders,
 \$6.50 to \$7; common to good, \$5.25 to
 \$6.25; best stockers, \$6 to \$6.50; com-
 mon to good, \$4.50 to \$5.75; good year-
 lings, \$6 to \$6.75; common, \$4 to \$4.75.

Milkers and Springers.—Good to best,
 in small lots, \$75 to \$85; in carloads,
 \$60 to \$70; medium to fair, in small
 lots, \$45 to \$55; in carloads, \$45 to
 \$50; common, \$30 to \$40.

Hogs.—Receipts last week were light,
 and prices were on the jump, market
 striking the highest level since the fore
 part of November last year. Monday it
 was generally a one-price deal of \$7.80
 for best, and grades landed mostly at
 \$7.25; Tuesday's top was \$7.95, with
 the bulk going at \$7.90, pigs ranging
 from \$7 to \$7.25; Wednesday the general
 market for best grades was \$7.80, with
 common kinds going at \$6.75; Thursday,
 prices were mostly a nickel higher than
 Wednesday, with pigs selling from \$6.75
 to \$7, and Friday the trade on pigs re-
 mained the same as Thursday, and bet-
 ter weight grades sold generally at \$8,
 with a few \$8.05. Roughs sold at
 \$6.75 to \$7, and stags \$5.50 down.
 Receipts last week were approximately
 43,000 head, being against 60,293 head
 for the week previous, and 54,000 head
 for the same week a year ago.

Sheep and Lambs.—Prices on the open-
 ing day of last week showed the highest
 average in the history of the Buffalo
 yards. Monday, one load of fancy lambs
 made \$11.70; three loads went at \$11.60
 and \$11.65, and the bulk of the tops
 moved at \$11.50, while culls went at
 \$10.50 down. A world's record price
 was made for yearlings, one load selling
 as high as \$10.50, and another load
 went at \$10.40. Wether sheep made
 \$8.50, and ewes went from \$8 down.
 Soft weather, and a bad trade for the
 dressed product, had a bad effect on the
 market, and after Monday prices showed
 a big slump. Tuesday, no lambs sold
 above \$11.25; Wednesday, they ranged
 from \$11 to \$11.25; Thursday, top
 lambs went at \$11.10, and, while one
 load sold Friday at \$11.15, bulk moved

at \$11. Before the week was out, year-
 lings dropped to \$9.85, and sheep were
 fully fifty cents lower than Monday.
 Receipts last week were 17,400 head, be-
 ing against 20,422 head for the week
 before, and 32,800 head for the same
 week a year ago.

Calves.—Receipts last week were 1,900
 head, as against 1,888 head for the pre-
 vious week, and 1,725 head for the same
 week a year ago. Monday, top veals
 sold at \$12 and \$12.50; Tuesday the top
 dropped to \$12; Wednesday, best were
 quoted at \$11.50 and \$11.75; Thursday
 the majority went at \$11.50, a few sell-
 ing late at \$12, and Friday the bulk
 moved at the latter figure. Cull grades
 went from \$9 down, heavy fat calves
 ranged from \$7 to \$8, and fed calves
 mostly a nickel down.

Chicago.

Cattle.—Beeves, \$6.30 to \$9.70; cows
 and heifers, \$3.10 to \$8.10; calves, \$7.50
 to \$16.50.

Hogs.—Light, \$7.30 to \$7.90; mixed,
 \$7.55 to \$8; heavy, \$7.55 to \$8; rough,
 \$7.55 to \$7.65; pigs, \$6.75 to \$6.90;
 bulk of sales, \$7.70 to \$7.95.

Sheep and Lambs.—Sheep, native, \$7.35
 to \$8; lambs, native, \$8.25 to \$10.75.

Gossip.

Attention is directed to the advertise-
 ment of N. A. McFarlane, Dutton, Ont.,
 in this issue. He has young Shorthorn
 bulls for sale.

COMING EVENTS.

Conference on Road Construction,
 Parliament Buildings, Toronto, February
 8 to 11, 1916.

A sale of Holstein-Friesian cattle,
 females only, will be conducted by the
 Norfolk Holstein-Friesian Breeders' Club,
 at Simcoe, on Wednesday, Feb. 16, 1916.
 The advertisement appears in this issue.
 Refer to it, and for a catalogue write to
 Wallace H. Mason, Simcoe, Ont., R.
 R. No. 4.

SALE DATES CLAIMED.

Feb. 8.—Southern Ontario Consignment
 Sale Company's Annual Sale of Hol-
 steins at Tillsonburg; R. J. Kelly, Cull-
 oden, Ont., Secretary.

Feb. 10, 1916.—C. E. Trebilcock, Lon-
 don, Ont.; Holsteins.

Feb. 16, 1916.—Norfolk Holstein Breed-
 ers' Sale, at Simcoe; W. A. Mason, Sim-
 coe, Secretary.

Feb. 18.—Estate of the late D. J.
 Campbell, Woodville, Ont.; Shorthorns,
 Clydesdales and Shropshires.

Feb. 25.—W. J. Cox, Peterboro, Ont.;
 grade stock and implements.

March 1.—Guelph Fat Stock Club sale
 at Guelph; J. M. Duff, Secretary.

March 15.—Oxford District Holstein
 Breeders' Club Consignment Sale, at
 Woodstock; W. E. Thomson, Woodstock,
 Secretary.

March 29.—Western Ontario Consig-
 nment sale, London; Harry Smith, Hay,
 Ont., Manager.

April 19.—James Benning, Williams-
 town, Ont.; Ayrshires.

Trade Topic.

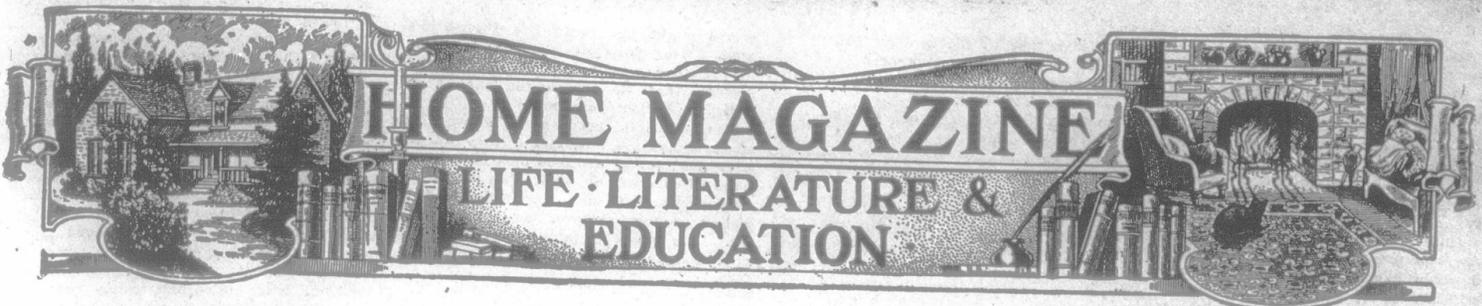
WINTER TOURS TO FLORIDA, LOUISI-
 ANA, MISSISSIPPI, CALI-
 FORNIA, ETC.

The Canadian Pacific Railway offers
 particularly good service to Detroit,
 where direct connection is made for
 Florida, via Cincinnati, Ohio, and At-
 lanta, Ga. Jacksonville, Florida, is
 reached second morning after leaving
 Detroit. Excellent connection for Florida
 is also made via Buffalo.

The Canadian Pacific-Michigan Central
 route will be found the ideal line to
 Chicago, where direct connection is made
 for the Southern States; New Orleans is
 reached second morning after leaving
 Toronto. Excellent connection is also
 made at Chicago for points in California,
 Utah, Nevada, Texas, Arizona, etc.

The Dining, Parlor and Sleeping Car
 service between Toronto, Detroit and
 Chicago, is up-to-date in every particu-
 lar. Connecting lines also operate
 through sleeping and dining cars.

Those contemplating a trip of any
 nature will receive full information from
 any C. P. R. agent, or write M. G.
 Murphy, District Passenger Agent,
 Toronto.



Before the week was out, year-dropped to \$9.85, and sheep were fifty cents lower than Monday. Last week were 17,400 head, but against 20,422 head for the week and 32,800 head for the same year ago.

Receipts last week were 1,900 against 1,838 head for the week, and 1,725 head for the same year ago. Monday, top veals \$12 and \$12.50; Tuesday the top to \$12; Wednesday, best were at \$11.50 and \$11.75; Thursday top went at \$11.50, a few sell at \$12, and Friday the bulk at the latter figure. Cull grades from \$9 down, heavy fat calves from \$7 to \$8, and fed calves a nickel down.

Chicago.

Beef, \$6.30 to \$9.70; cows, \$8.10 to \$8.10; calves, \$7.50 to \$8.00.

Light, \$7.30 to \$7.90; mixed, \$8; heavy, \$7.55 to \$8; rough, \$6.65; pigs, \$6.75 to \$6.90; sales, \$7.70 to \$7.95.

Lamb.—Sheep, native, \$7.35; lambs, native, \$8.25 to \$10.75.

Gossip.

is directed to the advertiser N. A. McFarlane, Dutton, Ont., issue. He has young Shorthorn sale.

COMING EVENTS.

nce on Road Construction, at Buildings, Toronto, February 1916.

of Holstein-Friesian cattle, only, will be conducted by the Holstein-Friesian Breeders' Club, on Wednesday, Feb. 16, 1916. Advertisement appears in this issue, and for a catalogue write to H. Mason, Simcoe, Ont., R.

SALE DATES CLAIMED.

Southern Ontario Consignment Company's Annual Sale of Holsteins; R. J. Kelly, Cullis-Secretary.

1916.—C. E. Trebilcock, London; Holsteins.

1916.—Norfolk Holstein Breeders' Sale; W. A. Mason, Simcoe.

—Estate of the late D. J. Woodville, Ont.; Shorthorns, and Shropshires.

—W. J. Cox, Peterboro, Ont.; and implements.

—Guelph Fat Stock Club sale; J. M. Duff, Secretary.

15.—Oxford District Holstein Club Consignment Sale, at Simcoe; W. E. Thomson, Woodstock.

9.—Western Ontario Consignment; London; Harry Smith, Hay, Manager.

9.—James Benning, Williamsburg; Ayrshires.

Trade Topic.

TOURS TO FLORIDA, LOUISIANA, MISSISSIPPI, CALIFORNIA, ETC.

adian Pacific Railway offers good service to Detroit, and connection is made for Cincinnati, Ohio, and Atlanta, Jacksonville, Florida, is second morning after leaving excellent connection for Florida via Buffalo.

adian Pacific-Michigan Central be found the ideal line to where direct connection is made Southern States; New Orleans is second morning after leaving Excellent connection is also Chicago for points in California, Texas, Arizona, etc.

g. Parlor and Sleeping Car between Toronto, Detroit and up-to-date in every particular. Connecting lines also operate dining and dining cars.

contemplating a trip of any receive full information from R. agent; or write M. G. District Passenger Agent,

"Say Not the Struggle Naught Availeth"

By A. F. G., in "The Academy."

What though the destined goal seem faint and far?
The patience and the toil are not in vain.
What thou hast given in love thou shalt regain
If not on earth, on some diviner star.
Sometimes, as through a portal left ajar,
The soul peers outward with illumined eyes
To a dim shore it leaps to recognize
Where the first fountains of its being are.

And, if the worker seems to work for naught,
At worst his life is but a small disease
Fretting the breast of Time, that Death may cure;
God, with a hand most pitiful and sure,
Leads him at last, through death, to a fair peace
By death's birth-labor not too dearly bought.

Browsings Among the Books.

THE KAO LIANG (MILLET).

[From "Down Among Men," by Will Levington Comfort. Published by The George H. Doran Company, New York. The following description is a bit of the Russo-Japanese War—a glimpse that tells of a repulse in the millet and the great daring of one John Morning, war correspondent.]

Now they went into the kao liang (millet)—vast, quiet, enfolding. It held the heat stale from yesterday. The seasonal rains had filled the spongy loam at the roots, with much to spare, blackening the lower stems. . . For an hour and a half they sunk into the several paths and lost themselves, Lowenkampf's untried battalions. The armies of the world might have vanished so, only to be seen by the birds, moving like vermin in a hide. . . Men began to think of food and drink. The heights of Yentai, which they had left in bitter hatred so shortly ago, were now like hills of rest on the long road home. More and more the resistance of men shrunk in the evil magic of this pressure of grain and sky and holding earth—a curious, implacable unworidliness it was, that made the flesh cry out.

"They should have cut this grain," Luban said for the third time.
Fallows had said it first. Anyone should have seen the ruin of this advance, unless the end of the millet were reached before the beginning of battle. They had to recall with effort at last, that there was an outer world of cities and seas and plains—anything but this hollow country of silence and fatness.

If you have ever jumped at the sudden drumming of a pneumatic hammer, as it rivets a bolt against the steel, you have a suggestion of the nervous shock from that first far machine-gun of Kuroki's—just a suggestion, because Lowenkampf's soldiers at the moment were suffocating in kao liang. . . In such a strange and expensive way, they cut the crops that day.

Morning trod on the tail of the battalion ahead. It had stopped; he had not. The soldier in front whom he bumped turned slowly around and looked into his face. The wide, glassy, blue eyes then turned to Fallows, and after resting a curious interval, finally found Luban.

The face was broad, and white as lard. Whatever else was in it, there was no denying the fear, the hate, the cunning—all of a rudimentary kind. Luban was

held by the man's gaze. The fright in both hearts sparked in contact. The stupid face of the soldier suddenly reflected the terror of the officer. And this was the result: the wide-staring suddenly altered to a squint, the vacant, helpless staring of a bewildered child turned into the bright activity of a trapped rodent.

Luban had failed in his great instant. His jaw was loose-hinged, his mouth leaked saliva.

Now, Morning and Fallows saw other faces—twenty faces in the grain, faces searching for the nearest officer. Their eyes roved to Luban; necks craned among the fox-tails. There was a slow giving of the line, and bumping contacts from ahead like a string of cars. . . Morning recalled the look of Luban, as he had helped him down from the sorrel. He



Reminiscent of the Knights of the Olden Times.

An armoured officer of Italian engineers, a "death company."

had helped then; he hated now. Fallows was better. He plumped the boy on the shoulder, and said laughingly:

"Talk to 'em. Get 'em in hand—quick, Luban—or they'll be off!"

It was all in ten seconds. The nearest soldiers had seen Luban fail. Other platoons, doubtless many, formed in similar tableaux to the same end. A second machine-gun took up the story. It was far-off, and slightly to the left of the Russian line of advance. The incomprehensible energy of the thing weakened the Russian column, although it drew no blood.

A roar ahead from an unseen battalion officer—the Russian "Forward!" Luban tried to repeat it, but pitifully. A great beast rising from the ooze and settling back AGAINST the voice—such was the answer.

The Thought formed. It was the thought of the day. None was too stupid to catch the spirit of it. Certain it was, and pervading as the grain. Indeed, it was conceived of kao liang. The drum of the machine-gun, like a file in a tooth, was but its quickener. It flourished under the ghostly grays and whites of the sky. In the forward battalions the Thought already clothed itself in action:

To run back—to follow the paths back through the grain—to reach the decent heights again. And this was but a miniature of the thought that mastered the whole army—to go back—to rise from the ghastly hollows of Asia and turn homeward again.

It leaped like a demon upon the unset volition of the mass. Full formed, it arose from the lull. It effected the perfect turning.

Morning saw it, and wanted the source. He had planned too long to be denied now. The rout was big to handle, but he wanted the front—a glimpse of the actual inimical line. It was not enough for him to watch the fright and havoc streaming back. Calling a cheery adieu to Fallows, he bowed against the current—alack obeying the Russian "Forward!"

Attracting Birds About the Home.

Investigators have said that if all the birds were killed off the insects would increase so rapidly within a few years that no green thing would be left growing. All of the older farmers and fruit-growers, too, are aware of the greater necessity nowadays for fighting against insect pests than in early years when birds were more plentiful. And every year the difficulties of migration tend more and more to decrease the numbers that arrive. Wires stretched everywhere for telephones and telegraph communication kill their victims without number; mowing and other machines rattling over

small quantity of food helps), those of our wild birds that stay through the winter may be preserved when they might otherwise perish; also those that arrive early in March, and may not be able to survive an inclement change in the weather. By planting trees of wild-berries, such as birds love, about one's garden or orchard, too, summer birds may be coaxed about in increasing numbers. Indeed, wherever safe nesting-places are provided, and cats are prevented from marauding, the little insect-eaters are quick to recognize friendship, and repay by singing with all their might on fine spring mornings.

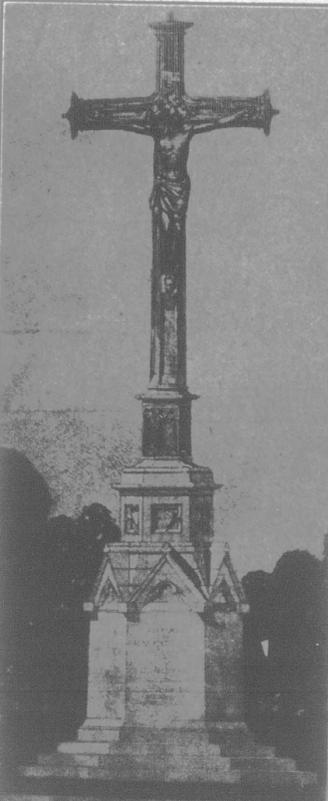
Might it not be a good idea, then, to set the boys at work on Saturdays, at making bird-boxes, which may be put in place in time for the earliest arrivals, temptingly surrounded by bits of discarded fat and suet, and small offerings of grain, crusts, and seeds.

It is not sufficient, however, to knock up houses anyhow. The birds are somewhat particular in regard to their dwellings. The entrance holes must be just right, or Mrs. This or That may turn up her nose and fly off to see what she can invent by way of home-building herself. As a rule, too, the nearer the boxes approach to the natural nesting-places of the birds the more ready they are to occupy them. For this reason, lark-covered or weather-stained abodes usually appeal more strongly than glaringly new or brightly-painted domiciles. The birds have a quiet taste, bred by long dwelling among the soft greens, browns and grays of the forest, and do not succumb readily to the charms of gay red or yellow house-walls.

To make a long story short, then, let all bird-boxes be as inconspicuously like real woods-homes as possible; for tiny birds, such as the wren, provide tiny openings, which will keep out unfriendly neighbors of larger size; for tree-swallows, fly-catchers, flickers, etc., that usually seek homes in natural cavities, provide shelters resembling such cavities as closely as possible—"artificial hollow limbs," for instance. Some advise providing a little rest on which the bird may fly before hopping through the hole to the interior, but others object to this on the ground that the perch is very accommodating to the English sparrow, a most inveterate enemy to our native birds. Dried gourds, hollowed out, old tomato cans painted gray, with the rough edges around the entrance-hole bent carefully down so that they cannot injure the birds, even old tea-kettles, teapots, lard-pails, etc., may all be used, and may prove quite alluring to wrens and bluebirds, which are not so particular about their domiciles as some of the other songsters. Wren-boxes, by the way, should have an opening about the size of a silver quarter-dollar, while all boxes that are at all exposed to cats should be protected by a piece of tin put around the tree or post in the form of an inverted funnel. Whenever the weather is favorable, and all through summer, drinking water may be supplied to the birds on small platforms made for the purpose. A few boxes with one or more sides open, should be provided for birds such as robins, brown thrashers, song sparrows, and phoebes, which would not be attracted by dark places such as appeal to the woodpeckers and flickers.

To provide for ventilation in closed houses, a row of small holes may be bored underneath the eaves of the box roof, while it is well to plan a small drainage-hole in the bottom to drain off rain which may be driven in through the door. The roof should be made in such a way that it may be easily removed when the birds vacate and it is advisable to clean the nests.

A little sulphur scattered about the



Memorial to Edith Cavell.

Which is to be erected in Paris by United States subscription. Photo, Underwood & Underwood.

an ever-increasing acreage under cultivation, are responsible for many more-nestlings of the ground-birds; the decrease of woodlands presents an ever-narrowing harborage. Upon the whole, the birds have a harder and yet harder struggle for existence as the earth grows older and "civilization" spreads.

But something may yet be done. By providing shelter and food (and such a

houses in early spring will help to guard against parasites; those houses intended for woodpeckers should be given an inch or so of sawdust in the bottom.

The above notes are just a few culled from a very excellent bulletin, "Attracting Birds About the Home," published by "The National Association of Audubon Societies," 1974 Broadway, New York City, and sold at the very low price of 15 cents. We would strongly advise those who are interested in the subject, and would like to get the children interested in it, to send for this booklet, adding two or three cents extra for postage.

In Carleton Place, Ont., last year the school-boys were encouraged to build bird-boxes during the winter, and early in March a Bluebird Bazaar was held in the school, at which the boxes were sold, also cookery, etc., contributed by the girls. The proceeds were given to the Red Cross. Carleton Place and neighboring villages now have numbers of the boxes placed among the trees to attract birds for succeeding summers. This may be a suggestion which will be eagerly taken up in other places.

Smiles.

A HARD TALE.

Fond Mother—"Ay, dear lad, there's not a day passes but what I think of you in that awful sub'arine, with only the peroscup to breathe through."—Punch.

A Girton undergraduate, having inadvertently changed umbrellas with a fellow-student, is said to have evolved this note: "Miss — presents her compliments to Miss — and begs to say that she has an umbrella which isn't mine. So, if you have one that isn't hers, no doubt they are the ones."—Exchange.

Judge—"Have you anything to say before sentence is passed?"

Burglar—"The only thing I'm kicking about is bein' identified by a man that kept his head under the bedclothes the whole time. That's wrong."

An old Scotch fisherman was visited during his last illness by a clergyman, who wore a close-fitting clerical waistcoat, which buttoned behind. The clergyman asked the old man if his mind was perfectly at ease. "Oo, ay, I'm a richt; but there's just ae thing that troubles me, and I dinna like to speak o't." "I am anxious to comfort you," replied the clergyman. "Tell me what perplexes you." "Weel, sir, it's just like this," said the old man, eagerly. "I canna for the life o' me mak' oot hoo ye manage tae get intae that westkit."

Hope's Quiet Hour.

Mizpah.

The Lord watch between me and thee, when we are absent one from the other.—Gen. xxi: 49.

Go thou thy way and I go mine, Apart, yet not afar; Only a thin veil hangs between The Pathways where we are, And "God keep watch 'tween thee and me,"

This is my prayer; He looks thy way. He looketh mine, And keeps us near.

I know not where thy road may lie, Or which way mine may be; If mine will lead through parching sands, And thine beside the sea; Yet God keeps watch 'tween thee and me, So never fear, He holds thy hand, He claspeth mine, And keeps us near.

Should wealth and fame perchance be thine, And my lot lowly be, Or you be sad or sorrowful, And glory be far off,

Yet "God keeps watch 'tween thee and me,"

Both be His care, One arm 'round thee and one 'round me, Will keep us near.

I'll sigh sometimes to see thy face, But since this cannot be,

I'll leave thee to the care of Him Who cares for thee and me, "I'll keep thee both beneath My wings!" This comfort dear, One wing o'er thee and one o'er me, So we are near.

And though our paths be separate, And thy way is not mine, Yet, coming to the mercy-seat, My soul will meet with thine; And "God keep watch 'tween thee and me!"

world might believe in His Divine mission. The glory He had received from His Father was passed on to His followers, that they might be one as He and His Father were one.

The beautiful poem given above has cheered many sad hearts. It is old, yet ever new; for in all ages men and women have discovered, by their own wondrous experience, that Love has wings and is able to follow wherever her beloved may go. The poem is familiar to many of you, and yet you may not have a copy

"Death hides, but it cannot divide; Thou art but on Christ's other side; Thou with Christ and Christ with me, And so together still are we."

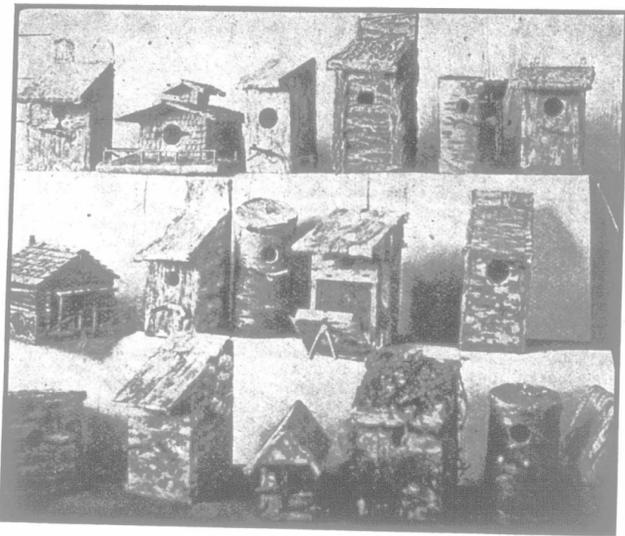
One morning—several years ago—I saw a tall tree crowned with a magnificent crimson wreath of Virginia creeper. It seemed the picture of a merely human friendship—the union of two souls, beautiful but limited, and therefore disappointing. The tree was supporting the vine, and the vine—twined around the trunk and branches of the tree—graced it with its beauty. Both were constantly aspiring, but both had nearly reached their limit. The tendrils of the vine—having nothing higher than the tree to rise by—were drooping earthward again. "Two are better than one," as the wise man has told us, but "a threefold cord is not quickly broken." The ideal unity is the Unity of God Himself—a Trinity in Unity. We can only be "perfected into one" if God is abiding in us and we in Him. A friendship between two human souls is ideal when "Christ makes, unseen, a Third." Our hearts burn within us while He talks with us by the way. We understand what real communion means when we talk with our friend of Him—sure of being understood by each. If He is close to you and close to your friend, then the nearer you draw to Him the nearer you are to your earthly friend.

Fellowship is a necessity of our nature. We all reach out wistfully to touch some kindred spirit—someone who can understand intuitively the thoughts "which lie too deep for words." We are made "two" in order that we may learn the joy of being "one." We are, in very truth, created in the image of God, Who is not satisfied to be alone. His Spirit is continually reaching out to woo the souls of His children. He leads us into the wilderness in order that we may be brought into closest fellowship with the Divine Lover. We may well bow our heads in wondering awe, feeling our own unworthiness, as we realize that this mysterious secret communion of Spirit with spirit is a joy to God also. "The Lord thy God in the midst of thee . . . will rejoice over thee with joy; He will rest in His love; He will joy over thee with singing."—Zeph. iii: 17. In the R. V. (margin) it is translated, "He will be silent in His love." When we are so sure of a friend's affection and trust, we can be silent together, the quality of the friendship is very fine. It is really sweeter to walk by faith than by sight, to be sure of our friend's love even when we receive no word or gift to tell us of it. When God tests our trust in Him by His silence, we can give Him the gladness of knowing that our love and confidence are unshaken. It is a small thing to trust a friend when he is showering gifts upon us and constantly assuring us of his affection. It is a splendid thing to trust him through months or years of silence, to meet his spirit daily before the Throne of God, to secretly heap upon him gifts of strength and courage drawn from the Treasury of the King of Kings.

Let us prize as a pearl of great price God's great gift of friendship. Jesus the son of Sirach said: "A faithful friend is the medicine of life; and they that fear the Lord shall find him." Think of that! Your friend may be hidden in a trench, or flying through the air over the enemy's lines, but if you keep close to the Divine Friend you can always "find" the human friend. If you keep yourself, as a "live" wire, closely connected with the Divine Source of Power, strength and joy will flow through you into the heart and life of your friend. God is ready to work mightily through you, if you give Him control of your bodily, mental and spiritual forces. This is a hidden and secret service; but is not all power mysterious and invisible? Who ever saw the power we call "gravitation," the mighty mystery of "life," or the everyday marvel of "electricity"? We judge the power by its results, and Love is constantly working miracles. Thackeray wrote: "Under the magnetism of friendship the modest man becomes bold, the shy confident, the lazy active, or the impetuous prudent and peaceful."

"Wouldst have a friend? Wouldst know what friend is best? Have GOD thy Friend: He passeth all the rest."

DORA FARNCOMB.



Bird-houses Made by School Children.

I'll whisper there, He blesseth thee, He blesseth me, And we are near. —Julia A. Baker.

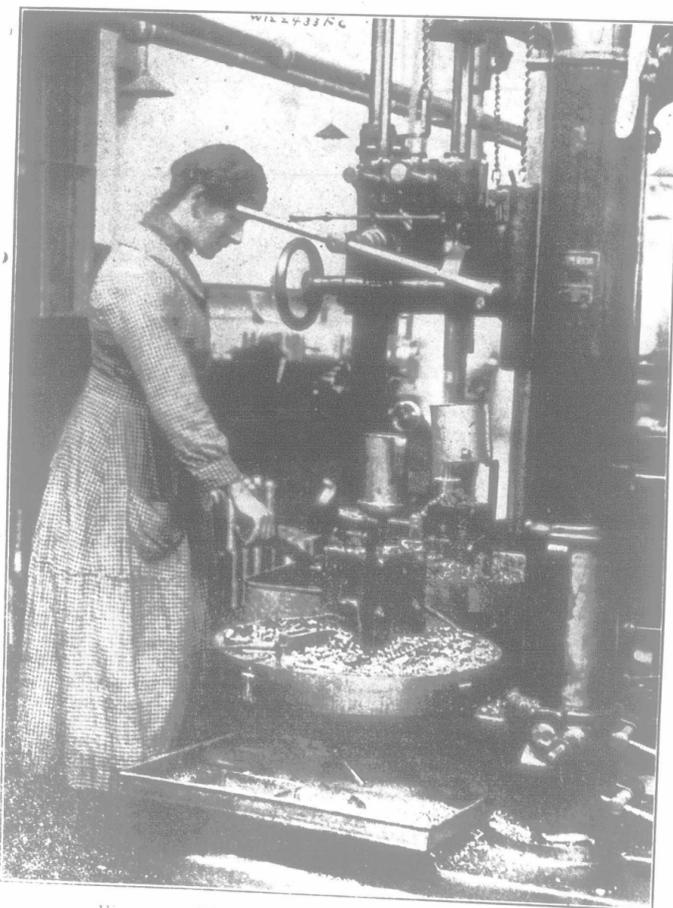
God Keeps Us Near.

I in them, and Thou in Me, that they may be perfected into one.—S. John xvii: 23 (R. V.).

Our Lord prayed that all who should believe on Him might be one, that the

of it; so I have put it in our corner today in order that you may have the opportunity of sending it to someone at the front, if you wish to do so.

God can keep two people near, though they may seem to be far apart. The distance—if each be abiding in God—only serves to "perfect them into one." Instead of separating, it draws them together. Even death—the dreaded foe—can only rivet the links which bind souls to each other.



Women at Work in the Shell Factories of England.

Photo, Underwood & Underwood.

cannot divide;
ist's other side;
Christ with me,
are we."
years ago—I saw
with a magnificent
Virginia creeper. It
a merely human
two souls, beau-
therefore disap-
as supporting the
ined around the
the tree—graced it
were constantly
d nearly reached
ils of the vine—
han the tree to
earthward again.
one," as the wise
a threefold cord
The ideal unity
himself—a Trinity
be "perfected
iding in us and
hip between two
n "Christ makes,
ur hearts burn
with us by the
what real com-
talk with our
being understood
lose to you and
the nearer you
you are to your

The Lankford
HUMANE HORSE COLLAR

cures your horse while he works

Galls and sore shoulders reduce the efficiency of your horse—sap his strength—down his spirit. Cure him without the use of medicine—while he does his heaviest work, with the Lankford Collar.

We guarantee a cure when properly fitted. Be careful and get the genuine Lankford Collar—made of best white sail duck, trimmed in extra heavy leather and stuffed with clean and downy curled cotton, medicated, which will not pack or harden. Imitations are filled with unsanitary straw, and are dangerous to use. The Lankford fits any shape neck—easily put on or removed—always soft and pliable. Will not sweat. Hairs straps attached. Prices \$1.25 and up. See your dealer.

Over 12,000,000 sold Lankford Collars prevent galls and sore shoulders, as well as cure them. Get one today—one for each horse, but be sure it's Lankford. Buy a Lankford. Send postal for copy and of our literature on Lankford Horse Collars. **Powers Mfg. Co.** Dept. 55 Waterloo, Iowa

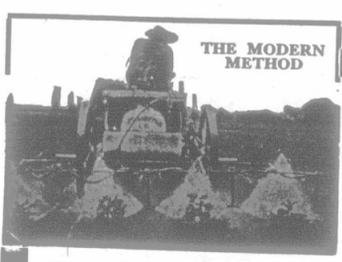



The Windrow.

GYPSESIES.

There is an old story to the effect that two thousand years and more before the dawn of the Christian era, the Egyptians had for their God of Speech and Divination a deity named Thoth. The walls of his temple were covered with pictures—pictures of life—representing every phase of man's existence. The initiates or high priestesses of the temple were taught the arts of divination and speech, and were entrusted with them for the purpose of carrying and explaining their power and beauty to the barbarians of the West, and, for their use, copies of the pictures upon the walls were painted upon papyrus leaves loosely bound together in book form, which they could easily carry, and with which they could explain their divinations, as readily as from the originals, upon the temple walls. Many archaeologists are of the opinion that the gypsies of the present day are none other than the descendants of these high priestesses of the temple of Thoth.—The Bookman.

Probably the most interesting industrial school in the world to-day is that at St. Dunstan's Lodge, a fine old place in Regent's Park, London, built by the third Marquis of Hertford, said to be the "Lord Steyne" of Thackeray's immortal story. It has been given over as a school for blind soldiers, and is known as the House of Miracles, because of the wonderful work being done there. Blind soldiers are brought, helpless and discouraged under their new handicap, and under the guidance and inspiration of teachers, blind like themselves, are taught means to make an independent living for themselves in the dark, new world, in which they find themselves. Among the subjects taught are carpentry, poultry-raising, gardening, massage, shoe-making, basket-weaving, and telephone operating. The soldiers are also taught to read and write by the Braille system, and to use an ordinary type-writing machine.



Remember the day you sprinkled the potatoes?

You used a sprinkling can and barrel. About half way through the rain came up, washed off the solution and made it necessary for you to do the work all over again. The chances are if you had had a

Spramotor
It isn't a SPRAMOTOR unless we made it!

you would have been able to do the spraying soon enough for the plants to get the benefit. With a Spramotor, remember, you can spray an acre of potatoes thoroughly in 15 minutes. It sprays four rows at once—three nozzles to a row—and is adjustable up to 40 inches. It has a capacity of 12 nozzles, with a guaranteed pressure of 125 lbs. at every one, all working. The fact that the Spramotor has over 100 Gold Medals and First Awards to its credit, shows that it is able to do the work the way you want it done. The cost, too, is lower than you imagine—as low as \$6 up to \$400. Booklet on request. Made in Canada. No duty to pay.

B. H. Heard Spramotor, 2725 King St., London, Ontario

1895 Buys **140 Egg** Incubator.

COMPLETE OUTFIT

Freight Paid when ordered together

This big 140 Egg Hot Water Heater and Roomy Lamp Heated Brooder will start you in the poultry business and set you quick cash returns. We have made the price so there will be no big cash outlay to start. Opportunities for poultry raisers grow better every day. There never was a better time to start or increase your present flock. Let this **PRAIRIE CITY** outfit do the hatching and brooding for you. You'll save hours of work each day, and make the business a beautiful pleasure.

It's a lasting white pine metal covered hatchery, with copper hot water heating system, self ventilating, automatic regulator, durable lamp and solidly built throughout. The brooder is made of No. 1 lumber, durably built and works perfectly. Remember you get both the incubator and brooder complete ready to run for only \$18.95. Quick shipment from 30 Days Free Trial. If not satisfied money refunded.

Toronto, Ont. Send your order to-day and get started early. Full details on request. Write all letters to **Brett Mfg. Co. Ltd.** Winnipeg 596 Erie St. MAN.

Learn Dress Making BY MAIL

Why not devote the long winter days, doing your own dress-making. Make your own Easter suit etc. this season. Our method will teach you how to cut, fit and put together Coats, Skirts, Waists, Sleeves, Childrens Dresses, Collars, etc. Our course is an every day guide in sewing, no matter how much or how little experience you have previously had.

Write for free booklet which gives further information and terms.

Ellison Dress Cutting Co.
Dept. L. Berlin, Ontario

OTHELLO TREASURE

THE WONDER BAKER

LARGEST RANGE ON THE MARKET

WRITE FOR BOOKLET

D. Moore Company
Hamilton Canada



Carters Tested Seeds
Incorporated

Write for our 1916 Catalogue of Garden, Lawn and Farm SEEDS

Prices substantially reduced. Stocks as good as ever.

Dept. L, 133 King Street E. TORONTO ONTARIO

THE BIG FOUR.

It is a striking coincidence that the success of British operations in the field now depends upon the efficiency and staying power of an Englishman, Sir William Robert Robertson, who was appointed Chief of the Imperial General Staff on December 21; a Scotsman, Sir Douglas Haig, who succeeded Sir John French in command of the army in France; an Irishman, Lord Kitchener, who is Secretary of State for War; and a Welshman, David Lloyd George, who is Minister of Munitions.

Although the new Chief of Staff bears a Scotch name, he was born in Lincolnshire, and he may therefore be rated as an Englishman, just as Lord Kitchener, a son of Colonel H. H. Kitchener, of Leicestershire, is called an Irishman because he was born in County Kerry. Sir Douglas Haig is of Scotch blood and Scotch nativity, a son of Fife. The claim might be put in that the Right Hon. David Lloyd George is an Englishman because he was born in Manchester; but it would not be allowed by the Welsh, who are as tenacious of blood ties as the Irish, perhaps more so. As Mr. Lloyd George was educated at Llanystymwy, and lives at Brynawelon, Cricieth, Carnarvon, it might not be wise to press the point that he is an Englishman by birth.

Doubtless all these four men on whom the Empire is now leaning have English, Irish and Scotch blood in them, and perhaps more interesting than race or nativity is the fact that not one of them owes his eminence to aristocratic connections or to social influence. The Minister of Munitions is the son of a schoolmaster; Lord Kitchener's father was a regimental officer of limited means; Sir Douglas Haig is the youngest son of John Haig, gentleman and Justice of the Peace of Cameronbridge; and Sir William Robertson sprang from the "common people"—none more obscure than he.

Every one of these four men has risen by sheer ability and a robust personality to high position. Three of them, the Minister of Munitions, the Secretary for War, and the Chief of the General Staff, have never been noted for the graces of life, and have made many

High-Stock and Implements For Sale

One stallion, Baron Murray Imp. [1882] (16464), son of Baron's Pride, 5 years old. One mare, Baroness Insch Imp. [20270] (23247), 7 years old; Sire Casabianca (10323); Dam Insch Maggie [18160] (19697). One mare, Miss Diplomat Imp. [26239] (28191), 6 years old; Sire Diploma (13442); Dam Tibbie Dickson (28176). One filly, Queen Maggie Insch [30352], 3 years old; Sire Black Ivory Imp.; Dam Baroness Insch. One filly, Lady Princess [32015], 2 years old; Dam Baroness Insch; Sire Baron Murray. One filly, Jean Ivory [32014], 2 years old; Dam Miss Diplomat Imp.; Sire Black Ivory Imp. One filly, Kitty Baron [35826], 1 year old; Dam Baroness Insch Imp.; Sire Baron Murray. One filly, Clara Diplomat [35825], 1 year old; Dam Miss Diplomat Imp.; Sire Baron Murray. For sale on

Friday, February 25th, 1916
Lot 12, 13 Con., North Monaghan, half mile west of City of Peterboro.

W. J. COX Peterboro, Ont.

REFINED MADE IN CANADA

ALL THE NEATNESS AND STYLE OF THE FINEST LINEN MAY BE YOURS IN

CHALLENGE COLLARS

— THE MOST DESIRABLE WATERPROOF COLLARS ON THE MARKET —

AT YOUR DEALER'S, OR DIRECT

25c

THE ARLINGTON CO. OF CANADA 54 St. Francis Ave. TORONTO

Steel Rails

for Reinforcing Bridges and Barn Driveways

CUT ANY LENGTH

JNO. J. GARTSHORE
58 Front Street, West Toronto

Westervelt School

Y.M.C.A. BLDG., LONDON, ONT.

BUSINESS AND SHORTHAND

Students assisted to positions. College opens Sept. 1st. Catalogue free. Enter any time.

J. W. Westervelt J. W. Westervelt, Jr., C.A.
Principal Vice-Principal 18

Holstein Bull

Well bred 6 mos. old bull from good producing stock. A bargain for quick sale.

M. G. RANSFORD
Clinton, Ontario

Angus Bulls

4 young Aberdeen-Angus bulls, well bred, from 4 to 10 months old. Reasonable price for quick sale, also heifers.

M. G. RANSFORD
Clinton, Ontario

O. A. C. 72 OATS

Best by test, good germination. Send for sample. 80c. per bus., bags free over 10 bus.

W. T. Davidson & Son, Meadowdale, Ont.

enemies. The fourth, Sir Douglas Haig, has enjoyed a good deal of popularity, among his associates, but the fact that at the front he is nicknamed Von Haig, is not without significance.

These leaders may be called the Big Four, and possibly the most useful of them will turn out to be Sir William Robertson, pantry boy, footman, common soldier, subaltern, intelligence officer and Lieutenant-General, of whom it is said: "He has apparently an iron constitution, and certainly a remarkably strong will. He has no nerves, and nothing disturbs him." The aristocracy will expect no special favors from this rugged dragoon with guard-room manners. His rise in the army has been magical, and yet he is one of the most unromantic of persons. There has never been anything like it in England.—"The Sun," N. Y.

Y. M. C. A. AND THE WAR.

There was a time when the Y. M. C. A. did not stand very high in the opinion of the English people, when it was regarded as a rather flabby, colorless institution, by no means occupying the place in the life of the community that it fills on this side of the Atlantic.

But with the coming of the war the Britisher's opinion altered. Of all the work done for the British Army and Navy, none stands so high in public estimation as that of the Y. M. C. A.

Within a few days of the outbreak of war it had two hundred and fifty centers, and to-day there are over a thousand such centers within the Empire—one as far afield as Mesopotamia. France has nearly a hundred, India forty, Egypt thirty, and so on.

The "huts," as the Y. M. C. A. calls its tents or buildings, are by far the most popular places in the great camps whether at the bases or in England. Thousands of the troops use the huts for recreation, and as reading or writing-rooms—the Association gives away about 11,000,000 pieces of stationery a month, which are chiefly used by the men for writing home. The organization of athletics at the base camps is largely in the hands of the Y. M. C. A., too.

The huts are also used for religious services, the only condition being that no one shall interfere with another's religion. The religious side is, indeed, placed in the forefront of the Association's endeavors to help the soldiers—though there is none of the "button-hole" method; the men are influenced by what is done, not by talk.

Munition works have sprung up all over England in the recent months, and the Y. M. C. A. is doing highly useful work in providing huts near the great centers, where the workers, who come in such crowds that the localities cannot deal with them immediately, can obtain food and find sleeping accommodation. Another excellent piece of work is the establishment of open-all-day-and-night refreshment bars and rest-rooms near the great railway stations in London where men going to and returning from the front often arrive in the middle of the night, tired out, and with nowhere to go.—The Independent.

Makes
Fine Bread



EVERYONE who bakes bread should know about Cream of the West Flour. It is without a peer as a bread flour. With every four 98 lb. bags of Cream of the West Flour and our other guaranteed flours we give an interesting war book or cook book free. Make out your order now.

Cream of the West Flour

the hard wheat flour guaranteed for bread

GUARANTEED FLOURS

	Per 98-lb. bag.
Cream of the West Flour (for bread)	\$3.85
Toronto's Pride (for bread)	3.65
Queen City Flour (blended for all purposes)	3.45
Monarch Flour (makes delicious pastry)	3.25

CEREALS

Cream of the West Wheatlets (per 6-lb. bag)	.30
Norwegian Rolled Oats (per 90-lb. bag)	3.00
Bob-o-link Cornmeal (per 98-lb. bag)	2.70

FEEDS

	Per 100-lb. bag.
"Bullrush" Bran	\$1.35
"Bullrush" Middlings	1.40
Extra White Middlings	1.55
"Tower" Feed Flour	1.75
Whole Manitoba Oats	1.80
"Bullrush" Crushed Oats	1.85
Sunset Crushed Oats	1.70
Manitoba Feed Barley	1.80
Manitoba Meal	1.85
Geneva Feed (crushed corn, oats and barley)	1.80
Oil Cake Meal (old process, ground fine or nutted)	2.30
Chopped Oats	1.85
Feed Wheat	2.25
Whole Corn	1.95
Cracked Corn	2.00
Feed Corn Meal	1.95
Monarch Scratch Feed	2.28
Monarch Laying Mash	2.23
Monarch Pigeon Food	2.70

Prices on Ton Lots: We cannot make any reduction on above prices, even if you purchase five or ten tons. The only reduction from the above prices would be on carload orders.

Terms Cash With Order: Orders may be assorted as desired. On shipments up to five bags, buyer pays freight charges. On shipments over five bags we will prepay freight to any station in Ontario, east of Sudbury and south of North Bay. West of Sudbury and New Ontario, add 15 cents per bag. Prices are subject to market changes.

TWO GREAT WAR BOOKS

From the Trenches, by Geoffrey Young. A thrilling and authoritative book written by an eye-witness of the retreat of the Army of France. This book includes the battle on the Marne, and should be of great interest to readers wishing an authentic description of the early part of the war.

The Evidence on the Case, by James M. Beck, late Assistant Attorney-General of the United States. While this book is by one of the ablest jurists of the United States, it is written in an intensely interesting style. It reviews the evidence presented in the official papers, British, German, Russian and Belgian, in regard to the causation of the war. The conclusions presented by Mr. Beck have been accepted by leaders of thought as constituting a most notable contribution to the literature of the war. The work will be accepted as belonging to lasting history. It should be in every home library in Canada.

The Olde Muler's Household Book.—Over 1,000 tested recipes, and large medical section. Enclose 10 cents to pay postage and packing on this book. No postage asked for on other books.

The Campbell Flour Mills Company
LIMITED
(WEST) TORONTO, ONTARIO

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.]

A Pressing Question.

Dear Ingle Nook Friends,—We do not often touch upon the drink question in this column, yet two news items that have appeared recently in the newspapers, have brought the matter so much to the fore that it can scarcely be kept away from this little Ingle Nook, in which we claim the right to talk upon any subject under the sun. . . The first of these is that women will not be permitted to vote upon the prohibition question when it comes up in Manitoba in the spring.—Our only comment on this is to ask, Will they be permitted to suffer because of the harassing conditions induced by drink, if the measure fails to carry? . . . The second item is the statement of the head of the Cunard Steamship Line that, on account of the space taken up by distilleries and breweries, the time may be approaching when Great Britain will have to choose between liquor and bread. Evidently considering the space that must be taken up by munitions, spirituous liquors are given a prominence so great that men who never before ventured a word to interfere with the interests of the distillers and brewers are becoming alarmed, and recognizing that the "economy" preached everywhere during these days of stress, must be carried out on rational lines.

There are those who hold that "law" should never interfere with the production of, or sale of spirituous drink. Why not?—It reaches out its hand to prevent other things that are clearly detrimental to the welfare of the human race. And in Russia, where legislation on this point, since the war began, has been so sweeping that the sale of vodka has been prohibited throughout the whole vast land, legal interference seems to have proved itself justified. One may judge so from the fact that the measure, intended at first to hold good only during the war, has been established as permanent. If conditions were not vastly better in Russia, that step never would have been taken. As a matter of fact, recent statistics tell a very definite story. It has been officially announced in Russia that, since the sale of vodka has been prohibited, and notwithstanding the fact that the people have been taxed, directly and indirectly, higher than ever before, savings in the banks have been increased by \$960,000,000.

If the drinking of liquor—even a single glass of it—ever did real good to any human being, there might be some excuse for upholding it. But there is no such excuse. At best, money spent in intoxicating liquor is wasted. Drinking slightly to excess causes inflamed stomachs and brains;—there is no need to point out the results of continued excess, on the individual as well as his family, especially where every cent is needed to provide food and clothing. Even "as a medicine," there is no real justification for the use of intoxicating liquors, for the most up-to-date physicians, at least those who are absolutely unbiased, will tell you that there are substitutes, just as good, which may be used when a stimulant is necessary.

All this is not "slamming" the man who takes a glass, or even the one who reaches such a condition because of drink that he is a diseased man, an object of pity rather than of censure. Many a fine man "takes his glass";—he would not be less fine if he left it alone. Many a man, too, who is a driving idiot or a demon when he is drunk, is all that a kind and courteous gentleman should be when he is sober.—But the fact remains that it would be a godsend to the whole

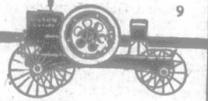


GILSON ENGINES

start without cranking—have high tension ignition,—improved governor,—efficient carburetor. They are perfectly balanced.—Powerful, Durable, Simple and Economical. Efficiency guaranteed without qualification.

Write for free engine book and special proposition.

Gilson Mfg. Co. Ltd., 99 York St., Guelph, Canada



The Same Yesterday Today and Forever



HUNT'S DIAMOND FLOUR



Established 1854

"Always the same"—guaranteed to give satisfaction or money refunded.

Good Grocers Sell Hunt's. 1678

STORM, WIND and BUG PROOF



AGENTS Make \$25.00

A WEEK in their Spare Time Selling KNIGHTS' 400 CANDLE POWER LANTERN

One filling of gasoline costs about 3 cents and will keep it in operation for 15 hours. No wicks to trim, no chimneys to clean and no glassware to break. Just the thing for Poultrymen, Dairymen, Farmers and all outdoor purposes.

Write today for our offer if you want to make money in your spare time. KNIGHT LIGHT CO. 576 Knight Building, Chicago

RIDER AGENTS WANTED

In every locality to ride and exhibit a 1916 Hyslop Bicycle with latest improvements.

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

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

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

HYSLOP BROTHERS, Limited Dept. "2" Toronto, Ontario

DO YOU NEED FURNITURE?

Write for our large Photo-illustrated Catalogue No. 7—it's free to you, THE ADAMS FURNITURE CO., Limited Toronto, Ontario

STAMMERERS

can be cured, not merely of the habit but of its cause. The Arnott Institute has permanently restored natural speech to thousands—is doing it to-day. Write for full information and references to

The Arnott Institute, Berlin, Ont., Can.

FILSON ENGINES

Start without cranking—have high tension ignition, improved governor, efficient carburetor. They are perfectly balanced.—Powerful, durable, Simple and Economical. Efficiency guaranteed without qualification.

Write for free engine book and special proposition.

Mfg. Co. Ltd., 99 York St., Guelph, Canada



the Same Yesterday Today and Forever



HUNT'S DIAMOND FLOUR

Established 1854

"Always the same"—guaranteed to give satisfaction or money refunded.

Good Grocers Sell Hunt's. 1672

AGENTS Make \$25.00

A WEEK in their Spare Time Selling KNIGHTS' 400 CANDLE POWER LANTERN

One filling of gasoline costs about 3 cents and will keep it in operation for 15 hours. No wicks to trim, no chimneys to clean and no glassware to break. Just the thing for Poultrymen, Dairymen, Farmers and all outdoor purposes.

Write today for one offer if you want to make money in your spare time.

KNIGHT LIGHT CO.
576 Knight Building, Chicago

AGENTS WANTED

to ride and exhibit a 1916 Hyslop Bicycle with 10 DAYS FREE TRIAL

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

DO NOT BUY a Bicycle, Tricycle or Sporting Goods until you receive our latest literature and special money saving proposition.

TWO CENTS is all it will cost to send us a postal, and we will mail Free, postpaid, a handsome Art Folder showing our complete line of Bicycles in large size annual catalogues; also catalogue of Bicycles, Tricycles and Sporting Goods. Do not wait. Write today.

HYSLOP BROTHERS, Limited
Dept. "2" Toronto, Ontario

DO YOU NEED FURNITURE?

For our large Photo-illustrated catalogue No. 7—it's free to you.

FURNITURE CO., Limited
Toronto, Ontario

MMERERS

not merely of the habit but of its

Arnott Institute has permanently cured speech to thousands—is doing Write for full information and

Institute, Berlin, Ont., Can.

world if the very manufacture of spirituous liquor were instantly struck off, and forever.

Such a drastic occurrence is not likely to happen soon in most countries; like everything else, it is likely to require working up to by slow degrees. But surely in the homes the groundwork for such a blessed consummation can be prepared. If children are taught that it is not wise to tamper with liquor at all, because of its fatal habit of "growing upon" those who begin—that drinking intoxicating drinks is a useless, expensive, and dangerous practice—above all, that it is not "smart" to drink, only silly and unelevating,—surely if all this is taught, something towards prevention may be done. Taking pledges and joining blue-ribbon bands, is not of much use; young folk hate such restraint, and are tempted, sooner or later, to step over the traces out of sheer daring and curiosity. But inoculation with conviction, by suggestion and general influence, lays a different sort of foundation. Abstinence may surely be taught.—Militarism was drilled into the very fibre of the people in Germany, and effectively, too. Surely positive good may be built up as well as possible evil. For Ontario, the present prohibition movement may be effective.

JUNIA.

Our Discussion Corner.

Dear Ingle Nook Friends,—I am pleased to notice in the Home Magazine of January 13th, that Ingle Nook columns are to be open for the discussion of set topics each week, and I anticipate that these controversies, if engaged in in the proper spirit, will not only be very interesting, but also instructive, tending to broadness of mind, respect for other people's opinions, and to remove many a narrow and superstitious perception from the otherwise intelligent mind. As secretary for twelve years of one of the most successful Farmers' Institutes in the Province of Ontario, where at all our meetings discussion, more discussion, and still more discussion, has always been courted, the unmistakably good results of which I have invariably noticed, I have become thoroughly convinced that discussion, pro and con, is the best, if not the only way to practical or working knowledge, whether it be in connection with agriculture, domestic and other sciences, religion, or what not. There is always something wrong where there is fear of open debate, and many an honest doubt has been turned into the strongest faith through the channels of investigation and expression.

To my mind, the most important question that Ingle Nook has asked is No. 4, "Did Dr. Haiselden do right in permitting the terribly deformed Bollinger baby—which would certainly have been an idiot—to die?" When we read between the lines in the wording of this question, it is easy to guess what answer would be given by the interrogator. With no hesitation of mind, and without the slightest compunction of conscience, I would answer in the affirmative, and I want to give only a few of the many reasons that might be advanced to support my contention. In the first place, let us open up the debate with the incontrovertible statement that nothing we can be or do is wrong if it does not hurt ourselves, and is not, directly or indirectly, harmful in any way to anyone else in the world.

If there was no thought of malice or injury on the part of the doctor, if he treated the child as he and all other sensible people would want to be treated if they knew that life to them would mean burden, misery and idleness, he certainly did himself no moral harm. Was it a loss or a blessing to the child to be humanely deprived of a life that would have been, if preserved, far worse than death? If Dr. Haiselden, in this case, was guilty of murder or manslaughter, all the doctors in this country must be classed with him as criminals, for they all, at times, administer narcotics for the relief of pain, knowing perfectly well that they materially shorten the life of the patient. Our Christian religion teaches us to be humane towards our dumb animals. I don't think it can be the same religion that tells us we must keep our fellow-man as long as possible in pain, and wretched, calamitous, unhappy life. The above lines are



LOW DOWN Massey-Harris Spreader WIDE SPREAD

Here is a Spreader that is low down, but not too low—plenty of clearance under the frame.

It is a wide-spread machine—spreading full seven feet wide although the box measures only 3 1/2 feet.

Ample strength is secured by making the frame of steel—heavy 4 inch Channel Side Sills with Steel Cross Sills, forming the strongest frame ever put on a spreader.

The simple Chain Drive does away with all Cogs, Clutches, and Springs, and when out of gear no parts of the machine are running to cause wear.

The Upper Beater is in two sections, set at an angle to spread the load out beyond the wheels.

The simple direct drive—the divided beater and small size of same—the taper shape of the bed—the broad faced wheels—the careful fitting of all parts—these combine to secure light draft.

Massey-Harris Co. Ltd.

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

Agencies Everywhere

THIS WASHER MUST PAY FOR ITSELF

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but, I didn't know anything about horses much. And I didn't know the man very well either. So I told him I wanted to try the horse for a month. He said "All right, but pay me first, and I'll give you back your money if the horse isn't alright."

Well, I didn't like that. I was afraid the horse wasn't "alright" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now this set me thinking.

You see I like Washing Machines—the "1900 Gravity" Washer.

And I said to myself, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it.

But I'd never know, because they wouldn't write and tell me. You see, I sell my Washing Machines by mail. I have sold over half a million that way. So thought I, it is only fair enough to let people try my Washing Machines for a month, before they pay for them, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in six minutes. I know no other machine ever invented can do that without wearing the clothes. Our "1900 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it doesn't wear the clothes, fray the edges nor break buttons, the way all other machines do.

It just drives soapy water clear through the fibres of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight, too. Surely that is fair enough, isn't it?

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves for you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will save 50 to 75 cents a week over that on washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 60 cents a week, send me 50c a week till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer that washes clothes in six minutes.

Address me personally, T. C. Morris, Mgs., Nineteen Hundred Washer Co., 357 Yonge St., Toronto, Ont. (Factory: 79-81 Portland St., Toronto.)



Our "Gravity" design gives greatest convenience, as well as ease of operation with quick and thorough work. Do not overlook the detachable tub feature.

written under the assumption that the topic, just as it is worded, is true. More could be said, but I want to hear what others think.

J. H. WISMER.

Bruce Co., Ont.

ANOTHER "AFFIRMATIVE."

Dear Junia,—Whilst reading your article in "The Advocate"—my invariable custom—I noted your request for discussion upon certain topics, and must congratulate you upon your choice. You have surely chosen some controversial subjects.

In answer to your fourth question relative to the doctor's action, I unhesitatingly reply in the affirmative. Dr. Haiselden was correct, and fully justified in his procedure.

When it is known that the child was deformed—disfigured beyond all probable surgical aid; when it has been established that had the child lived it would have been an hopeless imbecile, who could desire that such an unfortunate being should be compelled to face an unsympathetic world—a burden to itself and others?

Picture the life of such an individual, physically hopeless—unable to perform even the simplest of operations—mentally incapable, shut off from all that makes life worth living, compelled to exist in ignorance, unable to return or even appreciate the kindness of parents or guardians, forced to live like—but even inferior to—a well-housed domestic animal, and no human being can justifiably be condemned to this. Death—to that which has never realized Life—can hold no terrors; and death in this instance would be but swift and merciful oblivion, terminating an existence bound by nothing but hopeless, inevitable misery and wretchedness.

This is the opinion of a man. Maybe your lady readers will hold some other viewpoint, and I shall be pleased to note any opinions contrary to mine.

BROAD MINDED.

New Ontario.

"WHAT HAS BEEN THE GREATEST INFLUENCE IN MY LIFE?"

Before attempting to answer this question I wish to thank Junia for the courtesy of space in the Ingle Nook some months ago, and for the kindness of her comment on my letter. I feel that our views are not really discordant after all. I believe that Junia's quest, like my own, is for truth and the higher life. While but a "mere man"—not a bachelor, though—yet I find interest and inspiration in the Ingle Nook; and this suggests my answer as to the "greatest



Colonial-Style 70

You Earn \$100

when you buy a Sherlock-Manning 20th Century Piano, for you get the best quality producible for \$100 less, by taking advantage of our factory-to-buyer method of doing business.

Saving you fully \$100, giving you the highest quality piano made anywhere, and protecting you on your purchase with our famous ten-year guarantee, we are justified in calling the

Sherlock-Manning 20th Century Piano

"Canada's Biggest Piano Value"

The big saving we effect is appealing with particular force to the Canadian people this year, and our sales are right up in volume with the big record of 1914.

Write for handsome Art Catalogue "I" to-day, addressing Dept. 4.

The Sherlock-Manning Piano Co.,
London, (No Street Address Necessary) Canada

GOITRE

Our Home Treatment for thick neck is most satisfactory and reliable one. We have used it successfully for many years, and strongly recommend it for eliminating the trouble. Write now for particulars and copies of genuine testimonials.

Describe trouble fully when writing.

SUPERFLUOUS HAIR

is an affliction that makes every girl or woman so troubled a most unhappy person. We treat such growth, assuring absolute satisfaction by Electrolysis, also MOLES, WARTS, RED VEINS, etc. Arrange to come for treatment during the holidays if you live out of town. Booklet "F" mailed on request with sample toilet cream.

THE HISCOTT INSTITUTE, LIMITED
61 College St., Toronto. Estab. 1892

Registered Clydesdale Stallion, Canadian bred, young; would deal for pair of mares 2, 3 or 4 years old. Apply R. E. WOODWORTH, Box 8 Lynden P.O. Ontario.

O. A. C. No. 72 OATS

Improved seed, clean and pure. Heavy yielder. \$1.00 per bushel. Bags free.

R. H. CROSBY, Markham, Ont.



"Absent"

with "Crossing the Bar," Columbia 10-inch Double-Disc Record A1891, \$1.

If you should find yourself unusually quiet as the final notes of "Absent" die away, it will be no more than a tribute to the beauty of what we believe is unqualifiedly the most effective and artistic male quartette singing to be found in any catalog. The tone, the blending, the very breath pauses are eloquent in tenderness. The same unanimity of purpose and perfection of results is found in the singing of the Columbia Mixed Quartette in "Crossing the Bar", a companion piece to "Absent."

This One Record Alone Affords a Supremely Perfect and Artistic Example of the New

FEBRUARY COLUMBIA RECORDS

We show below a partial list:

Nothing is so well worth its price as a good laugh, "Cohen Telephones from Brighton" (No. A 1885, \$1.) with Joe Hayman, the original "Cohen on the Telephone," and "Casey at the Dentist" coupled with "Casey as a Doctor" (No. A 1886, \$1.) are laugh creators of the first magnitude.

Latest Popular Hits

- | | | | |
|--------------------------|---|--------------------------|--|
| A 1896
10-in.
1.00 | YOU'LL BE THERE.
Peerless Quartette.
DON'T BITE THE HAND THAT FEEDS YOU.
Tenor duet. | A 1900
10-in.
85c. | WHEN YOU WERE A BABY AND I WAS THE KID NEXT DOOR. Soprano-Tenor duet.
IS THERE STILL ROOM FOR ME 'NEATH THE OLD APPLE TREE? Tenor duet. |
| A 1903
10-in.
85c. | A GIRL IN YOUR ARMS IS WORTH TWO IN YOUR DREAMS. Soprano-Tenor duet.
WHEN YOUR DANCING THE OLD-FASHIONED WALTZ. Tenor duet | A 1901
10-in.
85c. | I GUESS I'LL SOON BE BACK IN DIXIE-LAND. George O'Connor, tenor.
THESE FEET OF MINE. George O'Connor, tenor. |

Splendid New Dance Records

- | | | | |
|----------------------------|---|----------------------------|---|
| A 5769
12-in.
\$1.25 | PERDITA WALTZ and BLUE PARADISE WALTZES. Prince's Orchestra. | A 5757
12-in.
\$1.25 | HONEY-BUNCH FOX TROT and CHIN-CI IN FOX TROT. Prince's Band. |
| A 5759
12-in.
\$1.25 | IN THE GLORY OF THE MOONLIGHT. One Step.
ARCHIBALD ONE STEP. Prince's Orchestra. | A 5758
12-in.
\$1.25 | WHEN YOU'RE DOWN IN LOUISVILLE. One Step.
REMICK MEDLEY FOX TROT. Prince's Band. |

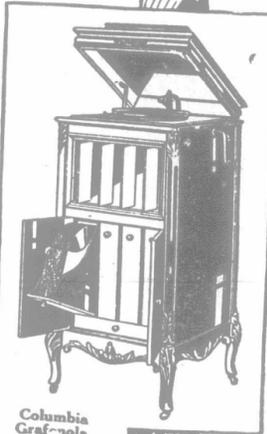
For other tastes, the genius of Josef Hofmann, Casals, and Mme. Rider-Kelsey have offerings of purest artistic beauty; for the lover of drama, Cyril Maude provides a treat in two monologues; besides these there are instrumental and vocal novelties, new concert-singers, well-known funmakers; tenor and baritone solos and ensembles; orchestral, trio, and choir records which make the Columbia February Supplement a booklet of unusual merit. Ask for it at your dealer's to-day—it's sure to have something of interest for you.

New Columbia Records on sale the 20th of every month.

If your dealer cannot furnish you with Columbia Record list write to

COLUMBIA GRAPHOPHONE COMPANY
Canadian Factory & Headquarters, 365-367 Spadina Ave., Toronto

COLUMBIA GRAFONOLAS and DOUBLE-DISC RECORDS



Columbia Grafonola 200 Price \$200

influence' in my life—namely, the written and spoken Thought of noble men and women.

I think that of the good things of life—and there are many—the purest and most sublime are those attainable in the realm of the intellect—literature, science, philosophy; and what are these but simply the thought-expression of the wisest and best of our race? In these days of cheap books on all subjects, and "The Farmer's Advocate" with such thinkers and writers as Junia, Dora Farncomb, Peter McArthur, and the others, there is surely no valid reason for barren intellect, dull moments, or low ideals. Yours for the best in life.

Kent Co., Ont. W. J. WAY.
Some further opinions must be held over for next time. We thank those who have contributed so splendidly in opening our "Discussion Corner."

Seasonable Recipes.

Mock Mince Pie.—Mix together 1 1/2 crackers crumbled fine, 1 cup raisins, 1/2 cup molasses, 1/2 cup sugar, 1/2 cup vinegar, 1 cup cold tea, 1 egg, spices to flavor. Use as filling.

Pork Apple Pie.—Take 4 apples, 4 tablespoons sugar, 1 teaspoon ground cinnamon, 12 bits of fat salt pork a little bigger than a pea. Line a pieplate with rich crust. Pare and slice the apples and fill the plate. Sprinkle over these the sugar, pork and cinnamon; cover with crust, and bake in a moderate oven. To be eaten warm.

Corned Beef Hash.—Take some corned beef, potatoes, a lump of butter, some milk, salt and pepper. Chop the meat fine and add the same bulk of potatoes or a little more. Put into a saucepan a lump of butter size of an egg, and a few spoonfuls of milk or water. When bubbling, put in the meat and potatoes, with salt and pepper to season. Stir for a while, then let stand for 10 or 15 minutes, until a crust is formed at the bottom. Loosen from the pan, turn a warm platter over it, then invert and serve at once. This may be served on toast, buttered and wet with hot water, if liked.

Beefsteak Pie.—Two lbs. beef (any cheap cut will do), 1 onion, salt and pepper. Cut the meat into small pieces, cover with cold water, add the chopped onion and salt, and put into the oven. Cover, and bake three hours. Half an hour before serving, put over the top a crust made of 2 cups flour, 2 heaping teaspoons baking powder, 1/2 teaspoon salt, 1 tablespoon lard. Wet with water or milk as for biscuits.

Oatmeal Cookies.—Two eggs, 1 cup sugar, 1 1/2 cups oatmeal, 1/2 cup coconut, 1/2 teaspoon salt, 1/2 teaspoon vanilla, 2 tablespoons butter. Cream the butter and sugar together and add the well-beaten eggs. Add the remainder of the ingredients, and drop on a well-greased baking-pan. Bake in a moderate oven 15 to 20 minutes.

Cake Without Eggs.—One cup thick, sour milk, 1 cup sugar, 1/2 cup butter, 2 cups flour, 1 cup chopped raisins, pinch salt, 1 teaspoon soda, 1 teaspoon cinnamon, 1/2 teaspoon each of cloves and nutmeg. Stir the soda into the sour milk, add melted butter and sugar, salt and spices. Put the flour over the raisins and stir all together. Bake in a loaf.

Johnny Cake.—Two cups flour, 1 cup corn meal, 4 tablespoons sugar, 1 teaspoon salt, 1 teaspoon cream of tartar, 1/2 teaspoon soda. Instead of the soda and cream of tartar, 2 tablespoons baking powder may be used. Add enough milk or water to make a thin batter, and bake. Serve with butter and syrup or jam.

Sweet Milk Griddle Cakes.—One egg, 1 pint sweet milk, 2 level teaspoons cream of tartar, 1 level teaspoon soda, pinch of salt, flour enough for a thin batter. Mix soda and cream of tartar with flour. Beat the egg, add milk and stir into flour. Fry in small cakes on a griddle, and serve very hot with butter and sugar, syrup or jam.

Baked Indian Pudding.—Two quarts milk, 1 cup corn meal, 1 cup molasses, 1 teaspoon salt. Put 1 quart of the milk into an earthen pudding-dish, and the other quart into a saucepan on the stove. When this is hot, stir the meal in very slowly until it thickens. Remove from the stove and add the molasses, then pour the mixture into the cold milk, and stir. Bake 6 hours in a slow oven, and serve with cream. If

... in my life—namely, the written
spoken Thought of noble men and
...ink that of the good things of
...d there are many—the purest and
...ublime are those attainable in the
...of the intellect—literature, science,
...phy; and what are these but simple
...thought-expression of the wisest
...st of our race? In these days of
...books on all subjects, and "The
...s Advocate" with such thinkers
...riters as Junia, Dora Farncomb,
...McArthur, and the others, there is
...no valid reason for barren intel-
...l moments, or low ideals. Yours
...best in life.

Co., Ont. W. J. WAY.

... further opinions must be held
...or next time. We thank those
...ve contributed so splendidly in
...our "Discussion Corner."

properly cooked, the pudding will look
red and juicy. It may be made one
day, and re-heated for the noon dinner
next day.

Potato Soup.—Four potatoes, 3 pints
milk, butter size of egg, piece of onion.
Mash 4 large, boiled potatoes, while hot,
adding butter and salt to taste. Heat
the milk in a double boiler, cook the
onion in it, and then remove. Pour the
milk slowly on the potato, thicken with
1 tablespoon flour blended in a little
milk, and serve very hot with bits of
buttered toast. To make the soup look
more attractive, sprinkle with paprika,
bits of chopped parsley, or dice of bread
buttered and fried, or browned in the
oven.

The Scrap Bag.

USE FOR OLD STOCKINGS.

Keep old stockings for cleaning the
range. Put a pad of rags inside, and
rub hard.

ONION SKIN DYE.

Save onion skins, and when enough
have been collected, boil them, and dye
old, light, cotton rags with them. This
will make a good color (yellowish) for
use in the braided or woven rugs that
are now so fashionable. The yellow rags
may be mixed with others, colored olive-
green or brown.

TO REMOVE BLACK GREASE.

Rub patiently with ether. It will not
leave a ring as gasoline is likely to do.

TO SOFTEN BOOTS.

Rub well with kerosene. Mutton tal-
low is a time-honored grease for keeping
out the wet.

TO SKIN BEETS.

When the beets are removed from the
boiling water, plunge them at once into
cold water. In a few moments the skins
will slip off easily. Beets should be
well washed before boiling, but never cut
or trimmed in any way or they will lose
their good color to some extent.

TO KEEP MITTENS.

To prevent children from losing their
mittens, sew four or five inches of strong
tape to each mitten, and sew the other
end to the coat sleeve. The tape will
not be long enough to be in the way.

TIME FOR COOKING MEATS.

Roast Lamb—Three hours.
Roast Veal—Three hours.
Roast Beef—Fifteen minutes for each
pound.
Baked Sausages—Twenty minutes.
Corned Beef—Boil very gently four
hours.
Chicken—One to two hours.
Turkey—About three hours in a slow
oven.

When roasting, the oven should be very
hot until the meat is seared to keep in
the juices, then the heat should be low-
ered. When boiling, for the same rea-
son, let boil vigorously for five minutes,
then simmer until tender. By doing
this the meat will be juicy and tender
instead of tough, tasteless, and indi-
gestible.

TIME TO COOK VEGETABLES.

Onions—Boil one hour.
Cabbage—Boil 1 1/2 hours.
Parsnips—Two or three hours, accord-
ing to size.
Carrots—One hour.

**VENTILATING THE HOUSE IN
WINTER.**

The best way to ventilate the rooms
of a house in which a ventilation system
has not been installed, is to raise the
windows slightly at the bottom and
lower them slightly at the top. This
causes a current of air to come in
through the lower opening. For windy
days, it is well to have a piece of board
pierced by a few holes to slip under the
lower sash. If there is a furnace in the
house, all the inside doors should be
kept open as much as possible. To keep
the air moving—that is the important
thing. Open fires help greatly in this.

Reasonable Recipes.

Mince Pie.—Mix together 1 1/2
cup crumbled fine, 1 cup raisins, 1/2
cup molasses, 1/2 cup sugar, 1/2 cup wine-
cup cold tea, 1 egg, spices to
taste. Use as filling.

Apple Pie.—Take 4 apples, 4
tablespoons sugar, 1 teaspoon ground
nutmeg, 12 bits of fat salt pork a lit-
tle more than a pea. Line a pieplate
with crust. Pare and slice the
apples and fill the plate. Sprinkle over
the sugar, pork and cinnamon.
Bake in a moderate oven until the
crust is eaten warm.

Beef Hash.—Take some corned
beef, a lump of butter, some
salt and pepper. Chop the meat
and add the same bulk of potatoes
as the beef. Put into a saucepan
with butter size of an egg, and a
little milk or water. When
put in the meat and potatoes,
and pepper to season. Stir
until the fat is melted for 10 or 15
minutes until a crust is formed at the
bottom. Loosen from the pan, turn a
little over it, then invert and
brown. This may be served on
toast, or with hot water,
and buttered.

Beef Pie.—Two lbs. beef (any
will do), 1 onion, salt and
pepper. Cut the meat into small pieces,
and cold water, add the chopped
onion, salt, and put into the oven.
Bake three hours. Half an
hour before serving, put over the top a
crust of 2 cups flour, 2 heaping
teaspoons baking powder, 1/2 teaspoon
lard. Wet with water
and bake for biscuits.

Cookies.—Two eggs, 1 cup
sugar, 1/2 cup cocoa nut,
1/2 cup salt, 1/2 teaspoon vanilla, 2
tablespoons butter. Cream the butter
together and add the well-
beaten eggs. Add the remainder of the
ingredients and drop on a well-greased
baking sheet. Bake in a moderate oven
15 minutes.

Hot Eggs.—One cup thick,
1 cup sugar, 1/2 cup butter, 2
tablespoons chopped raisins, pinch
soda, 1 teaspoon cinna-
mon. Spoon each of cloves and nut-
meg into the sour milk,
butter and sugar, salt and
the flour over the raisins
together. Bake in a loaf.
Bake.—Two cups flour, 1 cup
sugar, 1/2 cup cream of tartar,
1/2 cup soda. Instead of the soda
use cream of tartar, 2 tablespoons bak-
ing powder may be used. Add enough
water to make a thin batter.
Serve with butter and syrup.

Griddle Cakes.—One egg, 1
cup milk, 2 level teaspoons cream
soda, 1 level teaspoon soda, pinch
salt. Beat enough for a thin batter.
Add cream of tartar with flour.
Add milk and stir into
small cakes on a griddle.
Brush very hot with butter and
syrup or jam.

Indian Pudding.—Two quarts
corn meal, 1 cup molasses,
1/2 cup salt. Put 1 quart of the
corn meal in a earthen pudding-dish, and
pour into a saucepan on the
stove. When this is hot, stir the meal
until it thickens. Re-
move from the stove and add the mol-
asses and the remainder of the
ingredients. Stir. Bake 6 hours in a
slow oven and serve with cream. If

THE DOMINION BANK

At the Forty-fifth Annual General Meeting of the Shareholders of the Dominion Bank held at the Head Office in Toronto, on 26th January, 1916, the following statement of the affairs of the Bank, as at 31st December, 1915, was submitted:

PROFIT AND LOSS ACCOUNT

Balance of Profit and Loss Account, 31st December, 1914.....	\$ 284,316.59
Profits for the year, after deducting charges of management and making full provision for bad and doubtful debts.....	\$870,966.47
LESS	
Dominion Government War Tax.....	\$43,618.35
Taxes paid to Provincial Governments.....	22,225.00
	65,843.35
Making net profits of.....	805,123.12
	\$1,089,439.71
Which amount has been disposed of as follows:	
Dividends (quarterly) at Twelve per cent. per annum.....	\$720,000.00
Contribution to Officers' Pension Fund.....	25,000.00
Balance carried forward.....	344,439.71
	\$1,089,439.71

E. B. OSLER,
President.

C. A. BOGERT,
General Manager.

**GENERAL STATEMENT
LIABILITIES**

Capital Stock paid in.....	\$ 6,000,000.00
Reserve Fund.....	\$ 7,000,000.00
Balance of Profits carried forward.....	344,439.71
Dividend No. 133, payable 3rd January, 1916.....	180,000.00
Former Dividends unclaimed.....	1,049.75
	7,525,489.46
Total Liabilities to the Shareholders.....	\$13,525,489.46
Notes in Circulation.....	4,995,666.00
Deposits not bearing interest.....	\$12,604,373.24
Deposits bearing interest, including interest accrued to date.....	53,361,224.75
Balances due to other Banks in Canada.....	65,965,597.99
Balances due to Banks and Banking Correspondents in the United Kingdom and foreign countries.....	579,855.02
Bills Payable.....	878,361.55
Acceptances under Letters of Credit.....	47,352.00
Liabilities not included in the foregoing.....	1,215,563.49
	267,241.40
Total Liabilities to the Public.....	73,949,637.45

ASSETS

Gold and Silver Coin.....	\$ 1,626,964.01
Dominion Government Notes.....	11,041,905.50
Notes of other Banks.....	704,778.65
Cheques on other Banks.....	3,721,594.35
Balances due, by Banks and Banking Correspondents elsewhere than in Canada.....	2,829,383.17
Dominion and Provincial Government Securities not exceeding market value.....	19,924,625.68
Canadian Municipal Securities, and British, Foreign and Colonial Public Securities other than Canadian, not exceeding market value.....	755,150.69
Railway and other bonds, Debentures and Stocks, not exceeding market value.....	1,167,263.29
Call and Short (not exceeding 30 days) Loans in Canada on Bonds, Debentures and Stocks.....	4,647,001.59
Call and Short (not exceeding 30 days) Loans elsewhere than in Canada.....	5,944,900.13
	221,459.58
Other Current Loans and Discounts in Canada (less rebate of interest).....	\$32,660,400.96
Other Current Loans and Discounts elsewhere than in Canada (less rebate of interest).....	47,453,931.23
Liabilities of Customers under Letters of Credit, as per contra.....	12,329.18
Real Estate other than Bank Premises.....	1,215,563.49
Overdue Debts (estimated loss provided for).....	18,414.74
Bank Premises, at not more than cost, less amounts written off.....	228,361.30
Deposit with the Minister of Finance for the purposes of the Circulation Fund.....	5,616,009.71
Mortgages on Real Estate sold.....	283,900.00
	6,218.30
	54,814,725.95

E. B. OSLER,
President.

C. A. BOGERT,
General Manager.

AUDITORS' REPORT TO SHAREHOLDERS

We have compared the above Balance Sheet with the books and accounts at the Chief Office of the Dominion Bank, and with the certified returns received from its Branches, and after checking the cash and verifying the securities at the Chief Office and certain of the principal Branches on December 31st, 1915, we certify that, in our opinion, such Balance Sheet exhibits a true and correct view of the state of the Bank's affairs, according to the best of our information, the explanations given to us and as shown by the books of the Bank.

In addition to the examinations mentioned the cash and securities at the Chief Office, and certain of the principal Branches were checked and verified by us at another time during the year and found to be in accord with the books of the Bank.

All information and explanations required have been given to us and all transactions of the Bank which have come under our notice, have, in our opinion, been within the powers of the Bank.

TORONTO, January 18th, 1916.

G. T. CLARKSON }
R. J. DILWORTH } of Clarkson, Gordon & Dilworth, C.A.

**London Engine Supplies Co.,
Limited.**

Our L. E. S. Water Works System will give you the comfort of High Pressure Water System for your home or about the farm. Refer to the Christmas Number for details.

**Harab-Davies
Fertilizers**

Yield Big Results
Write for Booklet.
THE ONTARIO FERTILIZERS, LTD.
West Toronto.

Louden Barn Equipments

SAVE Time—Save Labor—Save Expense
Our new catalogue describes every kind of device for money making and labor saving on farms. Write to:
Louden Machinery Company
Dept. 1
Guelph, Ont.

The New **REO** The Fifth
The "Incomparable Four"

"The Incomparable Four"

WE REO FOLK VERILY BELIEVE that Reo the Fifth is, today, the greatest automobile in the world.

CONSIDERED FROM EVERY STANDPOINT—first cost, cost of upkeep, long life—passenger miles per dollar—where can you find value equal to this?

CONSIDER FOR A MOMENT. Here is an automobile the chassis of which has been standard in practically its present form for now six seasons. That alone is a record. Of only one other car in the world, so far as we can learn, can it be said.

REO THE FIFTH IS THE RESULT of the longest and the product of the ripest experience of which the automobile industry could boast. So it was but natural that it should be, from the very first, a wonderful car.

Canadian buyers now receive their Reos direct from the big parent factory at Lansing, Michigan.

We have tried both ways, and we find that we can give our Canadian customers better workmanship, better finish and altogether better value and better service from the main factory than we could from a Canadian branch plant.

The Reo factory at St. Catharines, Ont., will hereafter continue as a service plant. In addition we have established a service station at Winnipeg—1218-20 King Street—where a complete stock of replacement parts for every Reo model ever made, from the first to the latest, are carried, and where Reo buyers in the Western provinces are assured prompt and courteous attention.

With the best class of distributors handling Reo motor cars in Canada, and each carrying in stock such parts as may be needed for replacements, we feel we can now give the very best service possible to our Canadian friends.

Prices quoted are in all cases, net, duty paid, f. o. b. factory at Lansing, Michigan. New catalogue just out—send for one.

THEN THE REO POLICY of improving, refining, perfecting that which we have, instead of trying always to develop something radically, sensationally new, has resulted in this latest model Reo the Fifth, "the simplest car in the world to drive" and the "cheapest car in the world to maintain."

FROM THE VERY FIRST WE REO FOLK CONTENTED that ultimate leadership would redound to that concern which made, not the most novel, but the most serviceable automobile. And that enduring success would be the reward not, of making the highest or the lowest priced car—but the car of greatest dependability and lowest maintenance cost.

AN INVESTIGATION MADE LAST YEAR proved this remarkable fact: that the cost of repairs and replacements on thousands of cars of this model had been less than six dollars per car per year!

AND HUNDREDS OF OWNERS have written us that they have yet to pay the first dollar for a repair on a Reo—and some of them have owned and driven their cars constantly from one to three years. Just gasoline and oil.

THIS LATEST MODEL has many refinements and improvements over its immediate predecessor. The world moves and Reo moves with it—always in the van.

BODY HAS BEEN REDESIGNED to conform to the latest ideas and to enhance its already graceful appearance. Same width and leg room—several inches wider and longer than most so-called "5-passenger" cars.

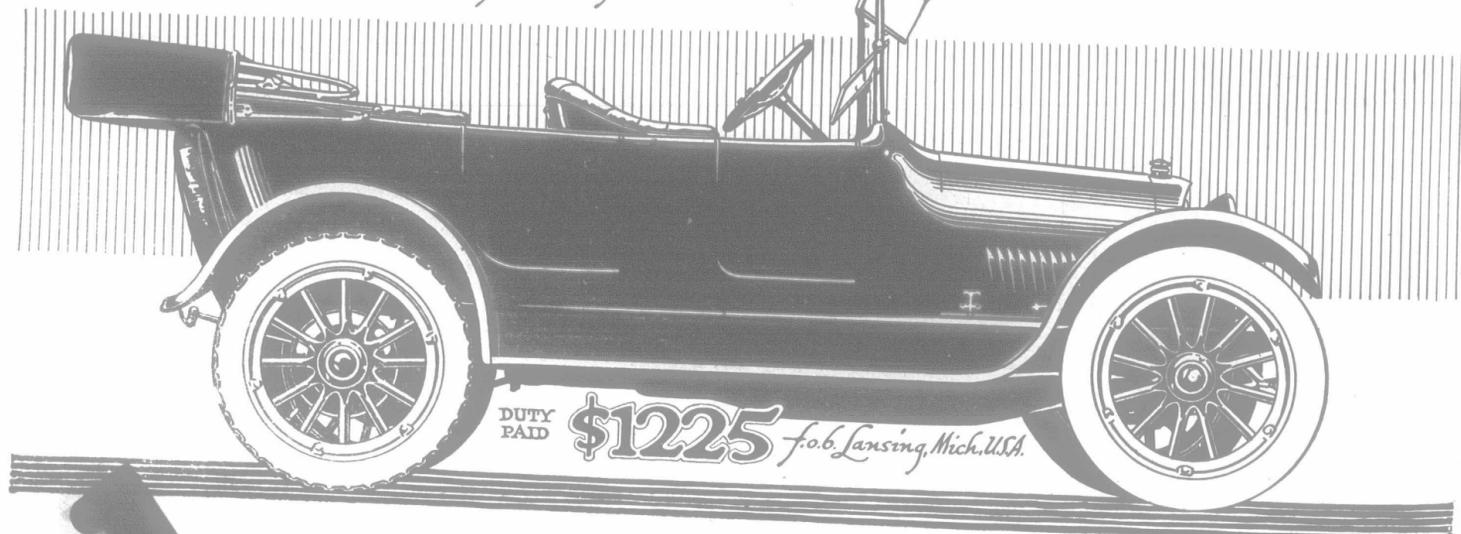
ANOTHER GREAT IMPROVEMENT is the location of electric lighting and starting switches on steering post in reach of the driver. Spark and throttle control levers are now on top of steering wheel.

THERE ARE MANY improvements and refinements that the practiced eye will notice and the experienced motorist enthusiastically approve. Each small in itself but all contributing to the excellence of the whole.

YOUR REO DEALER will be pleased to send you a catalog describing the various features more fully.

BUT YOU MUST SEE—must ride in and finally must drive Reo the Fifth yourself to fully appreciate its many points of excellence.

REO MOTOR CAR COMPANY
Lansing, Michigan, U.S.A.



DUTY PAID

\$1225 f.o.b. Lansing, Mich., U.S.A.

The Fifth Four"

oving, refining, perfecting that
ays to develop something radi-
d in this latest model Reo the
l to drive" and the "cheapest

D FOLK CONTENTED that
to that concern which made,
iceable automobile. And that
l not, of making the highest or
of greatest dependability and

YEAR proved this remarkable
replacements on thousands of
six dollars per car per year!

ve written us that they have
on a Reo—and some of them
constantly from one to three

finements and improvements
world moves and Reo moves

o conform to the latest ideas
appearance. Same width and
longer than most so-called

T is the location of electric
ing post in reach of the driv-
s are now on top of steering

nd refinements that the prac-
ed motorist enthusiastically
contributing to the excellence

ed to send you a catalog
fully.

and finally must drive Reo
ts many points of excellence.

131-D

The New

REO "Six"

"The Fashion Plate of—16"

YOU NEED GO NO FURTHER—you need pay no more—to obtain all the mechanical excellence, all the beauty, style, finish and luxurious riding qualities in a seven-passenger touring car, that your heart can desire.

FOR WE MAINTAIN that, though you search the world over, you will find no car at any price, that is the superior of this new Reo Six in these essentials.

MECHANICALLY IT HAS NO SUPERIOR—it is not possible to put better materials in a chassis, simply because the science of metallurgy knows no better. Reo uses and always has used the best. The fame of Reo rests on that.

IT IS NOT POSSIBLE to machine parts more accurately—for the Reo factories are admittedly the "Models" among automobile factories and Reo standards are admittedly of the highest.

AND IT ISN'T POSSIBLE to obtain an automobile, in the designing and fabrication of which, more experience has been applied—for the Reo organization is the oldest in the Automobile industry. And never since the first Reo was made has there been a single change in the executive organization of Reo.

ALL WE'VE LEARNED, WE'VE KEPT right here in the Reo factories—and this latest product of Reo brains and experience and facilities is the net result.

AS TO BEAUTY OF EXTERIOR we need only say that when this new Reo Six was announced and its graceful lines shown in the engravings it was instantly hailed by everyone in the trade—rival and friend alike—as the "Fashion Plate" for the coming year.

AND IF YOU HAVE WATCHED closely the various new bodies that have since come out—some of them only too palpably redesigned to emulate the lines of this Reo Six—you have observed that it had set the style for the season.

BUT REO BEAUTY ISN'T on the outside alone—it's in the unseen places as well. In fact none so thoroughly appreciates Reo engineering as he who has studied it most intimately.

THE SAME STURDINESS—the same wonderful reliability, dependability and economy of upkeep—that have made the four-cylinder Reo world famous, are in this Reo Six.

"50 PER CENT OVER-SIZE in all vital parts," that Reo factor of safety is the reason at the same time for Reo dependability and low maintenance cost.

EVERY PART THAT IS SUBJECTED—or may ever be subjected—to excessive strains are made fifty per cent heavier—or of better material and therefore fifty per cent stronger—than other makers consider necessary. Motor parts—as crank-shafts, connecting rods, bearings. Transmission gears, driving shafts, axles, differentials—all vital parts are made to the Reo standard "fifty per cent oversize."

SEE THIS NEW REO SIX. Ride in it. Drive it yourself—you can if you have ever driven any automobile. You will say you have never tasted the real joys of motoring before.

JUST A WORD ABOUT DELIVERIES. Those who know are unanimous in stating that there will be a tremendous shortage of automobiles the next few months. Can't be otherwise. Shortage of all kinds of materials and of tools to manufacture them—demand greater than ever before.

SO WE SUGGEST that you decide this matter at once and order your Reo immediately. Then you'll be one of "the lucky ones."

TODAY won't be a minute too soon.

Reo Motor Trucks

Most distributors of Reo Motor cars also handle Reo motor trucks—entirely separate corporation, but managed by the same "Reo Folk." Space forbids a lengthy description or specifications of Reo trucks here. So we'll only say there are two chassis models. For heavy hauling the 2-Ton Reo, and for lighter, speedier delivery, the 1500-Pound (¾-Ton) Reo "Speed Wagon."

Both are famous for the same dependability and low up-keep that is an attribute of all Reos.

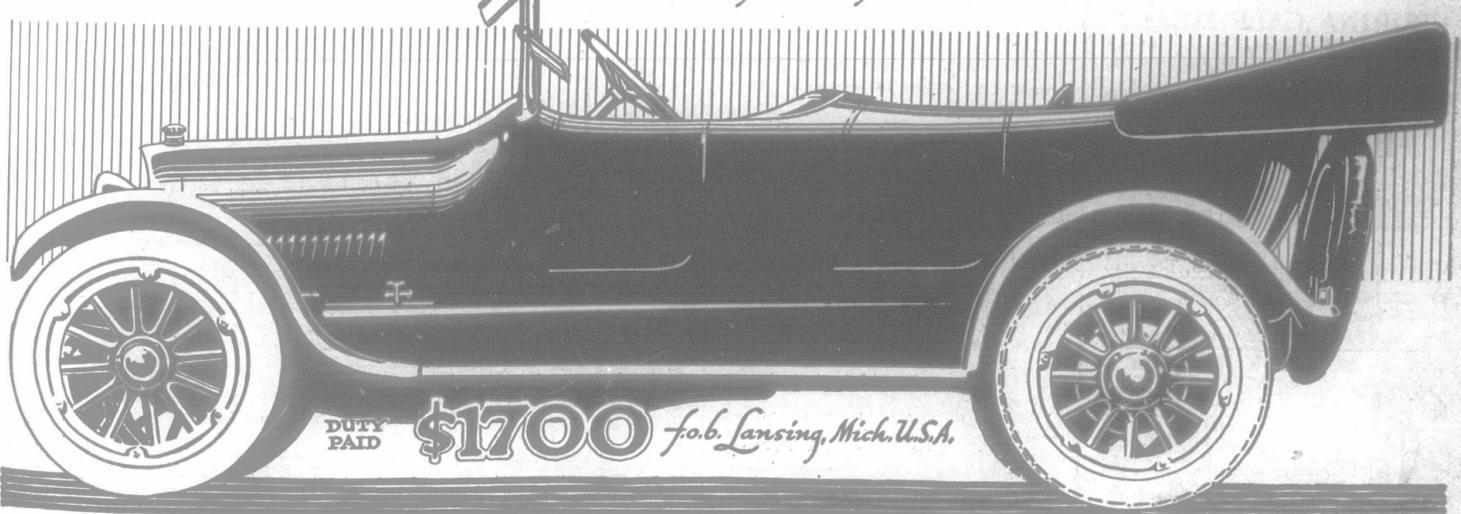
Prices: The 2-Ton Reo chassis, \$2150; the 1500-pound truck with standard express body, \$1500—both net, duty paid, f. o. b. factory, Lansing, Michigan.

Ask for a catalog—any Reo dealer will gladly send you a copy—or write the factory direct.

REO MOTOR TRUCK COMPANY, LANSING, MICHIGAN

131-D

REO MOTOR CAR COMPANY
Lansing, Michigan, U.S.A.



WANTS & OFFERS FOR SALE

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

FOR Sale: 100 acre farm, 3 miles west of London, Ont., in London, Tp., with 2 bank barns, room for 40 head of horses and cattle.

PURE-BRED Scotch Collie pups. Sable with white markings. A. B. VanBlaricom, Morganston, Ont.

SEED Oats for sale. O. A. C. No. 3. Apply, Geo. Armstrong, St. Pauls, Ont.

WANTED, man and wife—for Holstein herd. Man to take charge of stables, milking, feeding, etc. Wife to make some butter and board one or two men.

WANTED, man and wife. Man must be good farmer and capable of taking charge—also have a good knowledge of horses, Shorthorns and pigs—wife to board men.

WANTED—April first—Experienced farmer married, abtainer; competent to take charge 100-acre farm and live stock in all details.

WANTED—young girl as housemaid. Good home—every convenience. Railway fare paid. Apply with particulars. Mrs. Lester Weaver, Hespeler, Ontario.

640 ACRES in Central Alberta—live stock run out all winter. Some years ago I personally selected this farm after examining many townships.

Wanted—Herdsmen for one of the best Shorthorn herds in Ontario. Must be competent and careful; age over 35 preferred and married.

Strawberries, seed potatoes, etc.—50 standard varieties strawberries, including Fall-bearing. St. Regis, Ever-bearing and other raspberries.

Wanted—Custom Tanning. Horse hides and cattle hides for robes and coats. Also all kinds of skins and furs.

J. VICAR MUNRO, Architect Designs Churches, Homes and Schools. Reasonable charges—no extras.

O. A. C. 72, reg. Banner oats and O. A. C. 21 Barley for sale. Out of 1st prize standing crop and grown from 1st prize seed.

Use your spare moments in studying some subject at home by mail. Let us know what interests you.

Calf Meal Is the latest addition to the PURINA FAMILY. Like the other feeds bearing this name.

PURINA CALF MEAL is guaranteed highest quality. In checker-board bags only. Write us for full information, giving your dealer's name.

THE CHISHOLM MILLING CO., LIMITED Toronto, Ont.

FARMERS

Several experienced farm hands may obtain steady employment from April until November on large Saskatchewan farm, paying own transportation.

Manager, 129 Spadina Road, Toronto

Wanted (show material) under 5 yrs. State weight and price.

Box 25, Farmer's Advocate, London

MAKE YOUR BIKE A MOTORCYCLE

at a small cost by using our Attachable Motor. FITS ANY BICYCLE. Easily attached. No special tools required.

Write today for our FREE BOOK describing the SHAW Bicycle Motor Attachment. Motorcycles, all makes, new and second-hand, \$35 and up.

SHAW MANUFACTURING CO. Dept 79 GALESBURG, KANS., U.S.A.

The Dollar Chain

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

In addition to these calls there is now a very urgent one for assistance for the Serbians, whose need is said to be greater than that of the Belgians, even at the worst of their distress.

Contributions from Jan. 21st to Jan. 28th, were: Isaac Hetherington, Fenelon Falls, Ont., \$3.00; Guy Thurtell, Guelph, Ont., \$1.00; Geo. S. Casselman, Finch, Ont., \$6.00; "An Old Subscriber," \$1.00; "F. C.," Tehkummah, Ont., \$2.00.

Amount previously acknowledged \$1,990.35

Total to Jan. 28.....\$2,003.35

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

News of the Week

The woman suffrage bill, introduced by Premier Norris, passed in the Manitoba Legislature.

The Bill for compulsory military service passed in the British House of Lords. The Labor Party adopted resolutions to see the war through.

At time of going to press there is little important war news to report, except that it is believed that the great attack on Salonika is about to begin.

Our Serial Story

"THE CHAPERON."

By C. N. and A. M. Williamson

Copyrighted. Chapter XXXV.

RONALD LESTER STARR'S POINT OF VIEW.

(Continued.)

"Great Scott, but that was a narrow shave!" I sighed in ecstasy. "He's out of it now."

"He may be out of the lock, but we're not out of the wood," said Alb.

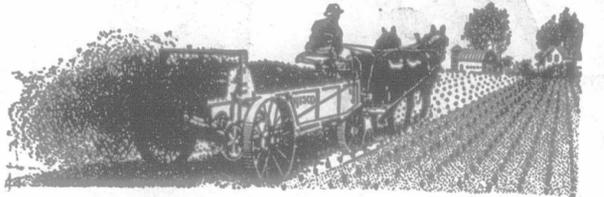
He had slowed down, reversed the engine, and quietly passed into a water-lane between some huge barges, looking not a whit disconcerted by the curious gaze of the barge-folk who wondered at his bare feet and soaked overalls.

"Why, what can he do?" I asked. "He'll have to wait an hour before the lock opens again."

"You'll see presently what he can do," said Alb. "At least, you will if he has any sense. It will be time for us to crow by-and-by—if ever."

I burned to ask what he meant by these ominous prognostications; but he began to jabber in Dutch to our staring water-neighbors. Any stranger would have thought him in the pleasantest mood in the world. He had a friendly

Realize the Value of Your Farmyard Manure



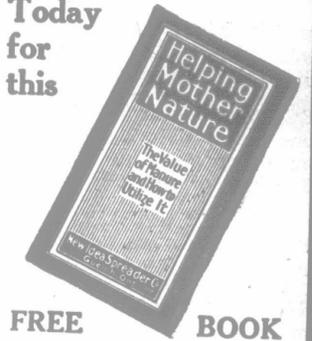
Of course you use all your stable and stall manure—sometimes or other. But does it first lose its value by leaching and firefanging? Everything Depends on How it is Used!

Bulletin 223, issued by the Ontario Department of Agriculture, proves the importance the Department places on farmyard manure, and how it is used.

There is a book published called "Helping Mother Nature, The Value of Manure and How to Utilize It." It's a revelation of how much a farmer can add each year to his profits. It will help every farmer who reads it. We have reprinted it (six chapters) for FREE distribution.

First thing you do, cut out the coupon below, fill in your name and address and mail to us. By return of mail you will receive a copy of the book that will make you see manure in a new and profitable light.

Mail the Coupon Today for this



NISCO Spreaders

Save Labour! Earn You Money!

The Nisco has cut down the actual work of fertilizing to a minimum and insures a wide, even spread of finely pulverized manure. Every turn of the wheels earns you money.

The New Idea Spreader Co. Limited "Spreader Specialists" GUELPH, Ont.

The NEW IDEA SPREADER CO., Limited GUELPH, ONTARIO

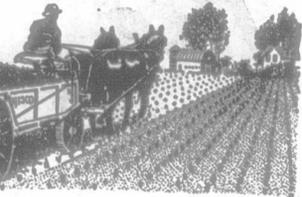
Please send me the book, "HELPING MOTHER NATURE."

Name Address

Advertisement for KEITH'S SEEDS, FIFTY YEARS SERVICE, 1866-1916. Lists various seed types and prices.

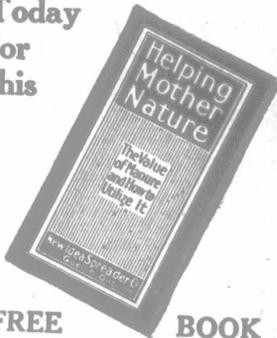
Advertisement for The Bissell Steel Roller, with three drums and strong rigid steel frame. Includes an illustration of the roller.

Stable and stall manure—sometimes a value by leaching and firefanging?



on How it is Used!
First thing you do, cut out the coupon below, fill in your name and address and mail to us. By return of mail you will receive a copy of the book that will make you see manure in a new and profitable light.

Mail the Coupon Today for this



FREE BOOK

IDEA SPREADER CO., Limited GUELPH, ONTARIO

Send me the book, "HELPING NATURE."

A

50 YEARS SERVICE

1916
Buy your...
over, \$16.75 per bus.;
over, \$16.00 per bus.;
3 per bus.; Gov't. St'd.
Gov't. St'd. No. 1 Timothy,
Gov't. St'd. No. 1 for purity) Gov't St'd.
Gov't. St'd. No. 2 Timothy, \$5.65
Gov't. St'd. No. 1 for purity; Gov't St'd. No. 2
each cotton bag required for Clover
per bus.; O.A.C. No. 3 Oats, \$2
O.A.C. No. 7, Golden Glow, White
Red Leaming, on cob, all 1914 growth
crop) at \$1.75 per bus. Bags free.
of Canada we submit our 1916
of Seed Grain, Roots, Forage, Veg-
of Poultry Supplies. We can help
er to show our appreciation of our
new customers, we are making the
1916 Golden Jubilee Catalogue.

124 KING ST. E TORONTO

Bissell Steel Roller

Drums and Strong Rigid Steel Frame.
Improvements are: Heavy Steel Axle,
Lock, Heavy Steel Plate, Drums Riveted
up to stand any strain, Roller Bearings
Runs like a bird. Full particulars free
by mail, or ask your dealer. None
genuine without the name "BISSELL."
Look out for it. This Roller will
stand hard work and lots of it.
Write Dept. W for free catalogue
Limited, Elora, Ont.



Makes Hens Pay, for it Makes Them Lay!

The cost of a daily ration of Gardiner's Ovatum for every hen in your flock would be covered by one extra egg per hen per month.
The gain from feeding Ovatum will average several times that much. Very often, especially in winter, Ovatum will start a good daily production from a flock that has not been laying at all.
This it does by invigorating the digestion and the reproductive organs, so that the hens get more good out of their feed, and turn more of it into eggs.
It will certainly pay you to feed Ovatum. Get it from your dealer in 25c. and 50c. packages or 10-lb. bags. If he hasn't it, write us for prices on Ovatum, Ontario Feeders' Cotton Seed Meal, Saca-Fat, Pig Meal and Calf Meal.
GARDINER BROS.,
Feed Specialists, SARNIA, Ont.

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.

BRAHMAS, Black Spanish, Partridge Rocks, Partridge Wyandottes, Indian Runner Ducks, Choice trios at five dollars. White Leghorn cockerels, \$1, bred from winners at Guelph, Ottawa and Detroit. John Annesser, Tilbury, Ont.

BUFF Orpington and Single-comb White Leghorn cockerels; good exhibition and laying strain. Lowest prices. F. H. Reesor, R.R. No. 1, Markham, Ont.

BARRED Rocks, laying strain, prize-winners. Cockerels, \$1.50 to \$2.00. Females \$1.25 to \$1.50. Central Poultry Yards, Colborne, Ont.

CHOICE Toulouse ganders. Also Single-comb White Leghorn cockerels, Linscott & Rose strain. A. Stevens, R.R. 2, Lambeth, Ont.

CLARK'S Famous Orpingtons—75 choice vigorous Buff and White Orpington cockerels and yearlings, 100 pullets and yearlings. Bred from best exhibition and laying strains in Canada. Males \$3, \$4, \$5; females \$1.50, \$2, \$3 each. Choice breeding pen 5 birds \$10 to \$15. Best general purpose fowl bred, unexcelled for table, layers and mothers. Order from oldest and largest breeder in Canada. Satisfaction guaranteed. Eggs shipped in season. Catalogue free. J. W. Clark, Cedar Row Farm, Cainsville, Ont.

MAMMOTH Bronze turkeys for sale, bred from prize-winning stock, heavy weights. Angus Beattie, Wilton Grove, Ont. R. R. No. 1.

RHODE Island Reds, Rose-combs, O. A. C. bred-to-day strain. Ten select cockerels. Two-fifty each. B. Armstrong, Codrington, Ont.

\$7.00 for this Collins Natural Incubator. Hatches the biggest percentage of eggs. Money back if you don't like it. Write today for catalogue. C. W. Collins, 417 Symington Ave., Toronto.

FREE to Stockmen and Poultrymen, our 30-page illustrated booklet on feeding; how to construct a house which will accommodate 100 hens; gives dimensions and measurements of every piece of lumber required. Deals with the common diseases of stock and poultry and the remedies. Tells how to cure roup in four days. Contains full information about Royal Purple Stock and Poultry Foods and Remedies.

THE W. A. JENKINS MFG. COMPANY
London, Canada

SHOEMAKER'S BOOK ON POULTRY
and a Manual for 1916 has 200 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. O. SHOEMAKER, Box 920 Freeport, Ill.

nod for the brown-faced skipper of a smoking tug, a few words for another, and smiles for every one.

"I'm telling them that I've a wager on, and begging their kind help to win it," he explained to me, as gradually he pushed "Mascotte" and "Waterspin" through, and ahead of, the other craft. "I'm saying nothing about the Club flag; but they can see it, and they all know what it means. But, to save rows, I'm being extra polite, and, you see, it pays. Nobody yet has resented our getting ahead, though theirs is the right of precedence."

On we went toward the top of the lock, sneaking, sliding, pushing, here and there thanks to a good-natured, helping hand, here and there thanks to a shout from the lock-keeper to a sulky bargeman. On the lock-keeper the sight of the Club flag had a magic effect, and he evidently intended to make its rights respected, no doubt counting on a five gulden "tip" at the end.

Ignorant of the perils at which Alb had hinted, the time seemed intolerably long as the water foamed in through the upper sluice-gates, filling the lock inch by inch, and lifting its load of creaking boats and tugs. When we entered the lower gates, we could see only the green and slimy wall of the lock; but by-and-by we found ourselves looking over green fields to a picturesque old town no more than a stone's throw away.

Alb's pleasantries and the might of the Club flag had brought us near to the top of the lock, and I had begun to hope that his dark prophecies were not to be fulfilled, when I jumped at the sound of a shout from shore.

The voice was the voice of Alec MacNairne, and turning my head with a start, I saw his tall figure tearing toward us on the narrow parapet made by the edge of the lock.

"That's what you meant?" I quavered. "That's what I meant," answered Alb. But his hand was on the starting lever, and the upper gates had begun to swing back.

Alb was looking particularly debonaire, and taking pattern by him, I turned away from my aunt's husband, pretending that I had neither seen nor heard him.

"Hi, you there! Starr-Brederode! Scoundrels!" he roared at our backs. "If he jumps into one of these boats and gets across to us!" I murmured. "He will if he can, but—"

Before Alb could finish his sentence the first half of my fear was verified. Sir Alec gathered himself for a spring, and leaping across the narrow water-lane between his parapet and the nearest barge, landed with a crash on the gunwale.

At that sound my heart seemed to stop for repairs; for there were two barges in front of us, the biggest in the lock, and we had not been able to pass them before the doors began to open. Now we could not escape until they had floated out into the canal, and, meanwhile, there might be a little private tragedy in high life on board "Mascotte."

But a Dutchman's lighter is as sacred, Alb has explained to us all, as a Dutchman's house; and when the loud, explosive Scotsman arrived on the gunwale, uninvited and breathing fire, the lighter's owner proceeded also to breathe fire. He swore; his Kees dog yapped; his children cried and his wife vituperated. An understudy took the helm, and before Sir Alec could jump across to another barge, in his pursuit of us, he found himself engaged in an encounter with the skipper of his first choice.

The one could speak no English, the other could speak no Dutch; and in his fury at seeing us slip out through the gates behind the two great barges, he could do nothing but stammer with rage, and try to push past the stout form which strove to detain him for argument.

Naturally, the push made matters worse. Sir Alec does not know Dutchmen, especially lightermen, as well as I have learned to do, or he would have refrained from that extreme—and on the man's own barge. His push was given back with interest, and the last we saw of him, as other boats surged round the scene of the contest, was in a gallant attempt to make a twelve-foot jump, while a stout Dutch skipper and a stout Dutch skipper's stout Dutch wife held on to his coat-tails.

Used in Millions of Tea Pots Daily—Every Leaf is Pure

Every infusion is alike delicious
"SALADA"
Black, Green } Sealed Packets only. B 155
or Mixed }

NEW COAL OIL LIGHT

Beats Electric or Gasoline
10 DAYS FREE
Send No Money
We don't ask you to pay a cent until you have used this wonderful modern light in your own home ten days—we pay transportation charges. You may return it at our expense if not perfectly satisfied after putting it to every possible test 10 nights. You can't lose a cent. We want to prove to you that it makes an ordinary oil lamp look like a candle; beats electric, gasoline or acetylene lamps; and is put out like an oil lamp. Tests by Government and 33 leading Universities show it **BURNS 70 Hours ON ONE GALLON** common Coal Oil (kerosene), and gives more than twice as much light as the best round off under which you can get a lamp. No odor, smoke or noise, simple, clean, no pressure, won't explode. Several million people already enjoying this powerful, white steady light nearest to sunlight. It's **GUARANTEED**.
Get One FREE We want one user in each locality to whom we can refer customers. Be the first and get our special introductory offer under which you get your own lamp **FREE** for showing it to a few neighbors and sending in their orders. Write quick for beautifully illustrated **FREE** Book and get full particulars. Address nearest office
MANTLE LAMP COMPANY, 1308 Aladdin Building
Largest Coal Oil Mantle Lamp House in the World
Montreal or Winnipeg

Aladdin
Get FREE Book
Won Gold Medal
Sample Sent Prepaid—10 Days FREE to responsible men. Tell us what territory you prefer, whether you have a rig or auto so you can work in country, how long you have lived in the community, etc., so we can give you full information, agency terms, credit plan and sample lamp for free trial.

FIRST AND PARAMOUNT, ABSOLUTE SECURITY TO POLICYHOLDERS

"I'll not take a policy just now," you say.
Don't be too sure you can get it now—but try. Possibly when you are ready, nature may have intervened and made you uninsurable.
You can only purchase life assurance while you are in good health. And you cannot foresee the approach of accident, sickness or even death itself.
An average of one out of every nine applicants for life assurance is rejected.
Write for a copy of our new booklet, "The Creation of An Estate." It's very interesting—and it's free. Address:
THE IMPERIAL LIFE Assurance Company of Canada
HEAD OFFICE - TORONTO
Branches and Agents in all important centres

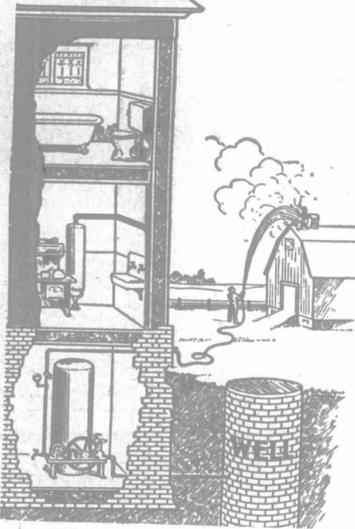
When writing advertisers, will you kindly mention "The Farmer's Advocate."

RUNNING WATER FOR EVERY FARM NEED

A strictly modern hot and cold water system for your home and farm

No matter where you live, we can send you an Empire Outfit that will not only give your home a modern bathroom with all fittings, but will provide running water for all other farm needs as well. To-day is the day to find out how an

Empire WATER SUPPLY System



can be adapted to your particular requirements. Wouldn't you like to have hot and cold water always ready in the kitchen? Wouldn't you like running water in the barn and out-buildings, water at good pressure for fire protection, water to lighten farm work? It is easier and cheaper to get than you think. The Empire Outfit, including all the piping, is sent complete, ready to set up. Do away with the disease-breeding outdoor cesspool and the hard water-lugging methods.

Write for our free booklet. Tell us your needs, and let us give you a free estimate.

Empire Mfg. Company Limited
East London Ontario

The Washing done before the day's begun

THE washing is done and out on the line before the day gets started. The Maxwell "Home" Washer saves such a lot of time. Just 10 minutes for a big tubful of clothes. Washing and cleaning thoroughly. No rubbing and scrubbing. The Maxwell does all the hard work. You'll feel fresh and bright—ready for ironing the same day.

Maxwell

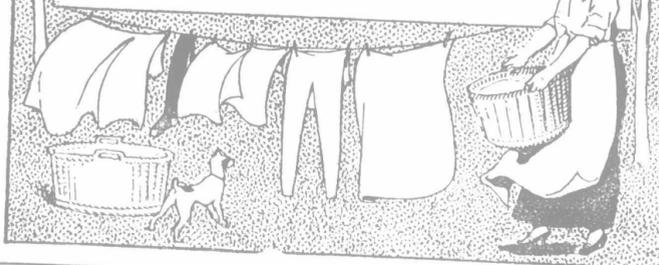
"HOME WASHER"

Makes wash days easy. Insist on seeing the Maxwell "Home" Washer at your dealers.



Write today and we will send you free this interesting booklet "If John had to do the washing."

MAXWELLS LIMITED Dept. A
St. Mary's Ontario 21



Seed Corn—Prizewinning Wisconsin No. 7 and Longfellow, the best for the silo.
GEORGE R. WEST & SONS
Northwood, R.R. No. 3 Ontario

PATENTS AND LEGAL
FETHERTONHAUGH & CO., PATENTS
Solicitors—The Old Established Firm. Head Office Royal Bank Building, Toronto, and 5 Elgin St., Ottawa, and other principal cities.

Again I drew a full breath of relief, and I saw by Alb's face that he, too, hoped for the best, for—whatever his private feelings might be—he is too good a sportsman not to feel the spirit of a race.

We were out of the lock, our propeller churning the water, but—again there was a "but." Alb made a dash for freedom by trying to glide between the two immense barges which, alone of all the late denizens of the lock, had refused to give us precedence. But his gracious ways had not softened the hearts of these skippers, nor did they care for his Club flag. All they did care for was to keep one another from getting ahead.

Evidently they were old enemies, and this was not the first time that they had engaged in deadly duel. Ancient scores had to be paid, and a fig for those who came after!

Each glared at the other. Each tried to push his big craft ahead. Crash! They stuck, and jammed, the man at the right, the man at the left, pushing with all his force with a giant pole, each push locking those barges the tighter.

We were on their heels, and on ours was the whole press of boats let out from the lock, surging heavily forward.

Alb shouted something in Dutch. "I'm saying that the only thing is for one to give way, and let the other go by in advance, not both try to strain through together," he explained, when I anxiously demanded to know what was happening.

Both men shook their heads, and grumbled, while from behind rose a Babel of cries and adjurations.

"They won't," said Alb. "They say that they will never give way to each other. They would smash their boats first. If anything happens to part them they won't mind, because it will be fate, and neither one will have given up for the other. Meanwhile, they say they're sorry, but they won't move, and the rest of us must fare the best we can." "Can't the lock-keeper do anything?" I asked.

"He can swear," Alb smiled; and I believe there was something in him that sympathized with the two obstinate brutes.

"For goodness' sake tell them we'll give each one a hundred—no, a thousand—gulden, if necessary, if only they'll agree as to which is to yield, and move out of our road."

"I'll tell them," said Brederode, dubiously; and a few words passed between the three.

"I knew what they'd answer," he announced, in a moment. "They say they won't do it for a million. 'Every man has his price,' is a proverb that doesn't count with Dutchmen where principles are concerned. Now, I'm going to try and force a way, but I'm afraid 'Mascotte' hasn't force enough, and if not, it's all up, for here comes MacNairne."

I looked back and saw my uncle-in-law picking his way toward us from boat to barge, from barge to lighter. He had lost his hat in that argument of which I had not seen the end, but he had not lost his determination, and at his present rate he would reach us in about two minutes.

Suddenly Alb put on full speed ahead, and gallantly little "Mascotte's" rammed her dainty nose between the two black and bulky barges. But her strength did not match her courage. She got only a pinching for her pains, and, as Alb exclaimed, we were caught.

"I'm sorry," he said. "I've done all I could, and don't see what I can do more, short of knocking poor MacNairne on the head with a pole."

"You've been a brick, and I won't forget it," said I. A strange coolness had come upon me with the knowledge that the worst was inevitable. I felt that my small-sword alone could win me through. "All I ask is that, whatever I do or say, you'll stand by me," I finished.

"Have you a plan?" he asked. "Part of a plan. I—"

Before I had a chance to finish either plan or sentence the enemy was upon us. I heard him coming, and turned round just in time to meet my aunt's husband face to face as, climbing across from the nearest barge, he leaped over the rail on to our little deck.

(To be continued.)

To the Corn Growers of the Dominion:

NOT since the year 1878 has there been so little good Seed Corn grown on the American continent. A cold, wet summer, followed by an early frost, found 85% of the Northern Zone corn in the milk, and Northern Zone corn is the only kind which can be grown to advantage in Canada.

Much of the cheap Seed Corn sold in Canada comes from the United States, which country has not had as poor a crop in 35 years as that grown in 1915. The problem is a serious one there, and will be a serious one here, and in view of it, those contemplating planting corn this spring should secure their seed early and test it thoroughly before planting.

We are the largest growers of corn in Canada, and there are several reasons why we consider our seed equal, if not superior, to any produced in this country. Our corn is grown on our own land, which is especially prepared for the crop. It is cultivated by us. The selection of seed is made by competent and experienced men in our employ. Our seed houses are modern and up-to-date in every respect. Consequently the corn is true "home-grown" which, other things being equal, has a distinct advantage over corn grown for you by others. By that we mean that in many instances sellers of Seed Corn know nothing whatever respecting its quality, having had it grown for them on contract.

Notwithstanding the adverse weather conditions described above, we believe that we have more "home-grown" Seed Corn than any grower in Canada, but our supply is, nevertheless, limited, and we suggest that orders should be sent us as early as possible. Although fully aware of the scarcity of good seed, we have not raised our prices, which are the same as last year.

Price list and order blanks will be mailed to those desiring them upon application.

Walker Sons, Proprietors
Essex Farm
Walkerville, Ontario

Apple Trees

All standard varieties. Large, strong and clean. Grown with special care from selected buds for our own planting.

AT RIGHT PRICES.

Write us for prices and information.

LYNNDALE FARMS
Simcoe, Ontario
P. E. ANGLE, Superintendent

Contains over 35% protein
Contains over 83% carbohydrate
Keeps all live stock healthy if fed daily

MAPLELEAF OIL CAKEMEAL

WRITE TO-DAY FOR FREE SAMPLE & PRICES
THE CANADA LINSEED OIL MILLS, LTD.
TORONTO & MONTREAL

The Perfect Piano for the Home.

WILLIAMS

The choice of the World's Great Artists

THE WILLIAMS PIANO CO. LIMITED
Oshawa, Ontario

CHURCH BELLS
CHIMES AND PEALS
MEMORIAL BELLS A SPECIALTY
FULLY WARRANTED

MC SHANE BELL FOUNDRY CO.,
BALTIMORE, Md., U. S. A.
Chicago Office: Room 64, 154 W. Randolph St.
Established 1858

To the Corn Growers of the Dominion:

NOT since the year 1878 has there been so little good Seed Corn grown on the American continent. A cold, wet summer, followed by an early frost, found 85% of the Northern Zone corn in the milk and Northern Zone corn is the only kind which can be grown to advantage in Canada.

Much of the cheap Seed Corn sold in Canada comes from the United States, which country has not had as poor a crop in 35 years as that grown in 1915. The problem is a serious one there, and will be a serious one here, and in view of it, those contemplating planting corn this spring should secure their seed early and test it thoroughly before planting.

We are the largest growers of corn in Canada, and there are several reasons why we consider our seed equal, if not superior, to any produced in this country. Our corn is grown on our own land, which is especially prepared for the crop. It is cultivated by us. The selection of seed is made by competent and experienced men in our employ. Our seed houses are modern and up-to-date in every respect. Consequently the corn is true "home-grown," which, other things being equal, has a distinct advantage over corn grown for you by others. By that we mean that in many instances sellers of Seed Corn know nothing whatever respecting its quality, having had it grown for them on contract.

Notwithstanding the adverse weather conditions described above, we believe that we have more "home-grown" Seed Corn than any grower in Canada, but our supply is, nevertheless, limited, and we suggest that orders should be sent us as early as possible. Although fully aware of the scarcity of good seed, we have not raised our prices, which are the same as last year.

Price list and order blanks will be mailed to those desiring them upon application.

Walker Sons, Proprietors
Essex Farm
Walkerville, Ontario

Apple Trees

All standard varieties. Large, strong and clean. Grown with special care from selected buds for our own planting.

AT RIGHT PRICES.

Write us for prices and information.

NINDALE FARMS
Simcoe, Ontario
P. E. ANGLE, Superintendent

Contains over 35% protein
Contains over 33% carbohydrate
Keeps all live stock healthy if fed daily

WRITE TO-DAY FOR FREE SAMPLE & PRICES
CANADA SEED OIL MILLS, LTD.
TORONTO & MONTREAL

Perfect Piano for the Home
WILLIAMS PIANO
The World's Great Artists
WILLIAMS PIANO
Ontario.

WHEELS AND PEALS
WARRANTED
ALL FOUNDRY CO.,
E. M. U. S. A.
104, 154 W. Randolph St.
Lashed 1854

Gossip.

A SALE YOU SHOULD ATTEND.

Every reader interested in good stock should see the advertisement in this issue of the dispersion sale of Clydesdales, Shorthorns and Shropshires, at the famous "Fairview Farms," the property of the estate of the late Don. J. Campbell, Woodville, Ont. There are imported mares and fillies, some choice Canadian-bred animals, a few geldings, twenty choice Shorthorns, and the entire flock of Shropshires, which for thirty-five years made "Fairview" famous America over. No one will question the quality of the stock which the late D. J. Campbell and his uncle, the late John Campbell, kept at "Fairview." All this must go now at the buyers' own prices. No better opportunity has been offered to breeders to secure some of Canada's best. Woodville is 65 miles north of Toronto on the G. T. R. The sale is Feb. 18, at 12.30. Conveyances will be met. See the advertisement. Attend the sale.

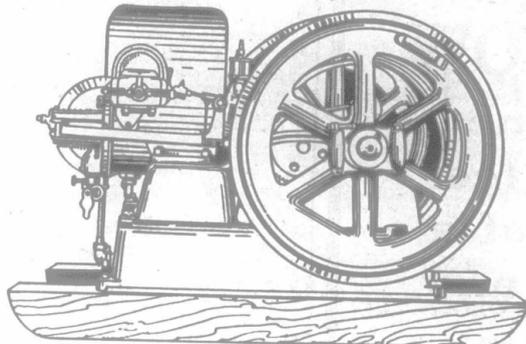
CHERRY LANE BERKSHIRES AND TAMWORTHS.

S. Dolson & Son, Norval Station, Ont., owners of Cherry Lane Stock Farm, and prominent among the most successful exhibitors of Berkshire and Tamworth swine in this country, are this winter in a particularly strong position to supply breeding stock of both Berkshires and Tamworths, bred from first-prize and champion winners at the big shows for many years, and many of the young things on hand of breeding age are winners themselves, including the first and third prize six-months-old Berkshire boars, and the champion Tamworth boar at the late Guelph Show. Not being satisfied with the winning of the leading honors at the big Ontario shows for many years, the Messrs. Dolson, in 1914, made a tour of the leading shows in Western Canada, and again in 1915, with the following results: In 1914 they won 36 first prizes, 10 seconds, 13 thirds, 8 championships, and 4 diplomas, besides 10 herd prizes. In 1915 they won 32 firsts, 17 seconds, 9 thirds, 6 championships, 6 diplomas, 10 herd prizes, and 2 grand championships. A record of this kind of winning needs no comment on the quality of Berkshires and Tamworths bred on the Cherry Lane Farm. For sale are both sexes of any desired age in both breeds. Cotswold sheep also receive considerable attention, and the standard is equally high. At the late Guelph Show they won first on pen of three lambs, first and second on ewe lambs, and they also won the Ontario sheep-breeders' special. About all that is left for sale in Cotswolds are three ram lambs, winners at Guelph, and a good trio they are.

Trade Topic.

THE DOMINION BANK HAD A GOOD YEAR.

A very satisfactory statement was submitted to the shareholders of the Dominion Bank at the forty-fifth annual meeting held recently at the head office in Toronto. The Report showed that the Bank has made marked progress during the past year, and has taken an important part in the financing of the general business of the country. Profits for the year were \$870,966, and after making the necessary allowances for charges of management, bad and doubtful debts, and Dominion and Provincial Government taxes, the net earnings amounted to \$805,123, equal to 13.40 per cent. on the capital. Total assets reach the sum of \$87,475,126, an increase of fully \$7,000,000 over 1914. Current loans show practically no change, being \$47,453,000, as against \$47,196,000 last year. An interesting feature of the Report is the fact that the cash assets amount to \$19,924,625, or 27 per cent. of the liabilities to the public, while the immediately available assets show \$32,660,400, or 44 per cent. of the liabilities to the public. There is a considerable increase in the note circulation, due no doubt to the activity displayed by the Dominion Bank in helping to finance the Western wheat crop. The Report constitutes a very creditable showing, and is one of the strongest issued by this well-known institution.



Note The Prices :

1 1/2 H.-P.	\$ 46.50
3 H.-P.	68.00
5 H.-P.	113.50
6 H.-P.	168.00

A farm hand that likes work! Its name is PAGE

Employ this kind of help—you'll never "fire" it. It works with energy—an energy supplied by gasoline. And it does almost all that human hands can do—but does it more quickly, more economically.

When you decide to install this kind of farm hand, you'll find by a little investigating that strength and simplicity are the great features to look for in an engine—and you'll discover that the PAGE has these qualities, yet costs no more—costs less in fact—than the ordinary run of engines.

Investigate—and you will most certainly select the PAGE. It's only common sense to do so—since its costs less per horsepower than any other we know of. Make us prove it—we give you a wide-open chance. We send it to you (freight prepaid) to try for 30 days. At the end of that time, if it hasn't convinced you, return it, and we'll send back the money without argument. Put it to the test.

WRITE TO FARM POWER INFORMATION BUREAU

The PAGE WIRE FENCE COMPANY LIMITED.

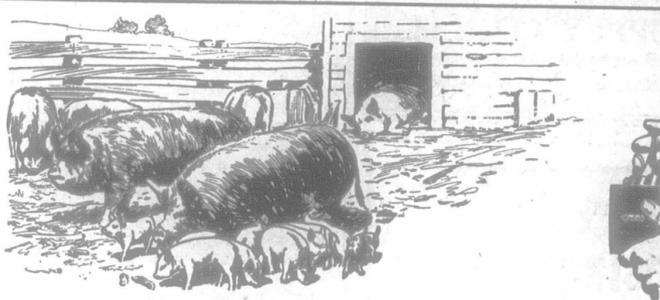
1143 King St. West, TORONTO.

WISCONSIN INCUBATOR AND BROODER BOTH \$13.90 FOR FREIGHT AND DUTY PAID

130 Egg INCUBATOR
130 Chick Brooder
BOTH FOR \$13.90 freight and Duty PAID

If ordered together we send both machines for only \$13.90 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Ten year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of \$13.90 is for both incubator and brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time.

WISCONSIN INCUBATOR CO. Box 228, RACINE, WISCONSIN, U. S. A.



In every nook and corner of the farm, inside and outside of every building, in every field and at every turn of the lane there's a picture that should form a part of your

KODAK RECORD

Such pictures add interest and value to your written record. The making of Kodak pictures is very simple, and is less expensive than you think.

Catalogue free at your dealer's, or by mail.

CANADIAN KODAK CO., Limited
592 King Street W., Toronto

RENNIES SEEDS

PUREST-CLEANEST MOST RELIABLE GET CATALOGUE AT BEST DEALERS OR DIRECT TORONTO - MONTREAL WINNIPEG - VANCOUVER.

CREAM

Where are you shipping now? And what are you getting for your cream?

We want more individual shippers and more men to gather cream for us.

Write for our proposition.

Silverwoods Limited
LONDON, ONTARIO

CREAM

We pay express charges and furnish cans. Remit promptly. Take all you can make. Write us.

THE BERLIN CREAMERY CO.
Berlin, Canada

CREAM! Mr. Shipper, Attention!

Reasons why you should send your cream to us:

1. We aim to pay the highest prices.
2. We give you a square deal.
3. We have the largest market in Ontario.
4. We are prompt in making remittances.

The market indicates a gradual advance. Act now. Write us for further particulars.

THE TORONTO CREAMERY CO., LIMITED
9 Church Street, Toronto, Ont.

Sarnia Creamery

Pays express, furnishes cans and remits weekly
Pay Highest Price.

Write for particulars.

Sarnia Creamery Co., Ltd.
Sarnia, Ont.

Make Your Own Will

Bax Legal Will Form enables you to make your own will as legal and binding as any lawyer can do it for you. Insures privacy and saves costly law fees. Each form has full and plain instructions, also specimen will properly made out for your guidance. Sold by druggists and stationers, 35c, or by mail (\$ for \$1) to Bax Will Form Co., Room 191a, 257 College Street, Toronto.



RIGHT NOW
is the time
when you feel
the need of a
silo most and

NOW is the time
to order an
IDEAL GREEN FEED SILO

THESE winter days when high-priced hay seems to disappear so fast there is no use kicking because you didn't put up a silo and fill it last season.

YOU must realize that silage would save you a lot on the cost of your feed just now, and that with a silage ration you would be getting a much larger milk flow.

BUT the chances are if you wait till next summer again before ordering a silo, that with lots of green summer feed and your rush of farm work, you may put it off again.

DON'T make that mistake the second time.

ORDER your silo now.

HAUL it home while the sleighing is good.

DECIDE in which plot you will plant corn.

GET the right kind of seed corn ready.

THEN some time next summer when you have a spare day or two you can get your silo up and you'll be all ready for next winter. From the day you order a silo you'll feel a lot more easy in your mind to know your cows will go back to better and cheaper feed next fall.

See our agent in your locality. If you don't know his name write to our nearest office. Let us send you our new silo book; free upon request.

DE LAVAL DAIRY SUPPLY CO., Ltd.
LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA
MONTREAL PETERBORO WINNIPEG VANCOUVER

Third Annual Consignment Sale of
40 Holstein - Friesian Cattle

at SIMCOE at 1 o'clock,

Wednesday, February, 16th

Just north of the Air Line Station, at barns on "Lyn River Stock Farm."

The offering is females ONLY, and is by members of the Norfolk Holstein-Friesian Breeders' Club. Advs. of young sires in the club for sale will be found near the back of the catalogue.

TERMS—Cash or credit on bankable paper.

Send for catalogue to secretary of sale.

Wallace H. Mason, Simcoe, Ont. R.R. No. 4
James Dunlop, Auctioneer

SHIP YOUR
RAW FURS

To the Largest, most reliable and oldest house in Canada. We pay express and postage.

PROMPT RETURNS

We Want FOX, WOLF, SKUNK AND MUSKRATS
E. T. CARTER & CO., 84 Front St. East, TORONTO

When writing advertisers, will you kindly mention "The Farmer's Advocate."

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.

Divisions of Poultry Profits.

What do you consider would be a fair division of the poultry (chickens only) between ourselves and the farm man's wife, we supplying everything? All the work re the raising of same to be done by her.

J. M. M.

Ans.—It is considered that a good class of chickens, well cared for, will return a profit of one dollar per year, over and above the cost of feeding. Some flocks do even better than this, but with consistent and intelligent care there should be one dollar profit from each hen. The owner of the flock, and the man who supplies the feed, must bear in mind that the total income will be much in excess of this amount. We consider it fair for the woman doing the work to receive one-third of the increase and one-third of the eggs.

Blue Lice on Cattle.

Please publish in your next issue a remedy for killing large, blue lice on cattle. I have forty head, and they are all bothered with them.

F. D.

Ans.—If it is convenient to trim the backs of the cattle, it will make it easier to get rid of the lice. Special preparations now on the market and advertised in this paper are effective. If it is desirable to prepare a remedy at home, mix four parts of cement with one part of hellebore, and sprinkle on the cattle. A can with holes punched in the cover will serve as a sprinkler. If this preparation is put well over the back it will work itself down the side of the cattle. Do not turn the animals out in the rain for a few days after applying the cement and hellebore. If this fails, daub the animals with blue ointment back of the horns where these lice usually assemble. They will often be found in the small hollow back of the horns, and may be destroyed there, but the ointment is not so practicable for other parts of the body.

Feed To Fatten Hogs.

Kindly tell me what you consider would be the cheapest and best feed to buy to fatten a bunch of pigs. As I have to buy the feed, I would like your opinion. They are now about four months old. I think they would weigh about 70 lbs. I have plenty of skim milk.

D. McC.

Ans.—At the present price for grain, barley is a good buy. It is quoted at from 53c to 55c. per bushel, wholesale. It would be well, however, we believe, to mix with this a quantity of corn and shorts. Corn is quoted at 81c. to 82c. in a wholesale way. A few shorts should be mixed with these feeds, for they are highly carbonaceous. With plenty of skim milk, the necessity for protein feeds is somewhat lessened, but we think it profitable to use a few shorts or middlings. It might be possible to procure sprouted wheat, which, when ground, makes very good feed for hogs. Corn and barley, with a little shorts, along with skim milk, will make an excellent ration.

Gossip.

Attention is directed to the change of advertisement in this issue of S. A. Moore, breeder of dual-purpose Short-horns and high-class Shropshires. The bull formerly advertised has been sold. Mr. Moore's present offering will interest breeders. Look it up.

We call the attention of our readers to the advertisement, made by Lyndale Farms, Simcoe, Ont., in this issue. If you are going to plant an orchard this year, make an effort to get some of these good standard trees. Special care has been taken in the selection of the buds from which the trees grew. Get in touch, early, with P. E. Angle, Superintendent of these farms, Simcoe, Ont.

CLOVER SEEDS

Government Standard

We guarantee our seeds to suit you on arrival, or you ship them back to us at our expense. We can highly recommend the grades marked No. 2 as being exceptionally free of weeds and good for all ordinary sowing.

RED CLOVER Bush.
No. 1 Splendid Sample.....\$16.50
No. 2 Good for purity and color.. 15.00

ALSIKE
No. 1 Extra No. 1 for purity..... 12.50
No. 2 Extra pure and nice color.... 11.00

TIMOTHY
No. 1 Purity, No. 2 appearance.... 5.75

ALFALFA
Haldimand grown—No. 2 purity.. 17.00

Bags are 25c. each extra.
Cash must accompany order.
Ask for samples if necessary.
We also have O. A. C. No. 72 Oats at 75c. in 10 bushel lots.

The Caledonia Milling Co.
Limited

Haldimand Co. CALEDONIA, ONT.

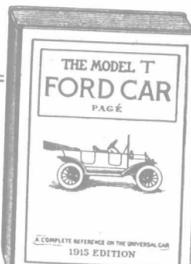
SEEDS

I have a nice stock of Ontario-grown seeds, as follows:

Red Clover
Alsiike **Timothy**
Alfalfa (Limited quantity)
Hungarian **Millet**
Seed Corn

All seeds Government Standard. Samples and prices gladly furnished. Ask for them.

S. G. VANCE
Wholesale and Retail
TILLSONBURG ONTARIO



THE MODEL T FORD CAR PAGE

COMPLETE REFERENCE ON THE FORD CAR 1915 EDITION

A New Complete Book

for every Ford Owner, Dealer, Salesman and Repairman.

300 (5x7) pages. Over 100 Specially Made Engravings and

Two Large Folding Plates. Price \$1.00.

The Model T Ford Car

Its construction Operation and Repair "Young Engineer's Guide" and other self-educational books—electric, mechanical, and agricultural. Also high-grade copyrighted Fiction. Send for catalogue.

Windsor Supply Co., Windsor, Ont.

Cotton Seed Meal

LINSEED MEAL AND FLAX SEED

H. Fraleigh, Box 1. Forest, Ont.

Corn That Will Grow

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

J. O. DUKE, RUTHVEN, ONT.

CLOVER SEEDS

Government Standard

We guarantee our seeds to suit you on arrival, or you ship them back to us at our expense. We can highly recommend the grades marked No. 2 as being exceptionally free of weeds and good for all ordinary sowing.

RED CLOVER Bush.
No. 1 Splendid Sample.....\$16.50
No. 2 Good for purity and color.. 15.00

ALSIKE
No. 1 Extra No. 1 for purity..... 12.50
No. 2 Extra pure and nice color.... 11.00

TIMOTHY
No. 1 Purity, No. 2 appearance.... 5.75

ALFALFA
Haldimand grown—No. 2 purity.. 17.00

Bags are 25c. each extra.
Cash must accompany order.
Ask for samples if necessary.
We also have O. A. C. No. 72 Oats at 75c. in 10 bushel lots.

The Caledonia Milling Co.
Limited
Haldimand Co. CALEDONIA, ONT.

SEEDS

I have a nice stock of Ontario-bred seeds, as follows:

- Red Clover
- Alsiike
- Timothy
- Alfalfa (Limited quantity)
- Hungarian Millet
- Seed Corn

All seeds Government Standard. Samples and prices gladly furnished. Write for them.

S. G. VANCE
Wholesale and Retail
Windsor, ONTARIO



THE MODEL T FORD CAR PAGE

COMPLETE REFERENCE ON THE GENERAL CAR 1915 EDITION

Large Folding Plates. Price \$1.00.

The Model T Ford Car

Construction Operation and Repair "Young Engineer's Guide" and self-educational books—electrical, mechanical, and agricultural. High-grade copyrighted Fiction. Send for catalogue.

Motor Supply Co., Windsor, Ont.

Linseed Meal

Linseed Meal and Flaxseed. Write for catalogue. Forest, Ont.

That Will Grow

Long-grown seed corn. Your money back if not satisfied. Forest, Ont.



The Satisfaction and Profits of Gardening

are just in proportion to the quality of the seeds you plant! If you are ambitious to produce prize-winning vegetables and record crops—or if you simply aim to keep your table supplied with the best—be sure to get

Ewing's Reliable Seeds

Forty-five years of success in amateur and market gardens have proved Ewing's to be sure in germination, vigorous in growth, true to name, and of choicest strains.

Our new 1916 Catalogue, with its handsome 4-color cover, is bigger and finer than ever. Write for a copy at once, (it's free) and if your dealer hasn't Ewing's Seeds, order from us direct.

The William Ewing Co. Limited
SEED MERCHANTS 48
McGill Street • • Montreal

BITTER LICK
MEDICATED
Salt Brick
Great Conditioner & Worm Destroyer

Bitter Lick is a compressed salt brick, medicated with roots, herbs, etc., in such proportion as will keep horses in excellent condition and free from worms. Bitter Lick keeps the appetite keen; all horses like it; tones the digestion and prevents colic. It has no cheap filler and takes the place of worm and condition powders, etc., keeps horses healthy for only one cent a week.

Ask your dealer or write for booklet to STEELE BRIGGS SEED CO., Winnipeg, Man. or WM. COOPER & NEPHEWS, Toronto, Ont.

HIGHEST PRICES PAID FOR
FURS - HIDES - WOOL
PRICE LIST, SPORTSMEN'S CATALOG AND TRAPPERS GUIDE, FREE FOR THE ASKING
JOHN HALLAM, LIMITED
NO. 3 HALLAM BUILDING - TORONTO

RAW FURS
Highest cash price paid for raw furs. Oldest in trade. Write for price list and tags—FREE.
C. H. ROGERS, WALKERTON, ONT.

Questions and Answers. Miscellaneous.

Sweet Clover.

1. Could you, or any of your readers, kindly inform me where I might procure a quantity of sweet clover seed, as I purpose sowing some this spring?
2. Would sweet clover be valuable as a pasture for sheep, or would they eat it off too close and kill it?
3. Would it thrive on soil plowed out of sod this spring and sown by itself?

W. T. R.

Ans.—1. You could get it from any of the seedsmen who, in season, advertise in these columns.

2. We have had no experience with sheep on the clover. If pastured on it for too long a time, they would likely eat it down too closely.

3. We would not advise sowing the clover on sod unless it can be worked down and all grass eliminated.

Scratches.

I have a stallion eight years old, loose in a box stall. He has something like scratches on both front legs, from fetlock to the knee. A dry scale comes off. What would be the cause, and what treatment would you recommend?

SUBSCRIBER.

Ans.—Scratches on the leg, between the fetlock and the knee or higher, is usually known as "mud fever." However, the causes of the disease are much the same as when the trouble appears farther down. High feeding and lack of exercise will encourage the disease, or the animal may be predisposed to scratches, and be troubled with them without any appreciable cause. In the case in question, we would consider the idle stallion very likely to contract such ailments. He should not be fed too well, and should be exercised regularly and often. The first thing to do is to remove the cause if possible. Give a purgative of 8 to 10 drams aloes and 2 drams ginger. Feed bran only until purgation ceases, and even then feed very little grain for some time. Follow up with 8 drams nitrate of potash (saltpetre) twice daily for a week or ten days. Apply hot linseed-meal poultices to the affected parts for two days and nights, changing the poultices about every eight hours. Then dress the parts three times daily with oxide-of-zinc ointment to which has been added 20 drops of carbolic acid to each ounce. Do not wash the legs. Allow some bran in the permanent grain ration, and give more exercise.

Calves Chew Wood—Clipping Horses.

1. I have four calves which are very bad for eating wood. They are running loose, and have a pail of salt and lime mixed together, of which they lick quite a lot. I feed them a fair amount of turnips, a little oat chop, straw, and some hay, but they are never very keen for turnips.
2. Would you prefer clipping horses this time of year? I have a team which has quite a lot of work to do, and they sweat very easy.

A. W.

Ans.—1. This depraved appetite is supposed to be due to a lack of something in the system. Salt and sifted hardwood ashes are often fed as a curative, yet the practice of chewing wood and bones, indulged in for a time, often becomes a habit or vice which is difficult to overcome. Feed salt, ashes, bone meal and lime, with a good mixture of feeds. When the calves go out on grass they may forget their abnormal cravings.

2. The question of clipping horses in winter must be looked at from many angles. No doubt while the animal is at hard work it will feel better if clipped, or well cared for at all times, there is danger of colds and coughs. Some good horsemen clip the body and allow the hair to remain on the legs of the horse. This they believe prevents scratches, etc. The nature of the work, and the demands upon the animals, should decide the question. If clipped, the owner must be prepared to blanket and protect them from cold.

CALDWELL'S Feeding for Profit

Questions relating to the proper and economical feeding of horses, cattle and poultry are all fully

Explained Free in These Books

It will pay you to know all about these famous lines, that are Government-guaranteed and used by the biggest men in the business.

- "Caldwell's" Molasses Meal
- "Caldwell's" Molasses Horse Feed
- "Caldwell's" Alfalfa and Molasses Horse Feed
- "Caldwell's" Molasses Dairy Meal
- "Caldwell's" Dry Dairy Meal
- "Caldwell's" ^{Cream Substitute} Calf Meal
- "Caldwell's" Molasses Hog Feed
- "Caldwell's" Mixed Chop
- "Caldwell's" Poultry Laying Meal
- "Caldwell's" Poultry Scratch Feed
- "Caldwell's" Chick Feed
- "Caldwell's" Growing Mash
- "Caldwell's" Developing Feed

Mark a tick in the squares opposite the feeds you are interested in. This puts you under no obligation. By return mail you will receive booklets, free. Do it now while the subject is fresh in your mind.

Name.....
Address.....

THE CALDWELL FEED & CEREAL CO., Ltd., Dundas, Ont.

STANDARD FEEDS

Unreserved Sale by Auction OF THE FAMOUS "FAIRVIEW FARMS" STOCK OF CLYDESDALES, SHORTHORNS and SHROPSHIRE

The property of the estate of the late DON. J. CAMPBELL, of Woodville, will be held at the farm on

Friday, February 18th, 1916

when the entire stock will be sold absolutely without reserve. The stock consists of imported and Canadian bred registered Clydesdale mares and fillies and a number of first-class geldings, 20 head of registered Shorthorn cows, heifers and bulls of the famous "Mysie" and "Strathallan" families, and a number of splendid grades, together with 70 head of imported and home-bred breeding and show Shropshires. The flock that made "Fairview" famous in the show yards all over the continent. "Bred up to a standard, not down to a price," for the past 35 years. This sale offers an opportunity to breeders to improve their flocks with the very best stock obtainable on the continent at absolutely unreserved prices.

Woodville is 65 miles from Toronto on the Midland Division, G. T. R. Two trains each way daily. Conveyances will meet trains on day of sale. Sale at 12.30 o'clock sharp. Lunch served.

Terms cash. Purchasers from a distance will be expected to have checks marked or a line of credit from their bank.

Catalogues of the live stock may be had on application to the executors.

N. W. ROSS, Cannington, Ont. JOHN P. CAMPBELL, Woodville.
GEO. JACKSON, Auctioneer

Do You Wish to Buy or Sell Western Ontario Property?

If so, it will pay you to get in touch with our firm. We have hundreds of properties of all kinds (farms, city, town, village and business) for sale and exchange. BUYERS will PROFIT by getting lists of our places.

Sellers can make no mistake in placing their property in our hands for sale. Now is the time to buy your farm to get spring possession. Get in touch with our nearest agent.

A postal to us will bring his address. We can and will help you. Dozens of exchange propositions on our lists. State your requirements.

The Western Real Estate Exchange, 78 Dundas Street, London, Ont.

We Weave Our Conscience Into Every Rod of PAGE FENCE

MAKING good fence is a clear, straight matter of conscience and good business. We could make more profit per rod if we didn't build fence to last—but it's the durability of our fence that has built up the biggest wire fence business in Canada.

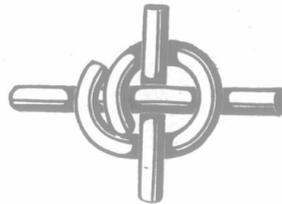
There are so many ways a fence manufacturer can "skimp"—a little lighter wire for the locks; a little lighter galvanizing; a wire slightly under full gauge—and the money-making trick is done.

But the get-rich-quick Fence House has a hard time getting a hearing where Page Fence is known. For the name "Page" has come to

mean so much with most men who buy fence that its reputation far outweighs the temptation of lower prices.

As a matter of fact, Page prices are down to the fine point—down as low as you dare pay if you want a fence that will last. They've been brought down by large output and our factory-to-farm method of selling.

If you want "lifetime" fence at the price of mere ordinary fence send your next order to Page. By writing the Page branch that is nearest to you, you will get immediate shipment with freight prepaid if your order amounts to \$10.00 or more.



We cannot make ALL the fence—so we "make the best of it."

PRICE LIST				
No. of bars	Height	Stays inches apart	Spacing of horizontals	Price in Old Ontario
6	40	22	6-7-8-9-9	28
7	40	22	5-5-7-7-8	30
7	48	22	5-6-7-9-10-10	31
8	42	16	6-6-6-6-6-6	37
8	47	22	4-5-5-7-8-9-9	35
9	48	22	4-5-5-7-8-9-9	38
9	48	16	6-6-6-6-6-6-6	40
9	52	22	4-4-5-5-7-8-9-9	40
9	52	16	4-4-5-5-7-8-9-9	43
10	48	16	3-3-3-4-5-7-7-8	45
10	48	12	3-3-3-4-5-7-7-8	49
10	52	16	3-3-3-4-5-7-8-9-9	45
11	55	16	3-3-3-4-5-7-8-9-9	49

New Ontario Prices on Request ALL FULL No. 9 GAUGE

THE PAGE WIRE FENCE COMPANY LIMITED.

1143 King W. Toronto
517 Notre Dame St., Montreal
39 Dock St., St. John

Questions and Answers. Miscellaneous.

Will Grain Lose Strength.

Will grain of any kind lose strength, if ground and left in bulk for any length of time.

J. W. A.

Ans.—It should not lose strength unless it heats or becomes musty. Ground grain is difficult to keep in good condition in large quantities for long periods.

Seeding Down—Varieties.

1. Would it be all right to sow oats on corn ground, and seed down with clover and timothy? If so, how much per acre of oats, and how much clover and timothy?

2. Are oats a good thing to seed down with?

3. Which do you think is the best kind of oats? Is the Banner good?

4. Which is the best barley?

5. Would Marquis wheat be good for my locality?

G. H. B.

Ans.—1. Oats should do well on corn ground. Sow about two bushels per acre, with a heavy seeding of clover and timothy, say, 10 to 12 lbs. clover and 3 to 5 lbs. timothy per acre.

2. Not generally considered so; yet, good stands of clover are often obtained in the oats. They generally grow a little too rank, and if your land is rich, it might be better to sow the oats rather thinly.

3. Banner is a good variety. Of course, soil must be considered, too. O. A. C. No. 72, has been the best yielder in Ontario.

4. O. A. C. No. 21.

5. If your land is strong,—yes.

Growing Beans in Nipissing.

1. What kind of land is best for white beans, and how should it be worked?

2. What time in spring should beans be sown?

3. Is it advisable to sow beans on a large scale in Nipissing District, where we are subject to frosts in June?

G. S. McL.

Ans.—1. Beans do well on rich loam soils, which are well underdrained either naturally or artificially. The usual practice is to plow the land in the fall, although spring plowing gives very good results. The soil should be cultivated frequently in the spring to conserve moisture and destroy weeds and make the soil fairly firm underneath, but fine and mellow on the surface. Beans are usually planted in rows about twenty-eight inches apart. This allows for thorough cultivation until time of blossoming, when cultivation should cease.

2. Time of planting will depend on various circumstances, as to locality or quality of soil. Under ordinary conditions, beans are sown the last week of May or the first week in June.

3. We doubt the advisability of going into bean-growing on a large scale in a district that is subject to June frosts.

Baby Beef—Spreading Manure in Winter.

1. What age and weight should baby beef be when marketed? I sold one last fall weighing 700 lbs., at eight months of age, for seven cents per pound. Should I have received more per pound?

2. Will prices for horses be better in the spring?

3. Would it do to spread manure in the winter, on plowed ground, for roots?

A. P. G.

Ans.—1. Baby beef is usually marketed at from twelve to fifteen months of age, when 900 to 1,000 lbs. is considered a good weight. Regarding the price, one would have to be guided by market reports at time of shipping.

2. When the spring work opens up, the probability is that there will be a demand for horses, which would tend to increase prices.

3. Many successful farmers make a practice of spreading manure during the winter, for roots or spring crops. The advisability depends on the nature of the soil. On heavy clay, poorly underdrained, the manure might keep the ground wet and soggy too late in the spring.

Clover Seeds

(Government Standard)

	Per Bus.
No. 1 Red Clover.....	\$17.00
No. 2 Red Clover.....	16.00
No. 1 Alsike.....	13.00
No. 2 Alsike.....	12.00
No. 1 Alfalfa.....	16.00

(Northern grown)

No. 2 Timothy..... 5.50
(This seed grades No. 1 Purity).

No. 3 Timothy..... 5.00

White Blossom Sweet Clover.. 12.50

Terms cash with order. Bags extra at 25c. each. On all orders east of Manitoba of \$25 or over we pay the freight.

We guarantee seeds to satisfy or ship back at our expense. Ask for samples if necessary.

TODD & COOK
Seed Merchants Ontario
Stouffville



Use a Page Governor Pulley

Highly satisfactory to connect the gasoline engine to Cream Separator, Washing machine etc. Absorbs engine vibration, gives the desired speed, starts the Separator gradually—as by hand. All metal, no levers, very strong, simple. Price \$7.50 F.O.B. Toronto or freight prepaid if shipped with an engine.
The Page Wire Fence Company, Limited,
1143 King Street, West, Toronto

Ear Tags FOR STOCK

Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog and samples free on request.
F. S. Bureh & Co., 173 W. Warr St. Chicago

STALLIONS AND MARES

Percherons and Clydesdales

Seven Percheron stallions, all prizewinners. Two extra good imported Percheron mares.

Five good young Clydesdale stallions, both imported and Canadian bred. Also imported Clydesdale mares.

Every horse for sale and at close prices. Stallions all guaranteed and mares all in foal.

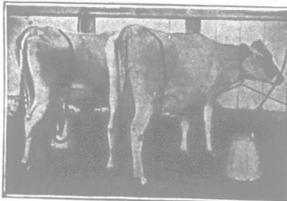
Come, write or 'phone.

Hodgkinson & Tisdale

L.-D. 'phone 18

Beaverton, Ont.

HINMAN THE UNIVERSAL MILKER



MILK YOUR COWS With a HINMAN

It solves the HELP PROBLEM: \$50 Per Unit. One horse power runs it. Write

H. F. Bailey & Son
Dept. H, Galt, Ontario, Can.

Spruce Glen Shorthorns

When in want of Shorthorns visit our herd. We have 70 head to select from: Minas, Fames, Miss Ramsdens, Florences, Emily, etc. Many of them one and two year-old heifers. Also several young bulls of breeding age—level, thick, mellow fellows, and bred just right.

JAMES McPIERSON & SONS, DUNDALK, ONT.

Questions and Answers.
Miscellaneous.

Will Grain Lose Strength.

Will grain of any kind lose strength, if ground and left in bulk for any length of time.
J. W. A.

Ans.—It should not lose strength unless it heats or becomes musty. Ground grain is difficult to keep in good condition in large quantities for long periods.

Seeding Down—Varieties.

1. Would it be all right to sow oats on corn ground, and seed down with clover and timothy? If so, how much per acre of oats, and how much clover and timothy?

2. Are oats a good thing to seed down with?

3. Which do you think is the best kind of oats? Is the Banner good?

4. Which is the best barley?

5. Would Marquis wheat be good for my locality?
G. H. B.

Ans.—1. Oats should do well on corn ground. Sow about two bushels per acre, with a heavy seeding of clover and timothy, say, 10 to 12 lbs. clover and 3 to 5 lbs. timothy per acre.

2. Not generally considered so; yet, good stands of clover are often obtained in the oats. They generally grow a little too rank, and if your land is rich, it might be better to sow the oats rather thinly.

3. Banner is a good variety. Of course, soil must be considered, too. O. A. C. No. 72, has been the best yielder in Ontario.

4. O. A. C. No. 21.

5. If your land is strong,—yes.

Growing Beans in Nipissing.

1. What kind of land is best for white beans, and how should it be worked?

2. What time in spring should beans be sown?

3. Is it advisable to sow beans on a large scale in Nipissing District, where we are subject to frosts in June?
G. S. McL.

Ans.—1. Beans do well on rich loam soils, which are well underdrained either naturally or artificially. The usual practice is to plow the land in the fall, although spring plowing gives very good results. The soil should be cultivated frequently in the spring to conserve moisture and destroy weeds and make the soil fairly firm underneath, but fine and mellow on the surface. Beans are usually planted in rows about twenty-eight inches apart. This allows for thorough cultivation until time of blossoming, when cultivation should cease.

2. Time of planting will depend on various circumstances, as to locality or quality of soil. Under ordinary conditions, beans are sown the last week of May or the first week in June.

3. We doubt the advisability of going into bean-growing on a large scale in a district that is subject to June frosts.

Baby Beef—Spreading Manure in Winter.

1. What age and weight should baby beef be when marketed? I sold one last fall weighing 700 lbs., at eight months of age, for seven cents per pound. Should I have received more per pound?

2. Will prices for horses be better in the spring?

3. Would it do to spread manure in the winter, on plowed ground, for roots?
A. P. G.

Ans.—1. Baby beef is usually marketed at from twelve to fifteen months of age, when 900 to 1,000 lbs. is considered a good weight. Regarding the price, one would have to be guided by market reports at time of shipping.

2. When the spring work opens up, the probability is that there will be a demand for horses, which would tend to increase prices.

3. Many successful farmers make a practice of spreading manure during the winter, for roots or spring crops. The advisability depends on the nature of the soil. On heavy clay, poorly underdrained, the manure might keep the ground wet and soggy too late in the spring.

A Great Canadian Institution

Welding Canada east and west. Planning always for the future, the Canadian Pacific Railway building for permanency, of course, uses Natco Hollow Tile. The same enduring vitrified clay tile sets the standard for silos in Canada. Will last to be admired by your son's grandson. It will pay you, too, to build for permanency—it's economy. Erect a



C. P. R.'s Great Offices in Toronto—fireproofed with Natco Hollow Tile

Natco Imperishable Silo
"The Silo That Lasts For Generations"

Of salt-glazed hollow tile that are airtight, and absorb no moisture. It is weatherproof, decayproof, verminproof, fireproof and frost-resisting. No danger of blow-downs or of cracks from severest silage pressure. A perfect preserver of the dairyman's most valuable feed. Economical, convenient and handsome. Needs no repairs or adjusting—and no painting. A permanent structure. The Canadian farmer's best investment.



Whether it be a skyscraper, silo or barn, if built of Natco Hollow Tile it will last for generations.

Our catalog describing the Natco Imperishable Silo is yours for the asking. Also send for our splendid new book, "Natco On The Farm." Describes all types of farm buildings, drain tile, etc. Illustrated from photographs. Gives construction details. Get both books before you build.

Natco Silo Wall. Note aerated shell providing firm anchorage for mortar joints.

National Fire Proofing Company of Canada, Limited

1202 Dominion Bank Building
Toronto Ontario

Questions and Answers.
Miscellaneous.

More About Sweet Clover.

1. Will sweet clover grow on sharp land if well fertilized?

2. Is it a weed? Is it hard to plow up when it gets in the ground? Where can I get the seed?

3. Will it make good pasture?

4. How many pounds of seed to the acre?

5. Will it make good feed mixed with silage?
H. S. C.

Ans.—1. Yes.

2. It is not a weed under judicious cultivation. Its roots cause the land to plow fairly stiffly. Seed may be obtained from advertisers of seeds who use these columns.

3. Properly handled; yes.

4. Sow 20 lbs. to the acre.

5. It is good feed either green or well cured, and fed with good corn silage should prove all right. Some report difficulty in getting cattle to eat it.

Grain Beetles.

Would you kindly tell me the name of the enclosed bugs, and what to do to get rid of them? I think they came from the store in meal or flour, and are now in everything. They are very bad in the kitchen cabinet. Shall be very glad to know what to do.
MRS. W. G. M.

Ans.—The tiny brown beetles attacking the meal and troublesome in the Pantry and kitchen are known as the saw-toothed grain beetle. They were doubtless introduced into the home through the purchase of infested meal or flour. These are favorite foods, though sometimes they will attack such things as cornstarch, macaroni, rice, dried fruit, and possibly even dried meats.

To control them, it will be necessary, under the circumstances, to have a complete cleaning up of the kitchen cabinet and pantry, and such places as they frequent. Everything should be taken off the shelves and out of the cabinet; then, when this is done, it will be wise to spray a little kerosene or gasoline into all the crevices or cracks where washing

KING SEGIS PONTIAC PAUL 15940

WE have for sale a few sons of the above bull, ready for service, and whose dams are large heavy-producing cows. Here is an opportunity to get the blood of KING SEGIS and KING OF THE PONTIACS at reasonable prices.

Correspondence solicited.

Also Berkshire and Yorkshire Swine

LARKIN FARMS Queenston Ontario

High-Class Clydesdale Mares and Fillies

a big selection of stallions.

We have a big selection of Imp. Clyde. Mares and Fillies and others from Imp. Sire and Dam. Buy now, for another year will see them away up in price. We have always

SMITH & RICHARDSON

Columbus, Ont.,

Myrtle, Brooklin and Oshawa Stations

Percherons and Holsteins

unsurpassed. In Holsteins we have for sale, cows, heifers and young bulls, come and make your selection.

W. G. HILL & SON, Queensville, Ontario, P.O. and Station.

Quality the best

IMP. CLYDESDALES IMP.

Breeding Unsurpassed

Strengthened by my Nov. importation I can now supply Clyde stallions with the big size required, the flashiest kind of quality and the most popular breeding. Also Clyde mares and one right choice French coach stallion.

JAMES TORRANCE, Markham, Ont.

Up to a Ton in Weight

CLYDESDALES Imp.

Character & quality

If you are looking for a ton stallion on faultless underpinning, bred to produce the big high-priced horses, come and see what I have, there are none better and none priced easier.

WM. COLQUHOUN, MITCHELL, ONT.

Clydesdale Stallions and Mares

We are now offering for sale a number of extra good stallions, and mares in foal. Write or call on

JOHN A. BOAG & SON, Queensville, Ontario.



The Maples Herefords.

For this season we are offering, without doubt, the best bunch of young stuff we ever handled, both sexes, including our imported herd bull, 3 years old, undefeated this year, and a sure stock-getter. Prices right.

W. H. & J. S. HUNTER, Orangeville, Ontario

ORCHARD GROVE HEREFORDS

Have several young bulls and heifers for sale. Satisfaction guaranteed.

L. O. CLIFFORD, Oshawa, Ont.

Ayrshires

Sir Edwin de Melrose = 46879 = our splendid stock bull for sale, also young bulls and bull calves from good cows. Two very pretty stock cows for sale, right in their prime with calves at their side. Write for full particulars or come and see them.

MELROSE PARK FARM—S. Sedman, Manager, R. R. No. 2, Port Hope, Ont.

When writing advertisers, will you kindly mention "The Farmer's Advocate."

A "365" Day Liniment

YOU ARE SAYING TO YOURSELF—

"If I only knew of something to stop that Backache—help my Rheumatism—cure my Neuralgia, I would send and get it at once."

Get It. Gombault's Caustic Balsam will give you immediate Relief. A Marvelous Human Flesh Healer and a never failing remedy for every known pain that can be relieved or cured by external applications. Thousands testify to the wonderful healing and curing powers of this great French Remedy. A Liniment that will soothe, heal and cure your every day pains, wounds and bruises.

Gombault's Caustic Balsam
The Great French Remedy
Will Do It

It Helps Nature to Heal and Cure. Penetrates, acts quickly, yet is perfectly harmless. Kills all Germs and prevents Blood Poison. Nothing so good known as an application for Sores, Wounds, Felons, Exterior Cancers, Burns, Carbuncles and Swellings.

"I had a bad hand with four running sores on it. The more I doctored the worse it got. I used Caustic Balsam and never needed a doctor after that."
—Ed. Rosenberg, St. Ansgat, Ia.

Mrs. James McKensie, Edina, Mo., says "Just ten applications of Caustic Balsam relieved me of gonorrhea. My husband also cured eczema with it, and we use it for corns, bunions, colds, sore throat and pain in the chest."

A Safe, Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Rheumatism and Stiff Joints. Whenever and wherever a Liniment is needed Caustic Balsam has no Equal.

Dr. Higley, Whitewater, Wis., writes "I have been using Caustic Balsam for ten years for different ailments. It has never failed me yet."

A Liniment that not only heals and cures Human Flesh, but for years the accepted Standard veterinary remedy of the world.

Price, \$1.50 per bottle at all Druggists or sent by us express prepaid. Write for Free Booklet and read what others say.

Cleveland, O. THE LAWRENCE-WILLIAMS CO. Toronto, Ont.

or brushing would not remove the insects. If there is very little meal or other substances so that the loss would not amount to much, the easiest thing to do will be to collect this all and throw it into the furnace or stove, but if there is considerable, and one would not like to lose it, then all infested substances may be put together into a tight barrel or milk-can, and all covers of receptacles removed so that the insects will be exposed to fumes; for instance, if there are any tin boxes, the covers must be taken off the boxes; or if there are any paper bags, it would be wise to open the bags. On the top of all these things in the barrel or milk can there should be placed carbon bisulphide in the proportion of about two or three ounces to every cubic foot of space. As the fumes of this are unpleasant, and as there is danger of explosion if there is any fire in the same room, the can should be placed outside on the south side of the house, and not treated except on a warm day, because the carbon bisulphide does not work nearly so well on a cold day. After putting the carbon bisulphide into the top part of the can in a saucer or any other flat dish, cover the can or barrel over as tightly as possible with wrapping paper and a blanket to keep the fumes in, and leave it for about 12 hours. Be cautious about bringing any fire near the can until all the gas has completely disappeared. Sometimes small parcels containing meal could be very easily treated by putting them in the oven and heating them up to a temperature of about 150 or 160 degrees Fahrenheit. This will kill eggs and everything.
L. C.

The Spice of Life.

Charles M. Schwab, who was elected to the Cornell University Board of Trustees last fall, was introduced as "baby member of the Board" at the trustees' luncheon recently. Mr. Schwab said that in his new position as trustee he felt like a soldier he once met who wore a string of medals across his breast. "I inquired how he accumulated them," said Mr. Schwab, and he replied, "Well, sir, the big one on my left shoulder was given me by mistake, and the others all came because I had that one."

Why Not Cut Off the Two Cars of Filler?

It takes 400,000 cars to carry Fertilizers to our farmers every season. Forty per cent. — 2 cars out of 5—is Filler. Order higher grades and Nitrate of Soda for your active Nitrogen and save freight.

The greater producing capacity of high-grade fertilizers without much filler means bigger out-bound tonnage for railroads and bigger purchases by farmers.

Send for "Cost of Available Nitrogen."

DR. WM. S. MYERS, Director 25 Madison Ave., New York



Deep Seedbeds Properly Prepared

That's what you get when you use the deep-cutting, double-turning, leveling and compacting

"Acme" Pulverizing Harrow

The coulters do the work—you should see them mix the soil, cut clods, weeds and trash and make the whole into a firm yet mellow seed-bed several inches deep.

Duane H. Nash Inc.

30 Elm Street No. 23 Millington New Jersey 6 1/2 ft. wide



Shorthorns high class young bulls from 7 to 18 months, 15 young cows and heifers, straight, smooth big kinds of choicest breeding including several families that have produced dairy test winners.

Stewart M. Graham Long distance Phone, Lindsay, Ont.

SHORTHORNS

Three bulls, 11 months, a number of younger cows with their calves, cows in calf and yearling heifers for sale. Good individuals. Good Pedigrees. Inspection solicited.

J. T. GIBSON, DENFIELD, ONT.

Shorthorns Our Shorthorns are bred and developed for big milk production. If you want a Stock bull bred that way, we have several; also Clyde stallion rising 3, won 2nd at Guelph the other day in a big class.

SHORTHORN BULLS AND HEIFERS—Have eight bulls and ten heifers, from eight to twenty months, for sale. The best of breeding and prices moderate. Write me your wants before you buy. Oshawa Bell phone. C. E. BAIN, Woodbine Stock Farm, Taunton, Ont.

Choice stock to offer in SHORTHORNS, POLAND CHINA AND CHESTER WHITES. First prize Poland China herd at Toronto and London, 1915. Pairs not akin—bred from winners. Prices moderate. Geo. G. Gould, No. 4, Essex, Ont.

BURNFOOT STOCK FARM, Caledonia, Ont. Breeders of Heavy Milking dual purpose Shorthorns. Present offering a choice roan bull, born April 9th, 1915, a grandson of Dairymaid, 80086, the leading cow in the R.O.P. for Shorthorns in Canada. S. A. MOORE, Prop., Caledonia, 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, ONT.

FLETCHER'S SHORTHORNS Our herd of pure Scotch Shorthorns are mostly direct from imp. stock. Three very choice bulls for sale, also females. GEO. D. FLETCHER, R. R. 1, Erin, Ont. L.-D. Phone, Erin Sta. C.P.R.

Shorthorns for sale; a few bulls one year and over, reds and roans. Choice quality with first-class pedigree. Write for particulars at once. N. A. McFarlane, R. No. 2, Dutton, Ont. Elgin Co.

Gossip.

Anyone interested in breeding Holsteins should procure a catalogue of the Southern Ontario Consignment Sale Co., describing the offerings which will be brought out at Tillsonburg on Tuesday, Feb. 8, 1916. This sale occurs only a few days after the annual meeting of the Holstein-Friesian Association at Toronto, making it convenient for those attending the annual meeting to also visit the district where these cattle are produced in great numbers.

An auction sale, including thirty head of registered Holstein cattle, will be held at Alfalfadale Stock Farm, Tillsonburg, Ont., Feb. 15, 1916. Breeders cannot afford to neglect giving this sale their consideration, for in it are included many exceedingly well-bred animals. A half-interest in the herd bull, FINDERNE VALDESSA ORMSBY FAYNE, will be offered. In his parentage on the dam's side are three cows with an average of over 33 lbs. butter in seven days. Among females to be offered is a 19.2-lb. two-year-old granddaughter of King of the Pontiacs. Another two-year-old is a daughter of a 25.5-lb. cow, and a \$10,000 bull. Another is a daughter of Inka Sylvia Beets Posch. A daughter of Roxie Posch, winner at Guelph, 1914, will be sold. There are fourteen cows and heifers due to freshen in March and April. There are seven bulls fit for service. Write to the proprietor, Wilbur C. Prouse, R. R. No. 3, Tillsonburg, Ont., for a catalogue.

Preparations are being made on the farm of C. E. Trebilcock, R. R. No. 6, London, Ont., for the great dispersion sale of fifty registered Holsteins and three registered Jersey cows, on Thursday, Feb. 10, 1916. The farm is situated two miles from Pottersburg, and four miles from London. The farm is very accessible, however, for the train from Stratford will be met at Pottersburg, and those coming to London should take a Dundas-street car and get off at Asylum side road, where they will be met and conveyed to the farm. The stock bull, which will be sold on the day of the sale, is King Lyon's Korn-dyke, a son of that great bull, King Lyon's Hengerveld. A well-prepared catalogue has been ready for some time, and anyone interested in Holsteins should secure one of these catalogues at once and see if there is not something in it that would make a valuable addition to the herd.

Tobacco Seed Beds.

It is recognized by authorities that in the growing of tobacco the quality of the leaf produced depends much on the manner in which the plants are started. It is realized also that expense can be saved by doing this in the best way. For six years the Experimental Farms have been investigating the problem of tobacco culture, and in order to give growers the advantage of the lessons learned, there has been issued a bulletin entitled "Tobacco Seed Beds." It is numbered 21 of the Second Series. This pamphlet of 51 pages, prepared by F. Charlan, Chief of the Tobacco Division, treats the subject in six parts under the following heads: Types of Beds, The Soil and Seed Bed, Shelters, Seed Sowing and Maintenance of Bed, Diseases, and The Making of a Hot-Bed. This bulletin, which is generously illustrated, is free to those who apply for it to the Publications Branch, Department of Agriculture, Ottawa.

Beautiful Walls For Your Home Sanitary, Fire-Proof, Inexpensive

Make your home more attractive, and protect it from fire with these beautiful, sanitary

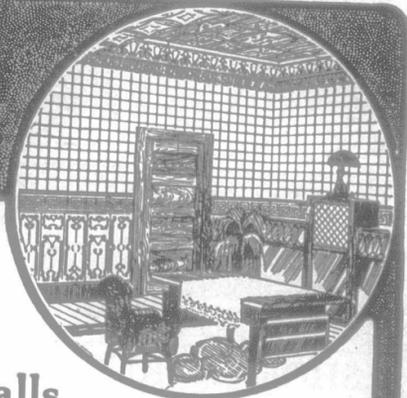
"Metallic" Ceilings and Walls

They will out-last the building and are very inexpensive. They can be brightened from year to year with a little paint at a trifling cost. Made in innumerable beautiful designs suitable to all styles of rooms. Can be erected over old plaster as well as in new buildings. Write for catalogue.

We manufacture a complete line of Sheet Metal Building Materials.

THE METALLIC ROOFING CO., LIMITED

King and Dufferin Sts., TORONTO 797 Notre Dame Ave., WINNIPEG



GREAT AUCTION SALE

45 Head of Scotch Shorthorns 45

By Public Auction without reserve on

Friday, at 1 p. m., February 18th, 1916

AT UNION STOCK YARDS, WEST TORONTO, ONT.

Having recently purchased the entire herd of Shorthorns from Mr. John Milton, of Brantford, Ont. I have decided to sell, without reserve, a number of these animals, and a selection from the Rosedale Farm herd. The offering includes four imp. cows and one imp. bull, and many from imp. sire and dams of the best families obtainable. A number of these were bred by H. Cargill & Son, Cargill, Ont.

THERE ARE 15 BULLS AND 30 FEMALES

cows in calf and cows with calves at foot, together with a choice lot of young heifers and bulls. These animals are in good breeding condition, and not specially fitted for a sale, but there are some show animals of high order. There will be one of the best young bull calves, sired by the great champion and sire of champions, Gainford Marquis, and also the dam of this calf, being one of the best cows offered to the public in recent years. Also heifers by such well-known show and breeding bulls as "Browndale" and "Trout Creek Wonder." This will be a great opportunity to secure a show animal, a herd header, some money makers or foundation stock.

Write for catalogue.

J. K. McEwen } Auctioneers J. M. Gardhouse, Weston, Ont. Capt. T. E. Robson }

20 IMPORTED BULLS

These imported bulls, along with 10 home bred bulls may now be seen at our farms. There are some choice ones among them. We also imported four cows and a heifer, all of which are forward in calf. An invitation is extended to anyone interested in this class of stock to visit us at any time. Correspondence will receive our most careful attention.

Burlington Jct. G. T. R.

J. A. & H. M. PETTIT, Freeman, Ont.

Robert Miller Still Pays the Freight—And he is offering in Shorthorns some of the best young bulls and heifers that can be produced. Young bulls fit for service, heifers fit for service and younger, and some in calf. They are of the best Scotch families, and some of them from great milking families. They are in good condition and made right, just what you want to make a proper foundation for a good herd, and suitable to improve any herd in the land. They will be priced so that you can afford to buy, if you will tell me what you want. Our business has been established 79 years, and still it grows. There is a reason. ROBERT MILLER, Stouffville, Ontario

SHORTHORNS OF SHOW-RING QUALITY

We have this year the best lot of young bulls we ever bred from the famous sire, Mildreds Royal, Sr. Calves, Matchless and Emmelines, they are all of show-ring calibre. GEO. GIER & SON, R.M.D. WALDEMAR, ONT., P.O. AND STATION

Meadow Lawn Shorthorns We are offering a select lot of Scotch bulls and heifers, from 10 to 18 months old, from the Claret Wimples and Marth, Roan Lady families. Sired by Proud Monarch No. 78792 by Blood Royal (Imp.) You are invited to inspect this offering. Bell telephone. G.T.R. and C.R.R. F. W. EWING R. R. No. 1, Elora, Ontario

WOODLAND HORSES AND BROWN SWISS CATTLE We are now offering for sale the Clydesdale Stallions, Lord Charming, Imp. [2204], Barons Charm, Imp. [9238]. The Hackney Stallion, Warwick Model, Imp. 304. Two registered Clyde. Mares. High-class Shetland Ponies, and Brown Swiss bulls of serviceable age. RALPH BALLAGH & SON, Guelph, Ont. The Old Sorby Farm

Walnut-Grove Shorthorns Sired by the great sire Trout Creek Wonder and out of Imp. cows and their daughters of pure Scotch breeding and others Scotch topped. For sale are several extra nice young bulls and a few heifers. Let us know your wants. DUNCAN BROWN & SONS, R. M. D. Shedden, Ont., P. M. & M. C. R.

SHORTHORNS and SHROPSHIRE

With 125 head to select from, we can supply young cows in calf, heifers from calves up and young bulls from 9 to 18 mos. of age, richly bred and well fleshed. In Shropshires we have a large number of ram and ewe lambs by a Toronto 1st prize ram high-class lot. T. L. MERCER Markdale, Ontario

PLEASANT VALLEY FARM SHORTHORNS

Your opportunity to buy a good shorthorn bull as a herd header or to raise better steers is right now. We have ten good ones for either purpose by imp. Loyal Scot, also several cows and heifers. Write us before buying. GEO AMOS & SONS, Moffat Station, Ont. C.P.R. (11 miles east of Guelph.)

THE AULD HERD

Two good young bulls for sale, one fourteen and one seventeen months old, also a couple younger. Intending purchasers met at station on request.

A. F. & G. Auld, R. R. 2, Guelph, Ont.

Escana Farm Shorthorns

For Sale—15 bulls 8 to 14 months old, several of them prize-winners at Toronto and London, sired by the noted imported bulls Right Sort and Raphael. Also for sale—20 heifers and cows of choice breeding and quality for show or foundation purposes. State your wants and we will send copy of pedigree and prices. Mail orders a specialty, satisfaction guaranteed.

MITCHELL BROS. Burlington P.O., Ontario
Jos. McCrudden, Manager. Farm ¼ mile from Burlington Jct.

SHORTHORNS AND CLYDESDALES

10 Bulls serviceable age, all good ones (some herd headers) and are offering females of all ages. Have a choice lot of heifers bred to Clansman—87809—; also four choice fillies all from imported stock A. B. & T. W. DOUGLAS Long-Distance Phone STRATHROY, ONTARIO

GLENGOW SHORTHORNS AND COTSWOLDS
Pure Scotch in breeding, we have an exceptionally choice lot of bulls for this season's trade, ranging in age from 8 to 15 months; big mellow fellows and bred in the purple. Also Ram and Ewe lambs of first quality.
Wm. Smith & Son, Columbus, Ont. Myrtle C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.

QUALITY AND PRODUCTION are combined in the dams of the young bulls for sale; dams average from 25 to 31 lbs. butter in 7 days. Also females of all ages for sale.

M. L. HALEY SPRINGFORD, ONT. M. H. HALEY

Dumfries Farm Holsteins Think this over, we have 175 head of Holsteins, 50 cows milking, 25 heifers due to calve in the fall and 40 heifers from calves up to 2 yrs. as well as a dozen yearling bulls, and anything you may select is for sale. Breeding and individuality the very best.
S. G. & EARL KITCHEN, St. George, Ont.

Pioneer Farm Holstein Herd Offers a handsome bull 14 months old, ¾ white, from Duchess Aaggie Wayne Mechthilde, at 1 yr. 11 mths. 2 dys. 16,878 lbs. butter in 7 dys., and 16,700 lbs. milk in 1 yr. in R.O.P. Another from a 20,000 lbs. cow, also other bulls of like breeding all sired by Canary Hartog whose 3 nearest dams average 30 lbs. butter in 7 dys. and 108 lbs. milk in one day. Write for prices or come and see them.
Walburn Rivers, R. R. No. 5, Ingersoll, Phone No. 343 L., Ingersoll Independent.

When writing advertisers, will you kindly mention "The Farmer's Advocate."

Gossip.

AYRSHIRE CHAMPIONS IN 1915 IN RECORD OF PERFORMANCE.

Of the 188 cows and heifers that have registered in the Record of Performance test in 1915, a large number exceeded the 10,000-pound figure for milk and over 400 pounds of fat. Only in the three-year-old class was the record broken, and by the heifer, Milkmaid of Orkney—39834—, with 14,060 lbs. milk and 534 lbs. fat. She is owned by Harmon McPherson, Orkney, Ont., who wins a silver cup given by the Ayrshire Association on her production, and also on the winner of the four-year-old class. W. C. Tully, Athelstan, Que., is also a winner of two of these cups, in the mature and two-year-old classes. The basis of awarding these cups is one point for every pound of milk over and above the amount required to qualify, twenty-five points for every pound of fat over and above the amount required to qualify, and ten points for every day between the date of freshening after calving and the end of the fifteen-month period.

GLENHURST AYRSHIRES.

Still at the top in the matter of big production and show-calibre quality, the famous Glenhurst herd of Ayrshires owned by James Benning, of Williamstown, Ont., was probably never quite so strong in merit as now, numbering this winter 75 head. Many of the breeding cows are imported, and many of the others are daughters of theirs, while practically all the others are of the great, old, Floss strain, than which there is no better in this country. Fifty and sixty pounds a day for representatives of this tribe is common. They may not be the highest standard of show cattle, but they pay the mortgage just the same. Mention of a few of the extra good cows may not be amiss. Glenhurst Violet, Red HB Sally (imp.), Craigielea Pansy 2nd (imp.), Torres Cory 3rd (imp.), Glenhurst Queen Floss, Glenhurst Flossie, White Ruth 2nd, Lossness-ock Brownie, etc., and many others of equal merit. These are big, level cows, carrying big, even udders, high class in general merit, and big producers. Many in the herd are daughters of the several imported bulls that in past years have been at the head of the herd. The

Sure, you will come, you cannot stay away from the Best Ever.
THE FIFTH ANNUAL SALE OF THE SOUTHERN ONTARIO CONSIGNMENT SALE CO.

At Meharg Feed Stable, Tuesday, Feb. 8, 1916, 1 p.m. Tillsonburg, Ont., on sharp.

45 Head of Choice HOLSTEIN CATTLE

Nearly all females. Also a few choice bulls or bull calves, some of them good enough to head any herd. Cows with records up to 26 lbs. butter in 7 days and 104 lbs. in 30 days. Young bulls whose three nearest dams average up to 28.99. Daughters and granddaughters of Lewis Prilly Rouble Hartog, FINDERNE King May Fayne, King Segis Pietertje, Grace Fayne 2nd Sir Colantha, Korndyke Veeman Pontiac, Sir Mercena Abbekerk, Idalines Paul Veeman, and several others equally as good. The quality of the offering in this sale are in a class by themselves. Remember, this is our 5th sale, and we do not intend it to be our last sale. Everything will be done to make you comfortable. The cattle will all be sold between the noon train and four o'clock train for the east.

TERMS—Time up to 8 months on bankable paper at 6%.

Auctioneers—N. Montgomery and Lindsay & Pound.

Catalogues from R. J. KELLY, Sale Manager, Culloden, Ont.

Everybody welcome. Everybody come.

CHOICE HOLSTEIN-FRIESIANS

Herd headed by Lakeview Dutchland Heng. 2nd. 1st prize 2-year-old C. N. E. 1915. His sire's full sister world's champ. as junior 3-year-old with 22,645 lbs. milk in yearly record. Junior Herd sire Pietertje Ormsby Beauty. His dam's breeding produced Duchess Heng. Korndyke 1129.4 lbs. butter, world's record at 3 years. His sire has 3 generations of over 30-lb. cows at his back. Write for extended pedigrees and prices of bulls for sale.

OAK PARK STOCK FARM
W. G. Bailey, R. R. No. 4, Paris, Ont. Can.

HOLSTEIN CATTLE

Canary Mercedes Pietertje Hartog 7th heads our herd. His dam gave 116 lbs. milk in one day and 6,197 in sixty days and made 34.60 lbs. butter in 7 days. There are more cows in our herd giving over one hundred lbs. of milk a day than any other in Ontario. We have both bulls and heifers for sale.

D. C. FLATT & SON, R. R. No. 2, HAMILTON, ONTARIO
Long-Distance Telephone

Ourvilla Holstein Herd If you are starting a herd, or wanting to improve one, look at these young sires for sale, from Homestead Susie Ormsby, 22.14 at three years; Homestead Hellon Abbekerk, at three years 26.02; Ourvilla Calamity Also come and make a selection in choice females from our herd of 100 head.
LIDLAW BROS., Aylmer, Ont.

HOLSTEIN CATTLE Pure-bred cows, heifers and heifer calves. 66 HEAD MUST BE SOLD, having disposed of my two stock farms. Come and make your selection. Price and terms to suit. Cattle will be in good working shape, not forced or fitted for sale purposes.
HAMILTON FARMS, SOUTHWIND P.O., ONT.
Telegraph and Phone Niagara Falls. Farm 10 minutes trolley from Niagara Falls.

Clover Bar Holsteins My special offering just now are some choice young bulls Ormsby, whose dam has 3-30 lb. sister, and a 24 lb. 4-year-old and sired by Count Mercedes and his sire was the great Sir Admiral Ormsby. Also a few females.
PETER SMITH, R. R. No. 3, Stratford, Ont.
Stratford or Sebringville, Stations.

Evergreen Stock Farm—REGISTERED HOLSTEINS
Present offering; Several bull and heifer calves, also a few yearling heifers bred and ready to breed. Write for prices and descriptions. Bell phone.
A. E. Hulet, Norwich, Ont.

AUCTION SALE

HEAD REGISTERED

30 Holstein Cattle 30

TO BE HELD AT

Alfalfadale Stock Farm, Tillsonburg, Ont.

Tuesday, Feb. 15th, 1916

Our offering: Half interest in the herd bull, FINDERNE Valdessa Ormsby Fayne, whose dam, dam's sister and grandam average over 33 lbs. butter in 7 days, and whose sire is the only bull of the breed having four 30-lb. 3-year-old daughters.

20-lb. jr. 2-year-old.

19.20-lb. 2-year-old granddaughter of King of the Pontiacs, 165 A. R. O. daughters.

18.43-lb. 2-year-old daughter of 25.50-lb. cow and the \$10,000 bull, The Milk and Butter King.

15.18-lb. at 1 year and 11 months.

A daughter of Inka Sylvia Beets Posch, the sire of May Ecko Sylvia, 131 lbs. milk in one day.

A daughter of Roxie Posch, winner at Guelph, 1914.

Fourteen cows and heifers due in March and April.

Seven bulls fit for service.

Write for a catalogue. Mention this paper.

MOORE & DEAN, Auctioneers.

Wilber C. Prouse, R.R. No. 3, Tillsonburg, Ont.

younger ones are the get of the present stock bulls. Senior in service is Glenhurst Torres Major, whose dam, Torres Cory 3rd (imp.), gave 1,900 lbs. milk in one month. He was junior champion at Regina, and was second in a big class at Ottawa. Assistant in service is Royal Prince, whose dam gave 1,500 lbs. in one month. Here are a pair of bulls of exceptional merit, and sires of merit. This is one of the oldest Ayrshire herds in Canada, and famous all over this continent wherever Ayrshires are bred. There are twenty young cows due to freshen before spring, making upwards of fifty milking for the summer. Parties wanting foundation stock should visit this herd.

DUMFRIES' HOLSTEINS.

Nothing on the lines of model farm equipment seems to be lacking on the 500-acre Dumfries Stock Farm of S. G. & Earl Kitchen, of St. George, Ont. The Messrs. Kitchen are business men, and are running their large dairy farm on business principles. With a herd of upwards of 200 Holsteins, it requires something more than ordinary vigilance to keep things going on a paying basis, but it is done on this well-arranged and well-managed farm. It has seldom been the writer's privilege to look over a more uniform or better-balanced lot of cows than those of this herd. None of them have ever been officially tested, but the big, even udders that are general all down the long lines of milking cows, look as though 60 lbs. a day on twice-a-day milking would be an easy average. The sires that have been in use will give a fair idea of the quality and producing abilities of the herd. De Kol Mechthilde Prince, that great sire re-purchased by Walburn Rivers on account of the wonderful records his heifers were making. He is certainly one of the greatest sires in Canada to-day. Choicest Canary, a 30.24-lb.-bred son of the famous sire Brightest Canary; Prince Pietertje March, a son of Mr. Clemons' famous cow Evergreen March, R. O. P. record 26,107 lbs., R. O. M. record 29.45 lbs.; Duke Wayne Mechthilde 2nd, a son of Dutch Wayne Calamity 2nd, record 29.28 lbs.; Korndyke, whose dam and both granddams' records average 25.59 lbs., and his seven nearest dams average 26.18 lbs. In this herd intending purchasers will have for selecting from, probably the largest herd in Canada, 50 cows milking, 60 heifers up to two years of age, 25 heifers due to calve in the fall, and 12 yearling bulls. Anything is for sale, and parties looking for show animals can certainly find them here.

Assista

of

Owing to

live stock

tries of I

to go abro

the war l

demand.

stored, the

numbers of

mals to re

flocks. It

however, t

this count

better anir

during war

largely for

end in view

particularly

kept for

should not

possible at

country ma

number of

to be need

At present,

distribution

In certain

plus, with

other parts

dreds of yo

Provinces h

as stockers

have been k

females. S

ported as b

horses, part

in sections

supply of th

In order

the Minister

Live Stock

liberal aid

secure good

tions under

as follows:

In the eve

in any distri

operate for t

in carload l

tion of the c

pay the trav

appointed rep

required to e

port the ship

Should it

Commissioner

person who v

Pany this re

as far as pos

the animals.

Persons wis

this offer sho

with the Live

place and tin

ing out their

Walburn Riv

"The Farmer

recently teste

one grandda

Mechthilde.

from 1 year a

and 11 month

12,854 lbs. to

days, and th

lbs., 35,313 l

spectively, in

test, one heifer

lbs. daily, an

to make 2,000

This makes 15

daughter of

that have ave

days, at an

months and 8

have given 14,

R. O. P. test a

11 months and

Wayne Mechth

Assistance in the Purchase of Breeding Stock.

Owing to the heavy drain upon the live stock of the various warring countries of Europe, they have been forced to go abroad for supplies. The longer the war lasts the greater will be this demand. Moreover, when peace is restored, these countries will require large numbers of the various classes of animals to replenish their studs, herds and flocks. It should be borne in mind, however, that the buyers, who come to this country after the war, will require better animals than have been bought during war time, as they will be used largely for breeding purposes. With this end in view, the best of the females, and particularly the young stock, should be kept for breeding purposes. Breeders should not fail to raise all the live stock possible at this time, in order that the country may be able to supply a large number of the animals that are certain to be needed by the warring countries. At present, however, there is an unequal distribution of live stock in the country. In certain sections there is a heavy surplus, with a corresponding scarcity in other parts. During the past year hundreds of young cattle from our Prairie Provinces have gone to the United States as stockers and feeders. These should have been kept at home, particularly the females. Sections of the West are reported as being in need of good draft horses, particularly draft mares; while, in sections of Ontario, there is an over supply of this particular class.

In order to remedy these conditions, the Minister of Agriculture, through the Live Stock Branch, has decided to grant liberal aid to breeders who wish to secure good breeding stock. The conditions under which aid will be given are as follows:

In the event of a number of farmers in any district of Canada wishing to cooperate for the purchase of breeding stock in carload lots from some distant section of the country, the Department will pay the travelling expenses of their duly appointed representative during the time required to effect the purchase and transport the shipment to its destination.

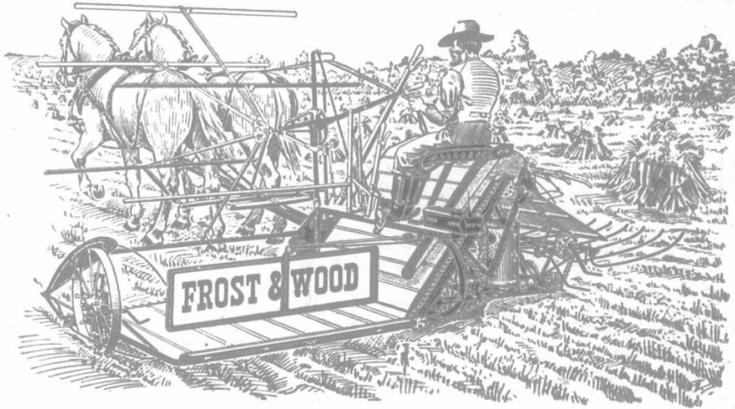
Should it be desired, the Live Stock Commissioner will nominate a suitable person who will be directed to accompany this representative and assist him as far as possible in buying and shipping the animals.

Persons wishing to take advantage of this offer should make full arrangements with the Live Stock Commissioner as to place and time of purchase before sending out their representative.

Gossip.

Walburn Rivers, Ingersoll, Ont., writes "The Farmer's Advocate" that he has recently tested four more daughters and one granddaughter of Prince Aaggie Mechthilde. These heifers freshened at from 1 year and 10 months and 1 year and 11 months of age, and made from 12.854 lbs. to 18.509 lbs. butter in 7 days, and three of them gave 30.976 lbs., 35.313 lbs., and 35.785 lbs., respectively, in 14 days. In R. O. P. test, one heifer is milking from 65 to 68 lbs. daily, and Mr. Rivers expects her to make 2,000 lbs. of milk in the month. This makes 12 daughters and 1 granddaughter of Prince Aaggie Mechthilde that have averaged 15½ lbs. butter in 7 days, at an average age of 1 year 11 months and 8 days. Seven daughters have given 14,800 lbs. milk in 1 year in R. O. P. test at an average age of 1 year 11 months and 1 day. Duchess Aaggie Wayne Mechthilde, as a junior two-year-old, eight months or over after calving, was also tested. This heifer calved Nov. 26, 1914, at the age of 1 year 11 months and 2 days, and made in 7 days 394.3 lbs. milk and 16.878 lbs. butter; and in 12 months in R. O. P., finishing her test Nov. 26, 1915, she gave 16,700 lbs. milk, and beginning another 7-day record Dec. 13, nearly 13 months after calving, she gave 240 lbs. milk, or an average of 34 lbs. daily, and 11,449 lbs. butter in 7 days. Other individuals in the herd have also made very creditable records. Some young stock from them is for sale.

Buy Your Binder RIGHT



The most important implement investment any farmer can make certainly is his Binder, and right there, because thousands of farmers realize that fact, you have the reason for the tremendous popularity of the

Frost and Wood Binder

THIS is the Binder noted for its light draft—its sure, speedy cutting—its great strength—its ease of handling. But the greatest of all its assets is Reliability. This comes from long Frost and Wood experience in the development of the Binder. It comes from many stringent tests we give every F. & W. Binder before it goes to the customer. The Frost and Wood Binder has a big power wheel of special design, special roller bearings, special cutter bar, special non-failing knotter, special non-clogging elevator and other exclusive features too numerous to list here. Frost and Wood make the Binder you can buy and KNOW it will give you the field service you want in any emergency.

Roller Bearings
Swift Cutting
Cuts any Crop

Sure Tying
Light Draft
Special Rollers

Easy Levers
No Thrashing
No Choking

Write nearest Branch or Office for Frost and Wood Binder Book and see what a splendid machine it is

COCKSHUTT PLOW CO.
LIMITED
BRANTFORD, ONT.

Sold in Eastern Ontario
Quebec and Maritime
Provinces by

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

Important Dispersion Sale

50 REGISTERED HOLSTEINS
3 REGISTERED JERSEY COWS
AND SEVERAL CHOICE YORKSHIRE SOWS

Property of C. E. Trebilcock, Lot 6, Con. 2, London Tp., Middlesex Co.

As the farm has been leased all must be sold without reserve

Thursday, February 10th, 1916

Sale will commence 10 o'clock, as the farm implements, horses, etc., will be sold first. The herds consist of 47 Holstein females and 3 bulls, 3 Jersey cows recently fresh or soon to freshen. All of the Holsteins are in R. O. M. or can qualify. There are only 4 aged cows, the others range from 1 to 5 years. The stock bull, King Lyon's Korndyke, is sired by the great bull, King Lyon's Hengerveld; his dam is Lydia Korndyke De Kol 2nd, a double granddaughter of old Pontiac Korndyke.

Terms: All sums at and under \$10 cash; 8 months' credit on approved joint notes; 5% per annum allowed for cash.

The farm is situated 2 miles from Pottersburg, Ont., G. T. R., 4 miles from London.

Trains arriving from the north 11 a. m. morning of sale will be met at Pottersburg. Those arriving in London should take Dundas St., car east and get off at Asylum Side Road. Conveyances will meet them at that point from 10 a. m. till 1 p. m. on day of sale. Lunch will be provided.

Catalogues on application to:

T. MERRITT MOORE,
Auctioneer,
Springfield, Ont.

C. E. Trebilcock,
R. R. No. 6, LONDON, ONT

Lakeview Stock Farm

Bronte, Ont. BREEDERS OF HIGH TESTING HOLSTEIN-FRIESIAN CATTLE OFFER FOR SALE A FOUNDATION HERD consisting of 1 male and 3 females all bred in the purple and backed by officially tested dams. Terms to suit purchasers. **T. A. DAWSON, Manager**

HOSPITAL FOR INSANE, Hamilton, Ont. For Sale—Holstein Bulls, months, from Record of Performance or Record of Merit dams and the grand bulls Sir Korndyke Wayne Dekol, grandson of Pontiac Korndyke, or Lakeview Duchland Le Strange, a grandson of Count Hengerveld Favne Dekol. Prices right. APPLY TO SUPERINTENDENT.

QUEEN CITY HOLSTEINS

Present Offering is 10 young bulls, from 6 to 14 months of age, the records of whose dams, sires dam and her full sister, range from 28 to 32 lbs. They are sons of King Lyons Hengerveld Segis. **R. F. HICKS** Newtonbrook, Ont. On T. & Y. Railroad Line

HOLSTEINS

Two bulls over a year old, three more fit for service. Two grandsons of "Rag Apple Korndyke 8th" (May), and several sons of "King Segis Pontiac Duplicate," one of the best.

R. M. Holtby, R.R. 4, Port Perry, Ont.

Walnut Grove Holstein

Herd headed by May Echo Champion, full brother of May Echo Sylvia, who made 36 lbs. butter in seven days. Females for sale from one year old upwards. Prices right for quick sale.

C. R. JAMES, Lagstaff P.O. Ontario
Phone Thornhill.

Holsteins, Yorkshires and Cotswolds

Minster Farm makes a special offering of bulls any age (particularly serviceable age) from R. O. P. dams with records up to 16,016 lbs. milk 1 yr. for 2 yr. olds. Also swine of both sexes. For full particulars write—

R. HONEY & SONS, Dartford Ont.

HOLSTEIN BULL

A grand show individual, fit for immediate heavy service, 13 months old. Sire, Ourvilla Sir Teake Colantha. Dam just finished record of over 23 lbs. at 4 years; average test 4%. Price right for immediate sale. Apply

WM. J. BALD, Mitchell, Ont. R.R. No. 2

BULLS, BULLS. We have several young Holstein Bulls for sale, just ready for service. Sired by the Great Bull, King Segis Pontiac Duplicate, and our Junior Herd Bull, Pontiac Hengerveld Pietertje and from High Testing Dams. Prices low for the quality. Write and get them. Manchester, G.T.R. and Myrtle, C.P.R. stations. Bell Phone.

R. W. Walker & Sons, R.R. 4, Port Perry, Ont.

Mention Advocate.



Keep The Toes In Your Harness
Keep it strong and good looking with
EUREKA HARNESS OIL
Makes harness last longer and look better.
Dealers Everywhere
The Imperial Oil Company Limited
Branches in all Cities

Little Things Count

Even in a match you should consider the "Little Things"—the wood—the composition—the striker—the flame.

Eddy's Matches

Are made of strong, dry pine stems, with a secret perfected composition that guarantees "every match a light." Sixty-five years of knowing how—that's the reason!

All Eddy Products Are Dependable Products—Always.

Ring-Bone

There is no case so old or bad that we will not guarantee

Fleming's Spavin and Ringbone Paste

to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and one to three 45-minute applications cure. Works just as well on Sidebone and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a blemish, write for a free copy of

Fleming's Vest Pocket Veterinary Adviser

Ninety-six pages of veterinary information, with special attention to the treatment of blemishes. Durably bound, indexed and illustrated. Make a right beginning by sending for this book.

FLEMING BROS., Chemists
75 Church St. Toronto, Ont.

O. A. C. No. 72 OATS

FOR SALE

Grown from the best of my hand picked stock, carefully weeded while growing. The season of 1915, not only at Guelph where the yield was over 103 bush. per acre, the next highest being 10 bush. less, but all over Ontario. O. A. C. 72, was by far the leading variety for quality and quantity. My experience last year was very encouraging for after exercising the greatest possible care to produce seed of high-testing quality, I found both dealers and growers willing to pay 20c. to 30c. per bush, more than for ordinary clean seed, and did not have enough to fill the orders. Samples, prices, Government test etc., on application.

A. FORSTER, MARKHAM, ONT.

KANT-KLOG SPRAYER

9 sizes of sprays from one nozzle. Starts or stops instantly—saves solution and work. Send for catalog. Agents wanted.

Rochester Spray Pump Co.,
196 Broadway Rochester, N. Y.

Questions and Answers. Veterinary.

Overfeed of Wheat—Lice.

1. What is good for a horse that gets an over-feed of wheat?
2. Will sulphur fed to colts help kill lice on them, and what is the dose?

N. H.

Ans.—1. Give him a purgative of about 8 drams aloes and 2 drams ginger.
2. It will have some effect if fed for a considerable length of time, say, two or three weeks. The dose is a teaspoonful three times daily.

V.

Crippled Pigs.

Pigs were farrowed in September, and have been kept in a warm, comfortable pen, and well fed. Some of them are stiff in joints and back, and move very little. When compelled to move, they squeal as if in pain.

H. A. C.

Ans.—This crippling is due to want of exercise and high feeding. Purge each with two ounces Epsom salts, and follow up with three grains nux vomica three times daily. Feed on milk, shorts, table slops and raw roots; and as soon as they can move, see that they get regular exercise.

V.

Constipation—Tendons Swell.

1. I have eighteen pigs; nine in each pen. A few days ago four of them took ill. They have not eaten for days. They act as if they were blind; fall over, and froth from mouth.

2. I have a four-year-old driving mare. After standing for a few hours, the cords from fetlock to knee swell.

H. M.

Ans.—1. The pigs are constipated, probably due to over-feeding and want of exercise. Purge each with 1 to 4 ounces Epsom salts, according to size, and follow up with 2 to 5 grains nux vomica three times daily. Feed on milk, shorts, table slops, and raw roots, and see that they all get regular exercise.

2. This is due to over-exertion. Give a little gentle exercise daily, and when in the stable keep bandaged with a bandage that has been soaked in a solution composed of 1 ounce acetate of lead to a quart of water.

V.

Miscellaneous.

Egg Circles.

Please insert in your paper information as to the organizing and carrying on of an egg circle.

A. I.

Ans.—We would advise you to get in touch with the Poultry Division, Dominion Department of Agriculture, Ottawa, and with the Co-operation and Markets Branch, Ontario Department of Agriculture, Toronto.

Hen House Queries.

1. Is it advisable to put a cement floor in a henhouse?
2. How can I put in nests to be convenient?

J. M.

Ans.—1. Under some conditions; yes. We have one in our henhouse at Weldwood.

2. We like them arranged to slide out into an alley at the end of the house, or to project into such a passage and be covered with a hinged lid, which may be lifted, and the eggs gathered.

Concession Line.

Please explain to me about a concession line which runs between A and B. The road does not go on the concession line. A is satisfied to have concession line picked out by a local man, but B is not. B will not put up his share of expense for a surveyor.

Ontario.

Ans.—The township municipality would also be interested. We would suggest your having the municipal council take the matter up. Speak to some member of the council about it.

"It seems clear that, after the war, the world will be a new place, and that the Church will have the greatest opportunity she has ever yet known. It seems certain that out of this war will come a mighty impulse towards democracy. With all its horrors, the struggle is making toward world-brotherhood."—Dr. T. Manning.



This Book Helped Me Improve My Farm

It is the most valuable book I own and it cost me nothing.

It has saved me time, labor and money and I've got better looking, more durable and more serviceable buildings than I ever had before.

The first cost of concrete farm improvements is also the last cost. There's no after expense for paint or repairs—no danger from fire, rot or rust—no trouble of any kind. Besides concrete lowers the insurance rate.

If you haven't a copy of "What the Farmer can do with Concrete", send for one to-day. There's more than 150 pages of valuable building information, 52 practical plans, illustrated by diagrams and photographs, and dozens of other interesting farm facts.

A copy will be sent to you free of charge, immediately upon receipt of coupon below.

Canada Cement Company Limited
Herald Building, MONTREAL.

CUT OUT AND MAIL

CANADA CEMENT COMPANY LIMITED, Herald Building, MONTREAL.
752 Gentlemen:—Please send me a free copy of "What the Farmer can do with Concrete". 10

Name _____
Street and No. _____
City _____ Prov. _____

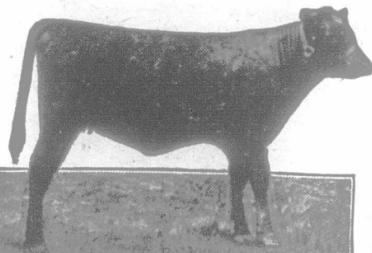
Humeshaugh Ayrshires We have several February, March and April, 1915, bull calves, bred from some of our best imported and home-bred females, which we offer at Alex. Hume & Co., Campbellford, Ont., R.No.3. good value for quick sale.

Stonehouse Ayrshires Are a combination of show-yard and utility type seldom seen in any one herd. A few choice young males and females for sale. Write or phone your wants to Stonehouse before purchasing elsewhere.
Hector Gordon, Howick, Que.

Glenhurst Ayrshires For 50 years I have been breeding the great Flos tribe of Ayrshires, dozens of them have been 60-lb cows; I have lots of them get 60 lbs. a day on twice a day milking. Young bulls 1 to 10 months of age, females all ages. If this kind of production appeals to you write me.
James Benning, Williamstown Ont.

Gladden Hill Ayrshires Present Offering: Our stock bull, Tam O'Menie = 35101 = dam, Dewdrop of Menie = 25875 =, R. O. P. test 9,788 lbs. milk, 401 lbs. butter-fat as a 3-year-old. This bull stood 3rd at Toronto this year. Also young bulls from record cows, and females of all ages.
Laurie Bros., R. R. No. 1, Agincourt, Ont.

When writing advertisers, will you kindly mention "The Farmer's Advocate."



Raised Without Milk!

Her name is "Daisy" and her owner, W. A. Riddle, of Chapin, Iowa, raised her on Blatchford's Calf Meal, which costs less than half as much as milk.

Blatchford's Calf Meal

A useful preventive of scouring. Calves raised "The Blatchford's Way" are heavier, bigger-boned and healthier. Known as the complete milk substitute since the year 1875. Sold by your dealer or direct from the manufacturer.

Blatchford's Pig Meal insures rapid, sturdy growth of young pigs at weaning time. Prevents setback. See Actual Figures—based on results—that show you how to increase your calf profits. Write today. Steele Briggs Seed Co., Dept. 68, Toronto, Ont.

Made in Canada



Better Butter and better prices come with Windsor Dairy Salt.

PLEASURE CRUISES BY **R.M.S.P. TO WEST INDIES**

FORTNIGHTLY SAILINGS
By Twin-Screw Mail Steamers.

SPECIAL FACILITIES FOR TOURISTS.
Next Sailing from HALIFAX: R.M.S.P. "Caraquet" Feb. 11, 1916

APPLY TO
The Royal Mail Steam Packet Co., 67-69, Granville Street, HALIFAX (N.S.)
OR TO THE LOCAL TICKET AGENCIES.

\$15.95 UPWARD ON TRIAL Fully Guaranteed

American CREAM SEPARATOR

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

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

Tower Farm Oxford Sheep. Champion flock of Canada. Choice bred from imported and prize-winning stock. See winning at Toronto and Ottawa. Erin or Hillsburgh Stations. Long-distance Phone. E. BARBOUR, R. R. 2, Hillsburgh, Ontario

Gossip.

The advertisement of D. Birrell & Son, Claremont, Ont., appears elsewhere in this issue. Messrs. Birrell are offering three young Shorthorn bulls; also some cows and calves.

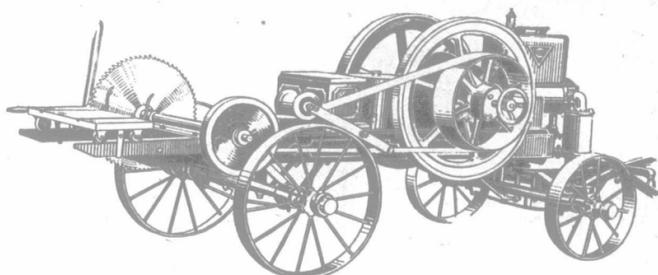
J. E. ARNOLD'S PERCHERONS.

In another column will be seen the advertisement of J. E. Arnold, of Grenville, Que., importer of Percheron horses. Mr. Arnold is one of the leading horsemen of Quebec, and has made many importations in recent years, particularly in Percherons from France, although he generally adds a few Clydesdales, and occasionally a Shire or two, to his importations. The quality of the horses imported by Mr. Arnold can best be gauged by their success in the big show-rings. Among those now on hand are winners of all degrees, including championships on Percheron, Belgian and Shire stallions, at such noted shows as Sherbrooke, St. Johns, Three Rivers, Quebec, and also winners of many honors at Ottawa. He has a big selection to choose from, and has the character, quality and action to suit the most exacting, and as this year will likely be the last for several years when imported Percheron stallions will be offered for sale in Canada, it would seem that now is a most opportune time to buy. Get in touch with Mr. Arnold if in want of a Percheron, Belgian, Clyde or Shire stallion.

It was a subject of considerable comment when it became known that the three-year-old heifer Colantha Butter Girl, owned by M. H. Haley, Springford, Ont., had won sweepstakes in the dairy test at Guelph over all breeds and ages. This was a remarkable feat, but since being brought to her own stable, and Mr. Haley being unable to procure an official tester for over a week, she made a new thirty-day Canadian record for senior three-year-old. It will be remembered by all Holstein breeders that this same heifer holds the Canadian senior two-year-old record for 30 days. The fact that both of these Canadian 30-day records, together with the winning at Guelph, were made within twelve months, make it an unprecedented feat for any heifer. She made for 30 days, 2,440.1 lbs. milk and 125.23 lbs. butter, and for 7 days, 558 lbs. milk and 30.87 lbs. butter. It will be noted that it seems to be a characteristic of her family to be Canadian champions. Her dam, Queen Butter Baroness, being at one time champion, with 33.17 lbs. butter in 7 days, also her full sister, Butter Baroness Fayne, holds the Canadian milk record for 30 days as a junior two-year-old. Both of these heifers are from a son of possibly the greatest transmitting sire of the breed, Colantha Johanna Lad.

HIGH-CLASS SHORTHORNS BY AUCTION.

J. M. Gardhouse, of Weston, Ont., has lately purchased the high-class and richly-bred Shorthorn herd owned by Mr. Milton, of Brantford. This is probably one of the best lots of Shorthorns ever gathered together for a herd foundation in this country. No expense was spared by Mr. Milton in their purchase, but the individual merit and breeding was required to be of a high standard. After two or three years' experience with hired help, Mr. Milton became discouraged with the results being attained, and decided to sell the entire lot, and Mr. Gardhouse, with his usual business acumen, purchased the herd in its entirety. A number of the breeding cows are imported; others have imported sire and dam, and practically all are closely topped with imported sires and dams. These, with a selection of imported, and bred from imported animals, from his noted Rosedale herd, will be sold by auction at the Union Stock Yards, West Toronto, on Friday, February 18. The whole, totalling 45 head, will make one of the choicest selections of Shorthorns, both in individual merit and in breeding, ever sold by auction in this country. In the next issue of this paper will be a short resume of a few of the offering, but for full particulars write for a catalogue to J. M. Gardhouse, Weston, Ont.



ALPHA Rigs Saw More Wood At Less Expense

Freedom from weak complicated parts—low fuel consumption—ability to run steadily in the coldest weather—plenty of power to pull the saw through wood of any size that can be brought to it—these are advantages that are making friends for Alpha Sawing Rigs wherever they are used.

Whether you want an outfit to saw wood for your own use only, or to do work for your neighbors, or both, you cannot find a more efficient, economical, or more satisfactory all-round rig than an Alpha. The cost for fuel is the lowest. Its construction is such that time and money wasting delays are eliminated. You can depend upon it to run steadily all day long on either gasoline or kerosene, even in the coldest weather.

The above illustration shows one of our special steel frame mounted sawing outfits. Let us know what your needs are and we will be glad to quote you prices and send complete description of a rig such as you wish.

DE LAVAL DAIRY SUPPLY CO., LTD.

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

MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Jerseys, Shropshires, Tamworths We are offering now for the first time a limited number of high-class and richly bred heifers from breeding age down, our entire offering is high-class and prices no higher than the other fellow. J. B. COWIESON & SONS, Queensville, Ont., Toronto and York Radial.

Brampton Jerseys We are busy. Sales were never more abundant. Our cows on yearly test never did better. We have some bulls for sale from Record of Performance cows. These bulls are fit for any show-ring.
B. H. BULL & SON, BRAMPTON, ONTARIO
THE WOODVIEW FARM CANADA'S MOST BEAUTIFUL JERSEY HERD
JERSEYS Half the herd imported from the Island of Jersey. Several cows in the Record of Merit, and others now under official test. Some very choice stock for sale. When writing, state distinctly what you desire, or better still, come and see them. Farm just outside city limits. We work our show cows and show our work cows.
LONDON, ONTARIO
John Pringle, Proprietor

H. ARKELL W. J. ARKELL F. S. ARKELL

Summer Hill Stock Farm

Largest and oldest importers and breeders of

OXFORDS

in Canada. Look up our show record, it will give you an idea of the kind of Oxfords we have for sale.

PETER ARKELL & SONS, Proprietors, Teeswater, Ont.
Customers, beware of imitations of this advertisement.

SUMMER HILL OXFORDS

Flock established many years ago on Summer Hill Stock Farm by the late Peter Arkell, now owned by his son, Peter Arkell. Rams and ewes in any quantity for sale, all recorded. Positively no grades registered as pure-breeds; also no grades handled except by order.

Peter Arkell & Co., P.O. Box 454, Teeswater, Ont. C.P.R. Sta
FARNHAM FARM OXFORD AND HAMPSHIRE DOWNS

Flock Established in 1881 from the best flocks in England.

We are offering a splendid lot of yearling rams and ram lambs for flock headers or show purposes. We ourselves have retired from the show-ring so hold nothing back. We are also offering 80 yearling Oxford ewes and ewe lambs: a few superior Hampshire yearlings and ram lambs. All registered. Prices reasonable.

HENRY ARKELL & SON, Route 2, GUELPH, ONT.
Guelph, G.T.R., Arkell, C.P.R. Telegraph, Guelph. Long-distance phone in house.

Shropshires and Cotswolds For Sale—Yearling rams and yearling ewes, a few imported 3 shear ewes, an extra good lot of ram lambs from imported ewes. Prices very reasonable.

JOHN MILLER, Claremont, Ont.
Claremont, C. P. R., 3 miles Pickering, G.T.R., 7 miles Greenbura, C. N. R., 4 miles.



Let the hogs grind their own feed with a

Hog Motor

You would buy a Hog Motor if you were sure The Motor is pleasing the farmers in Perth and Huron counties?

You would buy a Motor if you were sure almost every farmer in the Listowel district was convinced they should have a HOG MOTOR?

For full information, write the

Canadian Hog Motor Company, Limited
LISTOWEL, ONTARIO

Preston SAFE LOCK Shingles

Locked securely on four sides. Galvanized to meet the British Government test. Send for free booklets.
The Metal Shingle & Siding Company Limited
Preston Ontario

Yorkshire Pigs

BOTH SEXES FOR SALE

Farrowed in October from sire and dams of extra good quality. These young pigs are choice individuals. Address.—

Weldwood Farm

Farmer's Advocate, London, Ont.

Tamworths Boars fit for service, young sows ready to breed, pigs of all ages for sale. Before buying, write for prices.
JOHN W. TODD
R. R. No. 1, Corinth, Ont.

Alderly Edge Yorkshires

Young pigs both sexes born in September and March. Price right.
J. R. KENNEDY, KNOWLTON, QUEBEC.

Tamworths A choice lot of bred sows some due in February and others about 1st of April.
Herbert German, St. George, Ont.
Bell Phone.

Townline Tamworths We can supply worths of both sexes and any desired age of superior quality. Also Leicester Ram and Ewe lambs, Pekin ducks, Langshan cockerels and pullets. Write us your wants. **T. Readman & Son, Streetsville, Ont. R.M.D.**

SUNNYSIDE STOCK FARM Champion herd at Toronto and London Fairs; also Dorset Horn Sheep, young stock of both sexes for sale.
W. E. Wright & Son, Glanworth, Ontario

Pine Grove Yorkshires—Bred from prize-winning stock of England and Canada. Have a choice lot of young pigs of both sexes, pairs not akin, to offer at reasonable prices. Guaranteed satisfaction.
Joseph Featherston & Son, Streetsville, Ont.

CLEARVIEW CHESTER WHITES
For many years my herd has won the highest honors at Toronto, London, Ottawa and Guelph. For sale are both sexes of any desired age, bred from winners and champions.
D. DeCoursey, R. R. No. 5, Mitchell, Ont.
Morrison Tamworths and Shorthorns, bred from the prize-winning herds of England. Choice Tamworths, both sexes, all ages, 150 head to choose from. Choice Shorthorns, 3 extra fine red roan bull calves, 8 mos. old, 4 months, also cows and heifers of the deep milking strain. **Chas. Currie, Morrison**

Lakeview Yorkshires If you want a stock boar of the greatest strain of the breed, (Candrell's), bred from prize-winners for generations back, write me. Young sows bred and boars ready for service. **JOHN DUCK, Port Credit, Ont.**

Questions and Answers.

Miscellaneous.

Moratorium.

1. Is the Moratorium Act in force in Canada?

2. If so, can a mortgage on real estate be closed by the holder, providing the interest is kept paid up, but the amount due on the principal, according to contract, remains unpaid?

Ontario. READER.

Ans.—1. There is a Moratorium Act in force in several of the Provinces, including Ontario.

2. Not without leave of a Judge, as to mortgages executed prior to 4th August, 1914.

Trust Fund.

A man marries a wife. Three boys are born, the youngest one being three years old when the mother dies, the mother's money being left with her sister in trust. Nothing has been done to recover that money. Time has elapsed until the eldest boy is of age. What steps should be taken? Is it too late to recover the money for the boys?

Ontario. ENQUIRER.

Ans.—A solicitor should be instructed to attend to the matter, and see that the eldest boy gets his proper share, also that the balance of the fund is duly secured and prudently invested.

Will in French—Dog Tax.

1. If a farmer living in Ontario makes his last will in the French language, can such a will be registered and probated the same as if it were made in English?

2. Has a municipal council the power to pass a by-law to abolish the dog tax, when there is a reserve fund to pay damage done to sheep by dogs?

3. Have they the right to use that money for other purposes?

Ontario.

Ans.—1. Yes.

2. No.

3. Yes, as to any residue that may remain after damages that have arisen, in any year, from dogs killing or injuring sheep in the municipality have been satisfied.

A Will.

1. Is it possible for a father, in making a will, to dispose of stock (horses and cattle) that a son, who has always lived with him on the farm, and is 30 years old, has bought and paid for?

2. Has a brother any legal right to same if such stock are not mentioned especially in will, other than stock and implements?

3. Would a well-educated father that made such a will be considered legally competent when he only had strength enough to make his mark, and was wandering, or partially out of his mind, twenty-four hours later?

Ontario. R. M.

Ans.—1. Not effectively.

2. No.

3. It is possible that he might be properly so considered.

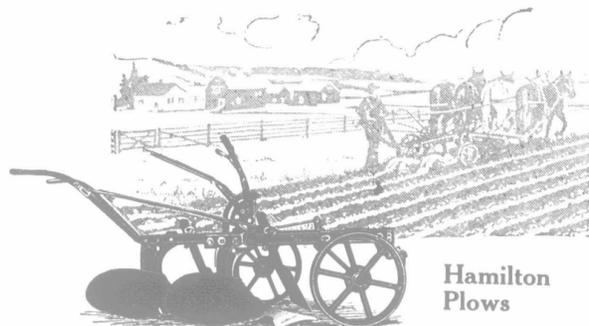
Rural School.

We have a rural school with twelve pupils, eleven of whom are girls. We are now confronted with the difficulty of getting someone to light the fire in the morning. Our School Commissioner threatens to have the school closed unless my boy takes on this duty. We live 1½ miles away from the school, and I object to the lad leaving home in all sorts of weather to do this. Are not the Board compelled by law to provide light and heat? In the event of their closing the school, can I protest my school rates? And can I compel the Council to provide education for my children, or take steps to have the Government grant cancelled? To whom should I make my protest?

Quebec. W. E. R.

Ans.—It is probable that these questions may all be properly answered in the affirmative, but we would recommend you to lay the matter before the Superintendent of Public Instruction, Quebec, Que.

A Great Line of Plows



Hamilton Plows

WHEN you need a plow for turning sod, clay, loam or rocky soil, go to the **Deering** local agent and choose your plow from the **Hamilton** line he handles.

There are two plows in the **Hamilton** line, Nos. 46 and 47 walking gang plows, that every Eastern farmer should know about. They are particularly well adapted for use in such soils as are found north and east of the Great Lakes, and are built to be drawn by two large, or three medium size horses.

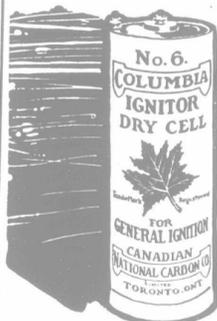
The frames are of special construction, which makes the rear bottom as rigid and unyielding as the front one. Wide or narrow bottoms may be used, any change being very simple and easy to make, the adjustments for width and depth of cut give the driver complete control of the work of the plow at all times and make it an easy matter to straighten furrows. The clevis allows half-hole adjustments. Don't fail to see it.

Whether your needs demand a walking or riding plow—gang or sulky, get your plow from the **Hamilton** line, which is handled by the **Deering** local agent. Write us at the nearest branch house and we will send you full information about this great line of **Hamilton Plows**.

International Harvester Company of Canada, Ltd.

BRANCH HOUSES

At Brandon, Calgary, Edmonton, Estevan, Hamilton, Lethbridge, London, Montreal, N. Battleford, Ottawa, Quebec, Regina, Saskatoon, St. John, Winnipeg, Yorkton



Columbia Batteries

For steady, all-day running, use COLUMBIAS. For instant response, use COLUMBIAS. For bells, blasting, barn lanterns, wagon lights, telephones, signals and autos, use COLUMBIAS—the rugged, full-powered battery. It's borne the makers' name for 27 years and is sold in every part of the world.

Canadian National Carbon Co., Limited
99 Paton Road, Toronto

Falmslock spring-clip binding posts, no extra charge. They prevent short circuits.

Cloverdale Large English Berkshires!

Sows bred, others ready to breed; boars ready for service; younger stock, both sexes, pairs not akin. All breeding stock imp. or from imp. stock. Prices reasonable.
C. J. Lang, Burketon, Ont. R. R. 3.

YORKSHIRES Our offering never better. Champion hog winner of 12 firsts, 5 championships, 2 years showing, still at the head. Boars and sows all ages, same breeding as **WM. MANNING & SONS, WOODVILLE, ONT.**

Spruce Lodge Stock Farm—Shorthorns and Leicester Sheep

Have always on hand a few choice heifers and bulls from good milking families, in Leicesters we have the best lot we ever offered in shearlings and ram lambs and ewe and ewe lambs, all got by choice imported rams.
W. A. DOUGLAS, R. R. No. 2, Caledonia, Ont.

DUROC JERSEY SWINE, JERSEY CATTLE

In Duroc Jersey we have either sex of any desired age, bred from winners and champions for generations back. In Jerseys we have young cows in calf, and young bulls, high in quality and high in producing blood.
M. C. CAMPBELL & SONS, Northwood Ont.

Newcastle Tamworths and Shorthorns Boars ready for service. Sows due to farrow, others bred and ready to extra choice young bulls and heifer calves, recently dropped; grand milking strain, 2 bulls, 5 and 8 months old. All at reasonable prices.
A. A. COLWILL, NEWCASTLE, ONTARIO

OAK LODGE YORKSHIRES We are offering a choice lot of young sows in pig, also young sows and boars of various ages. Our Yorkshires are the quick maturing kind that show a profit to the feeder.
Long-Distance Telephone

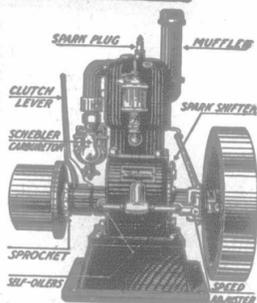
J. E. BRETHOUR & NEPHEWS, Burford, Ont.

ELMHURST LARGE ENGLISH BERKSHIRES
From our recent importation of sows, together with the stock boar, Suddon Torredor, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.
H. M. VANDERLIP, Breeder and Importer, R. R. 1, Brantford, Ontario
Langford Station on Brantford and Hamilton Radial.

Cherry Lane Berkshires and Tamworths In 1915 we made a clean sweep at all the western shows in Berkshires third prize Berkshire boars at Guelph, first and champion Tamworth boar at Guelph.
S. DOLSON & SON, Norval Station, Ont.

4 H.P. Cushman Weighs Only 190 lbs
8 H.P. 2 Cylinder Only 320 lbs.

Cushman Engines are the lightest weight farm engines in the world, yet they are even more steady running, quiet and dependable than most heavy engines, because of Throttle Governor, perfect balance and almost no friction nor vibration. The simple Cushman Governor releases just enough fuel to take care of the load at any moment, thus avoiding the fast and slow speeds at which most engines run. While Cushman Engines are only about one-fourth the weight, per horsepower, of most other stationary engines, they will deliver as much or more steady, reliable power, per rated horsepower, than any other farm engine made.



Note the Many Special Advantages Not Found On Other Engines.

Cushman Light Weight Engines
For All Farm Work—4 to 20 H. P.

Are not cheap engines, but they are cheap in the long run, as they do so many things heavy engines cannot do. May be attached to machines such as binders, balers, etc., to save a team. Easy to move around. Moving parts enclosed and run in bath of oil. Run at any speed—speed changed while running. Direct water circulating pump prevents overheating. Schebler Carburetor and Friction Clutch Pulley.

The ONE Binder Engine
 The Cushman 4 H.P. is the one practical binder engine. Its light weight and steady power permit it to be attached to rear of binder. Saves a team during harvest.

Farmer's Handy 4 H. P. Truck
 Easy to Move Around from Job to Job. Same Engine Used on Binder.



Dave Linton, Ransom, Ill., says: "I can do everything with the 190-lb. Cushman that I could with an engine that weighed 1000 lbs., and do it better and with a lot less noise."

Ask for our Light Weight Engine Book, sent free.

CUSHMAN MOTOR WORKS OF CANADA, LTD.
 283 Princess Street, Winnipeg, Man.

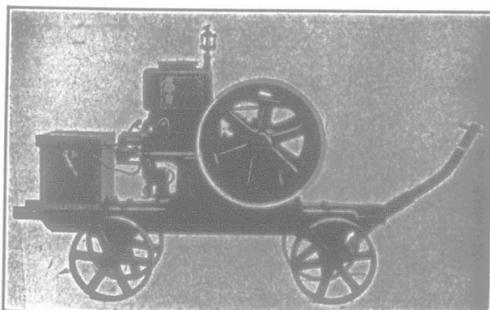
EXCLUSIVE SELLING AGENTS FOR

Fanning Mills—Smut and Pickling Machines—Vacuum Washing Machines—Lincoln Grinders—Lincoln Saws—Incubators—Universal Hoists—Automatic Cream Separators—Champion Cream Separators—Portable Grain Elevators—Wagner Hardware Specialties—Mountaineer and Little Giant Neck Yoke Centers.

DISTRIBUTING POINTS FOR ONTARIO:

Foot of George Street
 TORONTO

143 York Street
 LONDON, ONT.



Direct from the
 Factory to the
 Farmer

Made in Canada

**Monarch
 Gasoline
 Engines**

1 1/2 to 35 Horse Power

Grain Grinders, Ensilage Cutters, Saw Frames and Pump Jacks

1 1/2 H.P. Horizontal Hopper Cooled

This engine built specially for small jobs around the farm and in connection with our intermediate pulley takes care of the churning, washing, pumping, etc. Being mounted it is easily moved from place to place.

Read this letter received by Canadian Engines, Limited, from their Eastern Sales Agents

The Frost & Wood Co., Ltd., St. John, N.B. Clifton, Gloucester, Co. N.B., Dec. 13th, 1915.

Dear Sir—In regard to the Monarch Engine purchased through you, I would like to say a few words as I may not have a chance again. I have used it two years now, and every day I run the machine I like it better. In fact I think it's the best thing I ever saw. I threshed six weeks this fall, and I just kept a record of its work for fun. In the six weeks I just made an average of 403 bushels a day, on an average of 2 gallons of gasoline a day, and the engine never missed an explosion in the six weeks. If this can be beat by any of the other makes of engines I am ready to eat my shirt.

I am entirely satisfied with the engine and would not take my money back to-day. You can publish this letter in any of your engine catalogues, and I am ready to prove what I said any old time.

Yours, (Sgd.) Jas. G. Powers, Clifton, N. B.

Write for catalogue **Canadian Engines Ltd., Dunnville, Ont.**

FROST & WOOD Co., Limited, exclusive sales agents east of Peterboro, Quebec and the Maritime Provinces.

Good live agents wanted in unrepresented territory.

FREE LAND

FOR THE SETTLER IN

New Ontario

Millions of acres of virgin soil, obtainable, free at a nominal cost, are calling for cultivation. Thousands of farmers have responded to the call of this fertile country and are being made comfortable and rich. Here, right at the door of Old Ontario a home awaits you.

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

HON. G. HOWARD FERGUSON, Minister of Lands, Forests and Mines.

H.A. MACDONELL, Director of Colonization Parliament Buildings, TORONTO, ONT.

**Sydney
 Basic Slag**

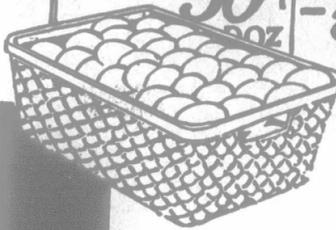
FIFTEEN thousand tons of Sydney Basic Slag were used in the Maritime Provinces last season. What makes money for the fruit grower of the Annapolis Valley and the dairy farmer of Nova Scotia will be found equally profitable when used by Ontario farmers. Don't let another season go past without buying

**SYDNEY
 BASIC SLAG**

Write us for particulars.

The Cross Fertilizer Co.
 LIMITED
 Sydney, Nova Scotia

STRICTLY NEW
 LAID 50¢
 20Z



-and higher

This is the time to make a real profit from your hens. An egg now is worth two in April or May.

And you don't have to be an expert to make your hens lay in early winter.

Try this. We take the risk.

Put PRATTS POULTRY REGULATOR in the mash. A cent a month for each bird is all it costs. You will get more eggs, your hens will be more active and healthy.

**Pratts' Poultry
 Regulator**

25c. packages and larger money-saving sizes up to 55 lb. pails, \$2.50.

Sold at all dealers on our Money Back Guarantee.

ROUP—Prevent and cure this dreaded disease. Pratts Roup Remedy is guaranteed to do this—or your money back. In 25c and 50c packages.

Pratt Food Co. of Canada Limited
 68G Claremont Street, Toronto 2

160-Page

Poultryman's Handbook will help you to get more eggs. Worth \$1.00. A copy will be sent to you for 10 Cents

CENTRAL NURSERIES

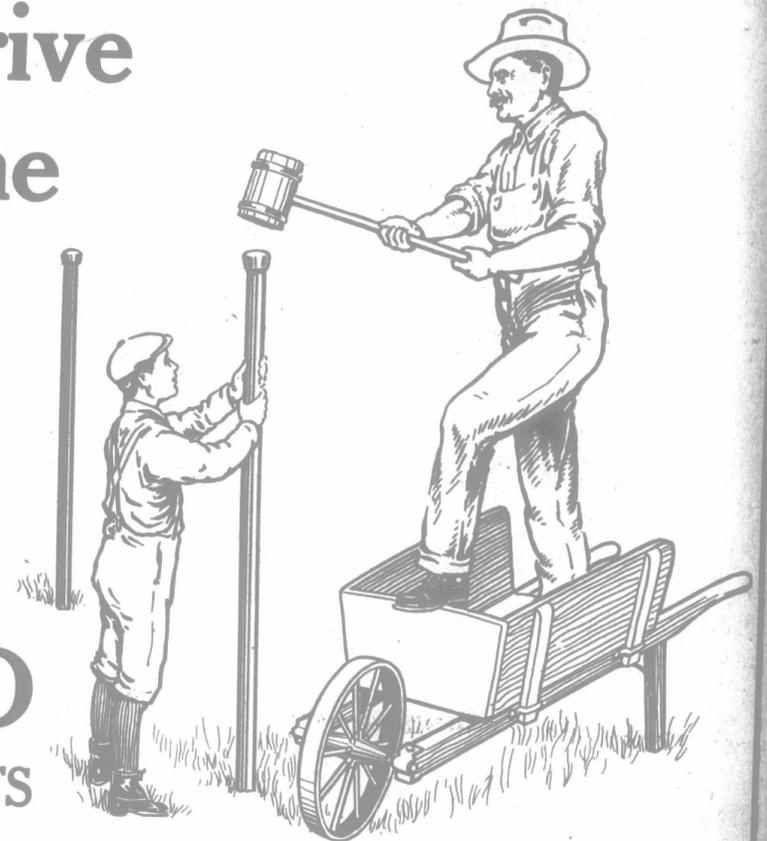
For reliable Apple, Pear, Plum, Cherry, Peach and Ornamental Trees, Shrubs, Roses, Grape Vines, Berry Plants, Evergreens, Hedges, etc.—good ones, too. Also Seed Potatoes.

We ship direct to customers. Our apple trees are extra fine. Write us for prices on your lists for early Spring Planting.—36 years at it. No agents.

A. G. HULL & SON, St. Catharines, Ontario



If we could drive
our point home
 as easily
 as you
 can drive
STANDARD
 STEEL TUBE FENCE POSTS



you would sell yourself these great
 improvements in farm fence building

Our Point :

Is cut out the waste in farm fence building. Why dig a hole three times too big for a wooden post, then stick the post in, fill up the hole and have the post rot to pieces in a year or so and have to go through the whole performance again? Why do it? Especially when the new way is so much better. With Standard Steel Tube Fence Posts a line is driven as easily as though they were tent-pegs. Once in they are anchored for all time. They hold tight. They can't wobble and they won't sag. They can't burn, and of course never breed crop-ruining pests like cedar posts. Ask the men that use them. They'll tell you fence-building is cheaper, easier and a better job when you use STANDARD STEEL TUBE FENCE POSTS AND WIRE FENCING.

Our Prices :

Sometimes we think fence advertisers in general must know very little about farmers. Everyone claims "the lowest prices"—as though they meant anything to a farmer who is on to his business. We believe figures talk louder than words. We believe you believe the same. We therefore ask you to get our price list and let us figure it out together, but without any generalities. Let's get down to brass tacks on the price question. Just send us the coupon and let us quote you. That's fair, isn't it?

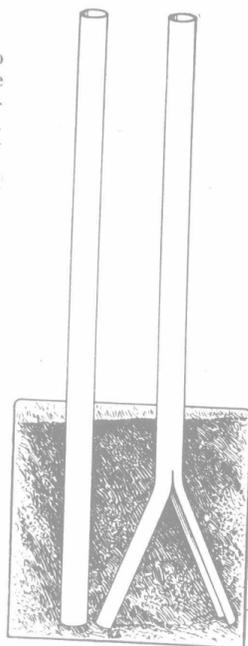
Our Guarantee :

Guarantees count a lot this year—more than ever before. Steel is way up. Galvanizing materials are sky-high. The tendency is to skimp. Don't buy skimped fence. It's the most expensive there is, no matter what its price. Our usual guarantee goes this year as always before—"FULL GOVERNMENT STANDARD NO. 9 GAUGE WIRE. PERFECT GALVANIZING. STANDARD EXCLUSIVE KNOT—"THE TIE THAT BINDS."

Your Move :

Send us the coupon for our catalogue and fence prices. Compare them with the prices you are getting. Compare the guarantee. Then give your order to us. Fair and square, isn't it? All we ask is the return of the coupon to you. Tear it off now and mail it to-day to the

Standard Tube & Fence Co., Limited
 WOODSTOCK, ONTARIO



We invented the knot that is now being used on practically all farm fence. Our present device has as many advantages over the imitations as the original invention had over the old method. We get a gradual curve to our knot that protects the galvanizing from injury. The knot itself holds like an English bull dog.



The Standard Steel Post Hook. This illustration shows perfectly how taut and even the fence wire is held. With Tube Posts and these hooks you cut out the worst part of fence building—hole-digging and staple-driving.

STANDARD TUBE & FENCE CO., Limited
 Woodstock, Ontario

This illustration shows how the Standard Post anchors itself into the ground.

Ask for our special folder on POSTS.

Please send me your catalogue price list, and special folder on Standard Tube Posts.

Name.....

Address.....