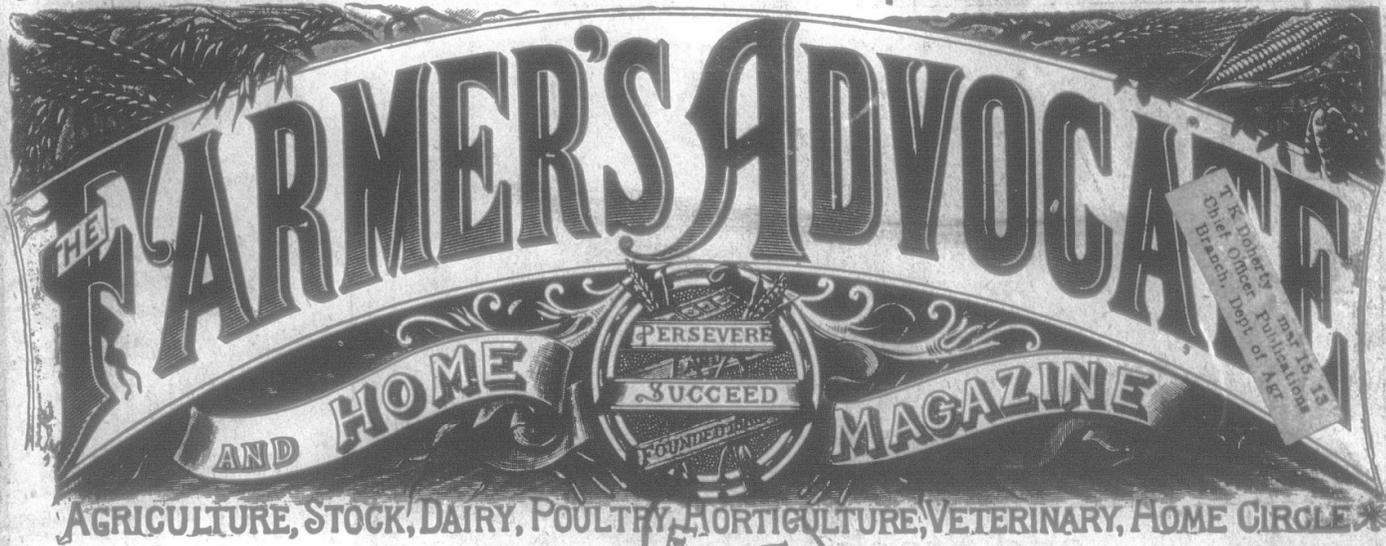


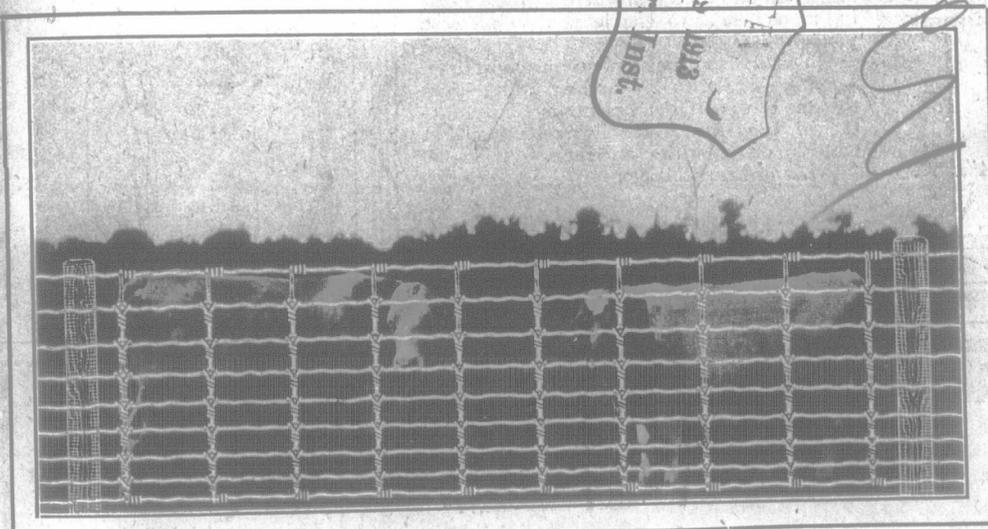
PUBLISHED EVERY WEEK. \$1.50 PER YEAR.



Vol. XLVIII.

LONDON, ONTARIO, DECEMBER 25, 1913.

No. 1082



Frost Fence First

THOUSANDS of good farmers know the Frost way of making wire and fence, and appreciate what it means to them; then again, there are those who don't know. Are you one of these? You ought to know---YOU will profit by knowing, and we are going to tell you why.

The Frost way of making fence starts in having control of the quality by producing the wire in our own mill. It is the right way. This could not be done for a small output, but there is enough Frost Fence and Wire used to keep our fully-equipped wire mill running double turn the year round, at an average daily production of 60 tons. This is about five times the quantity used when we imported commercial wire. Imported wire is the kind made to serve many purposes; not specially suited for any one use.

Our wire mill superintendent has had 25 years' experience in wire-making in some of the largest mills, and knows what is required for service in fence, and we are actually giving it to you. Your interests are our interests. If you buy more Frost Fence, the more extensively will you profit by our ability to save you money.

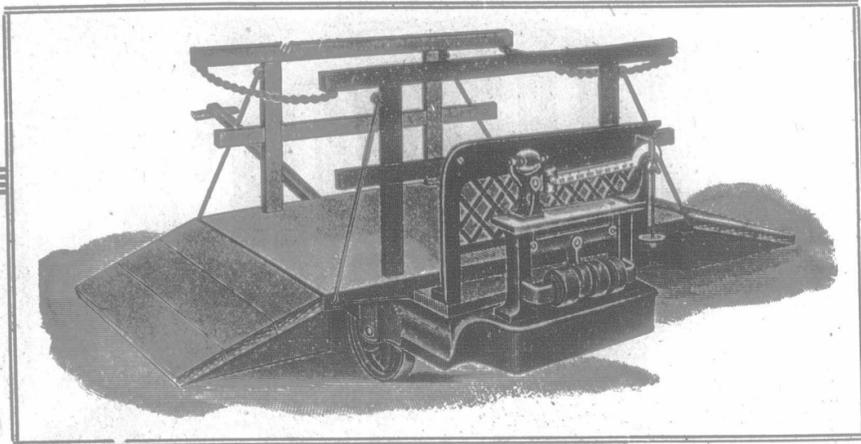
Then why, for the sake of good business and more saving to you, don't you have us make all your fence, instead of having some made of material, the quality of which no one is prepared to vouch for?

Frost Fence is sold everywhere by reliable Frost dealers, many of whom are prepared to furnish men and tools for stretching. The fence comes to you as direct from the makers of wire as it is possible to purchase. You profit from our ability to make good wire, instead of paying someone a profit through having it made for them. You inspect your Frost Fence and know that you are getting weight and quality before you are called upon to pay. Plain enough, isn't it, that Frost Fence is made the right way.

Galvanized Gates and Iron Posts are other popular Frost goods

If our nearest dealer is not known to you, write us.

Frost Wire Fence Company, Limited
Hamilton, Canada



The Aylmer Three-Wheeled Wagon and Stock Scale

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

Why should YOU not weigh your stock and grain and ascertain where you are making money, so as to enable you to increase your profits?
 This scale will pay for itself in a short time. Mail us \$26 to-day, and we will deliver this scale, with Government certificate attached, to your nearest railway station, if in Ontario, or \$35 with cattle rack.
 Let us hear from you.

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



MAIL AND PASSENGER SERVICE
 Under Contract with the Government of
 Dominion of Canada.

R.M.S.P. New Service CANADA to the WEST INDIES.

FORTNIGHTLY SAILINGS
 by Twin-screw Mail Steamers from
 ST. JOHN, N.B., & HALIFAX, N.S.
 to
 Bermuda, St. Kitts, Antigua,
 Montserrat, Dominica,
 St. Lucia, St. Vincent,
 Barbados, Grenada, Trinidad
 and Demerara.

Excellent accommodation for 1st, 2nd and 3rd Class Passengers.

| Steamer | Capt. | St. John | Halifax |
|----------|---------------------|----------|---------|
| OHALEUR | T. A. Hill, R.N.R. | 21 Dec | 2 Jan. |
| OHIGNOTO | Owen Lewis, R.N.R. | 4 Jan. | 16 Jan. |
| COBEQUID | J. Howson, R.N.R. | 18 Jan. | 30 Jan. |
| CARAQUET | W. E. Smith, R.N.R. | 1 Feb. | 13 Feb. |

SPECIAL FACILITIES FOR TOURISTS.
 For Illustrated Folders, Rates, &c., apply to the Agents of THE R.Y.A.L. MAIL STEAM PAKET COMPANY, or in Halifax, N.S., to PICKFORD & BLACK, Ltd.

Don't cut the timber for your new barn before investigating The Steel Truss Barn. A card to The Metal Shingle & Siding Co Ltd Preston Ont will bring full information. Send today



MAIL CONTRACT

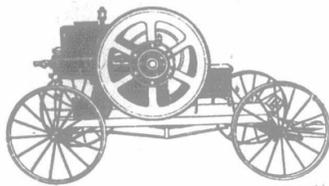
SEALED TENDERS addressed to the Postmaster General, will be received at Ottawa until Noon, on Friday, the 9th day of January, 1914, for the conveyance of His Majesty's Mails on a proposed Contract for four years, six times per week, over Walker's (Glen Willow) Rural Route, from the Postmaster General's Pleasure, next.

Printed notices containing further information as to conditions of proposed Contract may be seen and blank forms of Tender may be obtained at the Post Offices of Walker's, Glen Willow, Osman and Inadale, and at the Office of the Post Office Inspector at London.

POST OFFICE DEPARTMENT G. C. Anderson
 Mail Service Branch, Superintendent
 Ottawa, 28th November, 1913

SAFETY--SERVICE--SATISFACTION

FOR EVERY POWER USER IF HE GETS A



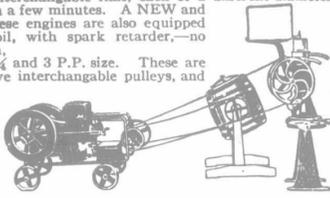
GILSON "GOES - LIKE - SIXTY" ENGINE

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

Does SERVICE SAFETY and SATISFACTION mean anything to you? Does money saved in repairs and expense bills, time, equipment, etc., mean anything to you? Get Gilson Facts and find out how the Gilson 60-speed and 100% Service Engines do the greatest variety of work—give the maximum satisfaction—are trouble proof and fool proof. Their scientific design makes them absolutely safe—they are approved by the National Board of Fire Underwriters; no insurance troubles.

NEW FEATURES AND LATEST IMPROVEMENTS.

The new Gilson 100% SERVICE ENGINES, 4 H.P. and upwards, are equipped with our new friction clutch pulley with five interchangeable rims, each of a different diameter. Change to the proper speed for every job in a few minutes. A NEW and EXCLUSIVE GILSON FEATURE. These engines are also equipped with a magneto, without batteries or coil, with spark retarder,—no cranking necessary. A child can start them. We also make 60-SPFED engines in 1 1/2 and 3 P.P. size. These are mounted on truck, with line shaft and five interchangeable pulleys, and pump-jack. Drop us a card to-day, and we will send you full descriptive literature. We are making special prices to the first purchaser of one of these engines in every locality. Write NOW. Agents Wanted. GILSON MFG. CO., LTD. 2209 York St., Guelph, Ont.



CENTRAL NURSERIES, ST. CATHARINES, ONT.

Have a fine assortment of Trees, Vines, Plants, Ornamentals, etc., for Spring planting.
 For satisfaction, plant Everbearing St. Regis and Himalaya Berries.

Our prices are right and so are the trees. Send for priced catalogue if you have none, also your want list for special prices on apple trees. We can please you.

CUSTOMERS TALK BACK

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



PEERLESS PERFECTION

It's made right—from high grade material. In the construction of our PEERLESS FENCING we use open hearth steel wire. By this process impurities are removed from the metal, thus eliminating one of the chief causes for the rapid rusting of fence wire. PEERLESS is guaranteed to give you satisfaction. Send for catalog. Agencies nearly everywhere. Agents wanted in open territory. THE SANWELL-HOXIE WIRE FENCE CO., Ltd., Winnipeg, Man.—Hamilton, Ont.

Cunard Line

CANADIAN SERVICE

Immigration Department

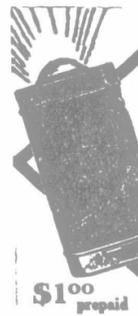
Special interest to Farmers' Clubs. We'll secure "help" for farmers from the country districts of the British Isles.

Requisitions must be filled up. Copies sent on application. Average time to get you "help," about six weeks.

No fee charged. Only regular fare on ocean and rail to pay.

Write for further particulars.

Cunard Steamship Co., Limited
 114 King Street West
 TORONTO



NINE LIVES Electric Flashlight

Only \$1.00 by mail

—gives a bright, powerful light instantly—just press the button. Compact, handy and safe. Four times as strong as any other and can be recharged for a trial. Can't explode. The baby can handle it. Safe in a powder bag.

Mail your order to-day

—to—
 CANADIAN CARBON CO. Ltd.
 90 West King St. - Toronto

\$1.00 prepaid



Build Concrete Silos

Any size with the London Adjustable Silo Curbs. Send for Catalogue. We manufacture a complete line of Concrete Machinery. Tell us your requirements. LONDON Concrete Machinery Co., Limited, Dep. B, London, Ontario. Largest manufacturers of Concrete Machinery in Canada. 1

Please mention "The Farmer's Advocate."

Swift's Fertilizers

RED STEER BRAND

Crop Producers—Soil Builders.
A fair trial will prove.

"It Pays to Use Them"

Live agents wanted everywhere.

Swift Canadian Co. Limited
Toronto, Canada

Cotton Seed Meal

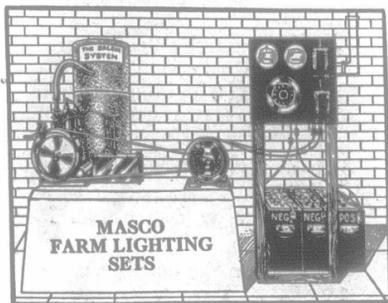
\$33.50 per ton
f. o. b. Forest

Terms: Cash with Order

H. FRALEIGH,
FOREST, ONTARIO

Modern Farmers Use Electricity

NOT only so, but they produce it from their own electric plants. Recent improvements have so reduced the cost that it is possible to purchase and install a complete outfit—including all lamps and wiring at little expense



MASCO FARM LIGHTING SETS

are built for this purpose. They are simple—dependable—and economical. We supply all material to suit your conditions; and will install same if desired.

Write us for particulars and terms.

THE MASCO COMPANY, LIMITED

58-60 CHURCH STREET :: :: TORONTO, CANADA

In Cold, Snow or Slush

No matter—you will be warm, dry and comfortable, if you wear

LUMBERSOLE BOOTS

Try for them At Your Store. If not there, have them write us.

All Sizes

For men, women, youths and girls.

Same Price



\$2.00 Delivered Free

Cosily lined throughout with felt—great for winter wear. We have thousands of testimonials for Lumbersole Boots

The Scottish Wholesale Specialty Co.
263 Talbot Avenue, Winnipeg
or from our retail store
306 Notre Dame Ave.
(3 Minutes from Eaton's).



Excelsior Life Insurance Company

ASSETS \$ 3,500,000.00
INSURANCE IN FORCE \$18,500,000.00

To liquidate that mortgage—to provide for old age—apply to-day for an Endowment Policy.
EXCELSIOR CONTRACTS ARE UP-TO-DATE. **DESIRABLE VACANCIES FOR AGENTS.**

Head Office: TORONTO

Study at Home

No matter where you are or what subject you want to study, you can profit by our instruction. We teach: Commercial Course (Bookkeeping, Arithmetic, Penmanship, Business Correspondence, Commercial Law), Shorthand and Typewriting, Beginner's Course, Journalism, Special English, Elementary Art, Mechanical Drawing, Architectural Drawing, Electrical Course, Engineering (Stationary, Traction, Gasoline, Marine, Locomotive, Automobile), Matriculation, Civil Service, Teachers' Examination, or any subject. Ask for what you need.

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

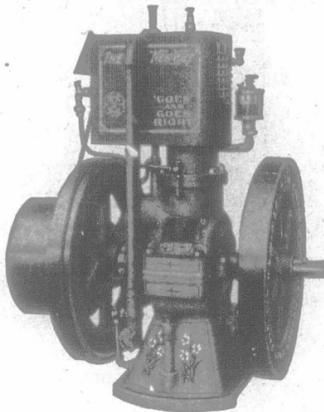
The "New-Way" Air Cooled Engine

Can be depended upon at all times
No danger of cracked cylinders or bursted pipes. The only engine for zero weather.

No chance for any trouble with water.

It is absolutely guaranteed.

No Freeze ups.



It is a heavy duty engine built for continuous service

Long runs do not affect it.

Sparta, Ont., 8-7-13.
I have used one of your "New-Way" engines for five years. It is a good engine and cannot be beat. We have never spent a cent for repairs, that was the fault of the engine. There never was a time when we could not start it. We can back you up in anything you say about the "New-Way" engine because you have the goods. W. B. & T. H. Roberts.
Get our complete catalogue DC 12 at once.

The "New-Way" Motor Company

OF CANADA, LIMITED, WELLAND, ONTARIO

Don't Offer Ice Cold Water to Your Stock

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

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

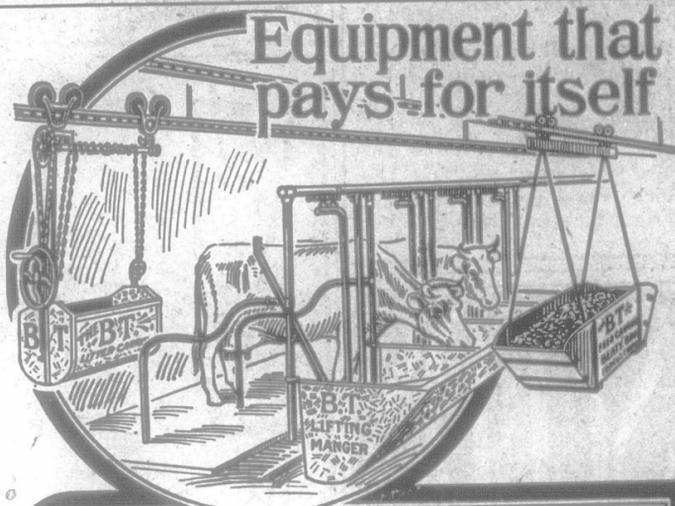
Price complete, as shown, \$7.75.
Order right away and get full benefit this winter.

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

THE HELLER - ALLER CO.
Windsor, Ontario



When Writing Advertisers Please Mention this Paper.



The BT Manure and Feed Carriers, and other Barn Equipment pays for itself in a single year through the saving of feed and labour.

There will be less, hard, disagreeable work; for the BT Manure Carrier will carry all the manure from the gutters to the shed or sleigh or pile in a fraction of the time it formerly took. And all the valuable liquid manure (worth \$7.00 a ton) will be saved because the big, strong bucket is water-tight.

BT Manure and Feed Carriers

Double purchase is used on the BT Carrier, which makes the bucket easy to raise. There is no worm gear to cause friction and no wire cable to break and need renewing. Bucket is suspended at four points which distributes the load and insures smooth running on the track. Bucket tips to either side to dump its load and the tripping latch is carefully protected so it cannot clog with manure.

The handwheel windlass used in elevating, also serves as a handle so you can run the Carrier out without touching the manure.

Carrier does not need to be windlassed down. Simply raise the brake and bucket drops by its own weight. Brake enables you to control the descent. It holds the bucket at any height when you are elevating the load.

BT Steel Stalls, Stanchions, Bull & Calf Pens, etc.

Investigate the whole BT Sanitary Barn Equipment. Learn how it will increase your profits by reducing the time and toil caring for the cows, keep your stock healthier, increase the milk production by making the cows more comfortable, and by making the dairy products purer.

Send for our books. They tell all the facts. They give many fine illustrations of modern barns, with plans and specifications. Ask for Book No. 22 about Manure Carriers, Book No. 21 about Steel Stalls, and Book "How To Build a Dairy Barn". Sent free for your name and address on a post-card.

BEATTY BROS., Limited, 1071 Hill Street, Fergus, Ontario



Christmas and New Year RATES

Single Fare

Dec. 24, 25 good for return until Dec. 26, also Dec. 31, 1913, and Jan. 1, 1914, good for return until Jan. 2, 1914.

Fare and One-Third

Dec. 22, 23, 24, 25 valid for return until Dec. 27; also Dec. 29, 30, 31, 1913, and Jan. 1, 1914, valid for return until Jan. 3, 1914.

Between all stations in Canada east of Port Arthur, also to Detroit and Port Huron, Mich., Buffalo, Black Rock, Niagara Falls and Suspension Bridge, N. Y.

Tickets now on sale at Grand Trunk Ticket Offices.



Write for Catalogue.
Wm. Rennie Co., Limited
Cor. Adelaide and Jarvis Sts.
TORONTO

The More Intelligent Farmers

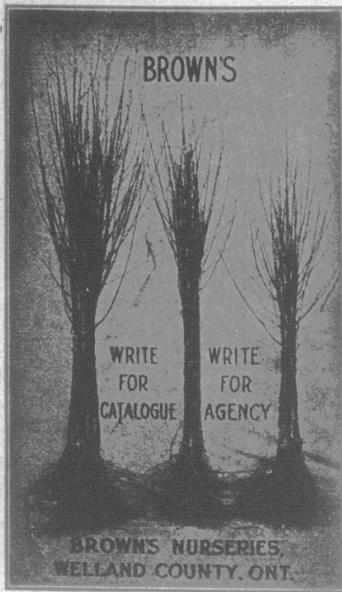
are sending their sons to the O.A.C. to learn the science of farming, and to the "Kennedy" to learn the business of farming. Requires only 3 months—\$30.

Write for catalogue.

THE KENNEDY SCHOOL,
Bloor and Bathurst Streets, Toronto

CEDAR FENCE POSTS

In car lots to farmers at wholesale prices.
Write GEO. A. ANNETT, Agent
Oil Springs, Ontario



Roots and Branches

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

Brown's Nursery
Ontario
Welland County

Are famous because of these two points.

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

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

Ontario Wind Engine & Pump Company

LINE'S ARE SUPREME

WOODWARD WATER BASIN
ONT. WIND ENGINE & PUMP CO. LTD.
SOLE MAKERS TORONTO, ONT.

We made our goods good, our users made them famous. We manufacture what our customers say to be the best Kerosene and Gasoline Engines, Windmills, Feed Grinders, Saws, Pumps, Scales, Tanks, Water Basins, Stanchions, Well Drills and Pressure Tanks, and we believe they know.

Make Your Cow as Comfortable as You Like to be Yourself

Stand her in the O. W. E. & P. Co.'s Stanchions. Permit her free action of the head when she eats, perfect comfort when she sleeps, and yet keep her in place. Water her in O. W. E. & P. Co.'s Basins. Automatically keep fresh and pure water before her, and be sure of her health. The Individual Basin is the only sure method of preventing the spread of disease.

Get our Catalogue showing complete stable equipments. We also have engine catalogues and other suitable literature that is yours for the asking. Write to-day.

Ontario Wind Engine & Pump Co., Limited
Head Office: TORONTO
Branch Houses: Winnipeg Montreal Calgary

The good old way improved

MONEY IN YOUR SUGAR BUSH

Preserve the real maple taste in your maple syrup by boiling it down in the

PERFECT MAPLE EVAPORATOR

Simple to operate, price so moderate that anyone can buy. Made of first quality material. Sold you direct. Makes the small bush profitable.

Every one guaranteed. Order now and be ready to take care of your early runs of sap the best and most profitable you get. Write for pamphlets to-day.

The Steel Trough & Machine Co., Limited, 145 James St., Tweed, Ont.



QUALITY AND EFFICIENCY
ARE MAIN ESSENTIALS IN A PIANO
YOU GET THESE IN A **BELL PIANO**

We take the time and pains to build them right. There are many good features in the BELL never found in other makes. Information in our (free) catalogue No. 40. Send for it.

THE **BELL PIANO & ORGAN COMPANY, LIMITED**
GUELPH ONTARIO

DE LAVAL CREAM SEPARATORS

MAKE FALL AND WINTER DAIRYING MORE PROFITABLE

There is surely no reason to delay the purchase of a separator or to continue the use of an inferior one. A De Laval Machine will save its cost by spring, and may be bought on such liberal terms if desired as to actually pay for itself meanwhile.

De Laval Dairy Supply Co., Ltd.
Montreal Peterboro Winnipeg

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 10¢ a week.

Ask your dealer or write for booklet.
STEELE, BRUGES SEED CO., LTD., WINNIPEG, MAN.
Wm. Cooper & Huggins, Toronto, Ont.

Why We Pay More For Your RAW FURS

We are the oldest RAW FUR HOUSE as well as the largest collectors of CANADIAN RAW FURS in Canada. That means larger experience, larger markets and a LARGER PRICE to you. Ship direct to us. Returns made same day furs are received. Shipments held separate on request. Fall price list now ready. Write for it.

HIRAM JOHNSON LIMITED
494 St. Paul St., Montreal
Mail Dept. "D"

CHURCH BELLS CHIMES AND PEALS
MEMORIAL BELLS A SPECIALTY
FULLY WARRANTED
McSHANE BELL FOUNDRY CO.,
BALTIMORE, Md., U. S. A.
Established 1866

The Farmer's Advocate and Home Magazine

PERSEVERE
AND
SUCCEED

ESTABLISHED

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875

Vol. XLVIII.

LONDON ONTARIO, DECEMBER 25, 1913.

No. 1082

EDITORIAL

A Merry Christmas to all our readers.

No other holiday season is so much enjoyed as that connected with Christmas.

A correspondent in this issue gently reminds the man on the farm that he has not been progressive enough. Read what he says on specialization.

"Peanut butter" and "oleo" may "look good" to peanut politicians, but Canadian legislators have been brought up on an honest and more wholesome diet.

It is not the intrinsic value of the gift which counts, but the spirit in which it is given. Some of the most highly-prized trinkets are priceless on this account.

The addresses at the Guelph Winter Fair were more interesting than ever before. See our report in last week's issue and don't fail to read in this issue. Also see reports of other addresses.

With the best of draft horses, dairy cattle, beef cattle, sheep and swine of many recognized pure breeds to choose from, and a growing demand for most of them is a rosy prospect for the Canadian live-stock farmer.

When exhibitors and visitors turn out in such numbers as they did this year at the Ontario Provincial Winter Fair, held in rather cramped quarters, what will they do when the new arena is completed and there is the best of accommodation for stock and man?

"Business acumen" was emphasized in a lecture at Guelph as one of the essentials to success in pig feeding. How directly it applies to all farm operations. Pick out the successful men in the neighborhood and almost invariably business ability stands out prominently.

Most of the university curricula are already pretty well crowded, but, notwithstanding the amount of "cramming" each student is at present compelled to do, a course to develop militia officers is to be put on at our universities. From the small boy in knickers to the full-fledged graduate of our highest educational institutions the authorities seem bent on making soldiers and developing the military spirit.

The men of no other business are so divided as is the farming population of the country. As a body of men farmers represent a wide diversity of individual interests, but surely these interests are not so far apart that some level for all cannot be settled upon. One body of farmers agitating for one thing, and another body of men engaged in another branch of farming favoring something directly opposite, can never be effective in bettering Canada's agricultural condition.

What the Winter Fair Teaches.

An exhibition to accomplish all it sets out to do must have an outstanding value as an educational institution. From this viewpoint the Winter Fair excels the autumn exhibitions as far as live stock and other things agricultural are concerned. There are lessons galore for the farmer at this winter show—lessons in the judging ring, where all breeds and classes compete on common ground, and lessons in the lecture room, where prominent, practical breeders, feeders, farm managers and investigators give the benefits of their advanced knowledge to all those who are privileged to attend. There are always new problems to face and new lessons to learn. The judging arena, while not large enough to cope with the situation, afforded thousands an opportunity of viewing at close range the types of animals which our best breeders are trying to produce at the present day and which our markets demand. In the draft horse size, massiveness and heavy muscling alone are not enough, but these, coupled with clean, flat bone, large feet, with prominent, well-defined hoof-heads and snappy, straight, bold, true action, regardless of the breed, is the horse that wins. This was proven from class to class throughout all the horse judging at the recent show.

The lessons were just as outstanding in the beef cattle. The winning animal must have size sufficient for age, but it must carry an abundance of smooth, firm fleshing, with the deep body and the well-sprung rib and the straightness of lines so well marked in the champions.

The dairy cow is the opposite in conformation of the beef animal. Short tests do not prove very valuable to the dairy breeder. There are many factors which may enter into a three-day test, or even a seven-day test, to run the percentage of fat up in the milk and thus place a cow at the head of the list which for a longer test would have had no chance and which as an individual might be inferior in type and conformation. However, the short test is the only feasible plan of testing for a winter fair and serves to show the people certain possibilities of good stock, good care and good feeding.

The lecture room is not always as well filled as it should be, but this year we noted that more discussion than usual was entered into by those present. It is from discussion that the real good comes out of lectures. The man who gets so interested as to ask questions of vital importance to himself usually helps greatly the others present who are in all probability similarly situated. Many helpful discussions were entered into at the close of each lecture. The way the large audience warmed up on stallion enrolment, the dairy Shorthorn, lightning rodding, breeding and feeding swine, questions of vital importance to the dairy industry, and various addresses on the present status of the poultry industry, showed that at least a portion of the farming population is becoming intensely interested in the work they are engaged in. We cannot do better than urge our readers to turn back to our last week's issue and read the full report of the Winter Fair and also of the lectures at Guelph, some of which, owing to lack of space, appear in this issue. Read them carefully, weigh the points brought put and if you think they warrant further discussion, our columns are open.

A Permanent Institution.

What is there in a name? An unmeasured quantity as it applies to the "Guelph" Winter Fair. In the past few years the Ontario Provincial Winter Fair has outgrown the buildings provided for it. Its clothes have become too small, and they have been let out to the last inch. Extension after extension has been made. This year a part of the city hall was brought in to service for the seeds and other exhibits, and still there was crowding of exhibits and "jamming" of people. The crowd goes to Guelph. After the dissensions of a year ago, and the strong complaints raised as to accommodation for the fancy stock, and for the visiting public anxious to see and learn something, to have the good old fair come back stronger than ever before in number of entries, quality of stock, and in daily attendance was conclusive proof that whether or not National or International shows are inaugurated, rise or wane, the Winter Fair at Guelph is a permanent fixture, and will draw large crowds and good exhibits. New exhibitions help the old-established fairs, and the more really good exhibitions the better. With the promise of Federal aid and also with renewed hope of greater Provincial support, the Provincial Winter Fair closed its doors for 1913, having accomplished the beginning of the great successes in store for it. The old patchwork building is altogether inadequate, and further patching would be a suicidal policy. The grants are now promised, and the rapid growth of the exhibition is surely proof of the growing popularity and stability of the institution sufficient to warrant the building of a large arena big enough to accommodate the increasing thousands which are sure to attend the Fair year after year. Improvements must be made with permanency and rapid growth in view. The management should build for the future, not for to-day or for next year. The present building is a sample of that short-sighted policy. The need is urgent. Lack of space should not be longer allowed to mar the Fair of a great deal of its educational value. The Fair is to go on, and must get the needed support of the Government immediately.

The Spurious Newspaper Hawker.

Nothing is so loathed by reliable publishing companies as the methods used by some other publishers to practically force people to subscribe to papers which they do not want, either to get rid of an unduly persistent, and often entirely obnoxious canvasser or mayhap the victim is humbugged by a cheap and practically worthless premium in the form of a so-called fountain pen, razor or some such inducement. Canvassing for a farm paper should be just as elevating a calling as being agent for any other necessary commodity, but many a young man looks askance at a position on a circulation department, not caring to be associated with a certain class of newspaper salesmen of the "fakir" variety. This latter gentlemen gets in his best work at some of the leading agricultural exhibitions where he literally collars every man, woman and child that looks easy enough to part with enough money, as he untruthfully says, to pay the postage on the particular publication he offers, and he generously throws in what he has the gall to call the best fountain pen, best razor or best something else on the market. He does not hesitate to use any possible decoy to get the prospective

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN
THE DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED),
JOHN WELD, MANAGER.

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

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all classes 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. 6d. in advance.
3. ADVERTISING RATES.—Single insertion, 25 cents per line, agents. 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 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. 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 they have appeared in our columns. Rejected matter will be returned on receipt of postage.
11. 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.

victim interested. He may lead a young lad over to a fine bullock and introduce the subject of cattle feeding, and soon work around to the worthless premium and the cheap publication. The word "cheap" is used purposely, for no really good paper of value needs to use such methods. As soon as he separates his victim from his money, usually \$1.00, he tackles another, and so it goes.

"The Farmer's Advocate" is not sold on such a basis. The value of the paper is sufficient inducement to subscribers. They subscribe for the wealth of reading matter which it contains, and are not duped into taking it by fountain-pen sharks and razor sharpers. It is sold on its merits. Besides "The Farmer's Advocate" has stood for confining newspaper canvassers to booths or stalls, all on an equal footing, at all our leading exhibitions. People who go to a show to see and learn do not care to be "cat-hauled" around by a talkative newspaper agent. At the Canadian National stalls are now allotted to all farm papers who apply, and all business must be done therein. The sooner other show managements follow the lead the better for all concerned, and the sooner the public beware of the worthless subscription premium, the sooner will they get value for their money.

Want an Encyclopaedia ?

We have frequently been asked to include in our list of valuable premiums for obtaining new subscribers to "The Farmer's Advocate and Home Magazine," a trustworthy encyclopaedia, but the trouble has been to find one that would fill the bill in point of quality and at the same time be brought within reach of those who might not be prepared to undertake the acquisition of one of the very large and costly works. After a long and careful search, "The Everyman Encyclopaedia," described more fully on page 2301 of this issue, is offered on terms which will be attractive to all. Our readers will, we feel sure, count it a privilege and pleasure to secure such a comprehensive and compact work of reference. Read carefully the description and the terms upon which, by a little prompt effort, the set can be secured.

Nature's Diary.

By A. B. Klugh, M.A.

There are two kinds of sap in a plant; the water taken in by the root with salts in solution is called crude sap; the sap which contains the manufactured food is termed elaborated sap. The crude sap flows up the stem through comparatively large vessels. These large vessels show towards the pointed end of the bundle in Fig. 1, which is a photomicrograph of part of a stem

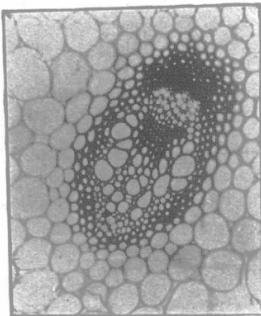


Fig. 1.—Photomicrograph of portion of stem of Buttercup. Photo by Klugh.

of a buttercup taken under the microscope and magnified about forty times. In trees this upward flow takes place through the "sap wood." The greatest upward flow occurs in the early summer, and the vessels which are formed at this season are consequently larger than those which are formed later in the season. As this formation of large and then smaller vessels goes on in trees year after year we get the appearance of rings in the trunk, and from the number of these rings we can estimate the age of the tree. Fig. 2, which is a photomicrograph of a

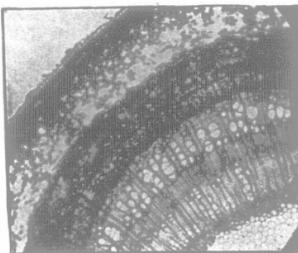


Fig. 2.—Photomicrograph of branch of White Ash, two years old. Photo by Klugh.

branch of white ash, illustrates this, and from the two rings of large vessels we can see that this branch was two years old. We can also observe that it was cut in the late summer as the ring of small vessels is near the bark, but is not yet completed as it would be in the late fall. If it had been cut in the spring or early summer, the ring of large vessels would be near the bark.

The elaborated sap flows down through much smaller vessels. These show at the rounded end of the bundle in Fig. 1, arranged in a somewhat

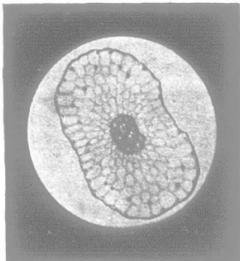


Fig. 3.—Photomicrograph of stem of a Pondweed. Photo by Klugh.

rounded mass in a rather diamond-shaped pattern near the black mass of supporting tissue. In trees these vessels are found in the inner bark, and are shown just outside the outer layer of sap wood.

The fact that the downward conduction of elaborated sap takes place through the inner bark accounts for the killing of a tree when it is "girdled," that is, when a complete ring of bark is removed from it.

Illustrations of this downward movement through the bark may be seen in cases where a tight wire has been placed about a tree. It will be noticed that there is an enlargement above the wire. This is due to the obstruction of the channels of the manufactured sap.

I mentioned in a preceding article that the firmness of the stems of herbs was largely due to their being tensely filled with water. In the case of young woody stems the strength is given mostly by special hard fibres, known as bast fibres, in the inner bark, but as the stem or branch grows the function of support is largely taken over by the wood. Even in herbs we have some supporting fibres, such as are shown surrounding, and particularly at the rounded end of the bundle in Fig. 1.

In the case of plants which grow up into the air, the matter of a sufficient supply of oxygen for all parts of the plant is not a difficult one, but in the case of plants which grow submerged in the water it is a different matter. These plants have, therefore, in their stems large open tubes known as air-spaces. These show clearly in the photomicrograph in Fig. 3 which represents a section of a stem of one of the Pond Weeds (potamogeton). At the centre of this stem may be seen the area containing the larger vessels for the upward flow of crude sap, and the smaller downward conducting vessels.

To see the bundles of vessels which conduct the sap in a common plant one has but to break a dried cornstalk across, the little threads which project are the bundles.

In a perennial plant, such as a tree, all the cells of the trunk and branches originate from an exceedingly thin layer between the wood and the bark known as the cambium. From this the cells which become wood are given off on the inside, and those which become bark on the outside.

Co-operation.

By Peter McArthur.

At the time of writing the Dominion Grange is having one of the most important meetings in its history. I suppose I should wait for the newspaper reports of the proceedings before making any comments, but, as I have had some experience of the difficulties they will have to contend with, it will do no harm to talk them over just now. In the nature of things difficulties cannot be overcome for many months, and, in the meantime, they must be thoroughly discussed. The most significant thing on the Grange programme this year is the attempt to arrange with the Grain Growers' Grain Company and other organizations of farmers in the West, for an exchange of products. We need their feed grain and grain products, and they need our apples, fruit, honey and vegetables. As there are organizations in the East and West for the purpose of selling products, it is proposed that they make arrangements to deal with one another. The idea is excellent, but, as I pointed out last fall, there is one great difficulty that must be overcome before this exchange can be conducted successfully. At the present time there is an open market for the products of both the East and the West, and the sole purpose of existing organizations is to secure the full market price without paying commissions or profits to agents or commissionmen. If they try to deal with each other, the case will be entirely different. They will have to fix reasonable prices of their own, independently of the market, or there will be no advantage in dealing direct. If we must pay the same price for our grain from the West as we would have to pay to local dealers, where would be the advantage of dealing direct? Similarly, if the people of the West must pay as much for our apples and other products as they now pay at Western points, why should they deal with us? As a matter of fact, both would be doing better by buying from the regular dealers; for these dealers would be taking all the risks and putting up the capital needed to move the products. On the other hand, both could make a good profit, without taking big risks if they would set fair prices and deal direct with each other. But will they do it? They may be educated to that point some time, but I doubt if they will do it right away. Both want all the profits made by the middlemen on their particular products, and if they insist on that there will be no advantage in dealing with each other. If by organizing for the purpose of selling, they can reach the open market easily and get the top price they are going to do it.

Last fall I got more requests for apples than would have sold all that were produced in Middlesex County. As some of these were from farmers' clubs I had high hopes of bringing them into contact with our Apple Growers' Association, and making sales that would be advantageous to both. Our association set a price slightly above what the middlemen were willing to pay. This was necessary because we would have to do at least part of the financing of the movement of the apples, and would have more

risks. The us, because current pr to a midd couple of from one would hav they had could hav these org want the the result middlema scold at trayed in less we a their wor he might the Grain

The gr requires handling ed to con get its p consumer business the capit I have b from five ing their on gettin their far simply a tion to In busin must no he must the capit due to t represent due to t earned i risked i Even if son, the capital i business ly to be of being be alw on his c at all t lies in t and mar of the k together risked c It is be conduct that p Further ized so in comp been do kind, th public. financier and, wh their p immissi Farming capital it can the bus wild ch ducted should possibl normal gress, t to set regard profit-t

At a very a paper of this animou made o so insp conform subject during time. in Gu entire F. C. ment l

risks. The farmers' clubs would not buy from us, because they could not get our apples at the current price in our district, and we had to sell to a middleman. Later I received word from a couple of these clubs that their apples cost them from one to two dollars a barrel more than they would have cost if they had bought from us. If they had been willing to meet us half way we could have divided the middleman's profit. But these organizations do not want to divide. They want the whole of the middleman's profit, and the result is that both lose money, while the middleman waxes fat. It is all nonsense to scold at the middlemen when we are simply betrayed into their clutches by our own greed. Unless we are willing to take their risks and do their work, we may as well keep quiet. I shall be mightily interested to see how the Grange and the Grain Growers deal with this difficulty.

The great advantage of co-operation is that it requires less capital in the production and handling of commodities. When capital is allowed to come into transaction of business, it must get its profits even though both producer and consumer are robbed. The capital engaged in business appears to be entirely different from the capital engaged in farming. Time and again I have been told by farmers owning farms worth from five thousand dollars up that when estimating their profits for the year, they did not count on getting interest on the capital invested in their farms. They seem to regard that capital simply as something that puts them in a position to earn good incomes by their own work. In business it is different. The business man must not only make a good salary himself, but he must get at least interest if not profits on the capital invested. This difference is probably due to the fact that in many cases the capital represented by the value of the farm is largely due to the growth of the price of the land (unearned increment), and that this capital is not risked in any way by the farmer's business. Even if his crops should fail, owing to the season, the value of the land is not impaired. His capital is still there as safe as ever. But if the business man has a bad year his capital is likely to be impaired, and it always stands the risk of being wiped out. For that reason he must be always on the lookout for interest and profits on his capital, so that it may be at his service at all times. The great value of co-operation lies in the fact that the business of production and marketing is done with little or no capital of the kind that must have interest. By acting together people do away with the need for this risked capital which they find so burdensome. It is because all business at the present time is conducted by the employment of risked capital that prices are constantly being forced up. Furthermore, the mergers and trusts, are organized so as to do away with the risks of capital in competitive business, but when the risks have been done away with by organization of this kind, the advantage gained does not go to the public. In order to safeguard their capital, financiers organize so as to acquire monopolies, and, when the monopoly is secured, they abuse their power, and secure profits that would be impossible in markets that are not controlled. Farming is about the only business in which the capital employed is secure, and for that reason it can be conducted rationally and sanely. In the business world capital is constantly taking wild chances for big profits, or grabbing for monopoly and still bigger profits, with the result that the business world has made itself a burden to the community. If we can extend co-operation into the transaction of the world's business, both producers and consumers can be served to the advantage of both without the destructive turmoil of the business world as at present conducted. Bloated fortunes made from profits that should have never been exacted will become impossible, and the cost of living will become normal. But before co-operation can make progress, the people who are co-operating must learn to set fair prices and deal without too much regard to the markets that are established by profit-taking capital.

THE HORSE.

The Stallion Act.

At the Ontario Provincial Winter Fair of 1912 a very interesting discussion took place following a paper on stallion enrolment, and, at the close of this discussion, the large number present unanimously voted to have stallion inspection made compulsory, and also to have the stallions so inspected, graded according to breeding and conformation. Stallion enrolment has been the subject of many addresses, and many articles during the year which has passed since that time. At the Winter Fair, which recently closed in Guelph, one of the largest meetings of the entire exhibition listened to an address by Dr. F. C. Grenside on the same subject. The enrolment board have from experience seen where the

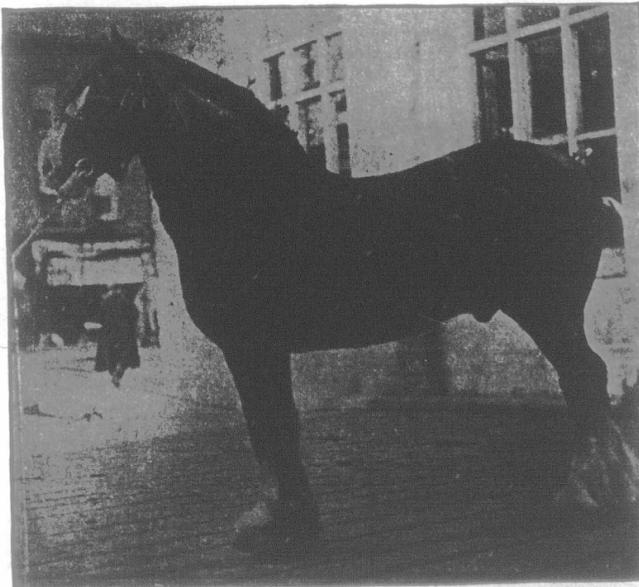
Act can be made stronger and thus better suited to accomplish what it set out to do, namely, eliminate the scrub stallion. Similar legislation is in effect at the present time, as pointed out by Dr. Grenside, in upwards of two dozen States in the American Union and in all the Provinces of Canada with the exception of Quebec. This need not necessarily be taken as proof of the value of the Act as passed in Ontario. The

safe method was to let the stock breeders handle their own business, and so improve conditions that the scrub sire of any kind would not be used. We quite agree with this man that the stockmen of the country would get the most out of stock breeding by going ahead and improving their stock, and by showing the value of the really good sire, succeed in getting them to use nothing else but the best and thus drive poor breeding stock out of the country, or, at least, in the case of the horses to the collar or in case of other animals to the butcher's block. But it would take many years in some sections of the country to drive out the scrub stallion by this means, and the horse business of the country was and is being injured by certain inferior sires travelling at a low fee and being used by many rather indifferent horsemen. Were these stallions not available it might be that fewer horses would be bred, but it would certainly result in a more universal use of the high-class sire.

On the other hand it is a difficult matter for a government to pass and enforce a law stating just what kind of horses every farmer must use for stud purposes. Some horsemen regard it as encroaching upon their own private business, and for the reason that the Act, so far as it has gone, has done very little good in the way of eliminating the scrub horse, and realizing that to make the Act effective requires a very stringent law strictly enforced, they do not see how it can be worked out. If inspection is to be compulsory and the horses are to be graded this will be rather drastic action, but a halfway measure is worse than useless. The difficulty is going to be to get a number of really efficient inspectors to pass rightfully on the horses, and then get the necessary machinery to enforce the law. It will be no easy matter to grade horses 1, 2 or 3, even though a set of rules as to conformation and quality be worked out. What the judges or inspectors may consider a No. 3 horse might be called by other equally good inspectors a No. 2 horse, and vice versa. It will, no doubt, lead to no end of trouble, but properly attended to and properly enforced compulsory inspection and grading would, no doubt, in time put the scrub stallion out of business.

Stallion enrolment and inspection is still the live question, and, seeing that the government is going to take up the matter at the coming session of parliament and seeing also that they are willing and extremely anxious, as expressed by the Hon. Minister of Agriculture at the aforementioned meeting at Guelph, to get the opinions of all the horsemen in the province, we are throwing our columns open for discussion of stallion enrolment and inspection as it now affects the stallion owner and as it will affect him if compulsory inspection and grading becomes law. A thorough discussion of this important question at this time is in order, and now is the time to do the talking, when the Act is likely to be amended. We do not care to get unfounded criticism, and we are not after the undue laudation of the enterprise. We want the facts and the opinions of the horsemen of the province.

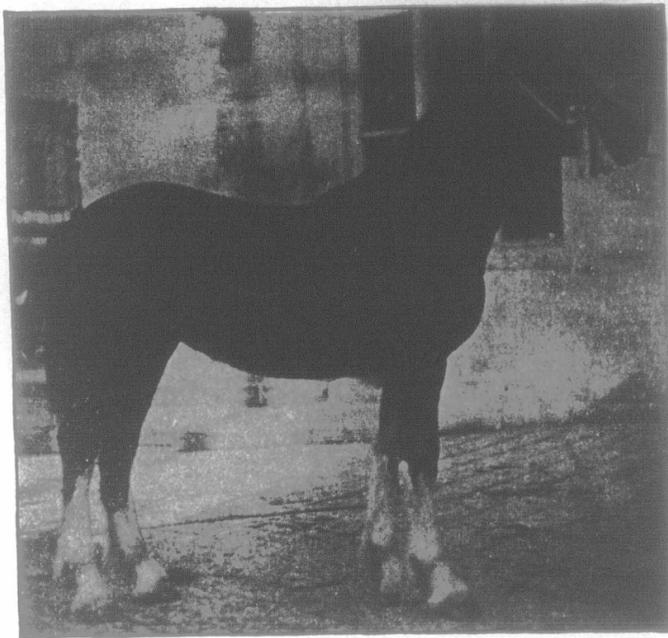
Buy a little bran for the in-foal mare. It will aid in keeping her healthy and vigorous. A little laxative food aids digestion.



Baron Ian.

Grand champion Clydesdale stallion, and winner of the Special Cup for the best horse at the Guelph Winter Fair. Exhibited by John Boag & Son, Queensville, Ont.

meeting at this year's show followed up what those present did at last year's meeting, again passing the resolution that compulsory inspection be made law, and that the stallions be graded 1, 2 and 3, according to breeding, soundness and conformation, and added a rider to the resolution stating that if the Government wishes to force inspection upon the stallion owners, they, meaning the Government, should foot the bill.



Princess Carruchan 2nd.

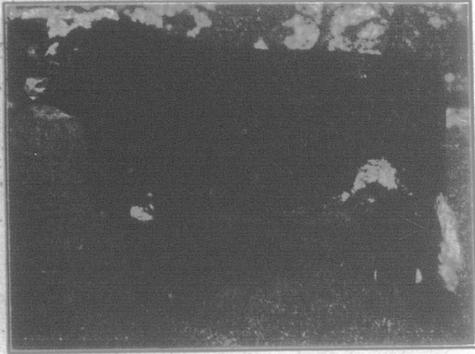
Champion Canadian-bred Clydesdale mare at Guelph Winter Fair. Bred and exhibited by W. F. Batty, Brooklyn, Ont.

It is evident and no one realizes better than the Board that the Act has not gone far enough, but it is a question just how far our Government can go in legislating good horses into the country. A well-known stockman, after the meeting, expressed to a representative of "The Farmer's Advocate" the belief that it was not right to legislate good stock of any kind into the country, and that the only real, reliable and

LIVE STOCK.

Types in Beef Steers.

On this page are illustrated five beef animals of different breeds, and good enough to lead their respective classes or win championships at such large fat-stock shows in the Old Country as those annually held at Birmingham and Norwich. We are reproducing these to show the pronounced blocky type of the recognized beef animal, and also to show that there is more than one breed capable of producing top notchers in bullocks for the block.



No. 1—A Pure-bred Shorthorn Steer.

No. 1 is a pure-bred Shorthorn. He was first at Norwich, and, judging from his conformation, unless there was something in the world-beater class at this show, he deserved to win. Note his short, wide head, full, clear eye and his wide, strong muzzle; then note his smoothness over the shoulder, his straightness of lines, and his great depth of body. Taken throughout he was undoubtedly a great steer.

No. 2, a pure-bred Hereford. He scarcely shows as thick as the Shorthorn steer, but he has a front end hard to criticize. His lines are straight and he appears to be smooth throughout. Look at his head, which denotes good feeding qualities. Also mark his smoothness over the hook bones; in fact his smoothness throughout.

No. 3 is an Aberdeen-Angus Shorthorn cross. He was first at Birmingham. He has a head which any feeder would pick as belonging to a good doing steer—wide, short, with a full, clear eye and strong muzzle. He is also as square as a block, being straighter in his underline than either of the two former steers. Notice also how he carries the meat down the hind quarter. He is a model of beef type.

No. 4 is a Shorthorn-Aberdeen-Angus cross, only a yearling. His sire was a Shorthorn bull, while the sire of No. 3 was an Aberdeen-Angus bull. For a young steer he is extremely thick, and appears to be well finished throughout. The same straightness of lines, depth of body and smoothness is noticeable in this steer as in the other steers.



No. 2—A Pure-bred Hereford Steer.

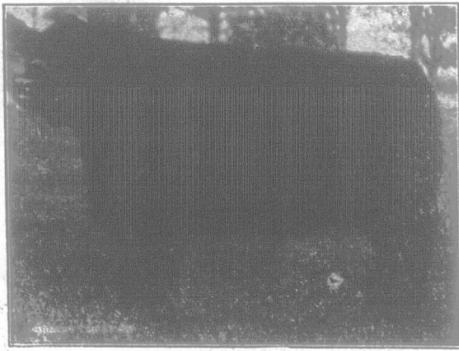
No. 5 is a heifer. She is a cross-bred with some Shorthorn blood in her veins. Who would not feel proud to own such a good beef type of heifer? Smoothness is her outstanding feature. She is a yearling hard to beat.

These five illustrations will bear some study. There is a great deal in them for the man striving to produce the highest class of beef animal at the smallest cost. There is something in breeding; there is more in type and conformation.

Our English Correspondence.

There is as much uncertainty in the cattle ring as on the racecourse. An illustration of this was furnished by two of this year's leading fat stock shows in England. At Norwich, C. F. Raphael's two-year-old cross-bred heifer, Ruth of Shenley, won the championship, for which the Duke of Portland's Aberdeen-Angus heifer, Beauty of Welbeck, was reserve. At Birmingham Show, on November 29th, or ten days later, these positions were reversed. Apart from individual taste, which counts for something in these things, there is to be borne in mind the material fact that while the Norwich champion has put on a few pounds weight since she gained her distinction, the Birmingham champion has added considerably more to her substance. Beauty of Welbeck has a wealth of ripe flesh at two years and eleven months, turning the scales at nearly eighteen hundredweight. Though some may consider her a trifle weak in her forequarters, she is a remarkably level beast, and full of quality. Jew of Glenfield is her sire, and Village Beauty her dam. Her victory was complete for she secured a four-fold honor in the Elkington cup, the Thorley shield, the Webb cup, and the Maisemore cup, for all of which separate conditions are imposed. The runner-up—which was reserved for three of the principal trophies—is of lighter build than the champion, as well as a couple of months younger, being two years, nine months and three weeks old, and scaling seventeen hundredweight. A first cross (Shorthorn and Aberdeen-Angus), she is straight and flat in the back, and is altogether a symmetrical heifer. Shorthorn men were naturally disappointed that the cosmopolitan breed, which regained supremacy at Birmingham last year after a rather long interval, did not maintain its place.

The King maintains his practical interest in the show by making several entries—nine with cattle and four with sheep. His Majesty, however, will hardly regard his total entry of thirteen as an unlucky number, as will be seen from the following list of wins for the Windsor Royal Farms: Hereford two-year-old steer, first and breed prize; Hereford heifer, second prize; Short-



No. 3—An Aberdeen-Angus Shorthorn Cross-bred Steer.

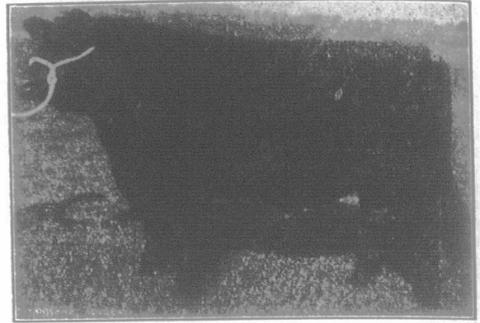
horn two-year-old steer, second prize; Shorthorn yearling, first and reserve for junior championship; Shorthorn heifer, first and breed prize; Devon two-year-old steer, first and breed prize; Devon two-year-old steer, second and reserve for breed prize; Devon yearling steer, first prize.

The King's Shorthorn heifer, Charlotte, which won the breed prize, is true in outline and of sweet character, though lacking the substance of Sir Richard Cooper's two-year-old steer, Marquis, reserve. In the older-steer class, Sir Richard Cooper—whom everybody will be glad to find following so worthily in his late father's footsteps—beats, with his Marquis, the King's Royalist, by Royal Laddie. Opinion at the ring-side varied as to the relative merits of these two animals, but eventually the judges placed the Shenstone Court white steer in front of the Windsor roan, thus confirming last year's awards in the younger class. The winner weighed over eighteen hundredweight at two years and ten months; the King's, at exactly the same age, was a trifle heavier—just nineteen hundredweight. But Sir Richard Cooper's Gentleman John, which stood in the third position, turned the scale just under a ton, though a trifle younger than either of the others. In Herefords, King George won the breed prize with an exceptionally fine animal, heavily fleshed and possessing a magnificent head and front and a capital underline. In the class competition, there was a close tussle between the Royal beast and one of Sir Richard Cooper's. The King's animal had more weight than the other, his scale register at a month under three years being away over twenty-one hundredweight. Old steers and heifers in the Aberdeen-Angus section were good. Among the heifers stood the show champion, the Duke of Portland's Beauty of Welbeck,

which easily beat a lighter animal of J. J. Cridlan's—Pride 11th of Maisemore. The latter's Prince of Maisemore won in the older class of steers, though he is rather light behind; he won at Norwich, and was here reserve for the first prize. The King, as usual, was the most successful exhibitor of Devons, winning two firsts and a second, and also the prize for the best animal of the breed.

In Welsh cattle, the Hon. F. C. Wynn got the breed prize. The cross-breeds included, in addition to the reserve champion, the winner of the junior championship, Sir Herbert Leon's Moonstone 3rd, just under two years, and weighing over fifteen hundredweight, his sire an Aberdeen-Angus, his dam a cross-bred Shorthorn.

The Cooper challenge cup, given by the late



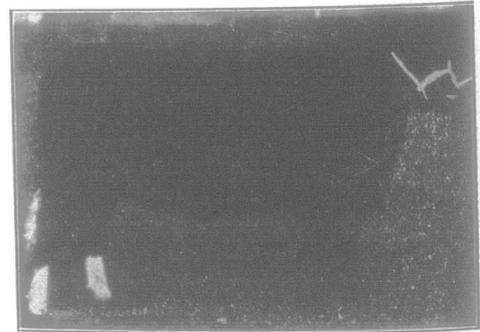
No. 4—A Shorthorn Aberdeen-Angus Cross-bred Steer.

Richard Cooper for the best pen of sheep, was awarded to W. M. Cazelet, Tonbridge, Kent, who gained the trophy with Southdown fat wethers, the reserve number going to a pen of Hampshires shown by Donald Nicoll. The chief winner in Shropshire wethers was A. S. Berry, Lichfield, who took first and second prizes, while in the lamb section Mrs. W. F. Inge was awarded first and third prizes.

The Hotel and Innkeepers' challenge cup for the best pen of two pigs was secured by Arthur Hiscock with cross-breeds, reserve to which were Tamworths belonging to Robert Ibbotson, the same two pigs also getting the Tamworth pig challenge cup.

It can be said that at our leading fat-stock shows no steers over four years old are shown, and this is a pretty good reflection of the general trend of grazing cattle in these days. It may be that we do not get the fine flavor in our beef that our ancestors knew, when feeding was a longer process and no one attempted to fatten a steer till he was fully developed. But economically the modern system is unassailable, and the number of well-fed beasts under two years old which are seen at the shows testifies to a great improvement in more than economical methods. In former days we were wont to see a few exceptional cattle, and dilate on their excellences. Now the excellence is general, which is as it should be.

And now we are waiting for London's Smithfield Show, which is the final court of appeal in all things appertaining to fat stock. The first show of the Smithfield Club was held 115 years ago. Only four classes were considered necessary, but the prize money ran to 50 guineas, and let it be said that £40 came back to the



No. 5—A yearling Cross-bred Heifer.

society in entrance fees. In 1805 the show was held in the Babican, and £52 10s. offered in prize money, but in 1806 the show was held in Sadler's Yard, Goswell street, for the first time, and by 1825 the prize money had reached exactly £100. In 1889 a move was made to the Horse Bazaar, in Baker street, and £300 was offered in prizes, and by 1857 that sum had attained £700. The first year of the show's appearance at the Agricultural Hall was 1862, and £1,000 was offered in prize money. That year, in five days,

184,669 people paid admission to the show. Her Majesty, the late Queen Victoria, won the championship of the Smithfield Show on five occasions. She, however, was not the first Royal prize winner, for King George III. was an exhibitor in 1800, and the Duke of York gained a prize in 1806. The late Queen insisted that all the animals exhibited from the Royal herds should be bred there.

There was an old-time sporting flavor of the Smithfield Shows of bygone days. For instance, in 1834, the Duke of Richmond won a match made with Lord Huntingfield for the five best shearing Southdown wethers. Next year the Marquis of Exeter won a match against the Earl Spencer for the best Freemartin heifer, while Mr. Ellman beat Mr. Thomas Coke with his Southdowns. Compared with the first 50 guineas offered for prizes, let it be stated that £4,400 in prize money will be offered at the forthcoming show. G. T. BURROWS.

Flushing Sows.

Readers who are familiar with sheep breeding have heard time and again the term "flushing" used. It applies to the extra feeding resorted to by many successful breeders at the time or just before the ewes are bred. It has been found by sheepmen that such a practice increases the numbers and strength of the lamb crop to no small degree. J. H. Grisdale, Director of Experimental Farms for the Dominion, touched a new point at a meeting in connection with the Guelph Winter Fair, recently held, when he gave the results of "flushing" as applied to breeding sows. Few pig breeders realize what this might mean to their yearly returns, judging from the experience of Mr. Grisdale. Fourteen sows from an even lot of pigs were chosen. Seven were bred when losing in flesh, while the other seven were bred when thriving well and gaining in flesh. The first seven produced thirty-five pigs, a large percentage of which succumbed, the other seven produced and raised seventy-seven pigs. Here is food for thought. These results may have been extreme, but nevertheless the vast difference must prove that these young sows, by reason of losing or gaining in flesh at time of service, produced small, weakly litters or large, strong litters. It is just another indication that it pays to keep breeding stock in good condition, and especially to have it in good condition, preferably gaining in flesh, at the time of service. Too many allow their brood sows to go down in flesh when suckling a litter (in fact it is difficult to keep them up), and then at weaning turn the sows away to rough it and breed them in a few days while they are in failing flesh, and if there is anything in what Mr. Grisdale says, and there is no doubt about it, run a grave risk of getting small litters of inferior pigs. A better plan would be to let the sow skip her first heat after the pigs are weaned and feed her up well for the intervening three weeks, by which time she should be gaining in flesh and in good condition to breed with a reasonable assurance of producing a large, healthy litter.

THE FARM.

Notes From Australia.

Editor "The Farmer's Advocate":

The apple and pear growers in Victoria are dead in earnest in the proposal to send to London an Australian to control the sales of their produce. The reason is that the agent ring cannot very well be controlled. Indeed, it has been shown that there is a great disparity between the prices which the buyer pays, and the rates which are eventually credited to the exporter. It is only the case of the plain swindle so often practised when the agent is also a speculative buyer himself. The fruitmen are not the only ones who need an honest representative to supervise their business. Take wheat. The actual quotations recently in the London market were four shillings and nine pence to four shillings and ten pence, but the sale rates cabled to Australia were three pence per bushel less. It is high time surely that a swindle of this sort was run to earth. Then there is the question of shipping freights. These are now 10½d. as against 8d. last year. These signs cannot be ignored. The threat of state-owned steamers does not seem to have had much effect. Impositions of the sort force the doctrine of state socialism to the front. The producers must be protected.

SACKS NEEDED.

Australia will require at least 30,000,000 wheat sacks this year. Within the last two years the price of them has more than doubled, as a result of the combine controlling the Calcutta industry. The rates now are up to £31-10 as against £13-10 two years ago. In addition to the wants of the wheat growers, millions of sacks will be needed for the wool clip and the other products of the land. Surely here is the suggestion for a new industry. Jute

requires a warm climate, where it flourishes like a weed, but, in the milder zones, why is it that some substitute cannot be introduced? Though the fibre industry, as it was affected by the jute, was not an attractive proposition a few years ago, the outlook has entirely changed, as the market is not likely to fall. At least that is the opinion of experts. Besides that wheat production is bounding ahead, and it will require a great deal more sacking than is now the case. It may be that the elevator system will tend to make for a reduction, but other industries of the land are also increasing.

The demand for fine wool does not flag. With the tariff trimmed in its favor in America, there is sure to be a great impetus to the industry as a result. Fine wool is the standard amongst staples. It is the one branch of the industry which is beyond the reach of the imitator. The whiter it is the better. This quality is associated always with wools of the finest texture. In years gone by very white wools were the craze, but this fancy waned. Now it stands first again as a want. Quite recently a consignment of this sort of wool averaged two shillings and six pence per pound. Though the manufacturers have for generations led the fashions in woollens still they are not, nor ever have been, able to induce buyers to take the poorer kinds of goods for first-class.

PURE MILK.

A Royal Commission, appointed to inquire into the milk industry in New South Wales, has submitted its report. It wholesomely condemns the existing carelessness regarding distribution, and advocates a central authority of control. The present system of casually inspecting dairy cattle is roundly condemned as opposed to public interests, and it was urged to be quite useless. The inspection of herds was declared to be essentially a matter for experts and not for mere sanitary inspectors, who combine it with a long list of other duties. The administration of the law should be in the hands of a commissioner,

of the health laws. The idea should be taken up by every state and country concerned in the improvement of the industry. The effect will be two-fold—protect the consumers and protect the dairyman against bad financial results of low-grade cream. There is no reason, either, why the Government should not step in and prevent the exportation of butter which will not pass the standard of first-grade.

STALLION LEGISLATION.

New Zealand is the first country in these parts to tackle the control of the horse industry on advanced lines. In Australia the reforms achieved in recent years have been won by the voluntary action of the agricultural societies, who, although they have done good work by stipulating certification as a passport to the show-ring, obviously could not go beyond that mark. The New Zealand Government, however, have introduced a measure to compel all stallions for stud purposes to be licensed. The fine for the first conviction is £20, and any future offence £100. When the application is made for the first license the horse will be tested by two qualified experts. In the case of a stallion under the age of six years, the license is to remain in force for one year, for two years when between the age of six and eight, and for the rest of his life when the horse is over the age of eight.

It looks as if Queensland has really found a practical solution of the prickly pear problem. For the past twelve months Mr. Roberts, a Californian chemist, who is to get 100,000 acres of infected land if he can satisfactorily clear it, has been experimenting with an arsenious chlorine gas. The results are most encouraging. The pear being a very absorbent plant it lends itself readily to the consumption of this gas, which is distributed in the simplest manner, by allowing it to escape as it is generated in the open field. The result is that the plant dies right to the roots. It will also destroy any other soft vegetable growth, providing that at the time the gas is liberated the leaves of the plants are damp with dew or rain. This suggests possibilities with other plants. It is estimated that land which would cost by manual labor anything up to £15 per acre to clear can be treated with the Roberts' process for about three to ten shillings. As Queensland has about 40,000,000 acres of land more or less given over to the pest, and to which has to be added about another million acres every year, it will be readily con-



Winners of the Drummond Cup.

This pen of five Southdowns, winners at Guelph, were bred and exhibited by Robt. McEwen, Byron, Ont.

who would organize the whole industry from that point of view. He points out further that under the present system dairy cattle are not officially inspected more than once in a year, and when they are the work is only perfunctorily performed by a man who is more or less incompetent as a qualified expert.

Of even greater interest to the public are the findings regarding the more advanced side of the industry. He favors the compulsory use of the tuberculin test, and the pasteurization of milk and cream. A reform of this sort undoubtedly strikes at the root of the evils which must be regarded as the most serious in the whole industry. One thing is plain to students that tuberculosis is spreading in Australia, insidiously if not rapidly. The only way to grapple with it is to strike at its very root. By rearing healthy pigs and calves, an object gained by pasteurizing the skim milk and whey, the disease is prevented very largely. This has been proved in those countries which have adopted precautionary measures. The treatment of the milk and cream is also a remedy where there are in existence cattle whose diseases have not been diagnosed. It is wonderful how statesmen will halt at reforms of this kind. They fear the political results. Public interests are made subservient in even so deadly a matter.

Is second and third grade cream deleterious to public health? This is generally admitted in the affirmative. It is, at any rate, not good food. The point has been raised by the Dairy Expert in New South Wales, whose idea suggests the prosecution of farmers who persist in sending stuff of this sort to the factory. Mr. O'Callaghan says that the contention must be upheld regarding that sort of cream which has been invaded by dirt microbes. It is only a matter of time, he thinks, when dairymen erring in this direction will be prosecuted for a breach

ceived what a benefactor Roberts will be if he succeeds.

Elwood Mead, the eminent irrigation engineer, looms larger than ever in the public eye. He proposed to resign recently from his position as water commissioner in Victoria, a most important position in view of the part that irrigation is already playing in the farming industries of the state. This determination caused widespread regret—a condition almost amounting to consternation in certain circles in Victoria, for it was realized that it would be almost impossible to replace so able a man. Besides his ability as an expert he had begun to understand the conditions peculiar to the country, and was mastering them in the interests of the settlers. Mr. Mead made it clear that it was not a matter of money which was the trouble, but a call had come from the California University and it touched him on a tender spot, coming as it did from his native heath. There was such a demonstration of regret in Australia, however, that Mr. Mead suddenly found himself overwhelmed and embarrassed, and he is to take till the end of the year to make up his mind. It would, indeed, be a disaster to lose him. Irrigation is the power which will make Australia great.

Another hopeful sign for the meat industry in the appointment of an Australian commissioner in Berlin, where the municipal authorities have decided to suspend the duty by one-half on imported meats during certain months of the year. Then there is the hope for the trade with America. Several representatives of firms in the larger cities of the United States and Canada have recently been this way to establish business connection, and already as a result there is a hardening in the markets.

The Fruit Packing Act is now law in Victoria. It is designed to meet the evil of layering good fruit on the top of the case, and putting inferior

stuff underneath. Farmers were blamed for this, but the fact was that the bulk of the trickery was practised by the packers in the agent's stores. As a matter of fact the most of the fruit which is sent from one state to another is handled by these packers—or rather dealers and jobbers, who buy up all sorts of mixed stuff and re-sell. They just buy enough of good fruit to veneer the inferior. The re-packing is also carried out so that the fruit of six cases is made to fill seven by a little bit of rigging. The law referred to, therefore, is amply justified. The pity is that the industry could not be carried on inter-state without the middlemen at all. What a splendid thing it would be for the producer if his fruit was entirely handled by his own co-operative machinery. No doubt the system will yet be introduced. The result will be the saving of commission, and better prices from the buyers, while the consumer will get a cheaper and a better article.

Sydney, Australia.

J. S. DUNNET.

Buying Their Wit.

Editor "The Farmer's Advocate":

"Bought wit is the best wit, provided you don't buy it too dear." Farmers know the truth in this old adage, and many who have recently sought to become farmers are just learning how dearly they may buy their experience. For a few years back land speculators have gone mad in the matter of buying land adjacent to the cities and the larger towns. Some farms have been sold at enormous prices, and the speculators have sought to make good by dividing the farms into five-acre garden, or poultry, or residential, or hog-raising lots.

In many cases the results have been disastrous. Land that was poor enough for the most mediocre style of farming has been sold at fancy prices to the unwary for garden purposes. About one year of effort has seen the finish of many of these would-be gardeners. Their vegetables have been a failure in yield and in quality; and the price offered for what they had to sell has proven a disappointment. In many cases these pioneers in the garden business have found that land is not made in a season. The art of gardening is acquired only in a lifetime, while locality as well as the character of the soil has a great deal to do with success. The pity of it is that these amateurs have been lured away from trades or small merchandising where they were doing fairly well for a line of work for which they were utterly unfitted, as far as making it a paying venture is concerned. Not a few of these adventurers have lost all they had, and bitterly curse the press agents who misled them.

One of the worst failures was that of a man who saw in the soaring prices of hogs an opportunity to make a fortune in a year or two. He could feed his hogs on swill and other offal from the city, together with a little meal and mangels that his fertile acres would produce in abundance. He would buy a few breeders, and then it was only a question of banking his profits and waiting a few years till he would be rich from his business, and sell his plant to eager buyers.

He found swill a hard enough thing to produce and to transport. It was still more difficult to keep in sanitary condition. He found his hogs not as prolific as he hoped for, and the caring for young swine a difficult business. Then he had the sanitary inspector to reckon with. In a word, after he had lost eighteen months of valuable time, and after expending the savings of years, he abandoned the whole business in disgust. The sight of the photograph of a hog gives him a spasm.

One wonders when people will get it into their head that gardening is a very special form of farming, and that the care of live stock is learned only by years of experience. The city man who knows nothing of farming and who has visions of easy money from the little farm well tilled, or a quick fortune from live stock or poultry, will do well to think twice before giving up a line of work in which he has been reasonably successful to engage in a line of activity for which he has not been fitted by experience, and in which only the seasoned have won more than a fair degree of remuneration.

York Co., Ont.

O. C.

A Home Made Silo.

Editor "The Farmer's Advocate":

I had been thinking of a silo for a number of years, but did not build one until this year. Gravel was not very plentiful, and believing I could build one of plank easier and one which would suit the purpose just as well, I got out enough logs (Hemlock) and took them to the mill, cut them 12 feet long, and in the spring I got them sawed into 2-inch by 8-foot sticks. It took 130 pieces of this 2x8 stuff to build a silo 12 feet by 24 feet. We piled it carefully and let it dry till midsummer, and then took it to the planing mill and got it planed and matched and then piled it in the dry till we built the silo

after harvest. We put a cement foundation down just like a floor and then had some neighbors come to help put it up. We got the rods from the hardware and had our blacksmith to round up the hoops and thread them. We put nine rods around the silo and did not cut the doors till after we put it up. Then we cut three doors, 18 inch by 24 inch, cut on bevel. Six of us would have raised it in a day if we had not been hindered by the rain. We cut some of the plank and put a six-foot piece and a twelve-foot piece alternate, so as not to have the joints in the one place all around the silo. We had no trouble in building, as the tongued and grooved lumber fitted together like the staves of a pail. We have not painted it yet, but a coat of paint would be all right. We have a good silo 12 x 24 feet, and have put six acres of corn in it, and have room for a couple of acres more. We are using the silage now and it comes out fine. The only regret I have is that I did not build it sooner. Why I write this is to let farmers know how cheap and easy they can build a silo if they only go the right way about it. Cost, not counting team work, which any farmer can easily do at odd times, was:

| | |
|--------------------------------|---------|
| Cutting 130 pieces 2 x 8 | \$ 8.00 |
| Dressing and matching | 5.00 |
| Hoops and lugs | 12.00 |
| Blacksmith | 3.00 |
| Total | \$28.00 |

Also one barrel of cement was used in addition to this. So, you see, in going about it in an economical way one can have a silo very cheap if he has the timber on his own place. It is the large cost of many silos that keeps so many from building. If more will fall in line they will be able to overcome the scarcity of straw and feed and be able to carry more stock, which is the farmer's great mortgage lifter.

Siaco Co., Ont.

FRED. PALK.

The Truth About Lightning Rods.

Prof. W. H. Day, of the O. A. C., told those interested in the lightning-rod question at the Guelph Winter Fair the truth about rodding buildings as he has been able to collect it over a large period of investigation. His was a very valuable address, and we hope to print more of it in later issues. Seeing that our readers have already had it shown to them by articles in this paper that lightning rods are effective in protecting buildings, we take from Prof. Day's paper that portion which deals with the construction and erection of rods. Read it carefully and follow instructions given.

HOW TO ROD A BUILDING.

"When is a building properly rodded?"

1. Ground Connections. For an ordinary building, not an L or T, two groundings should be made, preferably at corners diagonally opposite, though this may be modified to meet conditions, e. g., to run near conductor pipe from eave-trough, and which should be connected to the cable as indicated later. Another factor that may sometimes influence the selection of the ground rod locations, is the presence of manure and the liquid from it. The ammonia in the manure will attack the copper rods, and in a few years eat them off. The heat of the decaying manure will hasten rusting of the iron rods. Consequently ground rods should be located where there is no manure. Some rodding companies in Michigan use a length of half-inch gas piping to protect their ground rods. This pipe is first closed at one end by welding and then sharpened, after which it is driven in the earth point downwards until the top is within a foot or so of the earth's surface. The cable is then shoved down inside the gas pipe till it reaches the bottom, and the pipe then flattened at the top till it presses firmly on the cable. The Patrons Mutual of that State prefers that the groundings be thus protected before they accept the risk in their rodded class, and as already stated, they have paid in eleven years only three lightning claims on rodded buildings. The Protected Mutual, on the other hand will not accept a risk at all if the gas pipe protection is used. They make two objections against it, one that the pipe acts somewhat as a choke coil, the other that the cable is frequently eaten off at the top of the pipe by the electric current passing from the cable to the pipe, thereby putting the system out of order. Occasionally, however, their inspector overlooks a gas pipe grounding and accepts a risk on a building so rodded. Since the 1912 report of the Protected Mutual they have lost their first rodded building by lightning, and curiously enough it was one with the gas-pipe groundings. On examination it was found that the cable was nearly disconnected, only two or three of the fine copper wires were remaining intact. Whether the injury was done in closing the gas pipe too tightly on the wire or by the current eating the wires off was not determined.

It would seem that as yet this method is

open to some question and it would appear wiser to locate the ground rods where there is no manure, then there is no need for the gas pipe.

On an L or T-shaped building there should be at least three groundings. Two of the damages suffered by the Protected Mutual happened in the following manner: The building was a T-shaped one. There was a ground rod to each end of the main part, and from the main system a cable ran along the ridge of the other wing, but the cable was not continued further, there was no ground rod for this part of the system. Later a telephone line was run to the house, entering near this stub end. The lightning flash struck the point on this wing, and divided, part following the cable and part jumping to the telephone line. If there had been another ground connection for this portion of the system no damage would have occurred.

All ground rods should go deep enough to be in perpetual moisture. In Michigan, where rods are subject to insurance inspection, it is insisted that ground rods must go at least eight feet in the earth.

Here let me sound a note of warning to everyone who is having his buildings rodded: Be present and see the ground rods put down. Know for yourself that the rods are actually down eight feet or more. Don't take anybody's say so on this point. Lightning-rod men, as a class, are as honest as any other class of the community, but an odd one is unscrupulous and will "scamp" the job if possible. We have records of cases where the rodding agent, instead of putting the cable eight feet straight down into the earth, has coiled it up and buried it in a shallow hole in dry earth. Nothing could be more dangerous. When electric power companies want to prevent the lightning from coming in on the line wires and damaging their machinery, they make a "choke" coil of several times of the wire just inside the station and beside the line put a ground wire. When the lightning follows the line to the station the "choke" coil makes it so difficult for the sudden current to pass that it jumps the air gap to the ground wire in preference and thus escapes to the earth. Now, the coil at the foot of the lightning rod acts just in the same way. It chokes the flash back and makes it take some other path, down through the building, probably firing the building on the way.

Consequently, let me say again, look well to the groundings. They are probably the most vital part of the system. See the ground rods put in.

Sometimes part of a lightning charge will side-flash from the rod, jumping several feet of air gap in doing so. Why? The total obstruction to the current is made up of two parts, the natural resistance of the wire, and the self induction. The more suddenly the current comes on the greater the self induction, hence with lightning this is by far the greater factor. The self-induction of a short air circuit is sometimes less than that of a low metallic circuit, hence the side-flash in such cases.

2. Cable. The cable beginning at one ground rod should extend up the corner, make a gradual turn at the eaves, go up the edge of the roof to the peak, along the peak to the other end, down the edge of the roof to the eave, and down the corner to the other ground. All turns should be rounded rather than angular.

As the cables near the ground are often subject to injury by stock, implements, etc., they should be protected by wooden strips fastened together in suitable form and nailed over the cable from the ground up to a height of six or eight feet.

3. Points. At intervals along the cable on the ridge there should be placed uprights with points that will not corrode. There is no absolute law as to the distance apart at which these points should be placed, but a rule frequently used as an approximate guide, is that the distance between them shall not be greater than twice the combined height of the two uprights. By this rule, if the points were five feet in height they would be placed about twenty feet apart. The experiments with the little machine have shown us that the flash selects angles and prominences, and we know that lightning shows the same preference in this respect. Consequently points should be placed near each end of the ridge, or on beside chimneys, and on cupolas and dormers.

On these uprights ornaments of one kind or other, such as bright balls, are frequently placed. According to, at least, three manufacturers of rods in Ontario, these fixtures are of no use in telling whether the building has been struck by lightning or not.

4. Attachment. Insulators should not be used. The rods should be in metallic connection with the building. This method of attachment is in direct opposition to that practised when lightning rods were first used. It was then considered desirable to insulate the rods from the building by glass or earthenware insulators. In a thunderstorm the entire outer surface of the building is charged by electricity, and by having the rods in metallic connection with the building

the charge to the pole the opposite

Several

cable to

copper na

the cable.

hold the

use a clip

inch from

method b

chaff, str

collect be

danger of

At first

but after

1,000 in

ly all fa

three sm

due to c

rather d

While I s

having th

less it n

and thus

5. M

were the

tion wit

becomes

material

was con

the reas

rent of

size of

this dif

wire six

copper.

two and

cable w

the foot

current

it is not

be as g

copper l

There

ever.

Oliver I

phenom

well as

lightni

wire w

better

Every

induces

This is

current

as a r

iron ha

than c

much l

of light

judgme

stated,

lightni

rider t

burned

durabl

the zin

inclined

questio

vanizin

well d

the roc

the rod

ply to

But

Lodge

of the

flash i

data g

that li

duty

strokes

there

Now,

a hig

hence,

the be

two tu

pose,

a copy

tion o

on the

terial

Alu

as cop

two c

large

ductin

can se

per, h

a que

cable.

In

cept

rods,

their

ounce

you a

Mutua

iron c

the charge is conducted to the rods, and thence to the point where it leaks off and neutralizes the opposite charge existing in the cloud.

Several methods are used of fastening the cable to the building. Some companies use copper nails, which are driven right in through the cable. Others use staples, others clips which hold the cable tight to the building, and some use a clip which holds the cable out about an inch from the building, the claim for the latter method being that with the rod standing out chaff, straw, and the like would not so readily collect between rod and building, and thus a danger of fire is avoided in case a stroke occurs. At first I rather thought this point well taken, but after finding an efficiency of 999 cases out of 1,000 in Michigan where the rods were practically all fastened close to the building, and the three small damages that did occur all being due to other causes, I concluded it would be rather difficult to secure any higher efficiency. While I say this, I see no particular objection to having the rods stand out from the building, unless it might be that the rod is more exposed and thus more subject to injury.

5. Material. Until recently iron and copper were the only two metals thought of in connection with lightning rods. Now aluminum also becomes a competitor as there are rods of this material on the market. For a long time copper was considered the only metal for lightning rods, the reason being that it conducts a steady current of electricity six times as well as iron, the size of wire being the same in both cases. But this difference may be overcome by using iron wire six times as large in diameter as the copper. This, however, makes too heavy a cable. As standard copper rods weigh about two and one-third ounces to the foot, the iron cable would have to weigh almost one pound to the foot to be as good a conductor of steady current as the copper rods in general use. Hence it is not practicable to make iron rods that will be as good conductors of steady current as the copper rods.

There is another phase of this problem, however. Between the years 1886 and 1892 Sir Oliver Lodge carried on an investigation of the phenomena of lightning, and to his surprise, as well as that of many scientists and of the whole lightning-rod fraternity, he found that an iron wire will carry off a sudden rush of electricity better than a copper wire of the same size. Every sudden discharge or current of electricity induces an opposite current along the same path. This is known as "self-induction." A steady current has no self-induction; self-induction acts as a resistance to the sudden current. While iron has greater resistance to the steady current than copper, yet the self-induction in the iron is much less than in the copper in case of a flash of lightning or an electric spark. Basing this judgment on this fact, Lodge considered, and stated, that, in his opinion, the day of copper lightning rods was done, although he added as a rider that in cities and towns where coal was burned he thought the iron rods would not prove durable, owing to the action of the fumes upon the zinc coating of the galvanized wire. I am inclined to think that even in the country the question of durability is an important one. Galvanizing is sometimes poorly done, and even if well done the corrosion takes place wherever the rods are cut, e. g., at the ends, or wherever the rods are scratched. The same does not apply to a copper wire.

But it seems to me that in this judgment Lodge paid attention almost entirely to one duty of the lightning rod, namely, to carry off the flash in case the building is struck. By the data given at the commencement we have seen that lightning rods have another and a greater duty to perform, namely, the prevention of strokes from occurring. To prevent a stroke there must be a gradual flow of electricity along the rod to the point and into the air. Now, for steady current, copper rods have a higher conducting power than iron ones, hence, for preventing strokes, copper rods are the best. Thus we see that lightning rods have two functions to perform; that for the one purpose, an iron rod is the best, and for the other a copper. Taking into consideration the question of durability, I am inclined to believe that on the whole copper is a somewhat better material than iron.

Aluminum is about half as good a conductor as copper, the size of wire being the same in the two cases. But if aluminum wire is twice as large in diameter as the copper, then their conducting power is equal. Aluminum, so far as I can see should prove equally as durable as copper, hence between these two metals it is largely a question of relative size of wire forming the cable.

In Michigan the Protected Mutual will not accept a risk on a building equipped with iron rods, and the weight of copper rod on all of their buildings is at least two and one-third ounces per foot. The efficiency of their rods as you already know is 99.9 per cent. The Patrons Mutual, however, insures whether rodded with iron or copper—and many of their buildings are

rodded with iron, and yet in eleven years they have only had to pay three lightning claims on rodded buildings, indicating about the same efficiency as with the Protected Company. So experience would seem to support what has already been said, viz., that rods of any metal will give good protection as long as they are in good repair and properly installed. So that the relative value of the rods depends largely upon their respective durability.

6. Metallic Bodies in Buildings. Lightning rod companies here differ considerably in practice. Some connect all metallic portions of the structure to the rods, others do not. The former is undoubtedly the better practice. If the metal body is a long one, like a steel track, roof-gutter, or eave-trough and conductor pipe, both ends of it should be connected to the rods.

Amongst the Seeds at Guelph Winter Fair.

The Seed Department at the Winter Fair was very tastefully arranged in conjunction with the Ontario Agricultural College booth in the City Hall. The Hydro Electric Department also demonstrated the divers uses to which that mysterious power may be put upon the farm. The only trouble was, however, that too many visitors at the Fair did not see these various exhibits. They were isolated, as it were, yet when found they were interesting indeed.

The Canadian Seed Growers' Association, under L. H. Newman, were, for a time, entrenched at the Winter Fair. They had with them, exemplifications of the purity rule, methods of testing for purity any samples sent in by individuals, and exhibits of turnip and sugar beet seed grown in Ontario. It is uncustomary to produce these seeds at home, but the Association is advocating the extension of this practice and so far the results have been gratifying. Outstanding, though, was the model of a corn-curing house, setting forth the improved method of curing seed corn and preserving it dry and free from injury.

The entries in the C. S. G. A. Department show considerable improvement in quality. S. J. Shepley, of Amherstburg, won the Klink trophy on a sample of Wisconsin No. 7, gaining for him the permanent possession of the prize, having won it twice previously, once with Wisconsin No. 7, and once with Reid's Yellow Dent. Sheafs and sacks of grain entered into this exhibit, and made a good display of cleanness and quality.

Fifty-eight sacks of grain were embraced by the exhibit arranged from the Standing Field Crop Competition. The Secretary, J. Lockie, Wilson, got together, at this Fair, the best quality exhibit over which he has ever had charge. Lincoln oats, O. A. C. No. 21 barley, and Wisconsin No. 7 corn, were the varieties winning in their respective classes. One inconsistency is apparent, however, in that flint and dent corns are all judged in the same class. Some districts might be especially adapted for flints and yet could not mature a dent. So far as the Winter Fair competition is concerned they are practically debarred. In addition to this it is well nigh impossible to judge dents and flints in the same class, and the branching of a new class for flints would be a decided improvement.

The prize winners were as follows:
OATS: 1, Foster Bros., Clarksburg; 2, W. G. Rennie, Ellesmere; 3, H. L. Goltz, Bardville; 4, J. A. Cockburn, Puslinch; 5, A. Schmidt, Mildmay; 6, Wm. G. Wilson, Mitchell Square; 7, Short Bros., Salem; 8, Foyston Bros., Minesing; 9, Alex. Hall, Ayr; 10, Jas. W. Edgar, Gorrie.
BARLEY: 1, Alex. Morrison, Smithdale; 2, F. A. Legge, Jefferson; 3, F. E. Wickson, Walter's Falls; 4, Geo. Simpson, Onondaga; 5, Robert Howe, Smithdale.

WHEAT: 1, James Rennie, Milliken; 2, L. Summerfeldt, Unionville; 3, J. A. Gillespie, Ayr; 4, Jos. Taylor, Galt; 5, Wm. C. Shaw, Hespeler.

POTATOES: 1, Wm. Naismith, Falkenburg; 2, Sherman Polmatoerm, Gravenhurst; 3, Dougald Cameron, Mt. Brydges; 4, I. R. Bartlett, Courtland; 5, A. McNeill, Strathroy.

CORN: 1, S. J. Shepley, Amherstburg; 2, John Park, Amherstburg; 3, B. R. Cohoe, South Woodlee; 4, W. Anderson, Malden Centre; 5, S. Diemer, Woodlee.

PEAS: 1, Abe Meihlhausen, Lions Head; 2, Ronald Cameron, Spry; 3, Wm. Bray, Spry; 4, Jas. A. Spiers, Lions Head.

In the open competition potatoes showed the most improvement, and of these the round, white types were most popular. The Noxall variety was first and Rural New Yorker second, with Canadian Standard third. Salzer's North Dakota was the best of the flint corn, and Wisconsin No. 7 won from fifteen entries in the white dents, including White Cap Yellow. Of the yellow dents Bailey was the winner, with Coatsworth's Hybrid second, and Bailey again for third. The Abundance won out of eighteen entries in white oats, with O. A. C. No. 72 coming close up. The Joannette was declared the

best of the black oats, as was O. A. C. No 21 barley in its class. The awards are as follows:

WHEAT.—Fall Wheat (any white variety): 1, R. & A. Oliver, Galt; 2, Thos. Stephens, Aurora; 3, Alex. Morrison, Smithdale; 4, A. R. Wood, Fergus. Fall wheat (any red or amber variety): 1, J. M. Fisher, Mildmay; 2, Jas. Black, Rockwood; 3, W. A. McCutchen, Glencoe; 4, W. J. McClaunie, Comber. Spring wheat (any variety): 1, S. W. & E. C. Bingham, Brisbane; 2, Geo. Berry & Son, Millbrook; 3, S. J. Woods, Metcalfe; 4, A. R. Woods, Fergus. Goose wheat (any variety): 1, A. R. Woods; 2, Geo. E. Foster, Honeywood; 3, Scanlon Bros., Elora.

OATS.—White: 1, Andrew Schmidt, Mildmay; 2, J. A. Cockburn Puslinch; 3, J. M. Fisher; 4, Foyston Bros., Minesing. Oats, black: 1, Wm. Thompson, Aurora; 2, J. M. Fisher; 3, F. A. Smith, Grovesend; 4, W. A. McCutchen.

BARLEY.—Any six-rowed variety: 1, Jacob Lerch, Preston; 2, Alex. Morrison, Smithdale; 3, J. M. Fisher; 4, Andrew Schmidt.

RYE: 1, F. A. Smith, Grovesend.
BUCKWHEAT: 1, Andrew Schmidt; 2, A. R. Wood; 3, Jacob Lerch; 4, Robt. Talbot & Son, Everton.

FIELD PEAS, (any large variety): 1, A. Milhousen, Lions Head; 2, J. A. Cerswell, Bond Head; 3, Jacob Lerch; 4, Fletcher Buckland. Any small variety: 1, Peter McLaren, Hillsburg; 2, A. R. Wood; 3, Fletcher Buckland; 4, Benjamin Tolton, Guelph.

BEANS: 1, R. M. Mortimer & Son, Honeywood; 2, W. A. McCutchen; 3, B. R. Cohoe, S. Woodlee; 4, John Gosnell, Highgate.

RED CLOVER: 1, Andrew Schmidt; 2, J. A. Fletcher, Merlin; H. V. J. Lennox, Newton Robinson; 4, J. F. Murray, Arkona.

ALSIKE: 1, R. M. Mortimer & Son; 2, H. V. J. Lennox; 3, J. F. Murray.

ALFALFA: 1, John Thompson, Mt. Healy; 2, Hugh Anderson, Caledonia; W. E. Murdock, Cayuga.

TIMOTHY: 1, B. R. Cohoe; 2, Fletcher Buckland; 3, J. M. Fisher; 4, Andrew Schmidt.

POTATOES, (long white type): 1, J. M. Fisher; 2, Herman L. Goltz, Bardville; 3, D. Hamilton, Varney; 4, Wm. Thompson. Round white type: 1, Smith Griffin, Acton; 2, J. M. Fisher; 3, Wm. Naismith, Falkenburg; 4, Andrew Schmidt. Other than white: 1, A. R. Wood; 2, J. M. McCormack, Rockton; 3, J. M. Fisher; 4, L. D. Hankinson, Aylmer.

CORN, (Ten ears, any eight-rowed flint): 1, R. J. Johnson, Chatham; 2, A. S. Maynard, Chatham; 3, D. Carmichael; 4, J. B. Clarke, Blenheim. Ten ears, any 12-rowed variety: 1, Milton Backus, Chatham; 2, A. S. Maynard; 3, Arch. Maccoll, Rodney; 4, F. A. Smith. Any white dent: 1, T. J. Shepley, Amherstburg; 2, B. R. Cohoe; 3, Jno. Parks, Amherstburg; 4, Charlie R. Anderson, Malden Centre. Any yellow dent: 1, J. A. Fletcher; 2, J. H. Coatsworth, Kingsville; 3, F. A. Smith; 4, Jas. E. Hedrick. Corn, sweet: 1, T. J. Shepley; 2, F. A. Smith; 3, B. R. Cohoe; 3, W. M. Smith, Scotland.

SPECIALLY SELECTED (REGISTERED) SEED.—Autumn wheat, sheaf, any variety: 1, T. J. Shepley; 2, Arch. Maccoll. White oats, sheaf, any variety: 1, Geo. G. Foster; 2, H. L. Goltz; 3, John Hunter, Wyoming; 4, Arch. Maccoll. Barley, sheaf: 1, T. J. Shepley; 2, Lloyd Livingstone, Minesing; 4, Arch. Maccoll. Autumn wheat: 1, A. W. Scheifele, Heidelberg; 2, J. F. Murray; 3, D. Carmichael, West Lorne. Spring wheat: 1, Robt. McKay, Maxville. White oats: 1, J. T. Arkell; 2, S. J. Woods, Metcalfe; 3, Andrew Schmidt, Geo. E. Foster. Barley, six-rowed: 1, Andrew Schmidt; 2, A. Hutchenon, Mt. Forest; 3, R. H. Crosby, Markham; 4, D. Carmichael; 5, John Hunter.

A Practical Progressive Paper.

We have been taking "The Farmer's Advocate" for a great number of years; the oldest volume I have is 1874. We have taken it almost continuously since, either in my name or one of our sons, and have read it with pleasure and a great deal of profit during that time. I remember having seen a few copies in 1869 or 1870. They were small at that time. It has made great progress since then and at present is the most practical and progressive agricultural paper in Ontario. The New Public Health Department is a useful addition to the paper. The four germ diseases were very fully and interestingly explained.

THOS. CHISHOLM.
Halton Co., Ont.

Those of us who have watched the growth of settlement on these Western prairies have often observed the natural benefit derived from the commingling in close neighborhood of tillers of the soil from many different lands. The almost unavoidable interchange of ideas and the comparison of different methods of doing certain things, gradually, if almost insensibly, lead to the adoption in such a community of a much higher composite standard than can be found in districts peopled by settlers of common origin.—J. G. RUTHERFORD.

Artificial Fertilizers: Their Nature and Use—IV.

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

NITROGENOUS FERTILIZERS OF ORGANIC ORIGIN.

Many years ago, when the benefits of fertilizing began to be appreciated, the materials at the farmer's disposal for this purpose were wholly of organic origin, for not until the steadily growing demand taxed these resources did the possible mineral supplies receive attention. It seems perfectly natural that the farmer of those early days, in admitting a rival to the manure, whose virtues he had long esteemed, should demand in the new material some characteristic possessed by the old. Although probably repelled at first by the dissimilarity in appearance, the odor, which, on closer acquaintance, tickled his olfactory sense, proved irresistible, and through the medium of "new manure," gradually established itself in his affections. In fact, the more decided the odor the greater favor the fertilizer found with the farmer, and he was literally "led by the nose" in selecting his fertilizer materials. Apropos of this we might fittingly apply the parodied proverb: "Comparisons are odorous."

Amongst some of the "old school" a tendency to prefer an odorous fertilizer, as one possessing peculiar virtues, still persists and full advantage of the fact has been taken by vendors of particularly vile-smelling substances, who profitably encouraged the delusion. Now, an odor, emitted by any material, is a sure indication of the diffusion of its substance and, if the odor is of ammonia, then virtue is escaping. If we take two mineral fertilizers, basic slag and sulphate of ammonia, each odorless in itself, and mix them together, the characteristic odor of ammonia, liberated by the free lime of the slag, may be readily detected. On this account the two fertilizers mentioned ought never to be used together in a mixture. Of this more anon.

BY-PRODUCTS OF MEAT-PACKING HOUSES.

It must be expressly understood that the foregoing remarks are not meant to detract from the value of "animal fertilizers," so called, nor, on the other hand, ought any to be deceived by statements, attributing some peculiar virtue to these, apart from the actual plant food, which they contain.

(a) Red Dried Blood (12 to 14 per cent. Nitrogen).—Of all organic sources of nitrogen this is undoubtedly one of the most valuable and is only slightly less rapid in action than sulphate of ammonia. Its cost and limited production, however, prohibit its extensive use as a fertilizer. It is prepared by drying at low temperatures with hot water.

(b) Black Dried Blood (6 to 12 per cent. Nitrogen).—This is dried at a higher temperature and is rather variable in composition, containing also three or four per cent. phosphoric acid. It is chiefly used in ready-mixed fertilizers.

(c) High-grade Meat Meal (12 to 14 per cent. Nitrogen).—This is produced from beef-extract factories, etc., and ranks next to blood in availability.

(d) Concentrated Tankage (10 to 12 per cent. Nitrogen).—This is prepared by steaming and evaporating the liquid from the animal refuse in order to remove the fat. Most up-to-date abattoirs now subject the material to further treatment with naphtha or gasoline with the object of reducing the fat content to a minimum. This is very important, since fats act as a preservative and retard the decomposition of the material in the soil.

(e) Crushed Tankage (5 to 10 per cent. Nitrogen).—Tankage in this form is less valuable and contains widely varying percentages of both nitrogen and phosphoric acid, the latter being sometimes as high as 12 per cent.

Hoof Meal (10 to 12 per cent. Nitrogen).—This is intermediate in value between high and low grade nitrogenous fertilizers.

LOW GRADE SOURCES OF NITROGEN.

Horn meal, prepared by grinding the waste from comb works, etc.; wool and hair waste from carding mills, etc.; skin and leather meal from grinding scrap skin and leather.

The nitrogen in these is so very slowly available that their value as fertilizers is small, but it is none the less necessary that the farmer should know of these sources, as they are often used in imported fertilizer mixtures. It is always a temptation to the less scrupulous manufacturer to obtain his nitrogen from the cheapest source and in a mixture it is almost impossible for the farmer to detect the various substances of which it is composed.

Cotton-seed meal is largely used as a source of nitrogen in the Southern United States.

Castor pomace is the residue from the castor oil bean after the oil has been extracted and is employed to a limited extent as a fertilizer.

NATURAL GUANOS (NITROGENOUS AND PHOSPHATIC).

These consist of the excreta and remains of sea fowl, which have been found on the coasts of South America, West Africa and on certain islands. They contain varying percentages of nitrogen and phosphoric acid. Guano was one of the earliest forms of commercial fertilizer, used in Great Britain, but the more valuable deposits, available then, have long since been exhausted. At the present time the best known are Peruvian and Ichaboe guanos.

Dried Fish Guano.—This is an inferior imitation of the original guano and contains 6 to 8 per cent. each of nitrogen and phosphoric acid. Fish manures are produced to some extent on the Atlantic and Pacific coasts and, if freed from oil, have considerable value as fertilizers.

ORGANIC SOURCES OF PHOSPHORIC ACID.

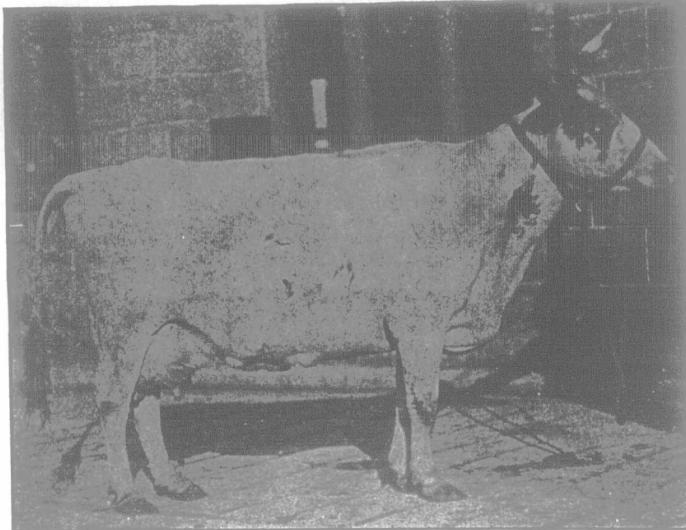
Bones represent one of the oldest sources of phosphoric acid for fertilizer purposes and their value in agriculture was known to the early Romans, although history does not record whether these were of human origin or not. Shakespeare's opinion was that:

"Imperious Caesar, dead and turned to clay,
Might stop a hole to keep the wind away."

Or, "might grow a turnip," was the revised version, given by an old professor, known to the writer. Speculation as to the post mortem utility of the Caesars would seem to have engaged the attention of several poets, and Omar Kayyam, the Persian tent-maker, stated (shall we say as the result of actual observations?):

"I sometimes think that never blooms so red
The rose, as where some buried Caesar bled."

Here, at least, although perhaps unconsciously, he had discovered "the key" to the solution of a phenomenon.



Annie Hume, for 13 Years a Show Cow.

Leading Ayrshire at the Guelph Winter Fair. Exhibited by H. C. Hamill, Box Grove, Ont.

Raw bone is largely composed of tri-calcic phosphate (ordinary phosphate of lime). Unlike acid phosphate, none of the bone fertilizers (excepting acidulated bone) contains phosphoric acid in water-soluble form, and their action is comparatively slow. This defect, however, is to a great extent counterbalanced by the fact that all the phosphoric acid in bone is ultimately available through the action of soil bacteria, which decompose organic matter.

Bone Meal (22 per cent. Phosphoric Acid).—This is prepared by grinding the raw bone more or less finely. In this form it contains 3 to 4 per cent. nitrogen.

Steamed Bone Flour (28 to 30 per cent. Phosphoric Acid).—This is probably the most popular of the bone fertilizers. In the steaming process, by which the fat is removed, it is reduced to a very fine state of division, thus presenting a large surface to bacteria and other agents of decomposition in the soil. It may also contain from one to two per cent. of nitrogen.

Bone Black (32 to 35 per cent. Phosphoric Acid) is obtained from sugar refineries, where bone is used as a clarifier. Its use as a fertilizer is very limited.

Bone Ash (28 to 36 per cent. Phosphoric Acid) is largely exported from South America, the bones being burned to reduce the bulk and thus facilitate transportation.

Having reviewed the organic sources of nitro-

gen and phosphoric acid in the present article, the next will deal with mineral sources of the latter.

(To be continued).

THE DAIRY.

Farming, Limited Versus Unlimited.

Editor "The Farmer's Advocate":

Born in the County of Middlesex, Ontario, at present a citizen of London, and having lived all my life in one or the other, it appealed to me that a comparison of the two great representative classes—the manufacturer of the city and the farmer of the country—might develop some facts of material benefit to the latter.

From a genealogical standpoint the manufacturer has nothing on the farmer, both being descended practically from the same ancestry. Yet, even in as small a city as London, I have with pleasure seen a number of manufacturers starting on less capital than the average farmer possesses, double and redouble their capital until at the present day they are rated in the hundreds of thousands—the unlimited class—this all taking place in ten or fifteen years. I am sorry to say my brother farmers have not met with the same success. They undoubtedly have made money and improvements and placed themselves and families in more comfortable positions, but largely speaking they are in the limited class. Is it possible to prefix the limited and get in the unlimited class? I think so.

To cure a disease you must first discover then remove the cause. The disease afflicting farming is that it presents too many phases, too great diversity, hence has too many general practitioners, too few specialists. As in medicine, so it is in farming, the specialist gets the money,

the general practitioner does the hard work. It thus becomes obvious that to get in the unlimited class you must become a specialist. The question now arises, who are fitted to become specialists? Largely speaking, one must first have been a successful general farmer.

Right here I want to digress and gently rebuke my farmer friends. They are not progressive enough, remain half-fledged, never graduating, but go on in the same old way relying on the old saw: "What was good enough for father is good enough for me." I claim a farmer owes it to himself and family to become progressive, to initiate something that has prospects of growth and development that will place the old home in the ancestral line, so that a hundred years hence one and say: "Jones still lives here."

Having determined on a specialist to champion our cause we must provide him with a specialty. In doing this, I have attempted to choose one that is spread out on broad lines. With unlimited demand and a natural avocation of the country, I think dairying, with pure-breds as special feature, meets the requirements. In selecting type, utility combined with popular favor should be our guide. Several breeds undoubtedly combine the two. Now as to method, that would vary with the individual and as I am writing this article with the hope of benefiting the masses, I will deal with it from that point of view. That would mean that the ordinary successful farmer should start in a moderate way, say with two or three registered young cows and strive to grow up a herd improving the quality as well as numbers. I would also suggest buying a good heifer calf every year for the first five years from the different well-known breeders. In doing so one has the advantage of variety, which I consider important. Now, as to improving the quality, which is the all-important point. There is only one certain way in reach of the ordinary farmer. We cannot expect him to pay from \$1,000 to \$10,000 for cows, but we do expect him to buy a sire out of some of these cows. Two or three crosses with such sires soon places the beginner in the front rank and from

that on the easy. If e farmer it sirs. Two another each class sire fo

To sum ing a heifer a period of can at the possession by sale of you should not stop h easier mor better. J to a little a number bear repea to get his him, I wil charge, or nail, doub farmer ch nails. He was astou being the and am g on three little brai a period you? T Middle

CAUS

Editor "T

Milk n unnatural may be d it often b the sourc him. In termi bacterial be determ ent when or develop ing milk bacteria.

If bac produced fresh mil which sho reaching be heated about th removed

An amou spoonful thorough standing place th abnormal observed that bac taint pro

If bac first to by scrub Second i the tai obtained will no thorough is not r the bac tidental

When supply u cooling p

picion. for each cooled t boiling spoonful

bottle. equal q source obtained

bottles twelve l in eithe

ing-tan assumed ment in

is neces tank, t made b water.

ected, be done saturat accomp organic where must b

The in whic vides a

that on the path to affluence is straight and easy. If ever co-operation did anything for a farmer it should do so from a jointly-owned sire. Two or three farmers residing near one another each owning a few cows buying a high-class sire for joint use.

To sum up, starting on three cows and buying a heifer calf from different good breeders for a period of five years, using as good sires as you can at the end of five years, should place you in possession of a good-working herd, from which, by sale of product and surplus stock every year, you should derive a good income. But it does not stop here—you are just entering the road to easier money. Every year should be getting better. Just here I am going to call attention to a little question in mathematics. No doubt a number of you have read it often, but it will bear repeating. A farmer went to a blacksmith to get his horse shod, and the smith said to him, I will shoe your horse for the ordinary charge, or will charge you one cent for the first nail, doubling the price for every nail. The farmer chose the latter, it requiring thirty-two nails. How much did it cost him? The cost was astounding—over one million dollars. Such being the case, I want to propound a question, and am going to give you the answer. Starting on three registered cows, using good sires, a little brains, some pluck and a lot of energy for a period of twenty years, where will it place you? The answer is: "The Unlimited Class." Middlesex Co., Ont. C. A. CLINE, M.D.

Causes of Bad Flavors in Milk.

Editor "The Farmer's Advocate":

Milk not infrequently is observed to possess an unnatural taste or flavor. The abnormal flavor may be due to several causes. In creamery work it often becomes necessary to trace for a patron the source of bad flavor in milk delivered by him. In such cases it is first necessary to determine whether or not the taint is due to bacterial growth in milk. If possible it should be determined whether or not the taint is present when the milk leaves the udder of the cow or develops later. If any particular cow is giving milk which is tainted it is not due to bacteria, but to other causes.

If bacteria are the agents the taint will be reproduced in fresh milk. A small quantity of fresh milk should be placed in a milk bottle which should then be capped and placed in water reaching well up the neck, the water should then be heated to the boiling point and held there for about thirty minutes. The milk should then be removed and cooled down to 85 or 90 degrees F. An amount of the tainted milk equal to a table-spoonful is then poured into the milk bottle and thoroughly mixed with its contents. If after standing twelve hours in a moderately warm place the fresh-heated milk has developed an abnormal taste or condition similar to that observed in the milk being tested, it can be said that bacteria are present which have acted as taint producers.

If bacteria create the fault, it is desirable first to cleanse thoroughly all the milk utensils by scrubbing and then filling with boiling water. Second it is necessary to ascertain the source of the taint producers. Often when they have obtained lodgment in the milk utensils, the taint will no longer appear when the utensils are thoroughly cleansed. If there is no recurrence it is not necessary to seek the source of entry of the bacteria, as they probably came in by an accidental introduction.

Whenever the trouble is persistent the water supply used for washing the milk utensils and for cooling cans of milk is the first subject of suspicion. In testing the water a bottle of milk, one for each source of water, should be heated and cooled as before. A clean teaspoon rinsed in boiling water should then be used to transfer a spoonful of water from the well to a labeled bottle. In another bottle should be placed an equal quantity from the cooling tank, and the source from which the water for cooling is obtained. Should there develop, after the bottles have stood at the same temperature for twelve hours, an abnormal condition of the milk in either of the bottles, the water used to inoculate it would then be indicated. If the cooling-tank water alone is infected it may be assumed that the bacteria have obtained lodgment in the tank itself. To eliminate them it is necessary to drain and thoroughly clean the tank, then to wash it out with "milk of lime," made by using one part of slaked lime to four of water. It is not often that a well becomes infected, but when such is the case not much can be done for it. One or two bucketfuls of heavily saturated lime-water dumped into the well will accomplish good, by carrying to the bottom any organic matter present. There are instances where the water before being fit for dairy use must be heated or pasteurized.

The presence of a shallow pond on the farm in which the dairy cattle wade occasionally, provides a source for the type of bacteria which

cause milk to sweet-curdle or become slimy. The same types frequently find lodgment in the tank.

Should the water from the source of supply and that in the cooling tank be clean, a condition should be looked for which allows contamination in the stable. Hay dust may carry into the milk bacteria, which produce bitter tastes and bacteria which cause sweet curdling. Repairing a loose ceiling, which allows hay dust to fall into the milk, may be the means of putting an end to the trouble. A cow with dirty flanks may carry bacteria which will cause milk to become bitter or ropy. Stable air may carry bacteria which will give milk a covey taste. Where a constantly recurring bacterial taint in milk leads one to believe that the troublesome bacteria literally permeate the stable atmosphere, it is necessary to rake up and remove all refuse. Quicklime should then be placed on the floors and the walls, and ceilings should be whitewashed.

If the tainted milk, when transferred to fresh-heated milk, fails to reproduce the taint and a bacterial origin of the taint is thus shown to be impossible, an investigation should be made as to the probability of the taint's having been absorbed. Warm milk, if placed in proximity to any strong-odored substance, will absorb the smell. Crocks or cans of milk if placed near fruits, meat, vegetables, and such materials, may

Dairy School, and Assistant Chief Dairy Instructor for Eastern Ontario; to a position on the Dairy Commissioner's staff to take charge of the enforcement of these laws. Mr. Singleton is well qualified by experience and training for this particular work. He has been connected with the dairy industry all his life and is a graduate of the Kingston, Guelph and Iowa Dairy Schools. He has been an instructor in the Dairy School at Kingston for several years. Mr. Singleton will begin his new duties at Ottawa on the first of January next.

POULTRY.

The Egg Trade in Canada.

W. A. Brown, B. S. A., brought the condition of Canada's egg trade before a large meeting at the Guelph Winter Fair. The Live Stock Branch of the Dominion Department of Agriculture has been engaged for some months in an investigation of the Canadian egg trade. Canadians are large consumers of eggs, and the consumption per capita of eggs in Canada is steadily increasing. The following table will give some idea of the rate at which consumption is expanding:

| | Census of 1891. | Census of 1910. | Census of 1911. |
|----------------------------|-----------------|-----------------|------------------|
| Population of Canada | 4,833,239 | 5,371,815 | 7,204,838 |
| Poultry in Canada | 12,636,701 | 16,562,084 | 29,548,729 |
| Total egg production | 64,499,241 Doz. | 84,134,802 Doz. | 129,007,132 Doz. |
| Average production per hen | 5 Doz. | 5.08 Doz. | 4.33 Doz. |
| Exports of eggs | 8,002,985 Doz. | 11,368,064 Doz. | 92,164 Doz. |
| Imports of eggs | 602,533 Doz. | 951,745 Doz. | 2,378,640 Doz. |
| Total consumption | 57,078,839 Doz. | 73,728,483 Doz. | 125,288,608 Doz. |
| Average per capita | 11.8 Doz. | 13.72 Doz. | 17.39 Doz. |

It may be noticed that the increased consumption per capita between the years 1901 and 1911 amounts to nearly four dozen. This increase is not by any means confined to the cities. Farmers generally are eating more eggs than ever before. In many rural districts, it is practically impossible to secure fresh meat at certain seasons of the year. At such times eggs are usually plentiful and are used freely.

In the cities, with the steadily increasing price of meat, even though eggs may be high in proportion, the fact that eggs are such a wholesome and nourishing food, that they can be served in such a variety of ways and prepared with such little labor, keeps them in constant and ever increasing demand.

Canada, an agricultural country, is obliged to import eggs for home consumption. Canada once exported eggs. Ten years ago between ten and twelve million dozen were exported to England and previous to 1900 even greater quantities were shipped annually to the United States. In 1900, Canada exported 10,137,906 dozens of eggs and imported only 709,829, while in 1912 our exports have been only 126,854 dozens, while we have imported 13,240,111 dozens.

A few eggs are still exported and even at times when the export was greatest a considerable quantity was imported. This is accounted for by the nature of the country. The Maritime Provinces still export a few eggs, while British Columbia has always been an importing Province. Imports have practically doubled each year during the past four years.

From the time that mixed farming became general in the Central States, the United States' egg crop has been able to keep pace with the demand, and heretofore when there was a shortage in Canada, eggs have been available on the Chicago and other large Western markets. This winter, however, increased consumption on the part of the Americans themselves, and through a slightly smaller egg crop this year, the usual surplus is not available. In recent years the Canadian storage crop was sufficient to meet the demand until the middle of December or a little later. After that American eggs were imported to supply the shortage.

In actual receipts, possibly the United States' crop was not much smaller than previous years, but, owing to the extremely mild weather, winter production was phenomenally large, with a corresponding falling-off in spring production. This meant a short crop for storage as storage eggs are what largely supply the demand during the winter months. This accounts for the fact that the price of eggs is higher in the United States, and that there is little or no surplus for export to Canada. In fact, since the revision of the tariff, the United States is actually importing, over 8,000 cases of foreign eggs having been received in New York alone during the week ending November 29th. It is expected that the availability of foreign eggs for both the United States and Canada will have the effect of averting a serious shortage and of reducing materially the price to the consumer.

Another point and one that should not be

| | | | |
|----------------------------|-----------------|-----------------|------------------|
| Population of Canada | 4,833,239 | 5,371,815 | 7,204,838 |
| Poultry in Canada | 12,636,701 | 16,562,084 | 29,548,729 |
| Total egg production | 64,499,241 Doz. | 84,134,802 Doz. | 129,007,132 Doz. |
| Average production per hen | 5 Doz. | 5.08 Doz. | 4.33 Doz. |
| Exports of eggs | 8,002,985 Doz. | 11,368,064 Doz. | 92,164 Doz. |
| Imports of eggs | 602,533 Doz. | 951,745 Doz. | 2,378,640 Doz. |
| Total consumption | 57,078,839 Doz. | 73,728,483 Doz. | 125,288,608 Doz. |
| Average per capita | 11.8 Doz. | 13.72 Doz. | 17.39 Doz. |

acquire an off flavor. Strong-flavored feeds will taint milk if the latter is left long in the barn.

The possibility of an absorbed taint being eliminated, a sample of the milk from individual cows of the herd should be saved and tested by taste. If the milk from any number shows the taint, the feed or something which the cows have eaten is to blame. Carrots, turnips, off-flavored distillers' grains and other strong-flavored substances will cause milk to become tainted. Certain foodstuffs for cows not ordinarily considered likely to cause bad-tasting milk, will, at times, do so. Where a bad flavor seems to be due to the feed and there is nothing in the ration subject to suspicion, a change in feed is yet desirable, as the undesirable flavor may shortly disappear as a result.

Johnson Co., Ill. W. H. UNDERWOOD.

The Wolfish Oleo Parasite.

Editor "The Farmer's Advocate":

Your editorial on "Preserve the Butter Industry" is a timely one. Under present conditions of "high cost of living", there is great danger of a clamor for the introduction of cheap substitutes for good butter and cheese. Experience proves in all parts of the world that "oleo" and "filled cheese" are parasitic industries. The dairy farmer has enough parasites to contend with at present without adding to their number. Our legislators will be acting wisely to turn a deaf ear to all pleadings for an entrance of imitation butter and cheese manufacturers to Canada, in order to aid the beef or any other industry. The risks are too great. It is a traffic that cannot be regulated. Better leave it alone. Various legislative devices have been tried, such as the "anti-color" law, branding, etc., but means to evade these have always been discovered and carried into practice. Canada has always stood for pure food, and has discouraged imitation products, but these are gradually gaining a foothold in our country. "Peanut butter" is now sold in groceries and 'tis but a step from "peanut" to "oleo", to "filled cheese", and all the other imitation products masquerading under fancy names to deceive the purchasers of food. The public needs cheap food, but it cannot afford to buy foods which are detrimental to public health simply because they are cheap. Good food is much cheaper and more satisfactory than doctors' bills and funeral expenses. Dr. Wiley has asked these very pertinent questions recently: "Why do the wolves eat the sheep? Is it because of the wolfishness of the wolves, or because of the sheepishness of the sheep?" His answer is, "Because of the sheepishness of the sheep." O. A. C., Guelph. H. H. DEAN.

Federal Butter Inspection.

The Dominion Minister of Agriculture has approved of a plan for the more effective enforcement of the Federal laws relating to the sale of dairy products. Officers connected with the Dairy Branch have observed a growing tendency to exceed the legal limit of water in butter. The first step in this direction has been made by the appointment of J. F. Singleton, of the Kingston

overlooked before dwelling upon the great opportunity that exists for the Canadian producer at the present time, is the fact that Canadian eggs as marketed at the period of high production are far from being of the high quality that one would expect.

From the information in the possession of the Live Stock Branch, it is estimated that in the summertime not over 38 per cent. of the eggs received in the large markets grade "select." About 40 per cent. grade "stale," approximately 17 per cent. "very stale," 5 per cent. "dirty" and "broken," and 5 per cent. "bad." Some dealers state that as high as 10 to 12 per cent. of their receipts prove, upon examination, to be wholly unfit for food. This letter is a feature that those who criticize the present high prices do not seem to have taken into consideration.

It is evident that the most salient feature of the whole question is the golden opportunity for the farmers and others to increase their poultry plants and take advantage of the high prices prevailing for poultry and poultry products.

Every farmer should keep at least one hundred hens. The amount of labor entailed is not great, and with reasonable success the revenue available therefrom, in proportion to capital invested, is greater and more readily available than from any other branch of farm work.

Sphinx Chickens and Pyramid Eggs.

Artificial hatching is not as new as some people imagine if we are to rely on Diodorus, a Sicilian traveller and historian, who visited Egypt about ten years before the birth of Christ. He records that the Egyptians were adept in rearing hens and geese, and made use of artificial incubation instead of depending on the natural mode. He also adds the significant remark that pouterers were divided into two classes, those who reared the birds in the country and in villages, and the town dealers who sold them. We seem to be jogging along yet in the same old rut. Presently some one will be bringing down the cost of living by a shipment of Sphinx chicken 2,000 years old, or a consignment of cold storage eggs from the chambers of "The Great Pyramid."

HORTICULTURE.

Nova Scotia Apples Spoiled in Transit.

Editor "The Farmer's Advocate":

During the past month the prices of apples have undergone many fluctuations. The variations in prices abroad have not been due to excessive shipments at any one time—the apple crop in Nova Scotia has been too light for that. Only two steamers have carried from Halifax anything like fair quantities, and we are reminded of the old saying, "That there is always something to keep the rabbit's tail short."

Unfortunately, two boats have landed apples in Europe in bad condition, entailing a loss to the shippers of fully \$50,000 on the two cargoes. Those interested in the fruit industry have for a long time thought that the system of pre-cooling fruit before going on board to guard against injury from the long passage from Halifax to London is the only safe way to insure a good delivery. There has been no improvement in the Halifax-London service for a number of years, while the Halifax-Liverpool service has been greatly improved during the past two years. The importance of having apples landed in the Old Country quickly was brought down to the fruit growers by the sale of the SS. Michigan's cargo of apples in Liverpool on Friday, Nov. 28th, when some of the leading varieties netted the fruit growers in the Annapolis Valley a full sovereign (\$4.86) per barrel.

The good sale of the Michigan's cargo in Liverpool was made while the English market was suffering from a depression caused by poor fruit in London, that is, fruit which had arrived in poor condition. This proves quite conclusively that transportation is the most essential factor in obtaining top-notch prices for Canadian fruit.

Cold weather, without any mishaps from now on, warrants a steadier market for good fruit than has been experienced for a number of years.

In Halifax, some of the best varieties are selling at \$3.75 per barrel wholesale. The local market has undergone a marked change during the last few years. It used to be that we, although living in a fruit-producing country, got only No. 3's, and sometimes culls. Now buyers find it is more profitable to handle No. 1 fruit only.

For the month of November apple shipments from the port of Halifax showed a decrease over the same month last year of 22,417 barrels. Following are the figures: November, 1912, 112,

756 barrels; November, 1913, 90,339 barrels. Shipments for the corresponding seasons of the two years were: For 1913, to the end of November, 94,366 barrels less; 1912, to December 1st, 378,782 barrels; 1913, to December 1st, 284,416 barrels, a decrease of 94,366 barrels. The falling off has not been in proportion to what it will be for the whole year, which ends next March, accounted for in this way, the autumn varieties were a heavier crop than the winter varieties in Nova Scotia. G. C. O'BRIEN.
N. S.

The Apple as an Article of Diet.

Editor "The Farmer's Advocate":

"He who eats an apple before going to bed robs the doctor of his daily bread" is an old saying and I doubt not a true one. In our country, where apples are so plentiful—and such choice ones—they should be one of the staples on our tables. They should be served every day in some fashion, cooked, baked, fried, eaten raw or stewed, with the skins on. The best flavor is next the skin. A Norse myth says the gods and goddesses courted perpetual youth by eating the apples provided by one of their number. The Romans crowned Pomona goddess of fruit trees and gardens, picturing her seated on a basket of flowers, holding a bough and apples in her hands. The high esteem in which the apple was held by the ancients is worthy of our imitation, for they are not only pleasant food and nutritious, but have valuable alterative properties and correct acidities in the system. The malic acid in the apple is the great regulator of the proteids eaten, that they do not clog the system, hence the value of eating apples in the winter season. So great is the food value of apples that they may be used to replace a portion of the meat usually eaten. This alone, in view of the almost prohibitive price of meat, should bring the apple to the front. Apples are a tonic to the brain and spur it on, because no other fruit contains such a large proportion of phosphorus, which is the mainspring of the brain and spinal cord, so that the apple is one of the best foods for those of active mental life and sedentary occupation. In my student days I used to eat six or seven baked apples during my evening study. The apples chosen were Tallman Sweets. Medium-sized ones were put on a granite pie plate and placed in a slow oven during some part of the day and baked. It is a delicious adjunct to a hard night's study. They are easily digested, satisfy and are a good night cap. In lieu of the variety named, others may be used, but none are quite so rich. Encourage the children to eat apples. Eat them yourself and so set the example—that is better than telling them. Eat all you can, raw, dried, baked, stewed and fried—only eat! No fruit is half so good as apples and it is usually easy to get. Encourage the child to spend his pennies for apples and oranges rather than candy. Apples are the best and most reliable comestible on the market. A liberal daily

supply of this fruit will give to most people a good complexion. Apples, too, are known to possess great solvent powers over coarser foods, therefore, they must be good for horses and cattle. I have seen horses grow sleek and fat after running in the orchard for a few weeks. A half or whole apple a day fed to milk cows is a relish they delight in as much as you like a tidbit. ICH DIEN.

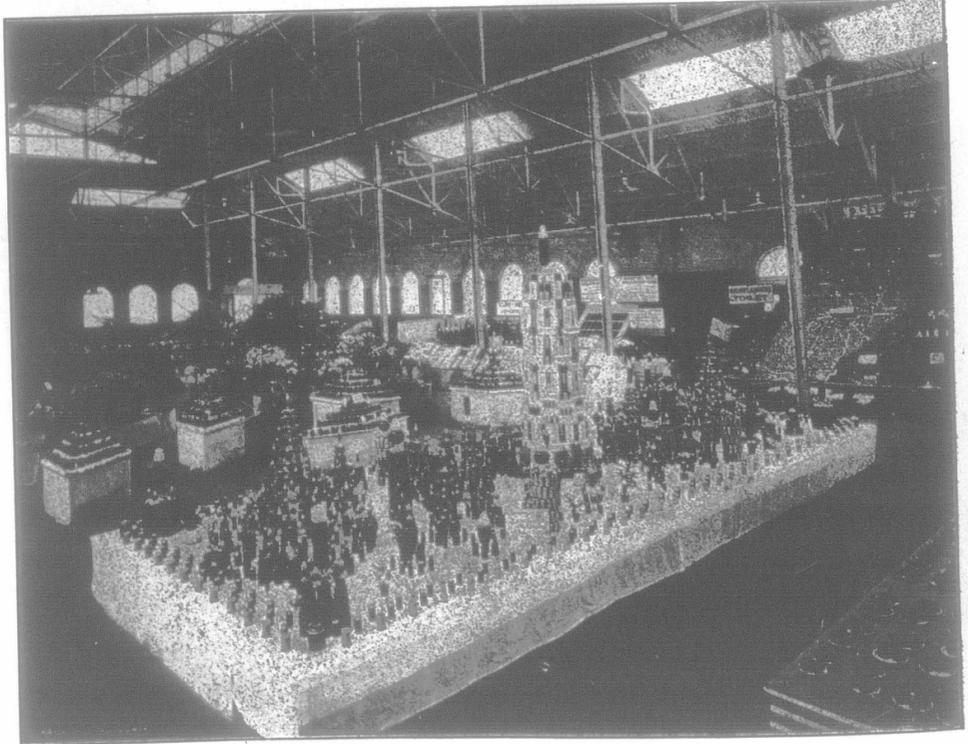
Enemies of the Peach.

Mr. Lawson Caesar, the Provincial Entomologist, had some encouraging remarks for the peach growers in convention at Toronto at the time of the Live Stock, Horticultural and Dairy Show. In 1911 and 1912 the Little Peach and Yellows so vigorously attacked the plantations in the Niagara district that 75,000 trees were actually taken out in those two years. But the inspection must have been thorough, for in 1913 only 5,901 trees were condemned and removed. Although modern science is being invoked to explain the cause and suggest a remedy for this destructive disease no satisfactory conclusions have been formed as to the cause of the disease or a preventive and cure. One thing is certain though, that the immediate removal of affected trees will curtail the spread and ravages of Little Peach and Yellows, but it requires the unwavering and unflinching co-operation of the growers in the removal of diseased trees.

In a planting of pits from diseased fruit only seven or eight per cent. grew, but after one year's growth show no indication of infection. More than 200 buds from diseased trees were also budded on to healthy trees, but only one tree as yet shows any signs of Little Peach or Yellows. From inoculation of blossoms, from inoculation of trees with sap, from pruning tests, bark rubbing tests and other experiments up to the present no disease has followed, yet Mr. Caesar would not assure the growers that infection would not take place in this way.

Insects attacking the peach tree were also discussed and of the many enemies the Peach Borer is, perhaps, the most important. It was pointed out that preventive measures were more effective than any remedy and owing to the peculiarities of the insect's habits in life, winding the trees with paper would prevent the egg laying and attacks of the young larvae. The wrapping should be done at the end of July and left till the middle of October, for it is during this season that the moth is laying her eggs. Allow the paper to extend eighteen or twenty inches up the trunk and a few inches beneath the surface of the ground. The soil will hold the paper at the bottom while it should be fastened with a cord at the top. Mounding up with soil to the height of eight or ten inches will, as a rule, force the adult to lay her eggs higher up, where the injury may be seen and corrected. After the egg-laying season is past the earth around the trees may be lowered to normal conditions.

Ordinarily the young larvae work in the tree



A View at the Horticultural Exhibition.

Showing honey in the foreground, flowers at the back, and Peel County exhibit at the upper right.

just beneath
out small cas
large quantit
they become
must be empl
wire run into
the small bus

FAR

A

The Ontar
added a new
known as T
F. C. Hart,
Galt, has be
of this mov
to endeavor
in the past
ing problem
to give as
possible on
paration of
methods of
which make

F. C. Ha
well qualif
Nova Scoti
Halifax Acc
sections an
for a numb
Ontario Ag
one of the
Representa

He has
rural organ
bringing to
which have
communitie
school fair
assume his
year.

S

Taking
Canada d
grains, co
more sche
mers for
or registe

L. H.
Seed Gro
audience
growing o
pose and
throughou
over 40,0
plant the
if five pe
amount i
would me
terms of

It is
of seed
that are
that thes
It is no
purely co
tive to
purchase
favored
produce
import t
well as
of Cana
varying
regenera

In th
ble direc
his regi
erations
that ha
one-half
hand-sel
tated a
"Elite"
are resp
ganizat
Elite S
find va
growth
it is on
of that
tive pr
The sch
one di
total n
growing
member

Plea
livery
like yo
be wit
Wen

people a
own to
foods,
and cat-
at after
A half
a ret-
tidbit.
DIEN.

tomolo-
the peach
time of
Show.
Yellows
in the
actually
inspec-
13 only
d. Al-
to ex-
or this
clusions
disease
certain
affected
of Lit-
the un-
of the

ruit only
after one
infection.
were also
e tree as
Yellows.
oculation
ark rub-
the pre-
Caesar
infection

also dis-
ch Borer
is pointed
e effective
uliarities
the trees
g and at-
ing should
the mid-
ason that
paper to
the trunk
e of the
at the
h a cord
the height
force the
the injury
egg-laying
es may be

n the tree

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

337

just beneath the surface of the ground, throwing out small castings and causing the tree to exude large quantities of a gummy substance. When they become entrenched in a tree the knife must be employed to dig them out or a small wire run into the hole, making sure the inmate of the small burrow does not escape death.

FARM BULLETIN.

A Markets Branch.

The Ontario Department of Agriculture has added a new branch to its organization, to be known as The Co-operation and Markets Branch. F. C. Hart, B. S. A., District Representative at Galt, has been appointed Director. The purpose of this move, on the part of the Department, is to endeavor to assist the farmers even more than in the past in the solution of their local marketing problems. It will be the aim of the branch to give as much information and assistance as possible on the subject of marketing, the preparation of produce for the market, the best methods of transportation, and all other features which make for securing the best price.

F. C. Hart, the new Director, is peculiarly well qualified for the work he assumes. Born in Nova Scotia, in 1878, he is a graduate of the Halifax Academy. After teaching school in rural sections and working on a farm in Nova Scotia for a number of years, he took a course at the Ontario Agricultural College in 1902. He was one of the first six men appointed as District Representatives.

He has taken a special interest in all forms of rural organization, having been instrumental in bringing together a number of the farmers' clubs, which have done excellent service to their several communities. He also organized the first rural school fairs in his county. Mr. Hart will assume his new duties on the first of the new year.

Seed Growing Centres.

Taking into consideration the immense area in Canada devoted yearly to the production of grains, corn and potatoes it seems strange that more schemes are not on foot amongst the farmers for the production and acquisition of pure or registered seed.

L. H. Newman, secretary of the Canadian Seed Growers' Association, pointed out to his audience at the Guelph Winter Fair that seed-growing centres had been organized for this purpose and that the results would soon be seen throughout the whole of Canada. Each spring over 40,000,000 bushels of seed are required to plant the numberless acres under cultivation and if five per cent. of this did not germinate, which amount is below even a conservative estimate, it would mean a loss of 2,000,000 bushels, or, in terms of oats, over \$600,000.

It is in order to improve the general quality of seed and make it possible to secure samples that are founded on yield, purity and strength that these seed-growing centres are being formed. It is not an experimental propaganda, but a purely commercial scheme that will be remunerative to the growers and advantageous to the purchaser of seed grain. All districts are not favored each year with climatic conditions to produce a good yield and often are obliged to import their seed grain from other Provinces, as well as Europe. These centres in various parts of Canada will be in a position to meet these varying demands and replant different areas with regenerated seed.

In the past each individual has been responsible directly to the Seed Growers' Association and his registered stock was not more than three generations removed from "Elite Stock," or seed that had been grown on an area approximating one-half acre, which in turn was seeded with hand-selected and threshed grain. This necessitated a small plot each year for the growth of "Elite Stock Seed," but members of the "Centre" are responsible only to the directorate of the organization and one or two men may produce Elite Seed for the entire group of members. We find various districts admirably adapted for the growth of particular kinds of grain and seed and it is only reasonable to believe that the farmers of that community would profit by the co-operative production of one particular commodity. The scheme has already been adopted in thirty-one different communities in Ontario having a total membership of 337; exclusive of a potato-growing centre at Emo, composed of ninety-two members.

It is a Dandy.

Please accept my thanks for the prompt delivery of my premium knife. It is a dandy. I like your paper very much and would not like to be without it.

R. M. ROBB.
Wentworth Co., Ont.

Six More Counties Declare For Good Roads.

The Ontario Provincial Highways Commission met in London on December 16 and were presented with a verbal picture of conditions as they exist in Western Ontario. C. A. Magrath, the chairman of the Commission, pointed out that they were not interested particularly in any trunk or continuous highway, but in those roads that bring the producer and consumers closer together. They it is, that must first be put in the best condition, in order to alleviate the stress of long and arduous hauls to market and reduce the cost of living to the general consuming public.

Representatives were present from Oxford, Middlesex, Lambton, Elgin, Kent and Essex Counties and many were the different local conditions described by the delegates.

Middlesex was most largely represented and emphasized that they disapproved of Federal or Provincial interference in their road construction, but that the Governments should aid, and do so through the medium of the County Councils; anything less than one-half the cost of construction and maintenance would be below the duty of the several Governments, and that a frontage tax could not be worked out on an equitable basis.

For many years the County of Middlesex has had very commendable roads in some parts and about ten per cent. of the 2,800 miles of highway have been improved under the Highways Improvement Act. It has been comparatively easy in Middlesex County to build and maintain good roads, for the foundation is there and gravel is not very remote from any municipality. County Engineer Talbot explained how one-third of a cord of gravel had been placed on

might be followed out to give to urban and rural people something near passable highways. A suggestion was tendered that the Provincial Government should bonus districts to encourage the systematic use of the split-log drag and thus improve not only those roads that are constantly used, but some that lie further back yet are feeders to the main thoroughfares.

Elgin County representatives were very precise in their suggestions to the Commission and candidly stated that they could not adopt the Highways Improvement Act, under its present interpretation, into their system of operations. Yet if it were amended so the Government would contribute one-half the cost of construction, the county one-third and townships or other local municipalities one-sixth, with the cost of maintenance divided likewise proportionately amongst them, it would be serviceable to them as a county. It was suggested also that as a source of revenue for highway maintenance purposes that all motor vehicles be taxed according to horse power, for it is the large, not the small car, that sucks up the bonding material, leaving the small stones and elevations to be loosened by the steel tire. They were also in favor of an amendment to the Supplementary Revenue Act increasing the taxation on land utilized by railroads to an equitable basis compared with the farming properties through which they run. This seems, indeed, a well-founded request. For not only would it improve rural roads and impose a justifiable tax on property that is paying better dividends than the contiguous lands and yet is taxed proportionately far below them, but it would redound to the benefit of the property so taxed in that infinitely more produce will be at the disposal of the railroads for transportation. Farms only produce what they can conveniently dispose of and the stretch of road between field and receiving station regulates disposition to a very large extent.

Where concentration of traffic near towns and cities necessitates wider and more expensive thoroughfares it seems only right that the urban municipalities should contribute towards their construction and maintenance. Usually the mile or so of road nearest the town is the worst to be found in any township and when a comprehensive scheme is evolved to improve and maintain our public highways it must of necessity embrace first those small stretches of thoroughfares that lead to the marketing centres and link closer and more firmly the urban people with the producer and the farm.

Fodder and Pasture Plants.

"The Farmer's Advocate" extends its congratulations to the authors of "Fodder and Pasture Plants" upon the successful completion of this admirable work which, under authority of the Minister of Agriculture at Ottawa, has for several years been in preparation. It merits the warmest commendation and may be described as a companion volume to "Farm Weeds of Canada," from the same source which has run through two editions, deservedly ranking now as a classic among the many useful and popular publications issued from the Canadian Department of Agriculture. The latter volume was wisely designed to aid in the recognition and destruction of plant pests, the new work is distinctly constructive. It is to promote in place of weeds the culture of those many grasses, clovers and other fodder and pasture plants that are generally acknowledged to be of value in Canada. Its nearly 150 pages, strongly bound, embrace in popular form a vast fund of information classified and beautifully illustrated with 25 full-page water-color reproductions of plants and forty illustrations of the seeds. Beginning with an introductory description of grasses and leguminous plants, a most valuable chapter on seeding follows, and then in succession a detailed account of more than half a hundred plants, covering such points as botanical description, geographical distribution, habitat, cultural conditions, habits of growth, agricultural value, pasture, seed and quality of seed, concluding with a good glossary and index. The apt quotations, many of them from ancient authorities on agriculture, impart a unique literary and historical flavor to the book. For the preparation and the work the farm public is indebted to Geo. H. Clark, B. S. A., Seed Commissioner, and M. O. Malte, Ph. D. The colored illustrations were prepared by Norman Criddle, a capable artist, who, it will be recalled, illustrated the work, "Farm Weeds." As evidence of the extra care taken with the text the authors secured the critical co-operation of Prof. C. A. Zavitz, of the Ontario Agricultural College, and Prof. L. S. Klinck, of Macdonald College, than whom we have no more reliable authorities in Canadian field husbandry. Copies of this superb and useful volume are available to the public at the nominal price of 50 cents each, which should speedily ensure a very wide distribution and aid in the continued advance of Canadian agriculture.



F. C. Hart.
Head of the Markets Branch of the Ontario Government.

a ten-foot metal on the Wharnclyffe Road at an expense of \$2,700 per mile. In his opinion \$30.00 per mile would annually maintain these roads, if a man with a horse and cart be given charge of a certain stretch of road, or better still, a motor truck could be utilized to maintain at least 50 miles of highway. Roads have not been as expensive as in other counties, for good gravel roads can be constructed for \$2,300 to \$4,000 per mile when near a railroad station. It was the expressed opinion of the County Council that a macadam road was good for the soil that a money, but could in no wise compare with a properly constructed gravel road. Kent is in a somewhat different sphere, so to speak. Gravel is a scarce commodity and the roads being of a clay formation inestimable advantage accrues from the use of the split-log drag. When the roads are wet after a rain the clay can be dragged up to the centre and the very working of the clay, while wet, tends to puddle it and give rise to a baked condition. It is the opinion of some that after a few years' systematic dragging the clay will become so firm that it will not break up even under the influence of frost. In the north of the county, however, conditions are more extreme and at certain seasons of the year the roads become practically impassable. It is felt in this direction that some more elaborate construction is necessary and that commutation of the statute labor should be made compulsory that some organized system of road improvement

Deputations ask for Tariff Relief and Tariff Stability.

Last week a deputation of ten influential men representing the grain growers of the Prairie Provinces and the Dominion Grange waited on Premier Borden and members of the Cabinet asking that the Government recommend to Parliament at the next session a reduction in the tariff on imports from Great Britain to one-half the general tariff and to provide, for a further gradual reduction until there is free trade with Great Britain in five years; that Parliament accept the offer of the United States of free interchange of all agricultural and animal products between the two countries; that all foodstuffs not provided for in the offer of the United States be transferred to the free list; that pending the passage of legislation asked for any duties now imposed under the Canadian customs tariff which are the cause of countervailing duties being imposed against any food products of this country by any foreign country be immediately removed and that any tariff or trade concession granted to any other country be immediately extended to Great Britain.

It was also asked that the Government introduce at the coming session an Act to permit the establishment of co-operative societies of all kinds, whether for the purpose of credit or trade. A general utility agent was asked for, with the power to adjust claims between shippers and railways, elevators and commission companies relative to shortage on grain shipments, leakage, overcharges, etc. An investigation was asked for with regard to ocean freight charges on grain and flour for the relief of producers and millers. The deputation also wanted the Grain Act amended to transfer inspection and control of grain scales from the Inland Revenue to the Trade and Commerce Department under the jurisdiction of the Railway Commission. And finally that the Railway Act be amended to make companies liable for the full value of live stock killed or injured on railway lands, through the operation of the railway, save in cases of negligence by the owner of the animal, and also that it be made the duty of the railway companies to protect crops and prevent live stock from entering or escaping from land through which the railway passes.

A small deputation, after hearing what the former deputation asked, waited upon Premier Borden and certain members of the Government, and in strong terms denounced the policy of those asking for freer trade. This latter deputation consisted of five fruit growers and three breeders and dealers in pure-bred live stock. They all favored tariff stability and asked that no reductions be made. The tariff may have some effect on the fruit business, but pure-bred live stock now enter free and are exported free of duty.

The points brought out by both sides of the question led the Premier to promise each deputation that what they had set forth would receive the "serious consideration of the Government." It seems a pity that the agriculturists of the country cannot get together and formulate a policy behind which all could stand. It might require a little "give and take," but divided nothing is accomplished.

Holstein Sale at Woodstock.

The big Holstein sale held at Woodstock on Wednesday, Dec. 17th, was an unqualified success. The cattle were of a high standard and the prices paid the highest ever paid for Holstein cattle at an auction sale in Canada. The day was favorable and upwards of a thousand gathered in the big rink, many of them, of course, out of idle curiosity and to the inconvenience of others who desired to see the cattle before purchasing. If any further evidence was needed by breeders to convince them of the vast benefits to be gained by using a strictly high-class sire it was found in the almost fabulous prices paid for the get of the grandly-bred bull in use on these herds, King Lyons Hengerveld, heifer calves but a few weeks old selling up to \$280. Two others (twins), dropped Sept. 15th, sold for \$240 each, and bull calves up to \$120 each. The highest-priced cow at the sale (\$435) was the four-year-old Gretqui Hengerveld Keyes, a grand-daughter of Pietertje Hengerveld Count De Kol, with 98 A.R.O. daughters. Several others sold for prices only a margin under the \$400 mark and very many of them between the two and three-hundred mark. The highest price for two-year-old heifers was \$455 for Colantha Hengerveld Keyes, a grand-daughter of Colantha Johanna Lad, other two-year-olds ranging along from \$150 to \$320. Yearling heifers reached the \$280 mark, with several over \$200. It was a most satisfactory sale and demonstrated the increasing firmness of the dairy industry.

Prince Edward Island Notes.

The weather during the past month has been remarkably mild. We are having practically our first frost this autumn at the present time. There has been a snowfall, but not sufficient for sleighing. The open autumn has given the farmers an opportunity to complete their work and, in general, everyone is now prepared for the winter. The live stock are going into stables in much better condition than usual owing to the excellent pasturage that prevailed all through October and November. The milk supply at the factories is better than last year, although quite a number of factories did not open their doors this season.

Potatoes are rotting badly and some farmers are having to shovel them out of their cellars. Turnips, too, are not keeping as well as usual.

The rains of the autumn may yet turn out not to be an unmixed evil as many farmers are compelled to feed their oats that otherwise would be offering them for sale.

The price of milch cows has gone up very much, and cattle are now quite scarce, several hundred having been shipped to the United States after the reduction of the duty. Big cattle, too, are in good demand. Quite a number of breeders have their herds tested for tuberculosis, and as quite a number of cows have reacted, purchasers of pure-bred stock are buying subject to the test.

The first week in December was a busy week in Charlottetown. The annual meeting of the Fruit Growers' Association was held in connection with the Winter Fruit Show. It was better attended than for years previous, and the display of fruit, although not large, was of excellent quality. The same week the Farmers' Central Institute met in Charlottetown with about a hundred delegates in attendance from the various institutes. The county representative idea came up for discussion by the delegates and was highly approved. Arrangements were also made for the holding of the Provincial Seed Fair.

The annual meetings of the Farmers' Institutes have been held during the past month. They show an increased activity and everything points to good work being done through the Institutes this winter.

F. R.

Annual Dominion Grange Meeting.

About sixty enthusiastic members of the Dominion Grange met in Victoria Hall, Toronto, last week. They again declared against a protective tariff as now constituted, believing it to be a burden on agriculture; they also stood for an increase of the British preference leading to free trade with the mother country. Direct legislation through the initiative and the referendum, and a referendum on the navy question were favored. Parcel post was highly commended and municipal control of the construction and maintenance of highways was believed in, while trunk road systems were opposed. The Educational Department came in for some strong criticism.

The following officers were elected for the ensuing year: Master, W. C. Good, Brantford; Overseer, Col. J. Fraser, Burford; Secretary, J. J. Morrison, Arthur; Lecturer, Walter Anderson, Essex; Chaplain, F. B. Bainard, Glanworth; Steward, Gordon Deneau, Essex; Assistant Steward, Fred. Pettypiece, Forest. Executive, W. L. Smith, W. E. Wardell and R. H. Halbert.

Warning Against Subscription Fakirs.

We are in receipt of several complaints from people who have paid money to men going about the country purporting to be taking subscriptions for "The Farmer's Advocate and Home Magazine" and who are fakirs. One of these men refused to give a receipt for the subscription money, and the other was offering a book as a premium to any who would bite. We take this means of warning all readers against any strangers who represent themselves as agents for "The Farmer's Advocate" and who are not duly authorized to take subscriptions. Have nothing to do with any "cheap jack" who offers a premium with the paper. No premiums are offered to new subscribers. Be sure to get a receipt on a printed "Farmer's Advocate" receipt blank.

Wm. Deering, founder of the Deering Harvester Company, which, about 1902, was merged with the International Harvester Company, died last week at Miami, Florida. His wealth was estimated at from \$30,000,000 to \$50,000,000.

Action has been taken on some markets against men offering potatoes in bag lots, the bags not containing 90 lbs. A bag of potatoes in Canada must contain 90 lbs. to be lawful weight.

Christmas Number and Other Good Things Appreciated.

We publish herewith a few of the many testimonials which are daily pouring into this office:

MOST INTERESTING, MOST USEFUL.

Editor "The Farmer's Advocate":

I should like to thank you for the special copy of the Christmas issue of "The Farmer's Advocate and Home Magazine" which you were good enough to send me. It is in all respects a splendid number—a credit to you and a joy to your readers. As a regular subscriber to and reader of your excellent weekly magazine—for that is what it is—I should like to offer you my congratulations on the regularly high quality of your publication throughout the year. It may be a matter of taste, but at any rate I find "The Farmer's Advocate" about the most interesting and most useful and most educative paper that comes to my table, and I am glad to have this opportunity of telling you so. May you go on and prosper! And may you greatly succeed, as you are certain to do, in your work of making not only good farmers, but good citizens as well!

EDWARD B. HORNE.

Renfrew Co., Ont.

THE BEST ISSUE.

Editor "The Farmer's Advocate":

Referring to your Christmas Number of "The Farmer's Advocate and Home Magazine" for 1913, I have no hesitation in saying that, for practical value and from every other standpoint, I consider this number one of the very best ever issued by the agricultural press of Canada.

JAS. MILLS.

Board of Railway Commissioners.

BIG AND BEAUTIFUL.

Editor "The Farmer's Advocate":

Your Christmas issue is a beautiful number and I congratulate you and your company on having produced it. What a difference between it and the first number of "The Advocate" which I well remember! W. R. MEREDITH, Supreme Court of Ontario.

BETTER THAN EXPECTED.

Editor "The Farmer's Advocate":

Many thanks for the premiums. They came sooner than I expected and both were better than I expected. The tea set is very fine and has a beautiful delicate pattern. The book "Carmichael" is worth three new subscriptions instead of one. I will certainly speak a good word for "The Farmer's Advocate" whenever the opportunity arises. * MRS. JOHN ARCHIBALD, Wellington Co., Ont.

EVERY FARMER SHOULD TAKE IT.

Enclosed find money, order for \$1.50 for renewal of subscription to "The Farmer's Advocate." I think your paper does a wonderful lot of good to farmers, and might say that we are getting a lot of good information out of it, and every farmer should take it. I will close wishing "The Advocate" every success.

Wellington Co., Ont.

JOHN EVANS.

SOMETHING DONE.

I wish to thank you in all sincerity for the many helms derived from your pages and to wish you renewed and increased success in uplifting and ennobling the profession of agriculture in Canada. The high plane agriculture enjoys in our land to-day is, in no small measure, directly indebted to the efforts of "The Farmer's Advocate."

Muskoka, Ont.

JACOB MATTHIAS.

ART REPRODUCTIONS APPRECIATED.

Editor "The Farmer's Advocate":

I wish to thank you, not only personally, but on behalf of the Board of the Albright Art Gallery for your great kindness to us in writing such delightful articles and reproducing "The Haymakers" by L'Hermitte; "The Coming Storm" by Inness; "The Marvelous Sauce" by Vibert; and "Across the Common" by Charles Sprague Pearce. This is certainly most important for us and both the articles and the reproductions are perfect.

We appreciate sincerely your help and loyal support. Just here, please let me congratulate you on the beautiful Christmas number of "The Farmer's Advocate and Home Magazine." It is most interesting and important and you certainly deserve a great deal of credit for the splendid work you are doing.

Cornelia B. Sage,

Director.

Albright Art Gallery,
Buffalo, N.Y.

The thirty-seventh annual convention of the Dairymen's Association of Eastern Ontario will be held in the Town Hall, Cornwall, January 7th, 8th and 9th, 1914.

THE ROYAL BANK OF CANADA

Capital Authorized - \$ 25,000,000
 Capital Paid Up - 11,560,000
 Reserve Funds - 13,000,000
 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.

Markets.

Toronto.

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 | 48 | 504 | 552 |
| Cattle | 1,071 | 7,447 | 8,518 |
| Hogs | 288 | 10,248 | 10,536 |
| Sheep | 560 | 4,256 | 4,816 |
| Calves | 74 | 477 | 551 |
| Horses | 56 | 28 | 84 |

The total receipts of live stock at the two markets for the corresponding week of 1912 were:

| | City. | Union. | Total. |
|--------|-------|--------|--------|
| Cars | 36 | 378 | 409 |
| Cattle | 517 | 5,422 | 5,939 |
| Hogs | 181 | 6,645 | 6,826 |
| Sheep | 720 | 3,852 | 4,072 |
| Calves | 57 | 563 | 620 |
| Horses | — | 7 | 7 |

The combined receipts at the city and Union Stock-yards for the past week show an increase of 143 cars, 2,679 cattle, 3,705 hogs, 744 sheep and lambs, and 77 horses, but a decrease of 69 calves, compared with the corresponding week of 1912.

Receipts of live stock at the Toronto markets for the past week were liberal, considering the season. The quality was fair to good, more of the good to choice than for the previous week. Trade was never better, or prices higher, considering that it was the week after the Christmas market. Prices were firm in all the different classes of live stock, and trade very active.

Butchers.—Choice, heavy steers, sold at \$8 to \$8.90, and \$9 was paid for a selected lot of choice steers; good to choice heifers, \$8 to \$8.25, was paid; medium, \$7 to \$7.75; common, \$6 to \$6.75; good to choice cows, \$6 to \$7.25; medium cows, \$5.25 to \$6; canners, \$3.50 to \$4.25; good to choice bulls, \$6 to \$7; medium bulls, \$5.25 to \$6; common bulls, \$4.50 to \$5.

Stockers and Feeders.—Prices were firmer than at any time this season, for choice, 1,000 to 1,100-lb. steers, which sold at \$7 to \$7.25 per cwt.; good, \$6.50 to \$6.75; common, \$5.50 to \$5.75; rough, common stockers, \$4.75 to \$5.25.

Milkers and Springers.—A liberal supply of milkers and springers sold at prices ranging from \$50 to \$100, but the bulk sold at about \$70 each.

Veal Calves.—Choice veal calves never sold at higher prices than during the past week, ranging from \$10.50 to \$11.50 per cwt. for choice, and \$9 to \$10 for good, while common to medium sold from \$6 to \$8.

Sheep and Lambs.—Prices were firm all week. Ewes sold at \$5.50 to \$6.25; culls and rams, \$3.50 to \$4.50; lambs, \$8.50 to \$8.90.

Hogs.—The hog market was firmer, selects fed and watered, selling at \$8.75, and \$9 off cars.

HIDES AND SKINS.

No. 1 inspected steers and cows, 13c.; No. 2 inspected steers and cows, 12c.;

No. 3 inspected steers, cows and bulls, 11c.; city hides, flat 14c.; country hides, cured, 13c.; calf skins, per lb., 16c.; lamb skins and pelts, 60c. to 90c. each; horse hides, No. 1, \$3.50 to \$4; tallow, No. 1, per lb., 5c. to 7c.

TORONTO SEED MARKET.

Alsike.—No. 1, per bushel, \$8.50 to \$9.25; alsike, No. 2, per bushel, \$7 to \$8, alsike, No. 3, per bushel, \$5 to \$5.50; timothy, No. 1, per bushel, \$2.75 to \$3.25; timothy, No. 2, per bushel, \$2 to \$2.50; red clover, per bushel, \$6.00 to \$7.00.

FRUITS AND VEGETABLES.

There was an abundant supply of fruits and vegetables. Apples were brought in by the wagonload. Prices were easier. Spies, \$4 to \$4.50 for good No. 1, and \$3 to \$3.50 for No. 2; Greenings and Baldwins, \$3 to \$3.50; Canadian onions, per bag of 75 lbs., \$2; cabbages, \$1.25 to \$1.50 per case; turnips, 60c. per bag; beets, 75c. per bag; carrots, 80c. per bag; parsnips, 80c. to 90c. per bag; celery, 40c. to 65c. per dozen.

BREADSTUFFS.

Wheat.—Ontario wheat, new, No. 2 red, white, or mixed, 83c. to 84c., outside; 87c. track, Toronto. Manitoba, No. 1, northern, 93c. to 94c.; No. 2 northern, 91c. to 92c.

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

Rye.—No. 2, 68c. to 69c., outside.

Peas.—No. 2, \$1 to \$1.05, outside.

Buckwheat.—No. 2, 70c., outside.

Corn.—American, No. 3 yellow, 77c., Midland; 85c., track, Toronto.

Barley.—For malting, 55c. to 57c.; for feed, 43c. to 46c., outside.

Flour.—Ontario, winter wheat, 90-cent patents, \$3.60 to \$3.70, bulk, sea-board, Manitoba flour—Prices at Toronto are: First patents, \$5.50; second patents, \$5; in cotton, 10c. more; strong bakers', \$4.80, in jute.

HAY AND MILFEED.

Hay.—Baled, car lots, track, Toronto, No. 1, \$13 to \$14; No. 2, \$12 to \$13.

Straw.—Baled, car lots, track, Toronto, \$8.50 to \$9.

Bran.—Ontario, \$21 to \$22 in bags, track, Toronto; shorts, \$22 to \$25; Manitoba bran and shorts the same.

COUNTRY PRODUCE.

Butter.—Creamery pound rolls, 31c. to 34c.; creamery solids, 28c. to 30c.; separator dairy, 27c. to 28c.; store lots, 24c. to 25c.

Cheese.—Old, 14c. to 15c.; new, 14c. to 14c.

Eggs.—New-laid, 60c. per dozen, by the case; cold storage, 33c. to 35c.

Honey.—Extracted, 10c. to 11c. per lb.; combs per dozen sections, \$2.50 to \$3.

Potatoes.—Ontarios, 80c. to 90c. per bag, car lots, track, Toronto.

Beans.—Imported, hand-picked, \$2.35 per bushel; Canadians, hand-picked, \$2.35; primes, \$2.

Poultry.—Turkeys, alive, 18c. to 19c., geese, 10c. to 11c.; ducks, 12c. to 14c.; chickens, 13c. to 14c.; hens, 10c.

Montreal.

Live Stock.—Christmas cattle were offered on the local market in fair quantity last week. Some of the choicest fattened stock sold at 9c. per lb., but the great bulk of the trade in the top qualities was in the vicinity of 8c. to 8c. per lb., while some very fine beef changed hands at 7c. to 7c. per lb. Medium qualities ranged from 6c. to 7c., and common were available as low as 5c. per lb. Canning stock sold as low as 3c. to 4c. per lb. Sheep and lambs were also in very good demand, but the offerings were limited, and sales of lambs were made at firm prices, viz., 8c. to 9c. per lb. Ewe sheep sold at 5c. to 6c. The quality of the calves offered was not extra, although a few sold as high as \$15, but the bulk of the stock changed hands at from \$5 to \$10 each. The market for hogs was slightly firmer, and prices ranged from 9c. to 9c. per lb., weighed off cars.

Horses.—On the whole, trade in horses was dull, although quite a few have been changing hands during the past few days. Prices continued steady, as follows:

Heavy draft horses, weighing from 1,500 to 1,700 lbs., sold at \$300 to \$350 each; light draft, 1,400 to 1,500 lbs., \$225 to \$300 each; broken-down, old animals, \$75 to \$125, and choicest saddle and carriage animals, \$350 to \$500 each.

Poultry.—Poultry was naturally in active demand last week. Prices held firm, and dealers were quoting in a wholesale way as follows: Turkeys, 20c. to 23c. per lb.; ducks, 16c. to 18c.; chickens, 16c. to 20c.; fowl, 12c. to 16c.; geese, 14c. to 16c. Live turkeys changed hands at 19c. to 20c.; live chickens, 12c. to 16c.; live fowl, 13c. to 15c., and live geese, at 14c. to 15c.

Dressed Hogs.—The continuation of mild weather deprived the market of the activity which might otherwise have prevailed. However, there is a good demand for everything available, at 13c. to 13c. for abattoir-dressed, fresh-killed stock, and 12c. to 13c. for country-dressed, lightweight stock, and 12c. to 12c. for heavy.

Potatoes.—The weather continued very mild, and primes were, if anything, lower. Green Mountains were quoted at 80c. to 85c. per bag, track, in car lots, while Quebec varieties were 75c. per bag, track. In a jobbing way, prices were 15c. to 20c. higher, ex store. Bags weigh 90 lbs.

Honey and Syrup.—White-clover comb was 15c. to 16c. per lb.; extracted, 10c. to 11c.; dark comb, 13c. to 14c., and strained, 7c. to 8c. per lb. Tins of maple syrup sold at 9c. to 10c. per lb., while syrup in wood was 7c. to 8c., and maple sugar, 9c. to 10c. per lb.

Eggs.—Eggs showed no change, being about as high as they could be. Strictly fresh stock was 55c. to 60c. per dozen. Selected eggs sold at 37c. to 38c., while No. 1 candled sold at 33c. to 34c., and No. 2 candled at 28c. to 27c.

Butter.—There was a good demand for butter, and the market was firm. Choice makes were 28c. to 29c. per lb., wholesale. Fine butter was 28c. to 28c., while second grades were 27c. to 27c. Dairy butter was firm, at 23c. to 24c. per lb.

Grain.—No. 2 Western Canada oats were quoted at 41c. to 42c. per bushel, ex store. No. 3 were 40c. to 41c., while No. 2 feed were 39c. per bushel, ex store.

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

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

Hay.—Prices were steady. No. 1 pressed hay, car lots, Montreal, on track, was \$17 per ton, while No. 2 extra good was \$15 to \$16, and No. 2 was \$14 to \$14.50 per ton, ex track.

Hides.—Prices showed no change last week. Beef hides were 12c., 13c. and 14c., for Nos. 3, 2 and 1, respectively, calf skins were 15c. and 17c. for Nos. 2 and 1, respectively, and lamb skins were \$1.10 each, with hides ranging from \$1.75 for No. 2, to \$2.50 each for No. 1. Tallow sold at 1c. to 3c. per lb. for rough, and 5c. to 6c. for rendered.

Chicago.

Cattle.—Beeves, \$6.60 to \$9.75; Texas steers, \$6.60 to \$7.65; stockers and feeders, \$4.90 to \$7.35; cows and heifers, \$3.80 to \$8.40; calves, \$6.50 to \$10.50.

Hogs.—Light, \$7.25 to \$7.65; mixed, \$7.40 to \$7.75; heavy, \$7.40 to \$7.75; rough, \$7.40 to \$7.50; pigs, \$6.25 to \$7.45.

Sheep and Lambs.—Sheep, native, \$4.25 to \$5.50; yearlings, \$5.40 to \$6.60. Lambs, native, \$6.25 to \$7.80.

SALE DATES CLAIMED.

December 30th.—J. A. Stewart, Sr., Menie, Ont.; Holsteins.
 January 20th, 1914.—E. F. Osler, Bronte, Ont.; Holsteins.
 March 11th.—G. H. McKenzie, Lansing, Ont.; Holsteins.

Buffalo.

The cattle trade went off badly last week all round. Too many on offer for the needs. Fact is, shippers appeared to have opened the gates and let 'em come. Chicago had the heavy supply on Monday of 3,500 head, and Buffalo, 7,000. Something like forty cars of shipping and heavy steers were here the past week, demand for which was on the very indifferent order, resulting in values dropping off from 25c. to 35c. on better kinds of steers, with butchering grades being declined generally 10c. to 15c. Best weighty steers on offer ranged from \$8.35 to \$8.65, and represented some of as prime shipping steers as have come to market this year. Handier grades of steers were more popular, the far east even clamoring for them. Shipping steers averaging from 1,150 to 1,250 lbs., are selling more readily now than the 1,850 on up to 1,600-lb. kinds. Yearlings are holding up about as well as any grades, these being in good request all the time, and when they approach the fancy order, sell as high and even higher than the very heavy, long-feed steers. Nice, tidy heifers, and good kinds of butchering cows, sold to better advantage than did the steers, fat heifers especially being taken readily. Stockers and feeders sold 10c. to 15c. lower, and the outlet was not as broad as it has been, by reason of the Pennsylvania demand having been pretty well met. Bulls were off a quarter on nearly all kinds, while only the better kinds of fresh cows and springers proved satisfactory sale. Receipts this week were 8,275, as against 6,375 the previous week, and 7,325 a year ago. There was an even thirty-car supply from Canada for the week. Quotations:

Best Canada steers, 1,350 to 1,450 lbs., \$7.75 to \$8; best Canada steers, 1,150 to 1,250 lbs., \$7.25 to \$7.50; choice, handy steers, 1,000 to 1,100 lbs., \$7.75 to \$8; fair to good steers, 1,000 to 1,100 lbs., \$7.25 to \$7.50; best cows, \$6.25 to \$6.50; butcher cows, \$5.25 to \$5.50; best heifers, \$7.25 to \$7.75; medium butcher heifers, \$6.40 to \$6.60; best feeding steers, dehorned, \$7.25 to \$7.50; fair to good steers, \$6.25 to \$6.50; fancy stock steers, \$5.75 to \$6.25; common, light, stock steers, \$5.25 to \$5.75; best heavy bulls, \$6.75 to \$7.25; best butchering bulls, \$6.25 to \$6.75; bologna bulls, \$5.75 to \$6.25; stock bulls, common to good, \$5 to \$6; best milkers and springers, \$7.5 to \$100; medium to good, \$50 to \$70.

Hogs.—The hog supply last week figured 52,000, as against 56,000 the previous week, and 47,200 a year ago. Trade for the past week was active, and prices showed only a fifteen-cent range for the first five days, being from \$7.75 to \$7.90 for packers' grades, pigs being at the top of the list, selling Monday up to \$8, balance of week ranging from \$7.80 to \$7.90; roughs, \$7.15 to \$7.25; stags, \$6 to \$6.75.

Sheep and Lambs.—Runs for last week reached 50,000, as against 38,400 the previous week, and 45,800 a year ago. Supply largest of season. Prices lower, and trade very slow, heavy lambs being almost unsalable. Best lambs, \$7.75 to \$8, a load of Christmas lambs selling Friday at \$8.15; cull lambs, \$7.25 down; heavy lambs not wanted, at from \$6.50 to \$7; top yearlings, \$6.75. Yearling ewes were underselling yearling wethers \$1 per cwt. Best wether sheep, \$5 to \$5.25; ewes, \$4.25 to \$4.75, mostly as to weight; cull sheep, \$3.50 down.

Calves.—1,500 last week; 1,700 the week previous, and 1,450 a year ago. Good, active market all week, tops ranging from \$11.50 to \$12; culls \$10 down, and grassers \$4.50 to \$6.

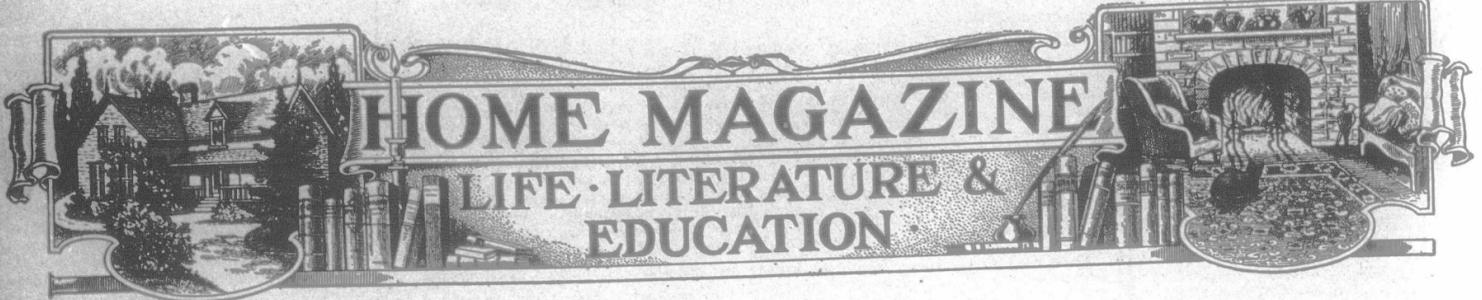
Eggs.—White, fancy, 40c.; fancy, mixed, 38c. to 39c.

Live Poultry.—Turkeys, 21c. to 22c.; fowls, 14c. to 15c.; ducks, 16c. to 18c.; geese, 15c. to 16c.

British Cattle Markets.

Quotations for Irish steers and heifers are 13c. to 15c. a pound.

"And you like chicken, Sam?"
 "Gee! Ah certainly does, boss."
 "And you get 'em once in a while?"
 "Oh, sure, boss. Ah gets 'em."
 "How do you get 'em, Sam?"
 "Well, boss, you know dat ol' sayin',
 'Love will find de way.'"



Little Trips Among the Eminent.



Miss Pauline Johnson.
(Tekahionwake.)

C. P. R. East-bound.

By E. Pauline Johnson.

I swing to the land of morn
The grey old East, with its grey old
seas,
The land of leisure, the land of ease,
The land of flowers and fruits and trees,
And the place where ye were born.

Frighted with wealth I come:
Food, and fortune, and fellow that went
Far out West on adventure bent,
With well-worn pick and a folded tent,
Is bringing his bullion home.

I never will be renowned
As my twin that swings to the western
marts,
For I am she of the humbler parts;
But I am the joy of the waiting hearts,
For I am the homeward bound!

Canadian Poets.

By Clayton Duff.

A MOHAWK SINGER.

The most famous of Canadian poets was undoubtedly E. Pauline Johnson. The fact of her Indian blood was, no doubt, partly responsible for the interest she aroused, and she became widely known throughout Canada as well as in England and the United States, through the recitals of her poems that were given by the poetess in native costume. The ordinary reader, it is said, can never realize the charm of her poems as fully as those who heard the interpretation of them from the author's own lips. Interest in "Tekahionwake" was renewed within the past two years by the story of her life of invalidism in a Vancouver hospital, the publication of a collected edition of her poems under the characteristic title of "Flint and Feather," and, a few months later, by her lamented death.

She was the daughter of George Henry M. Johnston, head chief of the Six Nations, and was born at "Chiefswood," her father's residence on the Six Nations' reserve near Brantford. Although she is said to have inherited her gift of expression from an eloquent Indian chief who was her grandfather, there is no doubt that her literary talent was partly derived from her mother, an English lady who was a relative of

can novelist, and who met her Mohawk chief while staying at the home of her brother-in-law, who conducted a mission on the reserve.

Pauline Johnston published two volumes of poetry: "The White Wampum" and "British Born." The romance and legend of the Indian race have been largely drawn upon for the material of her work, and she reveals as well the love of "free life and fresh air," that we think of as a racial characteristic. Judging her verse apart from the unusual interest of the author's personality, it can hardly be said to touch such searching chords of beauty and imagination as great poetry undoubtedly should; but we find skilful descriptive powers and dramatic fire on one hand combined with delicate poetic imagery and musical language on the other. Some of her poems come as near as almost any we have to being household words in Canada, for instance, "The Song My Paddle Sings," "Shadow River," "As Red Men Die." A very vivid piece of description is "Rainfall," which has not been so often quoted:

"From out the west, where darkling
storm clouds float,
The wailing wind pipes soft 'tis rising
note.

"From out the west, o'erhanging with
fringes gray,
The wind precludes with sighs its
roundelay.

"Then blowing, singing, piping, laugh-
ing loud,
It scurries on before the grey storm-
cloud;

"Across the hollow and along the hill
It whips and whirls among the maples,
till
"With boughs upbent and green of
leaves blown wide,
The silver shines upon their underside.

"A gusty freshening of the humid air
With showers laden and with fragrance
rare;

"And now a little sprinkle, with a dash
Of great cool drops that fall with
sudden splash;

"Then over field and hollow, grass and
grain,
The loud, crisp whiteness of the nearing
rain."

Toward the end of her life Miss Johnston published the "Legends of Vancouver", a collection of Indian stories told her by an old chief who had become her friend. In these tales are mentioned Siwash Rock and the "Cathedral Trees", and, in a woodland corner of Stanley Park near these landmarks that she loved, her ashes have been laid. The spot, marked by a rough boulder, is within reach of a well-known trail which will be worn by the feet of many lovers of Canadian poetry in the years to come.

Canadian History Series.

SOME OF THE MARTYRS.

If you had gone to Quebec three hundred years ago, you might have noticed, past the little fort that stood near where Castle St. Louis was afterwards built, past the slope whereon to-day stand the crowded buildings of the lower town, down the River St. Charles a little and at a point where the stream curved, a palisaded enclosure that looked, however, very unlike the palisaded villages of the Indians. Within

of wood, plastered with mud and thatched with long grass, the larger of which was divided into four rooms, refectory, chapel, kitchen and living-room for workmen.

Now, through the eyes of one of our historians look within the building. "Of the six Jesuits gathered in the refectory for the evening meal," he says, "one was conspicuous among the rest,—a tall, strong man, with features that seemed carved by Nature for a soldier."—This was Jean de Brébeuf, famed for his terrible martyrdom, with the more frail Lalemant, a few years later. The others were Fathers Masse, Daniel, Davost, De Noue and Le Jeune.—Six men within a rude, palisaded enclosure, mere atoms in that vast new land, and yet they "aimed at the conversion of a continent."

Now just a few words to follow the career of these remarkable and devoted men

Father Le Jeune arrived at Quebec some three years before the death of Champlain, young, and full of enthusiasm for his work. At Tadoussac he first saw Indians, ten or twelve men with painted faces and dressed in skins, who came into the cabin of the ship. On July 5th, 1632, he arrived at Quebec, where he was welcomed with great joy, and soon he was in the thick of his work, learning Algonquin, and teaching the children whom he used to send off happy after a dinner of boiled peas.

Before long he was gladdened by the arrival of Champlain from France with the rest of the party already mentioned, and the little household was consolidated on the St. Charles, but home-comforts could not be long for the missionary. In October Le Jeune set off with a party of Montagnais towards the St. John country, and during that bitter winter got his first taste of cold and hunger, of the smoke in the rude tents, and hardships of travelling through winter woods. Food was scarce that season, and he tells in his journal how Christmas had to be faced with a rabbit and a porcupine for eighteen persons. That night, however, a hunting party returned with game and there was a hilarious scene. Often, homesick in the great loneliness, he used to go off alone into the forest, but by spring he was sick indeed of body, and it was a happy day when at last the little canoe in which he lay made way up the deep dark river, on which ice was still floating, to the friendly walls of Quebec.

The far-away country of the Hurons was also calling to the missionaries, "the forerunners of civilization," as they have been called. In July preceding the winter which Le Jeune spent among the Montagnais, 140 canoes of Hurons, six or seven hundred in all landed at Quebec, with furs and tobacco for barter, and set up their camp on the flat below the heights. At once Fathers Brébeuf, Daniel and Davost packed to go with them, but, for some reason the Indians went off without them. The next year, however, there was no accident to prevent, and so the priests set off in the wake of the Indians. From their journals a vivid account of their trip has been gleaned: of the weariness of long weeks of paddling ever against the current; of wearisome portages made to avoid utterly impossible rapids, and painful poling and wading up noisy shallows, with nothing to uphold their strength save a pittance of Indian corn, crushed between stones and mixed with water. It was a long journey from Quebec to the "Mer Douce" (Lake Huron) the great inland lake of

it alone, the priests having become separated, just thirty days after leaving Three Rivers.

At the town of Itonatiaria, deep in the forest, (somewhere east of Georgian Bay) he was welcomed by the Indians, and a little later Fathers Daniel and Davost arrived, a glad reunion. The friendly Indians at once helped to build a house for the priests, who divided it into rooms with doors and set up their rude housekeeping. A great marvel to the Indians was this house and its furnishings, and the fathers have recorded how they would sit for hours squatted on the ground, waiting to hear the clock strike. Scarcely less marvellous were a prism, a magnet, and a magnifying glass, and so the place was overrun with dusky neighbors during the greater part of every day. At four o'clock, however, they were required to depart, and the fathers were enabled to carry on their study of the Huron language in quiet.

Studying, teaching, giving relief to the sick, baptizing, the days of the missionaries were filled with duties, and although the Indians were slow to embrace the white man's religion, they at least rewarded the patience and kindness of their teachers with some sort of love. The white man's heaven, however, they did not like. There was no hunting there, they said, and nothing to eat. Also they were not ready to confess themselves sinners, but indignantly denied that they ever did wrong. Indeed, the priests found it very hard, indeed, to give them any conception of the meaning of the terms in which the Christian religion could be so easily explained to Europeans.

With winter came the season for dancing and medicine cures, strange nights indeed for these men used only to the civilization of Europe. One great dance to cure a crazy man Father Brébeuf has described in detail. "Some," he says, "had sacks over their heads with holes for the eyes. Some were as naked as your hand, with horns or feathers on their heads, their bodies painted white and their faces black. Others were daubed with red, black and white," and so equipped all danced, howled and threw fire-brands to exorcise the spirit of evil from the unfortunate one.

He also describes interestingly a great Feast of the Dead, when the corpses of Indians were taken from the scaffolds on which some were placed or up from the graves in which others were temporarily interred, and all conveyed with weird ceremonies and loud wailing, to be placed in a great pit lined with beaver skins at Ossossane, on the east shore of Nottawassaga Bay.

After a time Fathers Daniel and Davost went down to Quebec to establish a seminary for Huron children, and on their way met Fathers Garner, Chaumont, Jogues and two others, all en route for the western mission.

In May, 1637, Father Pifart arrived at Ossossane to found a mission house, but when he arrived he found that the energetic Brébeuf already had the Indians at work. A house 75 feet long was erected, with a chapel where the priests erected an altar and crucifix, with pictures of Christ and the Virgin. It was decorated with boughs, and crowds of Indians came to see the wonderful sight.

Here at last an adult Huron in full health was baptized. The fathers rejoiced greatly in this visible sign of the success of their work, but evil days were upon them. There had been an outbreak of smallpox in the towns, and, notwithstanding that the missionaries had been both nurses and phys-

POOR COPY

...ians, a rumor was now circulated that they were magicians and that they had caused the plague. When they chanted their litanies behind bolted doors the whisper spread that they were forging evil incantations, and even a steamer that they had placed to show the direction of the wind was taken to be a charm wafting abroad the smallpox.

Their death was decreed, and in August, 1637, a solemn council, in which the charges were brought up against them, was held. Father Brebeuf replied, but, when ordered to give up a charmed cloth with which they declared he caused the disease, he replied that he had none. For the time they escaped, but were soon summoned to appear before another council. In the meantime Father Brebeuf wrote a letter of farewell to Le Jeune and entrusted it to some converts to carry. Once more the fathers met their accusers unflinchingly, and once more their bold front saved them, but the year that followed were filled with distresses. They were persecuted as sorcerers, and many were the hair-breadth escapes which they experienced before the day of martyrdom, which came to so many. The little band now consisted Lalemant, La Mercier, Chatelain, Daniel, Pijart, Ragueneau, Du Peron, Poucet, and Le Moyne.

Steadily the work went on, and numbers of Indians came to be baptized. Later it was discovered that they did so as a preventive against pestilence. If any fell ill their zeal waned; moreover many were dismayed at finding that there would be no tobacco in heaven, and, so the prejudice against the Frenchmen and their religion increased.

.....

In 1639 it was resolved to establish a central mission residence, with fort, magazine, hospital and convent, and a spot was chosen near the mouth of the little river Wye that flows into Matchedash Bay, on the eastern side of Georgian Bay. So was established the "mission" of Sainte Marie, traces of whose fortifications may be seen to this day.

From this central house the fathers dispersed to their various fields, toiling through the deep snows of the forest on journeys that often took two or three days. Fathers Garnier and Jogues, both young, and neither strong, were sent to the Tobacco Nation in the vicinity of Collingwood of to-day. They were lost on the way, and finally, almost exhausted, reached the first town, "a miserable cluster of bark cabins hidden among forests and half-buried in snow-drifts." Here the children, on seeing the black apparitions, screamed that Famine and the Pest were coming, but, undaunted, the missionaries pushed in past barking dogs and scowling Indians and entered one of the huts. When they knelt to pray it was thought that they were making charms, and so the ugly news flew.

Brebeuf and Chaumonot, who had gone to the lands of the Neutral Nation, met with no better reception. The Hurons, afraid to kill the priests, had sent them word to do it. This was not done, but they were scourged and spat upon, and driven from every door. Half-starved and half-frozen they were at last taken into the lodge of an old squaw, and so regained strength to return to Ste. Marie.

.....

In this way went on the lives of the fathers, and pages might be written to tell their many escapes, but we must hasten. Briefly be it stated that from The Tobacco Country, Jogues, the timid, thoughtful, scholar, pushed on to Sault Ste. Marie, finally returning to Quebec. At Lake St. Peter, however, in company with forty Hurons and four Frenchmen, a war-whoop suddenly sounded from the shore. It was the Iroquois. Seized with a sudden panic the Hurons fled into the woods, only the French and a few converts making a stand. Jogues might have escaped, but when he saw his friends captured he came out of the bulrushes. All were tortured, and the fingers of Father Jogues were mutilated, then the party set off up the Richelieu and across Lakes Champlain and George, stopping two or three times to torture their hapless prisoners, some of whom were burned at the stake. The young and dauntless Goupil was among

the killed, but Jogues was spared, and told afterwards of how he used to pray alone before a cross cut in a tree, during that lonely and terrible winter. Finally he fell in with some Dutch at Fort Orange, was ransomed, and at last reached France. Landing in Brittany he asked a peasant and his wife the way to a church. In turn they enquired about his torn and distorted fingers, and on hearing his story took him to their hearts and gave him of their best. In Paris those fingers were kissed by Queen Anne of Austria, but flatteries and kindness could not deflect the dauntless missionary from the life that he considered his duty and his privilege. In spring he returned to Canada, where he ventured once more among the Iroquois and near Lake George, in 1646, was tortured, then killed by the blow of a hatchet.

He was not, however, the first martyr of the French mission in Canada. The first was Father de Noues, found on his knees, frozen to death beside Lake St. Peter.

(To be continued.)

A Boys' Potato-Growing Contest.

[The following describes a potato-growing contest held in Carleton and Russell Counties, Ontario, this year. The movement is an admirable one, worthy of being copied in other counties. Think over it during the winter.]

The potato-growing contest held in Carleton County last year, and repeated this year in the adjoining counties of Carleton and Russell, is an excellent illustration of the earnest desire of the leaders in agriculture to work along practical lines, while bringing to bear upon their work the latest ideas in organization and in the science of crop cultivation. There were thirty-one boys in the counties named who carried through a contest in the production of potatoes. Last year, in Carleton County, twenty-two competed. The apparent falling off, considering the increased territory, means nothing, being fully accounted for by the fact that a season of unprecedented drought compelled many who had entered to drop out. But to interest these thirty-one boys in the growth of one-tenth of an acre of potatoes each, very considerable expense was incurred, and exceedingly arduous work was faced by friends of the movement, including some of the very greatest leaders in Canadian agriculture. Of course, the hope is that a permanent movement can be set going much on the lines of the boys' corn clubs in the South and West of the United States.

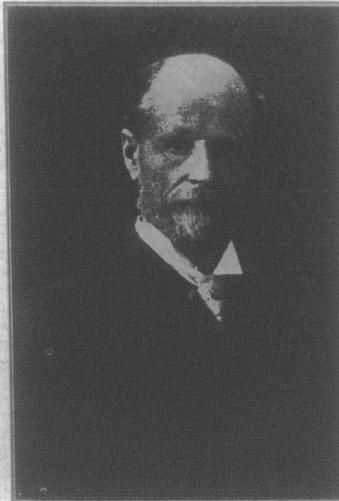


Boys' Potato-growing Contest.

Mr. T. G. Raynor, potato expert of the Dominion Department of Agriculture, and assistant, judging competitors' exhibits at Russell County Fair, Metcalfe.

The movement owes its inception to the enterprise and generosity of Mr. R. B. Whyte, a prominent wholesale merchant of Ottawa, who is himself one of the best-known and successful amateur gardeners of Ontario, propagator of the Herbert raspberry as a standard fruit for Eastern Canada. Mr. Whyte has borne the entire expense of the movement thus far, and has announced that if the boys can be interested, and the results of the last two seasons repeated, the work shall not fail for want of funds.

He gives for each of the two counties six prizes, running in value from \$15, and a handsome silver medal, down to \$5. He has added on each occasion a special premium of \$2 to each contestant who has shown intelligence and industry in the work by making not less than seventy-five per cent. of the possible score of points. Associated with Mr. Whyte in the actual work of the committee, and taking an active interest in every part of it, are three men who are easily among the greatest leaders in Canadian scientific agriculture. One is Mr. L. H. Newman, Secretary of the



Boys' Potato-growing Contest.

Mr. R. B. Whyte, Chairman of Committee, originator and generous patron of the movement.

Canadian Seed Growers' Association, a man who has travelled extensively in pursuit of knowledge of plant biology, and the author of the best-known works from the pen of any Canadian on the subject of plant evolution. Mr. Newman has carried on the arduous work of the secretaryship of the committee, and to his industry and wise administration the successful inauguration of the movement is largely due. The committee is greatly strengthened by having as one of its members Professor W. T. Macoun, Dominion Horticulturist, connected with the Central Experimental Farm at Ottawa. Professor Macoun is an enthusiast on the subject of potato-growing, and his experiments in that line have added great

plished wonders in bringing out the boys as farmers and as men, and it is pretty sure that, partly as the result of what he has accomplished, some of those who have taken part in these contests will be heard from in the life of Canada in the years to come.

But not alone in the direct work of the committee has this contest been aided by leaders in agricultural development. Last year Dr. J. W. Robertson, who is just now closing his labors as head of the great Technical Education Commission which, on behalf of the Dominion Government, collected by personal investigation and otherwise, the facts on this great subject from the whole civilized world, advised as to the working of the potato-growing experiment, and at the distribution of prizes, attended and gave an address of characteristic helpfulness. This year the principal speaker at the public meeting was Hon. Martin Burrell, who, while he spoke as "officially first potato-grower of Canada," is known as a practical horticulturist of life-long experience, and one of the most successful in the Dominion. Another speaker was Prof. C. A. Zavitz, of the Ontario Experimental Farm, who made the trip from Guelph specially to consult with the boys in this contest as to their experience, and to give the results of his own marvellously varied and carefully-worked-out experiments in potato-growing. In the judging of the crops in this competition from sample bushels exhibited at the county fairs—this being a condition of the contest—the movement has had the great advantage of being under the guidance of Mr. T. G. Raynor, of the Dominion Department of Agriculture, an expert of the first rank in the judging of crops, especially potatoes. Professor J. W. Gibson, science teacher in the Ottawa Normal School, himself a farm boy, and a native of the county of Carleton, has followed the work with keen interest, as also have Dr. J. E. Putman, Inspector of Public Schools for Carleton County; Mr. C. W. Casson, Editor of the Ottawa Citizen, and many other men of prominence in different departments of effort for the development of sound public sentiment and improved social conditions. The results of the first year's contest were regarded as of such great value from an educational point of view, that the Ontario Department of Agriculture embodied the first report in a bulletin which was sent broadcast throughout the Province.

And what about the results of all this effort? Well, allowance must be made for the fact that in agricultural education, as in agriculture itself, the crop cannot be gathered until the season of growth is over. This movement is but a seedling as yet. But that it is a vigorous one can be judged from the determination of those concerned to carry it on and extend it, and also from the expressed desire of a majority of this year's contestants to take part in next season's competition.

As to the practical results of this year, one youngster, for instance, demonstrated that it was possible, even in a season dry to the point of aridity, to raise potatoes at the rate of 451.1 bushels per acre. The fact that he did it by mounting a barrel on wheels and watering his plot, makes the lesson of his experience of little value to many farmers who are not in a position to irrigate their lands. But, on the other hand, the fact that he was the only one who watered his plot, though many others might have done so, goes to prove that there may be possibilities of irrigation that are not actually put to use. Even with only farming methods, other boys produced crops of 360, 333 and 319 bushels per acre, which, compared with 119 bushels, the average crop of the Province, seems not so bad for the boys. The profit per acre was greatest for the irrigator already referred to. He paid all expenses and made at the rate of \$205.40 net, per acre. Next to him came the boy with \$135.30 per acre. The net returns ran down all the way to \$32.70 on the wrong side. But, even so, the boy who was distanced by his competitors, and left in the lurch, by fortune, gamely stuck to his work, and was counted with the rest.

Here is the honor roll of this year's competitions:

PRIZEWINNERS

Carleton County.—1, Harvey S. Gourlay, Kinburn; 2, H. Washington Graham,

Huntley; 3, H. W. Boucher, Carp; 4, Geo. W. McCordick, North Gower; 5, Harry S. Wright, Carsonby; 6, E. C. Campbell, Fitzroy Harbour.

Russell County.—1, Stanley Morrow, Pana; 2, Walter C. Hamilton, Navan; 3, Wilfrid Potvin, Bowsville; 4, Alfred Bennett, Metcalf; 5, John S. Thompson, Cummings Bridge; 6, Thomas Redmond, Bowsville.

SCORE OF OVER 300 POINTS.

Carleton County.—James O. McCurdy, Hazeldean; Thos. H. Findlay, Richmond; William E. Brownlee, North Gower; James H. Brownlee, North Gower.

Russell County.—Alex. Elliott, Edwards; Carman Freeman, Bowsville; Albert C. Blair, Metcalf; Albert Harrison, Kenmore; Matthew Gare, Navan; Thomas S. Morrison, Vars.

The Windrow.

Switzerland, the cradle of the Red Cross Society, is offering its services as a common hospital for European nations in case of war, the country itself to be "neutral and inviolable."

Recent experiments tried in Philadelphia show that under-nourished children, when properly fed not only gain in weight but improve in all their classes.

The State of Ohio is using a travelling public health exhibit to educate the people of the State how to live healthful lives.

In Chicago there is a "clinic," where those addicted to cigarette smoking may be freed from the habit. The system is based on washing the mouth with a certain solution which creates revulsion against the cigarette.

Some years ago Mr. Rudyard Kipling sold a book to a firm of publishers for a sum that worked out at the rate of a shilling a word—a fact which was very much advertised, says the "Typographical Journal." A Fleet Street humorist, for the fun of the thing, wrote to the author saying that, as wisdom seemed to be quoted at retail prices, he would like one word, for which he enclosed a shilling postal order. The reply came in due course. Mr. Kipling had kept the shilling postal order and written on a large sheet of paper the word. "Thanks!"—T. P.'s Weekly.

Ruskin said that, "Unto This Last" was his work which would stand longest, and the record of the book has shown his words true. The first edition, (1862) was 1,000 copies, and by 1870 it was not exhausted. By 1904 more than 50,000 copies had been sold, and during the next seven years more copies were disposed of than during the preceding forty-two years. "Unto This Last" is Ruskin's great book of social theory.

Since the opening of the Free Dispensary for Animals in Boston, July 28th, by the Massachusetts Society for the prevention of cruelty to animals, an average of 22 cases per day have been averaged. The dispensary is called the "Angell Memorial Hospital," in memory of the late Mr. Geo. T. Angell, the life-long friend and benefactor of animals.

Mr. George Tinworth, the noted sculptor, who up to his manhood worked as a wheelwright at Walworth, this year completed a large panel for a church in New York. He is seventy years of age, and happy to be still at work. When not busy in his studies he finds employment in authorship, writing the story of his life.

The case of the second son of Queen Victoria of Spain, Prince Jaime, is ap-

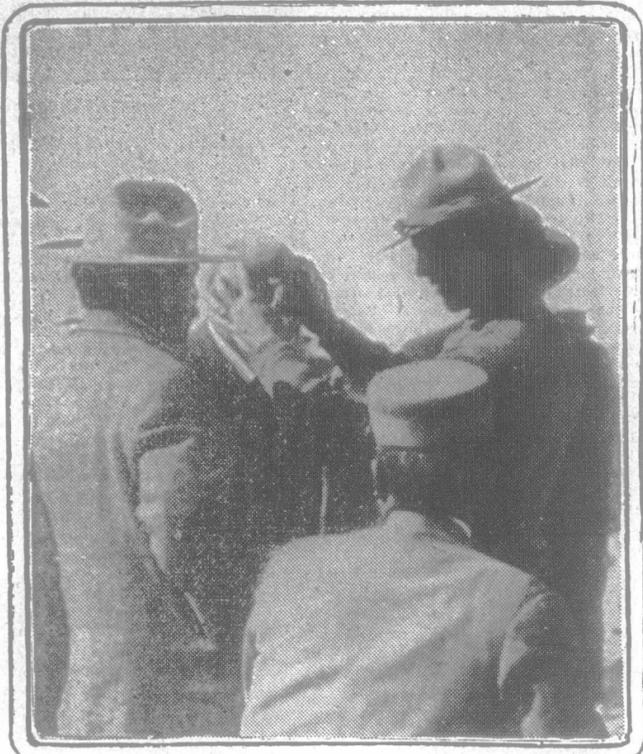
parently given up as hopeless. Albeit a bright and healthy boy in other ways he is both deaf and dumb. Some time ago the King and Queen summoned Helen Keller, the wonderful blind, deaf and dumb girl of America, who achieved a university course and has written several books and articles, to the palace at Madrid, where she agreed to undertake the education of the little boy.—Otago Witness.

I think true broad-mindedness consists not in being ready to surrender one's own views in deference to the opinions of others, and certainly not in behaving as if all opinions were equally true (a view which involves the logical opposite that all opinions are equally false), but in being anxious to understand exactly what one's opponents do hold, and why, and a willingness to allow them to act accordingly.—"Artifex," in the "Manchester Guardian."

An American contemporary publishes an article giving particulars of a bullet which will carry with it an antidote to the pain it inflicts on the victims of war. The new compound, "the narcotic bullet," is the invention of Alexander F. Humphrey. Experiments, it is stat-

ed, as the narcotic from the bullet is absorbed by his system, and he is insensible to pain before he reaches the hospital. The man whose wound is mortal sleeps away his last hours, thus doing away with the most of the battlefield horror.

The English King has done a good deed, says the Outlook. He has made Dr. George Turner a knight. Who is Sir George Turner? Few, in America at least, except medical specialists know him, but those specialists know him as one of the greatest authorities on the subject of leprosy. When he was practicing as a physician and medical officer in South Africa, the leper hospital at Pretoria made a great appeal to him; such a great appeal, indeed, that he gave up all his spare time to work among the lepers. He would go to their hospital morning and night, and devoted all his Saturdays and Sundays to them. For years he labored among them without pay of any sort, investigating the nature of the terrible disease, and doing all he could to ease the lot of the sufferers. On reaching the age limit Dr. Turner retired from his official duties and went to England to pursue further his studies into the source of leprosy. After several years of work



Luis Terrazas, Mexico's richest citizen, undergoing medical examination at Presidio, Texas, before being admitted into the United States, whither he has gone for protection. He is a millionaire, but the authorities show no favoritism. They went through his baggage, and subjected him to the same examination as that received by the poorest immigrant.

ed, are being conducted by a committee of army officers, police officials, and sportsmen. It is considered alike humane in warfare and deadly in hunting big game. In self-defence it provides the poor marksman with all the advantages of an unerring aim. In his sleep-producing missile Humphrey uses a minute particle of morphia. The drug is carried in tiny wells in the steel jacket of the regulation army bullet. Humphrey claims that it in no way interferes with the effectiveness of the missile. The slight indentation in the steel jacket, he says, causes no splintering when it comes in contact with the bone. The wound of narcotic bullets, according to his theory, does not differ from that caused by the regulation bullets now used in the approved army cartridges. No deleterious effects will follow the unique administration of the drug. The soldier receiving a slight flesh wound from the new bullet fights no more that day; he calmly stretches himself on the ground and goes to sleep. The man receiving a serious wound suffers no

the disease attacked him but he still labored on in his investigations, though life now meant ever-increasing pain, disfigurement, and consequent seclusion. He has now, it is reported, lost his left arm. The story goes that he was recently asked to dinner by some admirer, to whom he replied: "I should be glad to go, but I am a leper, you know." It is a pleasure to learn that Dr. Turner's name was included on the King's own initiative.

The Roundabout Club.

Announcement of the prizewinners in Literary Society Study No. I, will be made as soon as possible. In the meantime, will those who are writing on Study No. II, kindly note that the essays are due at this office not later than January 15. Subject (suggested by one of the members) "What I want most in this world, not what I may appear to want, but what really in my heart I am trying for."

Hope's Quiet Hour.

The following letter has just reached me:—

"Dear Miss Farncomb.—Some time ago there were published in 'The Farmer's Advocate' a number of short prayers, suitable for asking a blessing at meal-time, but I have lost the paper. Would you kindly repeat them in your 'Quiet Hour,' as I want to memorize them.

A SUBSCRIBER."

I very gladly accede to "Subscriber's" request, hoping that other readers may memorize at least one of the prayers given below.—Hope.

"For what we are about to receive, O Lord, make us truly thankful."

"For these and all Thy mercies, we give Thee thanks, O Lord."

"We thank Thee, Father, for this food, and for all Thy good gifts to Thy children."

"O Lord, we ask Thee to be our Guest, to-day and every day, that we may be prepared to be Thy guests in our Father's home above."

Arise Shine.

Arise, shine, for thy light is come, and the glory of the LORD is risen upon thee.—Isa. ix: 1.

"Ring gladly out, sweet New Year's bells; Since we are children of a King, Bid us fare bravely on our way, And fear not anything."

I wish you all—my dear "Advocate" friends—a Happy New Year! Everywhere we hear the old greeting, which is always as fresh and new as the bright "Good morning!" which welcomes each member of a family into the home circle every day. A year of unknown possibilities lies before us. We cannot lift the veil from the face of one of those 365 mysterious days, which are coming to meet us in a single-file procession. When the right moment comes, God Himself will lift it, until then we can be happy—if we trust our Father—in knowing that each day will be a messenger bringing to us His gifts of love.

We wish our friends a happy New Year, but the happiness must come from within if it is to come at all. A happy person is one who shines by force of will-power, who is determined to be happy no matter what the circumstances may be. Or, perhaps it would be more correct to say that one who is heart-happy goes on shining in the darkest circumstances. I once saw a happy bride unpacking a box of wedding presents. One of the handsomest pieces was hopelessly smashed, but her gladness was too deep for a trifle like that to cloud it. The banner over her was Love, and nothing could darken her day while Love's sun was shining.

That is the way to have a happy year, and many of them. A happy bride cannot be gloomy while the bridegroom is with her, and Christ is the Divine Lover, Who says to His Church: "Lo, I am with you always." Those who walk always in the light of the Sun of Righteousness cannot help shining. Bishop Ingram says that he knew a young soldier who was dying of cancer of the throat. For weeks he could not speak, but shortly before his death he wrote: "This is the happiest two months I have ever had in my life." How did he succeed in getting a happy year, while enduring pain and facing an early death? Let those who deny that Christ is the Light of the world explain the mystery, if they can. I knew a woman slowly dying of cancer, who talked joyously of the new life that was awaiting her. When I first began to visit her she was horribly afraid to die, but as she learned to know the Love of God, the fear in her face changed to an expression of peace, and her last months of pain were shining months.

We may have to pass through the darkness during the coming year—I am not wishing you a year of easy luxury—but it is our own fault if we do not have a happy year. It was said of one persistently cheerful person, "That man could go down with a sinking ship and come up with a pocketful of fishes." It is quite within our power to come up with pearls of great price when the deep

waters of heads. True in character if God's prophet, be through the How mar noble enou the Titanic has grown tian countr themselves-weak may have been admiration, strength in leaving the fish. It is example the come "wor missionary his acquir lages, and been done, received t should be of all. E country, in Life of Ch writers, w idea—and y that the chance of the glory great trut tect the v power. C proved Hi for the had been have been Browning

"He who strong

The God for a per are left David ask the creatu

"Would I woul

We are the glory Gross da but, Isaac LORD sh glory she glory se lives? is eviden Are we though i a commo

Someti the life o pampered darkens the hous out of s reach of hors slip see the garet De "deserte in bed her dete was a p refinement to spoil know a less and joys a v never tr intereste found h She cou wanted of her n need to spirit is

A wor life, bri said: immort overflow my hea sound i bell, an on a h that is know th splendid lieve w If all readers and joy year w

waters of sorrow have gone over our heads. Troubles will make us more rich in character—the only lasting wealth—if God's promise, given through His prophet, be fulfilled: "When thou passest through the waters, I will be with thee."

How many people proved themselves noble enough to arise and shine, when the Titanic went down! Thank God, it has grown to be a commonplace in Christian countries for the strong to sacrifice themselves—if need be—in order that the weak may be saved. The world would have been filled with horror, instead of admiration, if the men had used their strength in fighting their way to safety, leaving the women and children to perish. It is through the power of Christ's example that the law of the sea has become "women and children first." A missionary went among the Hindoos of his acquaintance in many heathen villages, and asked, "What ought to have been done, in such a case?" From all he received the same reply, that the men should be saved first, and rich men first of all. Even an atheist in a Christian country, influenced unconsciously by the life of Christ and the ideals of Bible writers, would be horrified at such an idea—and yet it would seem most natural that the strong should have a better chance of escape than the weak. It is the glory of God which shows us the great truth that the strong should protect the weak to the uttermost of their power. God is all-mighty, therefore He proved His glory by sacrificing Himself for the weakest on earth. Unless He had been willing to do this, He would have been less glorious than many men. Browning says:

"He who did most, shall bear most; the strongest shall stand the most weak."

The Gospel story satisfies our demand for a perfect ideal; those who reject it are left in the darkness. Browning's David asks whether it is possible that the creature can surpass the Creator.

"Would I suffer for him that I love? So wouldst Thou—so wilt Thou."

We are told to arise and shine, because the glory of the LORD is risen upon us. Gross darkness may cover the people, but, Isaiah declares of God's chosen, "the LORD shall arise upon thee, and His glory shall be seen upon thee." Is His glory seen reflected in our everyday lives? Do men glorify God because He is evidently shining in and through us? Are we like the desert bush, which—though in its natural state it was only a common bush—was afire with God?

Sometimes a great sorrow comes into the life of a man or a woman, and it is pampered and petted until its shadow darkens the neighborhood. The rest of the household breathe more freely when out of sight of the sad face and out of reach of the plaintive voice. The neighbors slip down a side street when they see the unhappy mourner coming. Margaret Deland describes a woman who was "deserted at the altar," and who stayed in bed for thirteen years, imagining that her determination to be crushed by grief was a proof of refinement. The truest refinement is shown by one who refuses to spoil the sunshine of other people. I know a glad-hearted woman who is helpless and suffering, and yet everyone enjoys a visit in her sunshiny room. She never talks about her own pain, but she is interested in all the world. One day I found her studying a map of Toronto. She could not leave her room, but she wanted to locate in her mind the homes of her numerous visitors. There is no need to be really a "shut-in," for the spirit is always free.

A woman who wanted to live a shining life, brightening the world around her, said: "I will believe so utterly in immortality that some of my joy must overflow into your minds. I have found my beautiful service for humanity, whose sound is like the ringing of a jubilant bell, and whose look is like a happy city on a holiday. Although I am nothing that is not ordinary and weak, yet I know that belief is the bravest, most splendid action in the world, and I believe with all my soul in immortality."

If all the thousands of "Advocate" readers should catch and reflect the glory and joy of God, all through 1914, the year would stand out like a star in his-

the world. Will you do your share? Will you refuse to lament over your pains, troubles, and grievances? Will you be happy—and let other people see that you are happy—every day, especially at meal-times? A family meal should be sacramental and glad, for an unseen Guest is the Master of the feast. Complaint, grumbling, and unkindness, are like blows aimed at Him, for He identifies Himself with His weakest member, saying: "Ye have done it unto Me."

Happiness is a very important part of Christianity, and will attract others to our Master. A saint of old used to say: "In Christianity, the first thing necessary is cheerfulness, the second thing is cheerfulness, and the third is cheerfulness." A religion which does not make people happier is very contrary to Bible ideals. The key-note of prophets and apostles is joy. I have just counted the passages where the word "joy" occurs, and find it about 150 times, and the word "rejoice" is as common. The call to "praise" God rings through the Bible from Genesis to Revelations, and there are many direct commands to "be glad and rejoice." It is sinful disobedience to God's Command when we are gloomy and discontented. His children are commanded to shine wherever they go. "Arise, shine!" even if you have a heavy cross to bear. You are sent out to declare good tidings of great joy. Will anyone believe your message unless it brings joy to you? For many years I have prayed for God's great gift of Joy—will you pray for it, too? Let us shine, for our light—the Light of the world—is come.

"Joy to the world! the LORD is come: Let earth receive her King, Let every heart prepare Him room, And heaven and nature sing."

DORA FARNCOMB.

coming over in the afternoon, and such a grand time was expected. They had carried water from the pump, so many pails that they quite lost count, and poured it over that hill until it was as hard as could be desired, and smooth and slippery as glass.

Two big snow men stood on guard beside two large snow forts. One was named Wolfe, and the other after the French Commander, Montcalm. Each army had been chosen before they had left school, and all that was needed to make the fun complete was a bright and cloudless Saturday.

With such a noisy clatter, they ran in to supper, rosy and happy. As they were telling Mother Harper about their fixings for the next day, Joe suddenly said, "Those Jones' next door sat on the back step and watched us all the time we were doing it. I guess they just wished they were us. You bet, I told them if they touched anything we'd more'n pay them out for it."

"Oh, Joey, Joey, for shame, son; you should not have spoken like that, probably the children had no thought of touching your slide. Would it not have been better to have asked them to help make it?" said mother gently.

"Them make a slide; they don't look as if they could make anything. They're queer looking, and don't seem to have a bob-sleigh or a thing, besides they're strangers, and don't belong to our set, anyway," said twelve-year-old Ben in a lordly way.

"I was a stranger and ye took me in," quoted mother, softly; and Ben had the grace to feel ashamed, although he tried to pass it off by saying gruffly, "Oh, a fellow can't be thinking of the right thing to do all the time."

"No, I suppose not," said mother; but at least you might try, my boy. If I

at last they were ended and the children were free to go. Such a rush as they made for coats and caps, then out doors, fastening buttons and pulling on gloves as they went, shouting aloud in their glee. The gay shouts very suddenly changed to a wail of anguish, and the sound of angry voices.

"Whatever has happened," cried mother, running to the door and opening it just in time to meet the five coming rushing to the house. The moment they saw her sympathetic face, there was a general shout of, "Oh, mother, the Jones', the Jones', they've ruined everything; our slide is all ashes; our snow men and forts destroyed."

"I just knew," said Ben, "they were bent on mischief last night, by the look on their faces when we finished up."

"Just wait, though," cried Joe and Jack together, doubling up their fists; "Just wait, we'll more than pay them out for this, the mean, scrawny-looking little wretches they are!"

"Don't do anything rash, boys," mother said gravely, "always count one hundred when you are vexed, and see if you're in the same mind when you're through. Nora and I will come and help you make another, and you can still have the afternoon to play."

"Here come the Scotts and Kumps, we'll plan our revenge now," said Ben, running to meet his friends and tell them of the work of destruction. The girls of the party came to the house, while the boys ran to examine the ruins. The exclamations of anger and hate were loud, and more than one doubled fist was shaken in the direction of the Jones house, and the little Jones family were wise enough to keep inside just then.

In a short time, mother opened the door and said, "Boys, I think it would be a good idea to talk it over in the house, over a cup of cocoa and roasted peanuts."

The scramble for the house was general. Soon they were all gathered around the kitchen fire, and Mrs. Harper said, "Now, before you decide what's to be done in this matter, I should like to tell you a story auntie told me last night. She said there used to be a family who used to live next door to her in the city. They were mischievous children, but very lovable, and she was very fond of them. Through some treachery of a friend, the father failed in business, the shock killed the mother, and the father got some cousin of his to look after his children. She had not been used to children, and is rather of a hardened disposition, and those little children, who had been used to loving treatment, soon grew morbid and bad-tempered under the new rule. The father's health failed, and he had to move to the country and look for a job there. So those poor little children are living amongst strangers now; no one to see that they have a happy Christmas, and their father has scarce money enough to buy clothing to keep them warm with, let alone buy toys. And that is not all. I believe there are some children next door who seem to have everything to play with, but because these little motherless children are poor looking and strangers, they won't have anything to do with them. "Now, don't you think it is sad," said Mother Harper, "that the children who have so much cannot find it in their hearts to make friends and be kind to them. Poor little ones; just think, no mother to make a nice Christmas for them."

"Oh, dear," said Mabel, "don't I wish they lived next door to us, instead of those Jones', I'd help to make Christmas for them."

A peculiar little smile hovered around mother's mouth as she turned to the listening crowd and said, "Now guess where those children live."

"Mother," said Ben, solemnly, "it's not the Jones', is it?"

"Yes, my boy, it's the Jones'. Those poor, motherless little ones that auntie loved so much. She sent out some warm clothes to be given them at Christmas, and I was thinking a good way to pay them out would be to make them a Christmas tree. Auntie said kindness would win them where blows and threats would only make enemies, and I am sure you all would rather have them for friends than enemies, would you not?"

There was silence over the group for a few minutes, and mother wisely with-



Hazel Leggett's Prize Garden, Rainham, Ont.

The Beaver Circle Christmas.

O loving little children,
Sweet be your sleep to-night,
For all the joys of Christmas
Will come with morning light.

The angel hosts are singing,
In that fair land above,
The chimes are sweetly ringing
In notes of peace, of love.

The good old saint is speeding
Across the shining snow,
I hear the sleighbells jingle,
As on his reindeers go.

Then, darling little children,
Sweet be your dreams to-night,
Ere yet the Merry Christmas
Come with the dawning light.
J. B. M. Wright.

Getting Even With The Jones Crowd.

A CHRISTMAS STORY.
(By Mrs. Janet Graham.)

The five little Harpers worked with might and main, getting their coasting-hill all ready for their fun on Saturday

were you I would ask them over to-morrow."

"And spoil everything," chimed the whole five at once. "The other fellows don't know them, and won't want them. Oh, mother, we simply can't."

"Well," said mother, "think it over and see if you can't make up your mind to do it. A pleasure shared is always doubled."

After supper, mother and father drove into town to see Aunt Julia and Uncle Ned, and left the children in care of Norah, with the parting injunction to go to bed early so as to be able to get up early in the morning, and soon five little heads were on their pillows, and ten little eyes closed tightly in healthy sleep, and when mother came in after she got home to see if they were all tucked in, John was tossing around in his sleep, and saying excitedly, "Hi there, you, Bob Scott, come out from behind that fort and fight fair, I say!"

"Ah, Johnny boy, practice what you preach, and stick to it," the mother said to herself as she passed on to her own room.

Morning dawned clear and bright, just the day to enjoy the sports they had planned. Breakfast was eaten in a hurry that morning, because father had said no one must go out until they had had their breakfast. Prayers seemed to

and bye she heard Mabel say, "Well, if Aunt Julia loved them, there must be something worth loving in them, for Aunt Julia seldom makes a mistake in her friends. Let's try and see if we can make them love instead of hate us. All 'in favor,' as they say at real meetings." There was a general uplifting of hands, and Bob Scott said, "Three cheers for the Jones', the poor little beggars, and a Merry Christmas to the whole kit o' them. I'll get the Christmas tree, and paint up my old sled for the biggest boy, and I guess Lil and May and Grant can hunt up something for them."

Mother, listening in the next room, said, "that's the right kind of pay, children; and now, here's Uncle Ned himself, he'll help you boys fix up your sleds, and while it's freezing, you can come in the house and help make things for the Jones' Christmas tree."

The slide was made even better than before, and how those children did enjoy their fun that afternoon. The pleasant surprise in store for the Jones' lent such a feeling of excitement to the whole affair that they all decided they had never had such a good time in their lives.

Such a busy week followed, and such a number of mysterious presents were carried into the Harper house that the poor little Jones' cried themselves to sleep at nights, thinking of the good times they used to have at Christmas.

At last the eventful night arrived, and just as the little Jones crowd were wondering if it would be any use to hang up their stockings or not, the clear notes of a trumpet were heard outside, a sudden ringing of bells, the door was opened quickly, and lo! Santa Claus stood in the open doorway, carrying on his back a basket of toys. He stepped in the room, followed by the biggest boys of the three families, carrying a lovely Christmas tree, sparkling with ornaments and candles.

Santa Claus bowed very low, and said, merrily, "For the Jones', with best wishes from the Harpers, Kemps and Scotts, and they wish you all to be present to help them with their snow battle to-morrow afternoon."

To see the shamed look that came over the faces of the Jones' was victory enough for the other crowd, and when the biggest Jones boy said, "We've been sorry ever since we ruined your things, and it's mighty good of you all to be so kind to us after, but we'll see that your slide is kept nice all winter to pay up for it." They felt fully paid. "And to think," said the oldest Jones girl to Mabel, "that you are Aunt Julia's real nieces and nephews," as she finished reading the note she found in her new red toque. "My, won't she be glad to know that we are friends."

The next day when they all assembled to slide together, they decided that mother's way of getting even was the best.

The Garden Competition. SECOND-PRIZE LETTER.

Dear Puck and Beavers,—Well, as the first of November is getting pretty close, I must send you my little gardening story. I hope all the Beavers have had as good luck as I have, and found gardening as pleasant and interesting. I hardly know where to begin to tell of my garden, as I started last fall to gather seeds and bulbs. I helped take up the dahlia and gladiolus bulbs. The dahlia bulbs look very much like a bunch of sweet potatoes, and the gladiolus like an onion. After taking them up, we put them in a paper sack and hung them up to dry where it was just warm enough to keep them from freezing. In spring, about the last of March, we planted them in a box in the house, and as soon as it was warm enough, put them out in the ground. And now, right here, I must admit my first failure: I had one nice, big bunch of bulbs, from a delicate pink-and-white dahlia that all spoiled, right in among all the rest. It had been in the richest ground and had the loveliest flowers of all, and the bulbs looked so nice, but they were the only ones to rot.

The seeds I planted in the hotbed as early as possible in the spring. Our hotbed was made by first getting a pile of manure from the horse-stable and letting it heat a few days, and then putting it in a box about a foot and a half

high without a bottom, half full on top of good ground. Then we sowed the seeds, flower seeds in one end and vegetables in the other, and covered it with glass and kept it moist till danger of frost was past, then took the glass off daytimes, and put it on nights, as it was still cool at nights. Finally we left it off altogether as the plants grew stronger without it.

I sowed phlox, asters, snapdragons, and balsam seeds, in the hotbed, also cabbages and tomatoes; aster seeds are like thistles; the phlox have tiny seeds in a small, chaff-like pod; the snapdragons have a lot of round, very small, black seeds, in a pod which looks like a pitcher with the lid fast on; the balsam have round, brown seeds, in a small, "touch-me-not" pod; the cabbage seeds look like small shot, and the tomato seeds are flat and white.

The first thing I put out in my garden (which had been previously plowed and well manured), was cabbage plants, next tomatoes, then some table beans; then I planted a big, long, butternut-shaped onion for seed, and it multiplied to three instead of going to seed. I next sowed carrots, beets, and parsnips. My gladioli, dahlias, some petunia and geranium slips were next; the slips I had to put glasses over to start.

I transplanted the phlox, asters, snapdragons and balsams, also a few marigolds which my auntie gave me, and some nasturtium seeds.

I hoed and pulled weeds—that's one thing I learned; you cannot hoe a garden too much as long as you don't hoe the root of the plants, or when it is wet or muddy. When it was very dry and we could not spare water, and I hoed it every day, the hoeing seemed almost to produce moisture.

Then I had several little helpers, which, although not so pretty, helped all the same. One was a large, striped snake, that came from a ditch near, and the others were toads, that my little brother and sisters liked to bring, as they thought they did not dare to help any other way.

I also had some other nice little helpers who helped under my work. They were some little birds that pulled up my little beets, so I had to get some from mamma to fill in my rows, but they sang a lovely little song to pay for them. I had beets to Rainham Fair and got first prize; I got second on my parsnips. I had intended to take my cabbage, but before the show they laughed so hard about it that they burst.

Now, I haven't said anything about weeds, but there were always plenty of them. One day when I was pulling up a stray weed that had grown up with a phlox, I pulled up the phlox; it was all in full bloom, too.

I had a great weed patch. (You mean the bit we told you to neglect—Ed.) It was almost six feet square, but there were weeds, burrs, and thistles of all kinds, and one neglected tomato got six inches high, and the beets were full of "sticks," while my beets, though great big ones, were very tender.

I have taken up my dahlia and gladiolus bulbs, and one dahlia multiplied to seventeen. I am going to take up my snapdragons, because auntie had some that flowered so much earlier and were much larger, because she had them in the cellar. I have taken up my geraniums, and some of my petunias, so this will end my garden for this year, although I hope to have a bigger and better garden next year.

HAZEL LEGGETT.

Rainham, Ont.

We think you got a little mixed in writing your composition, Hazel. You speak of sowing tomatoes in the hotbed, which is all right; then you mention sowing tomatoes out of doors before the carrots, beets and parsnips, which are ordinarily sown out of doors long before tomatoes, which are more tender, and can be transplanted.

THIRD-PRIZE LETTER.

Dear Puck and Beavers,—This competition appealed to me as a great chance for nature study, and the thoughts of my making the acquaintance of the birds, bees, reptiles, butterflies, beetles, and flowers, was more desirable than the hoe, for, like most boys, I failed to see the poetry in this implement.

Early in the spring I began by making

a hotbed, situated in a sunny location in which to sow tender plants, like tomatoes, cabbage, and cauliflower. This hotbed was two and a half feet by five feet. The front was about one foot above the ground, and the back about two. I took some old window-frames, and seeing that they had whole glasses in them, I covered it with them. I took some well-rotted manure from the barnyard and filled the hotbed to the top of the framework. After this I took some black earth and covered the manure. Now I got in and trampled it down until it was four or five inches below the top of the front board. Over this I put in some dark, sandy loam, to the depth of about five inches, and in turn pressed this down. After all the pressing, the earth was within about four inches of the top. In this, in rows, the tomatoes, cabbage, cauliflower, dahlias, salvia and celery, were planted. This was kept well sprinkled with water each day. The tomato seeds were almost round and flat, and whitish-yellow in color. The cabbage and cauliflower are similar, both being round and black, or at least very brown. The dahlia bulbs are somewhat like the sweet potato in shape, being long and oval, and of a yellowish hue. The salvia seeds were small, black, flat seeds, somewhat oval.

In about ten days the tomatoes, cabbages and cauliflowers were up, but the celery took some time to germinate, not coming up for about three weeks. The salvia, too, was slow in germinating, coming up in about two or three weeks. The dahlias, after being in about a week, began to sprout.

The tomatoes appeared as two long, slender leaves, the cabbage and cauliflower being crinkly, and the two leaves the shape of those of the clover, or heart-shaped, while the leaves of the celery were small and scalloped.

I chose a sunny spot for my garden, and prepared it by manuring and plowing; then hoed it down and levelled it off with a rake. Now I measured it off in rows, leaving space in which to put my cucumber hills.

My garden is near a building, which I used as a background, planting next to it a row of corn, then sunflowers, next a row of marigolds, a row of balsams, and one of wild-flower garden. Then my vegetables were planted. First; carrots; second, beets; then parsnips. Next I made my cucumber hills. In the center of each I put an old pail, in which I bered holes, and which I filled with manure. Close around the pail I sowed a ring of poppy seeds, and then I planted the cucumber seeds in hills around the pails. Whenever I watered them I put the water in the pails instead of on the plants. At the end of the hills I planted a row of asters and zinnias. As soon as there was no danger from frost, I transplanted my dahlias, cabbage, cauliflower, and tomatoes. The dahlias I put at one end of the garden, to divide it from the small spot in which I planted the seeds which were not to be cultivated. The cabbage, cauliflower, and tomatoes, I planted in rows.

So far I found the work very pleasant; the twittering birds overhead, and busy bees humming together with the pleasant sunshine and gentle breezes could not fail to make gardening one of the most pleasant occupations for boy or girl. In a short time the garden was green and beautiful, and before long I noticed that there were more plants growing than I had planted seeds for. I began my weeding and hoeing, but I was kept busy to keep ahead of the weeds, for in this soil weeds grow so fast that by the time you reach the end of a garden row with your hoeing, you might almost start in where you began.

While working in the garden I frequently came across toads and June-bugs, which were in the ground.

But not to myself only did my flowers give pleasure, for I was able to share my delight by taking them to a sick friend, and frequently on Sundays, bouquets from my garden helped to decorate the pulpit of one of the churches of the town.

The vegetables were used on the family table. That part of my plot which was not cultivated, came up at first like the rest of the garden, but soon the plants became spindly, and from lack of water, together with crowding, died altogether.

The picture which I am sending is not good, because I had expected to have a

camera of my own, but was disappointed, and before I could get a picture taken, the early frost did so much damage in the Niagara peninsula, and left it looking hopeless indeed, so that my picture does not show it at its best.

ARTHUR PAYNE.

Your letter is a good, practical one, Arthur; but, as you say, you lost some marks on the picture, which was too dark and blurred to be very distinguishable.

Junior Beavers' Letter Box.

[For all pupils from the First Book to Junior Third, inclusive.]

Dear Puck and Beavers,—This is my first letter to the Beaver Circle. My father has taken "The Farmer's Advocate" for about ten years, and thinks he could not do without it. I have two sisters and one brother; their names are Elsie, Phoebe, and Willie.

For pets I have three kittens and a cat, and their names are Queenie and Princess. I go to school every day, and we like our teacher; her name is Miss Show. I hope this will not fall into the hungry w-p. b., as I would like to see my letter in print.

ETHEL A. RATHWELL.

Navan, Ont. (Age 6, Book I.)

Dear Puck and Beavers,—I will tell you about how we made and filled the silo. We built it last summer. It is made of cement. The builders have big, iron rings. They put one outside and one inside, and put the cement between. They have scaffolding to stand on. The way they pull the cement up is this: They take a wheelbarrowful of cement, and fasten a rope to it; the rope is fastened to pulleys, then a horse pulls the rope, and the wheelbarrow is hoisted up. When they fill it, they have a cutting-box; they put it close to the silo, and then they have a pipe, and the corn is blown up into the silo like rain. Men have to trample it. Ours has gone down pretty nearly five feet from the top already. We had Indians cutting wood in our woods last winter.

ALICE GALBRAITH.

(Age 9, Class Sr. II.)
Iona Station, Ont.

Dear Puck,—My teacher's name is Miss Donogh; we all like her well. I am generally head of my class. I have two brothers; the oldest one's name is Elmore. He goes to High School. My other brother's name is Henry; he passed the entrance this year. He does not go to High School. I have a playhouse in one of the maple trees. I put boards on some of the limbs in the trees for tables, and put the things to eat on it. We have a big black dog; his name is Trip.

RAY HELLYER.

(Age 9, Jr. II.)
Kenilworth, Ont.

Dear Puck and Beavers,—I have written to your Circle once before, and I thought I would write once more and tell you a story I made up all myself.

WHY THE BIRDS FLY SOUTH IN WINTER.

Once upon a time this world was inhabited by large, strong giants, who nearly always had cats which were as big as tigers. In the summer, when these giants had a lot of food, they fed their cats well, but in the winter they gave them but little, so they chased the birds, and the birds flew away from this dangerous place, and went to the warm South. They flew there every winter, and got used to it, so they fly there every winter now.

CLARENCE J. M. BURGESS.

(Age 9, Jr., Class III.)
You have quite an imagination, Clarence. Do you know what that means?

Dear Puck and Beavers,—This is the second time I have written to you. I guess my last letter was not in print. I go to school every day, and am in the Third Grade. My teacher's name is Miss Stewart; I like her fine. I have five plants that I water and watch grow. My sister Lillian has a doll, and we have

a great time dressing it. I am the oldest of our family. I guess I will close. GRACE SOBEY (age 8). Wilmot, P. E. I.

Honor Roll.

- Nellie Anderson. Marguerite Northrup. Maggie Clark. Mary Brock. J. C. Wright. Rita Brethen. Oscar Tweedle.

Fashion Dept.

HOW TO ORDER PATTERNS.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. Price ten cents PER PATTERN. If two numbers appear for the one suit, one for coat, the other for skirt, twenty cents must be sent. Address Fashion Department, "The Farmer's Advocate and Home Magazine," London, Ont. Be sure to sign your name when ordering patterns. Many forget to do this.

Address: Pattern Dept., "The Farmer's Advocate and Home Magazine," London Ontario.

When ordering, please use this form:

Send the following pattern to: Name, Post Office, County, Province, Number of pattern, Age (if child or misses' pattern), Measurement—Waist, Bust, Date of issue in which pattern appeared.



DESIGN BY MAY MANTON. 8049 Three-Quarter Cutaway Coat, 34 to 42 bust.



8109 Tea Gown, 34 to 44 bust.



DESIGN BY MAY MANTON. 8050 Semi-Princesse Gown, 34 to 42 bust.



8127 Girl's Coat in Sports Style, 10 to 14 years.



8102 Child's Outdoor Sleeping Bag, One Size, 6 months or 1 year.



8087 Set of Tunics, 22 to 30 waist.



8114 Bath Robe, Small 34 or 36, Medium 38 or 40, Large 42 or 44 bust.



7804 Boy's Norfolk Blouse Suit, 6 to 10 years.



8090 Girl's Dress, 10 to 14 years.



8104 Fancy Guimpe, 34 to 42 bust.



8076 Waistcoat with Peplum, 34 to 44 bust.



7400 Boy's Suit, 2 to 6 years.



7143 Child's Apron, 2 to 8 years.



8114 Bath Robe, Small 34 or 36, Medium 38 or 40, Large 42 or 44 bust.



7804 Boy's Norfolk Blouse Suit, 6 to 10 years.



8090 Girl's Dress, 10 to 14 years.



8104 Fancy Guimpe, 34 to 42 bust.



8076 Waistcoat with Peplum, 34 to 44 bust.



7274 Child's One-Piece Dress, 2 to 6 years.



8088 Doll's Dress, 18, 22 and 26 inches high.



7173 Boy's Russian Blouse Suit, 4 to 8 years.



7081 Child's Apron, 2, 4 and 6 years.



7956 Child's Feeding Apron, 1, 2 and 4 years.



7391 Girl's Apron, 4 to 8 years.



8089 Boy's Suit, 4 to 8 years.



7472 Boy's Suit, 2 to 8 years.



7812 Boy's Sailor Blouse Suit, 6 to 10 years.



"Uniformity is a big word, Bud."
"I 'spect it's because it means a lot,
Rose."

Steady—Regular—Dependable Quality,
there's the FIVE ROSES idea.

No bad dreams bakeday eves—the
morning batch "flat" instead of "up."
So very exasperating, you know, to get
less loaves this week than last from
the same quantities.

FIVE ROSES is the sure flour—reliable,
you see.

No wrinkling worries over bread, or cakes, or
pies, or anything.

Bake things always up to the mark of your
happy expectations.

Disappointment—never.

Four times Uniform—Strength, Color, Flavor,
too, and Yield.

FIVE ROSES—trouble-proof flour.
Use FIVE ROSES always.

Five Roses Flour

Not Bleached



Not Blended

LAKESIDE MILLING COMPANY, LIMITED, MONTREAL

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.]

RE LARD.

The Ingle Nook,—Will you please, or some of the many readers of "The Farmer's Advocate," tell a new beginner how to care for lard so that it will not get strong? Should it be kept in stone, tin, or wood? I have had quite a bit of trouble with lard. Please answer as soon as possible, and oblige.

Simcoe Ont. BEGINNER.
Good lard, perfectly free from water, should not get "strong" if kept in a cool, odorless place. It keeps very nicely in a covered crock. If any of your lard has become slightly tainted, try boiling it with a few sliced raw potatoes in it. When the potatoes are a light brown, remove them, and pour the lard into a clean crock.

EGGLESS CAKES—LIGHT DUMPLINGS

Dear Junia,—I have been a silent reader of your corner for a long time, and I now come asking for some cake recipes without eggs, as our hens have gone off the job for a while. I will enclose a recipe for light dumplings for a pot-pie.

Cook meat until it is tender, season with pepper and salt, and put in potatoes sliced about an inch thick, or use small potatoes that do not need slicing. Have just enough water to boil over the dumplings when they are put in or they will not be light. As soon as the potatoes are in, take 1 pint of flour and sift it with 2 small teaspoons cream of tar-

tar and 1 of soda. Add $\frac{1}{2}$ teaspoon salt, and rub in 1 teaspoon of butter; then add enough milk to stir very thick, so that when dropped from the spoon the dumplings will keep their shape. By this time the water should be boiling. Now wet the spoon, drop the dumplings on top of the potatoes, cover the kettle tightly. In fifteen minutes the pot-pie will be ready to serve, and the dumplings will be "as light as a feather." Thanking you in advance, I remain,
BUSYBODY.

Amherstburg, Ont.

Cake Without Eggs.—One cup sugar, 1 cup milk, 2 cups flour sifted with 2 teaspoons baking powder, 1 teaspoon lemon or vanilla. Beat well, then beat in 5 tablespoons melted butter.

Eagle Cake.—One cup sugar beaten with $\frac{1}{2}$ cup butter or part drippings, 1 cup sour milk, 1 teaspoon cinnamon, $\frac{1}{2}$ teaspoon cloves, $\frac{1}{2}$ small nutmeg grated, 1 teaspoon soda, 1 cup chopped raisins, 2 cups flour.

Apple-sauce Cake.—One-quarter cup lard, $\frac{1}{2}$ cup butter, 1 cup seeded raisins, 1 cup currants, 1 cup brown sugar. Stir 1 teaspoon soda in 1 cup apple-sauce and add; then add 2 cups flour, $\frac{1}{2}$ teaspoon flour, $\frac{1}{2}$ teaspoon ground cloves, 1 teaspoon cinnamon, $\frac{1}{2}$ teaspoon salt, a little chopped peel if liked.

Eggless Fruit Cake.—Two cups butter-milk, 2 cups brown sugar, 2 cups raisins, 2 cups currants, $\frac{1}{2}$ cup butter, $1\frac{1}{2}$ teaspoons soda, $4\frac{1}{2}$ cups flour, spice to taste.

Potato Cakes.—Mash 6 hot, boiled potatoes, and when cool add 1 cup milk, pinch salt, 2 teaspoons baking powder sifted with enough flour to roll out. Cut into small biscuits and bake in a quick oven 20 minutes. Serve very hot, with plenty of butter.

Oat Bread.—Scald at night 2 cups rolled oats thoroughly. It must run off the spoon easily. When just warm, beat

in $\frac{1}{2}$ cup sugar, 1 tablespoon butter, a little salt, and half a yeast cake dissolved in a half cup of lukewarm milk. Cover to keep from chilling. In the morning beat it up, pour into well-greased tins a quarter of an inch thick. Let rise for an hour and bake. Serve with butter and syrup or jam.

A "CAKE" IDEA—KALE.

In answer to Briar Rose's query as to why she cannot make a cake with baking powder, I would suggest that she stop trying, as baking powder is not to be relied upon. Instead, let her use one teaspoon of soda and two teaspoons of cream of tartar.

Here is a good cake recipe for her: Beat two eggs, add one cup sugar, beat. Add a piece of shortening the size of a turkey egg, beat. Add one teaspoon soda, two of cream of tartar to two cups of flour in the sifter and sift. Add a pinch of salt, and enough milk to make of the right consistency. Flavor with lemon, vanilla, or almond. Bake in a moderate oven. Put jelly, jam, or lemon filling between the layers. Ice the top with flavored icing-sugar.

"Millie" will find kale excellent if she cuts out the midribs of the leaves, boils it for three-quarters of an hour, drains, cuts fine, adds butter, salt and pepper, and serves piping hot.

GERTRUDE K.

ICING FOR CHRISTMAS CAKE.

Would like to know if you have a good Christmas cake icing. If you have, please put it in "The Farmer's Advocate and Home Magazine," and oblige.

MISS M. J. H.

Dundas, Ont.

Here is an excellent almond icing, suitable for either Christmas or wedding cake.

Almond Icing.—Take whites of 3 eggs

1 lb. icing sugar, 1 lb. sweet almonds, $1\frac{1}{2}$ ounces bitter almonds. Blanch the almonds the day before (by scalding and rubbing off the skins), that they may be perfectly dry. Put them through a chopper seven or eight times. Add to the slightly-beaten egg-whites, then add sugar. Use a silver knife dipped in hot water to smooth the paste over the cake. Last of all cover with plain, white icing, which may be made by mixing confectioners' sugar with a very little milk. Apply when stiff enough.

Plain Icing.—Allow 4 tablespoons milk to 1 cup sugar and cook until the syrup forms a soft ball when dropped in cold water; then beat the syrup until it is thick and white. Add a little vanilla or almond extract. Maple sugar, or light-brown sugar, may be used instead of white, if preferred.

CANNING PUMPKIN AND APPLES.

Dear Junia,—Here I come again to the Ingle Nook; could not stay longer away, seeing the inquiries about canning pumpkin for winter use. You have not already done it up, have you? I hope not, so I may be useful to you. For years I have just boiled down the pumpkin, or steamed, which is better; cook it until pumpkin is very soft, let it boil 'till very dry, but watch it doesn't scorch. When soft and dry, take sterilized sealers and fill them with a tablespoon; press in as solid as you can, and seal. Have pumpkin boiling hot—no salt or anything—and it keeps so well, only do not keep it after March, as I found when warm weather came it would go sour.

Apples boiled down thick; no sugar, only apples and water, in same way, and filled boiling hot in sealers, keep lovely, and are so handy, too, and will keep for years. I have had some like fresh green-apple sauce, by adding sugar and warming it up a little. It is lovely for

POOR

COPY

ples are likely to be high priced soon, so are worth saving and doing up.

How did you all enjoy the past summer? I often wonder what others are doing in their spare time. Did you get out to the lovely country to enjoy a rest, dear Junia and Hope, who so deserve a rest and vacation, and have a stroll among the trees and pretty flowers, and sit in the quiet of evening enjoying the sunset? How lovely it was to behold the beauty of the sky, especially some evenings. Did many of you notice it, or were you too busy to think of it? Nature is lovely, and how gorgeous are the works of God. We see it, too, in leaf and flower, and now autumn is past with its gay-colored leaves, and actually it is nearly Christmas. How near is the glad or sad time; which will it be for all? Not in giving expensive and useless gifts, but see how happy a time there will be in remembering the dear, aged ones, and the poor or lonely ones. Oh, how many there are who see little or none of cheer at the glad Christmas time. When in plenty one sits at one's good fireside, it is well to remember the poor and see the glad look in return. Yes, it is grand when one can go about doing good; all who are able to, should be thankful. Home is a good place indeed, but lonely, too, if one is never away from it. But flowers are much cheer, as well as kind friends who come, and oh, those nice, kind letters, how they do encourage me. Often the tears fall with gladness at the kind words sent me here in letters and cards, and so many ways, so I press on, grateful for any kindness, though not able to reply to each one who so kindly writes me.

Kindly forgive if I do not reply. Write as often to me as you can. I love it not to be forgotten, and the Nook helps so in many ways.

Kindly tell me, some one, what is 30 years married, and what kind of presents are expected for the anniversary of such? And now, dears, keep up your heart, for there are good times coming, we hope, and the glad Christmas may it be to one and all, a happy season, and brightest prospects to all for a glad New Year. Thanking all for past kindness to me, your shut-in,

LANKSHIRE LASS.

We are glad to hear from you again, dear Lankshire Lass.

The thirtieth wedding anniversary is "Pearl," and the gifts are supposed to be of mother-of-pearl, or to contain a pearl, or pearls.

RE LINOLEUM.

Could you please inform me how to polish an inlaid linoleum. I have the inlaid, and it seems to have such a dusty look with it. It was very pretty before laid down, as it is a speckled fawn ground, with a large, red flower, very much like a carpet pattern. Would beeswax and turpentine be of any use to do it over with? I did try a little patch, and it seems to be a little better. I thought that perhaps you might know of something better.

F. B. K.
York Co., Ont.

There are very good linoleum polishes to be bought all ready for use; the prepared "dustless" mops, are also excellent, as the preparation with which the mops are treated takes up all the dust and leaves a pretty gloss. I know nothing personally of the beeswax and turpentine preparation. Washing the linoleum with water mixed with skimmed milk, helps.

LIGHT CAKE.

Dear Junia, and all the Ingle Nook Friends,—I enjoy very much the chats in the Ingle Nook, and have received some very helpful hints on various subjects. I always take an interest in the letters from Lankshire Lass, as I remember her when I was a girl, and before she was married. I am sure she has the sympathy of all in her sickness, which she bears so patiently.

I am sending you a recipe for a light cake, which I think is good.

Burnt Leather Cake.—Three eggs, all yolks and one white 1 1/4 cups granulated sugar, 1/2 cup butter, 1 teaspoon vanilla, 2 1/2 cups flour, 1 cup cold water, 1 teaspoon soda dissolved in water, 1 teaspoon cream of tartar mixed with flour, 5 teaspoons burnt-sugar syrup.

How to Burn Sugar.—Put one cup granulated sugar in a pan and burn till

black; add one cup cold water and keep for future use.

I will close by asking for help. Can you tell me how to color white-kid gloves without shrinking them? Thanking you in advance.

HOPEFUL.
Huron Co., Ont.

Scientific American gives the following method for dyeing gloves. "The gloves are first soaked in a little hot water containing dissolved crystals of soda or potash, and after a 25-minute bath they are taken out, washed, rinsed, and wrung. When thus cleaned, they are stretched tightly over a wooden hand and the dye applied. The aniline colors can be employed without any previous preparation of the leather, with a brush or sponge."

Using the Left-overs.

Seasonable Past-Christmas Suggestions for the Housewife.

The day after Christmas, or many days after, is vexatious of spirit to the thrifty housekeeper. She sees "left-overs" galore, too excellent to be thrown out, and yet not abundant for the whole family meal, warmed over. By a little ingenuity, a totally different serving than on Christmas Day can be easily accomplished, such as the use of the following, taken from the December Housekeeper:

Turkey Loaf.—Chop fine or put through the mincer. Take enough meat and fine crumbs of one-day-old bread to measure one quart; add two eggs, beaten unseparated, one level tablespoonful butter, one level teaspoonful celery salt, one-half teaspoonful paprika, one cupful turkey soup stock. Mix thoroughly; pack in oval mold or bread-pan, buttered, and bake in moderate oven until it leaves sides of pan; run a flat knife blade around; invert onto a hot dish, and garnish with steamed olives or pinolas, and balls of the dressing.

Pressed Turkey.—Another delicious way to serve the meat is to take one pint minced turkey, four rolled soda crackers, half teaspoonful salt, one-fourth teaspoonful pulverized cloves, generous pinch pulverized allspice, one tablespoonful butter, two eggs, whites beaten separately until stiff and added last; pack in a buttered ring mold; set in pan of cold water, and bake in oven until firm; unmold on hot dish, and fill center with potato balls; garnish with parsley.

Plum Pudding Croquettes.—Take the left-over pudding and bind together with egg yolks; form into balls; roll in fine bread crumbs, dip into beaten yolk diluted with cream, then re-cover with crumbs; fry in deep, smoking-hot fat until a light brown; drain onto paper; heap onto a folded napkin after rolling in pulverized sugar; trim with holly, and serve as dessert with egg sauce.

An Item About Our China Tea-Set Premium

Dear Sirs,—Received your set of dishes the other day, and am awfully well pleased. They're just O. K. Thanks very much. I'll do all I can to extend your papers.

M. J.
Carp, Ont.

One of these sets will be given to any subscriber who sends us two new subscriptions at \$1.50 a year each, for one year. Please state express office when ordering.

TIME FOR STILLNESS.

Mrs. MacLachlan was kind to her American boarder, but she did not propose to allow her to overstep the limits of a boarder's privileges, and she made it very clear.

One Sunday the boarder, returning from a walk, found the windows of her room, which she had left wide open, tightly closed.

"O, Mrs. MacLachlan, I don't like my room to get stuffy," she said, when she went down-stairs again. "I live plenty of fresh air."

"Your room will na' get stuffy in one day," said her landlady, firmly. "'Twas never our custom, miss, to hae fresh air rooshin' about the house on the Saw-bath."

"Did the doctor tell you what you had?"

"No. He took what I had without telling me."



Choose your Christmas Piano from our stock, and enjoy the perfect security which comes from purchasing from a thoroughly reliable house.

To buy a cheap instrument as a gift means money thrown away—to buy a High-grade Piano means years of good music.

On terms of easy payment we offer to Christmas purchasers the

NORDHEIMER
QUALITY TONE
PIANO

You are cordially invited to call and inspect our various beautiful designs at

THE NORDHEIMER PIANO AND MUSIC CO. LIMITED

227 Dundas Street, London, Ontario
316 Talbot Street, St. Thomas, Ontario

FRANK WINDSOR, MANAGER

THE Everyman Encyclopaedia

FOR READERS OF THE FARMER'S ADVOCATE & HOME MAGAZINE

A Marvellous Work of Reference on All Subjects, in Twelve Compact Volumes of Over Six Hundred Pages Each. Illustrated, Well Printed and Cloth Bound

THE rising intellectual standard of farm homes increases the demand for good books of reference. Because of their cumbersomeness and cost, often ranging from \$25 to \$100, the big encyclopaedias, however much desired and needed, have usually been beyond the reach of modest pocket-books. In newspaper and other reading and every-day affairs, facts on hundreds of subjects are continually being asked for in progressive farm and other homes. A great British publishing house (J. M. Dent & Sons), with whom in the enterprise are associated a leading firm on this continent, have undertaken to supply the need in what is known the world over as "The Everyman Encyclopaedia." In it practically no subject, place or person of real importance has been omitted. It has appeared one volume per month during 1913, and about the first of the New Year will be ready for distribution, complete. Editors of THE FARMER'S ADVOCATE, in examining this remarkable work, have been amazed at the vast store of splendid information packed into convenient compass on every conceivable topic, ranging from flying machines to agriculture, from apes to statesmen, from ants to diamonds, and from artesian wells to arteries. Size of volumes each 4 1/2 x 7 inches. Volume I, containing 628 pages, and the twelve volumes over 7,000 pages of up-to-date information. The paper used is excellent and the type good and clear. The work is no experiment with the publishers, who for years have been successful pioneers in issuing at low cost high-class books of moderate size for the people.

We are pleased to be able to bring this encyclopaedia within the reach of readers of THE FARMER'S ADVOCATE AND HOME MAGAZINE on most favorable terms:

For a renewal subscription to THE FARMER'S ADVOCATE AND HOME MAGAZINE and one new subscription (at \$1.50 each) and Everyman's Encyclopaedia, 12 volumes complete, and sent prepaid, we will accept \$6.25 cash.

For a renewal subscription and two new subscriptions (at \$1.50 each) and Everyman's Encyclopaedia, 12 volumes complete, we will accept \$7 cash.

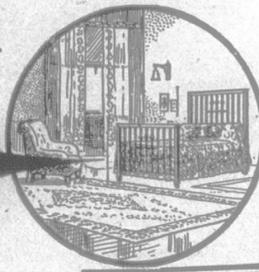
Or to any subscriber whose subscription is paid up to Dec. 31st, 1914, we will send Everyman's Encyclopaedia, 12 volumes complete, for \$5 cash.

Readers are advised to lose no time in taking advantage of the above most attractive book offer ever made in these columns.

The Wm. Weld Co., Ltd., London, Ont., Can.

When Writing Advertisers Please Mention this Paper.

Direct From Factory to You



Save \$5 to \$40
on any bed you buy

Buying at our factory you cut prices away down, because we save you the profits of wholesaler, jobber and retailer, and sell you at factory figures.

Our system practically brings the factory to your door and gives you a choice of our whole output, at lower prices than if you were buying elsewhere in carload lots.

**We Allow
30 Days
Trial**

We give thirty days' trial of any article you buy. If you are not thoroughly satisfied, return the goods at our expense and we return your money.

Here is our plan: You write for our free illustrated catalogue and look over its handsome showing of brass and enamelled steel beds, cribs, springs, mattresses, couches, divans and costumed. Pick out the article you need, in the style you prefer, pay us only bare factory price, and we deliver the goods (FREIGHT PREPAID) to your station, bright, new and carefully packed. That's not all—

**360 Days for
Your Final
Approval**

We go still further. Every purchaser gets 360 days in which to try out our goods on all points. If you find any defect in material or workmanship, we guarantee to make it right or refund the money.

\$1,000 Guarantee Bond Protects You in Every Purchase

Each sale we make is covered by a guarantee bond of \$1,000 which is your insurance, not only as to workmanship and material, but also that we will fully carry out our agreement. We aim to win your confidence because we want to sell you, not only one article, but several.

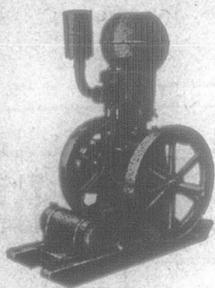
You risk nothing in taking advantage of our money-saving methods as we hold your money on deposit only, until you are fully satisfied with the transaction. We sell for cash or credit terms—either way at lowest prices on record, and QUALITY Goods are known among the best made.

Write to-day for our catalogue and send us a trial order at factory price. You'll find it the best buy you ever made.

**Quality Beds Limited, MANUFACTURERS
Welland, Ontario**

EVERY FARMER KNOWS

It's quality that counts. And every Canadian user of



THE LISTER GASOLINE ENGINE

knows that owing to its high-grade construction, combined with its reliability and efficiency, the "Lister" is the cheapest engine a farmer can buy.

NO BATTERIES TO RUN DOWN.
NO OUTSIDE OIL CUPS OR OIL HOLES.
NO BABBITT METAL BEARINGS
TO WEAR AND RUN OUT.

THE "LISTER" ENGINE

is a labor-saver—not a trouble-maker!

SEND FOR CATALOGUE "G"

R. A. LISTER & CO., Limited

58-60 Stewart St.,
TORONTO, ONT.

82 Water St.,
ST. JOHN, N. B.

197 Princess St.
WINNIPEG, MAN.

We pay highest Prices For

**RAW
FURS**

And Remit
Promptly

Sixty
Thousand
trappers send
us their Raw
Furs. Why not you?
We pay highest prices
and express charges. Charge
no commission and send money
same day goods are received. Mil-
lions of dollars are paid trappers each
year. Deal with a reliable house. We
are the largest in our line in Canada. Write to-day

Address **JOHN HALLAM, LIMITED**

FREE

HALLAM'S TRAPPERS GUIDE

French or English

A book of 96 pages, fully illustrated. Game Laws revised to date—tells you how, when and where to trap, bait and traps to use, and many other valuable facts concerning the Raw Fur Industry, also our "Up-to-the-minute" fur quotations, sent ABSOLUTELY FREE for the asking.

Mail Dept. 406
111 Front St. East, **TORONTO**

RAW FURS

Are you a trapper? Are you a dealer? For top quotations, square grading, prompt returns, ship to us. No commission. We pay express and mail charges.
WRITE FOR PRICE LIST AND SHIPPING TAGS. MENTION THIS PAPER
References: Greenwich Bank.
BENJAMIN DORMAN, Inc.
RAW FURS, GINSENG, GOLDEN SEAL
147 West Twenty-Fourth Street : : : New York

The People of the Whirlpool.

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

Chapter X.

THE WHIRL BEGINS.

May 30. The People of the Whirlpool have come to the Bluffs, and the swirl and spray has, in a measure, followed them. I had well-nigh written, "are settled at the Bluffs," but the Whirlpoolers are perpetual migrants, unlike the feathered birds of passage never absolutely settling anywhere even for the nesting season, sometimes even taking to the water by preference, at the time, of all others, when home is most loved and cherished by the "comfortably poor."

The houses, nominally closed since the holidays, have been reopened, one by one, ever since the general return from the south in April, after which season, Mrs. Jenks-Smith assures me, it is bad form to be seen in New York on Sunday.

This flat, however, does not prevent members of almost every family from spending several days a week in the city, thus protecting themselves against the possible monotony of home living by lunching and dining, either singly or in informal groups, at the public restaurants.

Father has always held the theory that ladies should dress inconspicuously in the public streets and hostelrys, and for a woman to do otherwise, he considered, was to prove that she had no claim upon gentility. Evan used to go so far as to say that the only people who display their fine clothes in hotels are those who have no homes in which to wear them.

Dear, innocent provincials, the Whirlpoolers have changed all that, and given the custom their hall mark that stamps it vogue. In fact, in glancing at the papers, by the light of our Bluff Colony, which, after all, is but a single current of the pool that whirls in the shape of the letter S, it seems to me that a new field has been opened for the society journalist—the reporting of the gowns worn at the restaurants in the "between seasons."

One evening, a few weeks ago, Evan and I went, by request, to one of the most celebrated of these resorts to call upon some friends of his, a bride and groom, then passing through the city. We were directed where to find them in the corridor—midway would have been a

better term. We found them, and many others beside!

"Where do these people come from?" I whispered to Evan, looking down the row of women of all ages and, if expression may indicate, all grades, who, dressed and undressed in lavish opulence, were lolling about, much as if expecting a call to go upon the stage and take part in some spectacle, but that the clothes and jewels were too magnificent to be stage properties.

"Brewers' wives from the west, and unknown quantities; people who come to New York to see and be seen," he answered carelessly; but almost as he spoke his words were checked by the entrance of an equally gorgeous group, composed of those who Lavinia Dorman had assured us were among the most conservative of our new neighbors, all talking aloud, as if to an audience, as they literally swept into the dining-room, where Mrs. Center was already seated. To be sure, the clothes, in their cases, were worn with a difference, —the ease of habit,—but to all outward appearance the distinction began and ended there. Ah me! to think of having such things cross the horizon in May, when, unless one is forced to be miserable, one must be inexpressibly happy.

I have been working all the month in my garden, as of old, or trying to, at least, but upon the principle that no member of a community can either live or die wholly to, or by himself, I have missed the untrammelled liberty of yore. Not that I care if I am detected collarless, in a brown holland apron, with earthy fingers, and sometimes even a smutty nose, but the Whirlpoolers, unable to regard the work as serious, do not hesitate to interrupt, if nothing more.

Imagine the assurance of the twenty-two-year-old Ponsonby girl, who came dashing up all of a fume last Saturday morning, when I was comfortably seated on the old tea tray, transplanting a flat of my best ostrich plume asters, and begging me, her mother being away, to chaperon her to a ball game, in a town not far off up the railroad with harmless, pink-eyed Teddy Tice, one of her brother's college mates. It seems that if she could have driven up and taken a groom it would have been good form, but there was some complication about the horses, and to go by rail unchaperoned, even though surrounded by a careful of people, was not to be thought of. I pointed to the asters that must be set out and covered before the sun was high, but she couldn't understand, and went off in a huff.

What a disagreeable word chaperon is at best, and what a thankless vocation the unlisted, active, and very irregular verb 'to chaperon' implies. I quite agree with Johnson, who denounced the term as affected, for certainly its application is, though Lavinia Dorman says it is the natural effect of a definite cause, and that it is quite necessary from the point of view of the quarter where it most obtains.

Monday morning I was again interrupted in my garden operations by a Whirlpooler, but the reason was quite different. The twins have gardens of their own, which are as individual and distinctive as their two selves. Richard delights in straight rows, well patrolled down between, and treats the small seeds that he plants with a sort of paternal patience. Ian disdains any seed smaller than a nasturtium or bean, whose growth is soon apparent, and has collected a motley assortment of bulbs, roots, and plants, without regard to size or season, and bordered his patch with onion sets for Corney Delaney's express benefit, the goat having a Gallic taste for highly flavored morsels. Both boys are fairly patient with their own gardening operations, but their joy is to "help" me by handing tools, watering plants, and squirting insecticides, in my society and under my direction.

Of course I could do it all much quicker by myself, and it has hampered me this spring, for last season they were too irresponsible to more than play work a few minutes at a time.

Now I have come to the conclusion that it is their right to learn by helping me, and that it is the denial of companionship, either from selfishness or some absurd educational theory, that weakens the force of home ties later on.

I have those older mothers'; with the grow drowsy, and it is on stops the say. I face and when I he

Not pain-acious year mother-lov-pitiful cry. The cry the nest bird sing kittens lu sleep with ponding wild life does not to sleep.

the son out the about haj the vaur them? speech fo confession naturally fore they

I was watched and yet way in it came roses its and wat of joy w the tub brass syr the que ing the day.

I ha rich, de quite aw across t berry b rotation vegetabl der the ho breaks o both ov are of t ing well

It wa The wo out mo and mi tooting way cat his tur he and gateway for the an auto

A str brass f grazing upset, me. seemed the Th recogni tering-Somers which terror horses, eccentric

Mr. handed reckless swing one of the ve famous drivew

The ward of tig lever his at The ch had b the o time

Ano chine the s Thei and a gence wall friabl where part

from?"
down the
d, if ex-
les, who,
opulence,
expecting
and take
that the
magnificent

west, and
who come
seen," he
st as he
by the
us group,
a Dorman
the most
ighbors, all
dience, as
the dining-
s already
clothes, in
difference,
all outward
egan and
nk of hori-
zontion in
ed to be
expressibly

month in
ing to, at
that no
either live
elf, I have
ty of yore.
ted collar-
ron, with
e even a
oolers, un-
serious, do
if nothing

the twenty-
who came
t Saturday
ably seated
ating a flat
sters, and
g away, to
in a town
with harm-
one of her
seems that
and taken
good form,
tion about
il unchap-
d by a car-
be thought
that must
ore the sun
understand,

chaperon is
ese vocation
y irregular
I quite
nounced the
ly its ap-
ia Dorman
of a definite
e necessary
the quarter

again inter-
tions by a
was quite
gardens of
dividual and
ves. Richard
well patted
the small
a sort of
disdains any
ium or bean,
ent, and has
ent of bulbs,
t regard to
d his patch
Delaney's ex-
ving a Gallic
orsels. Both
th their own
their joy is
tools, water-
nsecticides, in
direction.
it all much
has hampered
season they
more than
at a time.
he conclusion
earn by help-
the denial of
selfishness or
theory, that
ties later on.

I have been frequently lectured by those older, but more especially "new mothers" younger than I, about staying with the boys at bedtime until they grow drowsy. "The baby is put to bed, and if he cries I pay no attention; it is only temper, not pain, for he stops the minute I speak to him," they say. I feel the blood rush to my face and the sting to my tongue always when I hear this.

Not pain, not temper, but the unconscious yearning for companionship, for mother-love, is oftener the motive of the pitiful cry. Why should it be denied? The mother bird broods her young in the nest at twilight, and the father bird sings a lullaby to both. The kittens luxuriously sup themselves to sleep with the warm mother flesh responding to their seeking paws. In wild life I know not an animal who does not in some way soothe her young to sleep. Why should the human child, the son of man, be forced to live without the dream memories that linger about happy sleeping times? What can the vaunted discipline give to replace them? It is then, as they grow, and speech forms on their lips, that little confessions come out and wrongs are naturally righted through confidence, before they can sprout and grow.

I was not quite five when I last watched mother sowing her flower seeds, and yet I remember to this day the way in which she did it, and so when it came time to give my bed of summer roses its first bath of whale oil, soap, and water, and the boys gave whoops of joy when they saw Bertel wheel out the tub and I appeared with the shining brass syringe, I resolved to let them have the questionable delight of administering the shower bath, even if it took all day.

I have appropriated a long strip of rich, deep soil for these tender roses, quite away from the formal garden and across the path from the new strawberry bed, which by the necessity of rotation has worked its way from the vegetable garden to the open spot under the bank wall by the stable where the hotbeds congregate. This wall breaks the sweep of the wind, and so both our tender roses and strawberries are of the earliest. The fruit already being well set and large.

It was the middle of the morning. The work was progressing finely, without more than the usual amount of slop and misdirected effort, when a violent tooting from the direction of the highway caused me to stop, and Ian dropped the squirter that I had newly filled for his turn, upon the grass border, while he and Richard scurried toward the gateway to see what was the matter, for the sound was like the screech of an automobile in distress. It was!

A streak of dark red and a glitter of brass flashed in between the gate posts, grazing them, and barely escaping an upset, and then came plunging toward me. I screamed to the boys, who seemed to me directly in the path of the Thing, which in another moment I recognized as an automobile of the battering-ram variety, belonging to Harvey Somers, Gwendolen Burton's fiance, which for the past week had been the terror of father's steady old gray horses, owing to its constitutional eccentricities.

Mr. Somers was handling it single-handed, and though he was coming at a reckless speed, I expected that he would swing back of the house and come to one of the dramatic sudden stops, on the verge of an accident, for which he is famous. So he did, but not on the driveway!

The Thing gave a lurch and veered toward the barn, spitting like a cageful of tiger cats. Somers was pushing the lever and gripping the brake with all his athletic might, but to no purpose. The children, who, wild with excitement, had by this time sought the safety of the open bara door, seemed a second time to be in the monster's path.

Another lurch! Surely man and machine would be dashed to bits against the substantial stable wall!

Then the Thing changed its course, and showing a ray of flustered intelligence, made a mighty leap off the bank wall and landed hub deep in the soft, friable soil of the new strawberry bed, where, after one convulsive effort, some part of its anatomy blew up with the

triple report of a rapid-fire gun, and after having relieved itself of a cloud of steam, it settled down peacefully, as if a strawberry bed was the place of all others it preferred for a noonday nap.

Harvey Somers was shot with a left-handed twirl directly into one of the hotbed frames, from which the sash was pushed back, and landed in a doubled-up position, amid a tearing sound and the crash of broken glass. Meanwhile, the boys, frightened at the cloud of steam, yelled "Fire!" at the top of their lungs.

As I flew to help him, I could for the instant think of nothing but the Lizard Bill's assisted progress up the chimney and into the cucumber frame, but as a rather faint voice said, "Not you; kindly call the Doctor," my mirth changed to alarm, which was not lessened when Timothy Saunders, hearing the uproar and the cry of fire, arriving too late to grasp the situation with his slow Scotch brain, and seeing me leaning over the plant frame, picked up the squirt and deluged the unfortunate man with whale-oil spray!

Coughing and choking, Mr. Somers finally sat up, but did not offer to do more, wiped his eyes, and said to me in most delightful and courteous tones, "Would you be so good as to allow your man to bring me either a bath robe or a mackintosh?"

I was at once relieved, for I knew that the lacerations were of trousers and not flesh, and at the same time I saw the crash of glass was caused merely by the toppling backward of the sash, also that all my young heliotrope plants that were in the frame where the chauffeur reposed were hopelessly ruined.

Timothy brought out Evan's bath robe, and in a few moments Mr. Somers was himself again, and after surveying the scene of the disaster, he approached me with a charming bow, and drawing a crumpled note from his pocket said: "I promised Bertie Chatterton to give you this invitation for his studio tea to-morrow, in person, and I fear that I have rather overshot my promise. Best way to get that brute up will be from the bank wall,—will damage your fruit less. I will have a derrick sent up to-morrow, or if possible this afternoon. I'm awfully sorry, Mrs. Evan, but I think you'll bear me witness that the accident was quite out of my control. May I beg the favor of a trap home? I'm a trifle shaken up, that's all." And as if the accident were an everyday affair, he departed without fuss and having steadied my nerves by his entire self-control.

As I stood by the gateway pondering upon the matter and the easy manners of this Whirlpooler, Mrs. Jenks-Smith drove past. She had met Mr. Somers, and as her curiosity was piqued by his strange attire, she stopped to see if I could furnish a clew. She says, by the way, that he is not a New Yorker, but from Boston, and that his father is an English Honorable and his mother a Frenchwoman.

A gang of men with a sort of wrecking machine hired from the railroad company removed the Thing next day, and towed it off, but of course the strawberries were half ruined; next a man from the florist's in town came with directions to repair all damage to turf and replace the smashed plants. Yet that is not all—the sense of peace and protection that I had when working in my garden has had a shock. In spite of the inhospitable air it gives the place, I think we must keep the gates closed.

Why was Jenks-Smith inspired to start a landboom here and fate allowed to make fashion smile on it, when we were so uneventfully happy, so twinfully content?

Martin Cortright arrived on Wednesday, and is safely ensconced with Martha and Timothy Saunders, who could give him the couple of plainly furnished rooms he desired, and breakfast at any hour. For a man of no hours (which usually means he never breakfasts before nine) to forgo cheerfully at a commuter's table at 7.15 a.m. is a trial to him, and a second breakfast is apt to cause a cloud in Madam C.'s domestic horizon. Therefore, father allowed Martin to do as he suggested, live at the farm cottage and work here in the library or attic den, as suits his convenience. In this way he feels quite



Your Money and that Piano

There is no question about the sterling value of your money: Nor should there be any question about the lasting value of the piano you are going to get for it. There will not be if you buy a

Sherlock - Manning 20th Century Piano

Here are the plain facts. There are only a few really great pianos made. The hidden parts of these are identical, and—the Sherlock-Manning is one of them. So lasting and brilliant is the tone of this superb instrument that competent, unbiased judges call it

"Canada's Biggest Piano Value"

Allow us to mail the proofs of this to you. That will place you under no obligation to buy. 45

SHERLOCK-MANNING PIANO CO.,
London - (No street address necessary) - Canada

The Kitchen Sink Needs

The sink, the taps, the kitchen cutlery, the cooking utensils, the floors and the woodwork—all need Old Dutch Cleanser, if you wish them kept spotless and hygienically clean. Old Dutch Cleanser routs out the grease, grime, water stains and rust in a jiffy. Keeps the hands soft and white—free from kitchen stains.

Many Uses and Full Directions on Large Sifter Can—10c

We Excel in Teachers, Courses and Results

One thousand positions in three years, \$30, \$40, \$50, \$60, \$80, \$125, \$200 and \$300 per month. You should see the juniors doing business with the seniors who manage the bank and other offices.

WINDSOR BUSINESS COLLEGE

These Prizes Are for You

Proficiency Certificates in Rapid Calculations.
Certificates, Gold Medals and Machines in Typewriting.
A scholarship in Cadman's School would be a valuable Xmas Gift.

College re-opens Monday, January 5th, 1914
Office open week days from 9 a.m. to 4 p.m.

CADMAN & SON, WINDSOR, ONTARIO
Phone 928 Davis Building, over Oak Hall Box 187

SECOND LAKEVIEW SALE

Will be held at the farm, near BRONTE, ONT., on

Tuesday, Jan. 20th, 1914

When some 35 head of Purebred

Holstein-Friesian Cattle

Will be sold to the highest bidder. There will be offered for the first time daughters of Count Hengerveld Fayne De Kol, and they will be in calf to Dutchland Colantha Sir Mona. When before have you had a chance to buy at your own price granddaughters of Pietertje Hengerveld's Count De Kol? The bull who has sired 13 daughters that have made the average of better than 100 lbs. of milk in one day each, and who has altogether 98 A. R. O. daughters and 47 proven sons. Sale will be held under cover, and everything will be done to assure the comfort of all attending.

COL. D. L. PERRY, Columbus, Ohio, Auctioneer. Catalogues from
E. F. OSLER, Bronte, Ontario

Unreserved Credit Auction Sale

of Seventy Highly Bred

Grade Holstein Females

all ages, at

THE DUNROBIN FARMS, BEAVERTON, ONT.,

will be held on

Wednesday, December 31, 1913

Stock must be reduced to make room for purebreds. Terms six months on bankable paper. Morning trains on G. T. R. and C. N. O. met on day of sale. Sale called at one o'clock. Full particulars given on day of sale.

THE DUNROBIN FARMS, BEAVERTON, ONT.

HUNTERS! TRADERS! TRAPPERS!

ATTENTION! YOUR RAW FURS

Must be bought by us this year. We must have them to fill our large European orders. If you ship to others we must buy your furs from them. We must pay them a profit on your furs. By shipping direct to us you will get this extra profit yourself. This means far more money for you. We guarantee to satisfy you. We pay all express charges. Write at once for our price list and general fur information.

M. SLOMAN & CO. LIMITED

Dept. L 23-25 Jarvis St. TORONTO, ONTARIO
LARGEST AND MOST RESPONSIBLE DEALERS IN CANADA

Alma (Ladies) College

Re-opens January 5th

when new students will be enrolled. Extensive curricula; Conservatory of Music prepares for all musical examinations; Full High School and First Year University Studies; Oratory; Business College; Arts and Crafts; Domestic Science; Physical Culture; Special Health Lectures.

Write the Principal for illustrated prospectus

Robert I. Warner, M.A., D.D., St. Thomas, Ontario

Caldwell's Molasses Meal

is always uniform in quality. It is the only feed on the market in which pure cane molasses is solely used as the main ingredient. Caldwell's Molasses Meal is 84% pure cane molasses. Write for particulars.

The Caldwell Feed Co., Limited :: :: Dundas, Ontario
Molasses Meal, Dairy Meal, Cream Calf Meal, Poultry Meals.

independent, has motive for exercise in walking to and fro, and as he is always welcome to dine with us, can mix his portion of solitude and society in the exact proportion of his taste, even as his well-shaped fingers carefully blend the tobacco for his outdoor pipe.

Dear old fellow, he seems so happy and bubbling over with good temper at having overstepped the tyranny of habit, that I shall almost expect to see his gray hairs brown again as the wintry pelt of the weasel does in spring.

If the Vanderveer boy is diagnosed as a case of "suppressed boyhood," then Martin Cortright's only ailment should be dubbed "suppressed youth!"

He was to have come earlier in the month, but a singular circumstance prevented. The old-time gentlewoman, at whose house in Irving Place he has had his apartments so long that a change seemed impossible, died, and he was obliged not only to move, but put his precious belongings in storage until he can place himself suitably once more. So that his plan of coming here bridges the break, and seems quite providential.

He and father walk up and down the garden together after dinner, smoking and chatting, and it does me good to see dear daddy with one of his old-time friends. I think I am only now realizing what he, with his sociable disposition, gave up in all those years before Evan came, that I should not be alone, and that he might be all in all to me.

It was quite cool yesterday. We had hearth fires all through the house, and Martin, rearranging some reference books for his own convenience in the little room that is an annex to father's library, wore his skull cap and chinese silk dressing gown, which gave him an antique air quite at variance with his clear skin and eyes.

Lavinia Dorman had been due all the week, but worry with the workmen who are building in the rear of her house detained her, and she telegraphed me that she would take the morning express, and asked me to meet her over in town. So I drove in myself, dropping father at the hospital on the way, but on reaching the station the train brought me no passenger.

I returned home, hoping to be in time for our way train, thinking I had mistaken her message, and missed it; but the postmistress, for every strange face is noticed in town, told me that the lady who visited me two weeks ago walked up from the ten o'clock train; that she had a new bonnet and "moved right spry," and asked if she were a relative of mine. "An aunt, maybe, and was the pleasant new gentleman an uncle, and did he write a newspaper? She thought maybe he did because he was so particular about his mail." I said something about their being adopted relations, and hurried home.

The boys were industriously digging dandelions on the side lawn. I inconsistently let the dear, cheery flowers grow and bloom their fill in the early season, when they lie close to the sward, but when they begin to stretch awkward, rubbery necks, and gape about as if to see where they might best shake out their seed puffs, they must be routed. Do it as thoroughly as possible, enough always remain to repay my cruelty with a shower of golden coin the next spring. Bertel spends all his spare time on the other bits of grass, but the side lawn is the boy's plunder, where, by patiently working each day at grubbing out the roots at twenty-five cents a hundred, they expect, before the dandelion season is over to amass wealth enough to buy an alluring red goat harness trimmed with bells that is on exhibition at the harness shop in town, for Corney Delaney. Yes, they said, Aunt Lavinia had just come, but she said they need not stop, for she could go in by herself.

There was no one in the hall, sitting-room, den, or upstairs, neither had Effie seen any person enter. Thinking I heard voices in the direction of father's office, I went there and through to the library "annex," where an unexpected picture met my gaze. Martin Cortright, the precise, in stocking feet, skull cap, and dressing gown, perched on the top of the step-ladder, was clutching a book in one hand, within the other he held Miss Lavinia's slender fingers in greeting, while his face had a curious expression of surprise, pleas-

ure, and a wild desire to regain his slippers that were down on the floor, a combination that made him look extremely foolish as well as "pudgy."

Up to that moment, Miss Lavinia, who cannot distinguish a face three feet away without her lorgnette, thought she was speaking to father. Under cover of our natural hilarity, I led her back to a seat in the study, so that Martin might recover his wits, coat, and slippers at the same time, for Miss Lavinia had stumbled over the latter and sent them coasting in different directions.

Yes, the postmistress was right, Lavinia Dorman had a new bonnet. Not the customary conservative but monotonous upholstered affair of jet and lace, but a handful of pink roses in a tulle nest, held on by wisps of tulle instead of ribbons.

"Hortense, who has made bonnets for years, said this was more appropriate for the country, and would show dirt less than black,—and even went so far as to suggest omitting the strings altogether," she said in rather hurried tones, as a few moments later we went upstairs, and I removed the pins that held the confection in place, and commented upon its prettiness.

Martin Cortright stayed to dinner, and afterward he, Miss Lavinia, Father, and Evan sat down to a "real old-fashioned," serious game of whist! Of all things, to the fifth wheel, who is out of it, would not be in if she could, cannot learn, and prefers jackstraws to card games of any sort, an evening of serious whist is most aggravating. They were too well matched to even enliven matters by squabbling or casting venomous glances at each other. Evan played with Martin Cortright, whose system he was absorbed in mastering, and he never spoke a word, and barely looked up. This, too, when he had been away for several days on a business trip. It was moonlight, and I wanted him to see the new iris that were in bloom along the wild walk, dilate upon the game of leap-frog that the automobile played, and—well—there is a great deal to say when Evan has been away that cannot be thought of indoors or be spoken hurriedly in the concise, compact, public terms in which one orders a meal. Conversation is only part made of words, its subtleties are largely composed of touch and silence.

I myself, being wholly responsible for the present whist combination, of course could say nothing except to myself and the moon. What a hoard of personal reminiscences and heart to heart confessions the simpering old thing must have stored away behind her placid countenance. It is a wonder that no enterprising journal has syndicated her memoirs by wireless telegraphy for the exclusive use of their Sunday issue.

I resolved that I must wait awhile, and then if this silence lasted many evenings, I must hunt up a game of cards that takes only two. How could I get out of the room without appearing to be in a huff or bored? Ah! a wordless excuse: a slight noise upstairs. Ian sometimes walks in his sleep. I go up and sit in my window and look out through the diamond panes at the garden. Ian stirs and mutters something about a drink. I hasten to get it, and he, gripping the glass with his teeth, swallows eagerly with a clicking noise in his throat.

"Is your throat sore?" I asked apprehensively. He opens his eyes, realizes where he is, nestles his head into my neck and whispers,—

"Not zactly lumpy sore, Barbara, just crusty, 'cause I made—lots of dandelion curls wif my tongue to-day, and they're—velly—sour," and with a satisfied yawn he rolled back on his pillow, into the funny spread-eagle attitude peculiar to himself, but Richard slept peacefully on like a picture child, cheek on hand, and the other little dandelion-stained paw above the sheet.

(N. B.—When one's husband and father together take to serious whist of a moonlight night in spring, twins are not only an advantage but a necessity.)

I have searched the encyclopedia for the description of an intellectual game of cards, arranged as a duet, and found one. It is piquet! Now I can wait developments peacefully, for are there



Choose which Grain

you like best for your white Sugar and buy St. Lawrence Pure Cane Granulated white, in original bags—Fine grain, medium or coarse. Each the choicest sugar.

Ask your Grocer. ST. LAWRENCE SUGAR REFINERIES, LIMITED MONTREAL. 06-10-13

MOLES, WARTS

Hair on the face, neck and arms, red veins, brown growths on elderly people's faces, and other disfiguring blemishes can always be permanently eradicated in an almost painless manner by our antiseptic method of electrolysis. Booklet "F" and sample of toilet cream mailed free.

HISCOTT INSTITUTE, 61 College St. Toronto Established 1892

Winter Session

Opens January 5th in all departments of the CENTRAL BUSINESS COLLEGE, Yonge and Gerrard Streets, Toronto. Our Catalogue explains our superiority in Equipment, Staff, Methods and Results. You are invited to write for it if interested in the kind of school work which brings best success. Address:

W. H. SHAW, President

DO YOU NEED FURNITURE?

Write for our large photo-illustrated Catalogue No. 7—it's free to you. The Adams Furniture Co. Limited. TORONTO, 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.

BUFF Turkeys for sale, can supply pairs not akin. Chas. A. Dunkin, R. F. D. 1, Vittoria, Ont.

BRONZE TURKEYS—Exhibition birds—Young toms, 22 to 28 lbs., \$6 to \$8 each; pullets, 15 to 17 lbs., \$5 to \$7 each; also yearling toms \$8 each, and S.-C. Black Minorcas (cockereles), good birds, \$3 to \$5 each. Satisfaction guaranteed or money returned. Chas. Gould, R. 1, Glencoe, Ont.

CHOICE Embden geese, bred from Guelph prizewinners; priced reasonable. A. C. Patrick, Troy, Ont.

FIFTY choice Barred Rock cockerels for sale. Grand utility birds. Pullets laying at four and half months. Good size. Three to five dollars each. Splendid trios, seven dollars. C. S. Grosch, Milverton, Ont.

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

MAMMOTH Bronze turkeys; also S.-C. Brown Leghorn cockerels. David Ashworth & Son, R. R. No. 2, Denfield, Ont.

ONE hundred Barred Rock cockerels, bred from my high-grade stock and laying strains. Prices reasonable. Leslie Kerns, Freeman, Ont.

WANTED—New laid eggs; highest price paid for strictly fresh supply. J. D. Arsenault, 15 Grothe, Montreal.

For Sale—Reg. Holsteins—A few choice young cows, due to calve March and May; also three yearling heifers from officially-tested stock. W. A. BRYANT, Strathroy, Ont. R. R. No. 3.

not also in reserve chess, checkers, backgammon, and—jackstraws?

June 2. A gentle summer shower at sunset after a perfect day has filled the world with fragrance and song, for do the birds ever sing so perfectly with such serene full-noted ecstasy as after the rains of May and June? Or is it the clearness of the air after the rain that transmits each note in full, imprisoning nothing of its value?

To-night I am unhappy. Perhaps that is an exaggeration, and perplexed is the better word, and it is only in pages of my social experience book that the cause can be given.

Friday was Peysey Vanderveer's eighth birthday, and it has been celebrated by a party on a scale of magnificence that to my mind would have been suitable for the only son of royalty.

Though the invitations fortunately were only given two days in advance, Richard and Ian were agog over the matter to the extent of muttering in their sleep, and getting up this morning before eight, in order, if possible, to make the hour of three come quicker, and to be sure to be ready in time.

When the invitation was brought by Mr. Vanderveer in person, he asked if Lavinia Dorman and I would not like to come up and see the children play, adding that I need feel no responsibility about the boys, as he was going to be at home and give himself up to seeing that the "kids" had a jolly time, and got into no scrapes.

We agreed that it would be amusing to go up with the children, stay a little while to be sure that they could adapt themselves, and then leave; for if there is anything dampening to the ardour of children at play it is a group of elders with minds divided between admiration and correction, punctuating unwise remarks upon beauty and cleverness with "Maud, you are overheated." "Tommy, don't! Use your handkerchief!" "Billy, your stocking is coming down!" "Reggie, you must wait, girls should be helped first."

The boys certainly looked comfortably and humanly handsome in their white cheviot sailor suits, loose blue ties, black stockings and pumps. They really are good-looking children. Lavinia Dorman, who is candor itself, says so. I suppose people think that my opinion does not count, and that I should consider them perfect if they were of the human chipmunk variety. But I am sure I am not prejudiced, for I do not think them perfect, only well made and promising, thus having the two first requisites of all young animals.

When we arrived at the Vanderveers a little late, owing to the fact of father's having been obliged to use our horse for a hurry call, the party had "gathered." To use an old-fashioned expression, and I saw that Richard and Ian were by several years the youngest of the group of thirty or more, the others ranging from eight to thirteen or fourteen.

The house and grounds were decorated wherever decoration was possible. Though it was wholly a daylight affair. Japanese lanterns hung by festoons of handsome ribbon from verandas, trees, and around the new pergola, the marble columns of which, in the absence of vines, were wound with ribbons and roofed with bright flags, to form a tent for the collation. In an arbor decorated in a like manner, an Hungarian orchestra in uniform, much in vogue, Miss Lavinia says, for New York dinner dances, was playing ragtime, while a dozen smart traps and road carts filed with exquisitely dressed women lining the driveway around the sunken tennis court, indicated that a matched game was to take place.

Yes, after every one had exchanged greetings, Miss Lavinia, meeting several friends who not only treated her with something akin to homage, but were unfeignedly pleased to see her, the guests divided, a dozen of the elder girls and boys going toward the tennis court, where Monty Bell seemed to be acting as general manager. I afterward discovered that two prizes for doubles and two for singles were to be played for, not pretty trifles suitable for children, but jewellery, belt buckles of gold and silver, gold sleeve links, and a loving cup. (To be continued.)

De Snowbird.

By Dr. Wm. H. Drummond.

"O leetle bird dat's come to us w'en stormy win' she's blowin', An ev'ry fiel' an' mountain top is cover wit' de snow, How far from home you're flyin', nobody's never knowin', For spen' wit us de winter tam, mon cher petit oiseau!

"We always know you're comin', w'en we hear de firs' beeg storm A sweepin' from de sky above, an' screamin' as she go— Can tell you're safe inside it, w'ere you're keepin' nice an' warm, But no wan's never see you dere, mon cher petit oiseau!

"Was it 'way behin' de mountain dat de nort' win' ketch you sleepin', Mebbe on your leetle nes', too, an' before de wing she grow, Lif' you up an' bring you dat way, till some mornin' fin' you peepin' Out of new nes' on the snow dreef, mon pauv' petit oiseau!

"All de wood is full on summer wit' de de many bird is sing dere, Dey mus' often know each oder, mebbe mak' de frien', also, But w'en you was come on winter, never seein' wan strange wing dere, Was it mak' you feelin' lonesome, mon pauv' petit oiseau!

"Plaintee bird is always hidin' on some place no one can fin' dem, But ma leetle bird of winter, dat was not de way you go— For de chil'ren on de roadside, you don't seem to care for min' dem, W'en dey pass on way to schoolhouse, mon cher petit oiseau!

"No wan say you sing lak robin, but you got no tam for singin', So busy it was keepin' you get break-fas' on de snow, But de small note you was geev us, w'en it join de sleigh bell ringin', Mak' de true Canadian music, mon cher petit oiseau."

News of the Week

Dominion Fishery Officer Thomas Tanner reports that a new and rich salmon-fishing area has been found in Hudson Strand.

It has been arranged that 1,000,000 salmon fry from the Atlantic are to be placed annually in the Canadian inland lakes.

Cardinal Rampolla, former Papal Secretary of State, died in Rome on December 16th.

The National Aerial League has completed plans for the flight of a flotilla of aeroplanes across the Sahara. If successful, a regular air mail service may be established.

Volcanic upheavals have caused considerable loss on the island of Ambrim, in the New Hebrides. Nine hundred refugees are being cared for in the Presbyterian and Catholic mission stations.

The U. S. telephone trust is a thing of the past. It agrees not to acquire any more of its competitors, and to give the independents toll service in connection with the Bell lines under certain limitations.

WOULD HELP ALONG.

A somewhat choleric gentleman, while waiting for his train, entered a barber's shop to be shaved. The barber was very deliberate in his movements, and the slow manner in which he applied the lather got upon the shaver's nerves. At last his patience gave way, and he roared out: "Here! for heaven's sake hold the brush still and I'll wiggle my head."

Harab FERTILIZERS

Write for FREE Fertilizer booklet and prices. THE HARRIS ABATTOIR CO., LIMITED Strachan Ave., Toronto

WANTS & FOR SALE

Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted and Pet Stock. TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

EXPERIENCED Stockman by year, married, capable of managing the farm, reference required. Apply: J. H. Patrick, Iderton, Ont.

FARM MANAGER wants situation; up-to-date, capable, energetic, a business man. Stock-raising a specialty. Would consider any promising enterprise. Salary or Commission. Address—Box 25, Farmer's Advocate, London.

FARM to rent on shares—100 acres, dairy or mixed farming; best of soil, location and buildings; silo and alfalfa; beautiful home; also house for hired man. All stock and implements supplied, except horses. Give age, number in family and references. Address Box 50, Farmer's Advocate, London, Ont.

FARM FOR SALE—500 acres in Hastings Co., good buildings, well fenced and watered, near school and post office. Phone in house. Apply to Wm. E. Dettler, Bancroft, Ont.

WANTED—Small farm to work on shares; south-western Ontario preferred. Apply, John Kalsh, Victoria Street, Brockville, Ont.

Cream Wanted

Highest markets—unlimited demand. Toronto consumes daily the milk and cream from over 14,000 cows, and the butter from over 70,000 cows. We need your cream and your neighbors'. Write:

TORONTO CREAMERY CO., Limited Toronto, Ontario

WANTED—An intelligent, thorough man to manage farm for a gentleman, near Niagara Falls. One who would take an interest in developing a model one, specializing apples and poultry. For a young, energetic man and wife this is a permanent, excellent opportunity. Apply with reference to

WILLIAM L. DORAN Niagara Falls Ontario

FOR SALE—ONE OF THE BEST 100 ACRE FARMS

in Wellington Co. Stone house 28x42 ft., with furnace, phone, etc. Bank barn 70x70 ft., besides other out buildings; abundance of water; land all cleared. Also 150 acres, near Forest, Lambton Co., 1 mile from evaporator daily mail delivery, phone, etc., on lake front, right in fruit belt, all kinds of fruit. Soil rich clay loam. Terms easy. For further particulars write to Wm. Barnett & Sons, R.R. No. 3, Fergus, Ont.

FARM HELP

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

BOYS' FARMER LEAGUE Drawer 126 WINONA, ONT.

WANTED—HIDES TO TAN

for robes, coats, etc., horse hides, cattle hides and furs Deer skins or buck, or with the hair on. No leather tanned.

B. F. BELL, Delhi, Ont.

AN AUDIENCE OF ONE.

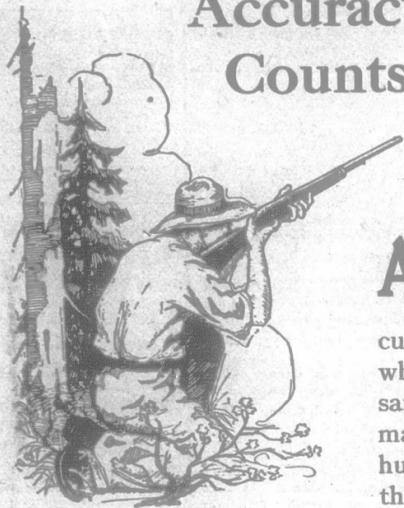
The College of France, founded in Paris by Francis I, offers at the present day, not only strictly academic instruction, but opportunities for the higher education in general. The following anecdote shows how far the college carries its scrupulousness. Every scientific subject, even the most abstruse, will continue to be taught there as long as the one solitary individual in all Europe desires to pursue it.

Certain courses are followed by two or three persons only. They tell the story of a professor of mathematics. This professor, who was extremely absent-minded, had lectured for a whole year to only one pupil.

He was perfectly satisfied that it should be so, but it occurred to him one day that he ought to congratulate his rare disciple, and he accordingly did so.

"Monsieur does not recognize me," replied the pupil. "I am monsieur's coachman, and I always wait here until monsieur has finished his lecture."

Where Accuracy Counts



ACCURACY in every detail of the cartridge is as important as the accuracy of the gun, especially when quick action is necessary or where a single shot may mean the safety of the hunter. Accuracy is one of the strong points of all

Dominion Ammunition

Metallics and shot shells

Accuracy in workmanship—accuracy of the powder load—in the size, shape and setting of bullets—in the charging and fitting of primers. The result is a sure-fire cartridge that shoots true and with a velocity that reaches home.

Dominion Ammunition is made to meet the climatic conditions of Canada. Loaded with smokeless and black powders (and all modern types of bullets).

Guaranteed to be perfect in every particular. Sold by leading dealers everywhere in Canada.

Send for free booklet, "The Pilgrim: a Bear Story of the Canadian Rockies."

DOMINION CARTRIDGE COMPANY LIMITED
Montreal

"1900" Gravity Washer

sent free for one month's trial. Write for particulars.

1900 WASHER COMPANY

357 Yonge St., Toronto, Ont.

Best Harrows Harrow Best
Get a

Bissell Disc Harrow

(In-Throw, Out-Throw or Double Action)

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

Please mention "The Farmer's Advocate."

RAW FURS

If there are any Trappers or Collectors of Raw Furs that do not know us by this time, it is time now to get acquainted with us. Let us send you our price list, or better yet, make us a trial shipment and let us show you what we can do. Write for Price List and Tags Free.

TORONTO C. H. ROGERS DIRECT IMPORTER and MANUFACTURER WALKERTON 1895
1815 Dept. R. Walkerton, Ont.

SHORTHORNS

"A PLENTY" I have a wide range for selection in Shorthorn bulls and heifers, in pure Scotch or Scotch topped, beef bred and beef type. Dairy bred and dairy type; make a point to visit my herd at Markdale, Ontario.



T. L. MERCER, MARKDALE, ONTARIO

Gossip.

The United States crop of 1913 has been the best on record, the leading fourteen crops totalling in value \$4,940,301,000, an increase of \$182,958,000 over the same crops last year.

Primrose of Orkney 34551, a mature Ayrshire cow in the herd of Harmon MacPherson, Orkney, Ont., has just finished a yearly test in which she gave 15,494 lbs. 3 ozs. of milk, and 688 lbs. of butter-fat. The milk had an average per cent. fat of 4.41.

At an auction sale of Percherons at White Hall, Ill., Dec. 9th, offered by W. S. Corsa, 37 head sold for an average of \$629. The top price reached was \$1,050, for the black three-year-old mare, Lady Christine. The highest price for a stallion was \$995, for Lebon, a gray two-year-old colt.

John Miller, of Brougham, Ont., writes: "I have had good sale for yearling rams this fall. I have sold nearly sixty single rams, and have sold sheep to nearly every Province in the Dominion, and to about ten different States. I never had a better lot of ewes to offer. They are large, and well woolled. The most of them are bred to Minton's 94, who cost me nearly \$200."

CATTLE SALES AT INTERNATIONAL.

Auction sales of various breeds in Chicago the week of the International Exhibition were quite successful, several of the animals offered bringing four-figure prices. In Shorthorns, three cows and heifers sold for \$1,000, \$1,000, and \$1,275, and the average for the 42 head sold was \$426.80. Of Herefords, 46 head made an average of \$561.50, the highest price for a female being \$2,050, for a yearling heifer, and the highest for a bull was \$2,200, for a senior calf. A two-year-old bull sold for \$2,100. Of the Aberdeen-Angus breed offered, the highest price reached was \$2,005, for the yearling bull, Kemp, consigned by A. C. Binnie, and purchased for C. D. & E. F. Caldwell, of Missouri. The highest price for a Galloway was \$525, for Optimist, the champion bull, and the average for 24 head was \$162.

T. L. MERCER'S SHORTHORNS.

T. L. Mercer, of Markdale, Ont., is again to the front with a herd of one hundred Scotch and Scotch-topped Shorthorns, at the head of which is the renowned breeding bull, Broadhooks' Golden Fame (Imp.), a Cruickshank Broadhooks. This great bull, now eleven years old, is as useful as he ever was; active and sure, and one of the most successful sires in use in this country. The breeding cows are bred on the most successful and popular lines, and carry a splendid covering of flesh, Cruickshank Villages, Nonpareils, Mysies, Marr Missies, Stamfords, Campbell Clarets, and Duchesses, imported and Canadian-bred, representing the get of such great bulls as Imp. Cyclone, Imp. Pride of Scotland, Imp. Fitzstephen Forester, Imp. Royal Prince, etc., and the younger ones by the grand old stock bull. Probably nowhere else in Canada can so big a range for selection in bulls be found as on this farm. At present there are about forty head, richly-bred, pure Scotch males, showing straight, level lines and balance. Others are bred on milking lines, and show it in their type. The same is true in the big selection in heifers bred on both lines. In ages, there are bulls from 8 to 18 months; in heifers, they range from 6 to 24 months. Write Mr. Mercer your wants; he can supply them.

LIMITED ADVICE.

An Irish priest had labored hard with one of his flock to induce him to give up the habit of drinking, but the man was reluctant.

"I tell you, Michael," said the priest, "whiskey is your worst enemy, and you should keep as far away from it as you can."

"My inimy, is it, father?" responded Michael. "And it was your riverince's siff that was tellin' us in the pulpit only last Sunday, to love our inimies!"

"So I was, Michael," rejoined the priest; "but was I anywhere telling you to swallow 'em?"

The "New Century" SMILE



Is worn by every housewife who uses one of these washers. The reason is quickly found for the New Century makes washing easy. It removes the hard rubbing and does the work more thoroughly than any other way.

The New Century Hand Washer works quickly and easily. It gushes the water through the fabric, leaving it sweet and clean in a few minutes. It cannot injure the finest garment you possess.

The product of twenty-five years experience in making washers, the New Century is without an equal. Patented features make it the leading hand washer.

Examine it at your dealer's or send to us for information.



CUMBER-DOWSWELL Limited
Hamilton, Ontario. 202

Live and Poultry WANTED

WE are now starting to pack poultry for the WESTERN CANADA CHRISTMAS MARKETS. As soon as your birds are ready we will buy them. Feed is dear, and there will be nothing gained by holding. Write to-day for our Weekly Poultry Letter if you live west of Toronto and have poultry to sell.

We supply crates and guarantee prices f.o.b. your nearest station. We pay a special price for milk-fed crate-fattened chickens.

"CANADA'S LEADING POULTRY HOUSE"

Silverwoods Limited
LONDON, ONT.

The Call of the North

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

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

H. A. MACDONELL
Director of Colonization
Parliament Bldg. TORONTO, ONTARIO

CONCENTRATES Linsced Oil-cake Meal
Cotton Seed Meal, Gluten Feed, Corn Meal,
"Good Luck" Calf Meal, Dairy Testing Feed,
Bran, Shorts, etc. Carloads or small lots.
Prices, F.O.B. We handle the quantity and can quote inducing prices.

Write for prices on quantity you want.

CRAMPSEY & KELLY
Dovercourt Road :: Toronto, Ontario

Milk Wanted

For milk route in Windsor.

WALTER N. KNIGHT
28 Aymer Ave., Windsor, Ont.

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.

Potatoe Sweet Clover and Other Queries.

1. I have been buying a new 50-acre farm one mile from Shelburne, Ont. It is 70 per cent. black, sandy loam, rather high. The remainder is a lower slope to swamp of a damp loam. I want to do big things in the potato line, so could you name several good suitable kinds: freedom from frost in the locality usually from May 10th to September 25th, often later of course, the farm has water under the higher parts at a depth of 15 to 20 feet I believe.

2. A field of rye has been sown by the late owner to plough under about May 15th, to plant as you plough for potatoes, do you think it a good idea? It would be about four feet high, then about to come in head a week or two later. Would two and one-half bushels of small peas sown about April 25th and ploughed under as you plant, about June 1st, be better? Would buckwheat be better or as good as peas or rye? I could not use clover this spring, also would rich, fine manure put on immediately after planting, at the rate of ten tons to the acre, be a good idea; I tried it once on a half-acre plot, put on by hand off a wagon, and I had about 100 bags, a good yield here.

3. It has been very hard to get a good seed in of red or alsike clover here of late years, owing to drouth and depletion of our soil. This year we have been reading about sweet clover, commonly looked upon as wild, a weed, a nuisance, etc. We also, on a trip July 1st, to Georgetown and Brantford, and again to Newmarket on October 25th, saw this sweet clover growing along roadsides, hillsides, railroads, in sandy places, also in standing water, in fact under every condition it seemed to thrive. July 1st it was three to six feet high, and then already too old for first-class feed.

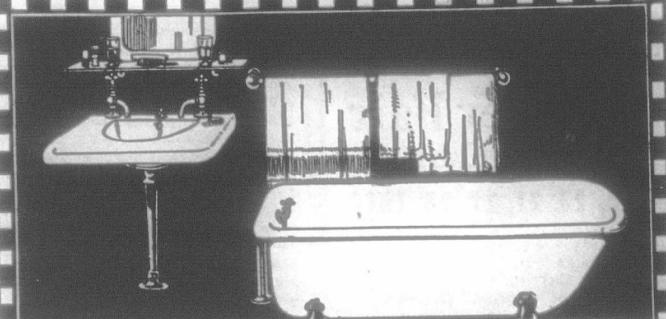
My father is bound to have some this year, he says it is sure to catch under the worst conditions, and going to be excellent hay if cut about June 1st and again as alfalfa is cut, of course, on account of it growing wild every place proves that it is much surer to catch than alfalfa, do you advise us to give it a trial? We read all stock will thrive on it after being trained to eat it. One proof I had myself of its palatability was one summer I spent farming near St. Catharines. While driving along a lane, June 3rd, to plant potatoes my horses strained their reins to get at it, and later, about June 20th, when hauling hay, they did not want to touch it, proving that at a certain stage of growth it is certainly high-class feed for horses. From the crop I saw there and other places, I would judge it to give five tons easily in two cuttings to the acre perhaps as much more farther south if cut at proper stage. Now, do you approve of it at all, and where do you think seed can be bought to be the genuine article. I want it also to plough under for potatoes about May 24th, when I have seen it thick, about four feet high at that date.

Do you know if it is called Bokhara clover in seed stores or a similar name, I am not sure as to that spelling?
E. C. B.

Ans.—1. Some good varieties are: Rural New Yorker No. 2, Davies Warrior, Carman No. 3, Delaware, Empire State. There are many others but these should do well. For early try Early Eureka, Early Ohio, Early Fortune.

2. Plow down the rye, seeing that it is already sown for you. It is doubtful about the peas, and buckwheat would not be suitable. We would prefer spreading the manure before plowing.

3. Sweet clover has been very highly spoken of in the United States, and by some who have tried it in Canada. We have not tried it at Weldwood. Many



In The Bathroom —

on the bathtub, wash-basin, linoleum, woodwork, mirrors, lavatories and all metal fixings, use Panshine. It is perfectly wholesome, has no disagreeable smell and leaves nothing but absolute cleanliness behind it.



PANSHINE

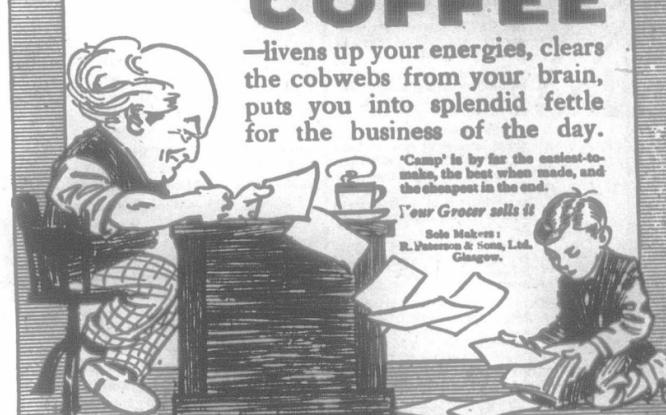
A pure, white, clean powder that doesn't scratch and positively will not harm the hands.

Large Sifter **10c.** At all Grocers

CAMP

COFFEE

—liven up your energies, clears the cobwebs from your brain, puts you into splendid fettle for the business of the day.



"Camp" is by far the easiest-to-make, the best when made, and the cheapest in the end.

Your Grocer sells it

Sole Makers: H. Paterson & Sons, Ltd. Glasgow.

SYMINGTON'S SOUPS

Something You'll Enjoy!
A steaming plate of Symington's Soup after an energetic day.



There are no soups so fine, or so rich in food properties—no soups so excellent in flavour. Eleven varieties equally good and enjoyable:—

| | | |
|--------------|-----------------|--------|
| Mulligatawny | Tomato | Lentil |
| Green Pea | Ox Tail | Onion |
| Scotch Broth | White Vegetable | |
| Mock Turtle | Pea | Celery |

BUY THEM! TRY THEM!
Canadian Agents: Messrs. F. E. Robson & Co., 25 Front St. East, Toronto.

When Writing Advertisers Mention "The Advocate."

Ottawa Winter Fair

HOWICK HALL, OTTAWA

Jan. 20, 21, 22, 23, 1914

Additional classes, also increased and extended prizes for Horses, Beef Cattle, Dairy Cattle, Sheep, Swine, Dressed Carcasses, Seeds and Poultry.

Over \$12,000 in Prizes

PRACTICAL LECTURES

A series of lectures dealing with important and practical agricultural subjects will be conducted. These lectures will deal with live stock, field crops, seeds and poultry.

SINGLE FARE ON ALL RAILWAYS

For price list and programme of judging and lectures, apply to the Secretary.

JOHN BRIGHT, President
Ottawa, Ontario

W. D. JACKSON, Secretary
Carp, Ontario

Aylmer Superior Level Force Pump.

For Hand and Windmill use. Has Six Eight, and Ten-Inch Stroke. Adjustable Base.

Fig. 31.



Fig. 31 represents our Superior Level Pump, fitted for hand and windmill use. Made in 1 1/2 and 2-inch.

This style of lever and fulcrum has several advantages over the ordinary style; having longer stroke, the power is greater, making it work easier. The handle being wood, they are not so liable to break in frosty weather.

The base is adjustable admitting of top being raised or lowered to any position desired.

The handle is drilled for three lengths of stroke. Six, eight, and ten-inch stroke.

This is readily converted into a Windmill Pump by the addition of a flat bar, which screws into the cross-head on top.

Cylinders capped inside require to be two inches longer to obtain same stroke.

This pump is adapted for all depths of wells; furnished with Iron, Brass Body or Brass Lined Cylinder. You'll never regret placing one of these pumps on your farm. Write us to-day for prices and illustrated catalogue free.

Aylmer Pump & Scale Co.
Aylmer, Ontario

Raise a LARGER Better Crop

You'll not only secure a larger yield per acre, but also a crop of higher quality if you use Davies Special Fertilizers. Send for free booklet.

The DAVIES Company
Wm. Limited
WEST TORONTO, ONT.
We have an agent near you

RUN IT YOURSELF

You can quickly learn to run steam engines by studying Young Engineer's Guide. Save the expense of hiring an engineer. Book recently revised to 254 pages. Illustrated. Endorsed by engine manufacturers and leading engineers everywhere. Price postpaid \$1.00. W. Indor Supply Co., Windsor, Ont.

FREE—Our large catalogue—"Engineers' Bargains"

Please mention "The Farmer's Advocate."

still look upon it as a weed. The writer has seen all classes of stock refuse to eat it in hay, but, as pointed out by those that grow it extensively, stock may be educated to eat it. It is not a highly palatable feed, and unless cut at the proper time it gets too coarse and woody. You might try it with success by experiment at first on a small scale. If it proves satisfactory then go ahead. We would not advise extensive sowing of it. It is good to plow down on poor land. The seed may be had from leading seedsmen who in season advertise it in this paper. The white sweet clover is called Bokhara by seedsmen.

Questions and Answers. Miscellaneous.

Fishworms.

I bought a farm this summer. When I came to plough on the place the land was full of fishworms. Will they be injurious to the crops? The land is sandy loam. What is the cause of them being so thick in the ground? If any harm, what would I have to do to get rid of them? Please let me know in your next issue.

R. L.

Ans.—The fishworms or earthworms will not harm your crops. Have you ever noticed that these worms abound in some of the richest and most fertile spots in your fields.

Diseased Frog.

Let me know through the columns of your paper whether there is such a thing as canker in a horse's foot. It is in the front foot, in the heel or frog. I have been treating it for thrush, but all cures for thrush have failed. The heel is soft and gives a foul odor; it is very lame. Some tell me it is canker. If so, can it be cured and how?

J. K.

Ans.—This diseased condition of the frog is often called canker. Pare away all partially detached horn. Then apply a mixture of one part iodoform to five parts boracic acid, pack with oakum and aseptic batting, and put a boot on to keep dressing on and dirt out. Continue this until the part heals.

Sowing Land Plaster.

I have been watching in "The Farmer's Advocate" for some time to see if you ever mention anything about sowing land plaster. We used to get good results from sowing plaster on clover and peas. I would be pleased to have your opinion on plaster, what to sow it on, and what kind of land, and what time of year, and where I can get it.

F. D. M.

Ans.—There was a time when gypsum or land plaster was sown to a considerable extent. However, it is of limited value, and has given way largely to other fertilizers. It is most suitable for such crops as clover and turnips, which require considerable sulphur. On new soils it often has a wonderful effect on clover. Superphosphate contains considerable gypsum and so the latter is not so much used as formerly, because the former contains other fertilizing constituents. It is generally sown in the spring.

Pullet Dies.

I found one of my young pullets today dead on the roost; it was lively this morning, dead by noon. On opening it, I found the bowels, the liver, etc., covered by a white filmy skin in many places, with little heaps, which I took at first for eggs of some parasite. But then I found the left lung entirely missing and the lower part of the right lung in a decomposed state, looking like yellow gelatine. Could that be tuberculosis? The breast-bone was quite crooked, from sitting on the roost and bad development of the lungs by giving them no room. Is there any danger for the other fowls? How can one prevent their getting a crooked breast-bone?

H. B.

Ans.—Are you sure one lung was entirely gone? It is probable the bird had tuberculosis. As a precaution, clean the roost thoroughly. Whitewash it, using a 5 per cent. carbolic acid, and feed the hens well. If any more die or show symptoms of disease, isolate them. Crooked breast-bones are hereditary, avoid using birds in breeding with this defect.

NEW COAL OIL LIGHT BEATS ELECTRIC OR GASOLINE

10 Days FREE—Send No Money



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

BURNS 70 HOURS ON 1 GALLON OIL

Gives a powerful white light, burns common coal oil (kerosene), no odor, smoke or noise, simple, clean, won't explode. Guaranteed.

\$1000.00 Reward

will be given to the person who shows us an oil lamp equal to this Aladdin in every way (details of offer given in our circular). Would we dare make such a challenge to the world if there was the slightest doubt as to the merits of the Aladdin? We want one person in each locality to whom we can refer customers. Write quick action. Agents' Wholesale Prices, and learn how to get ONE FREE.

MANTLE LAMP CO., 744 Aladdin Bldg., Montreal & Winnipeg

AGENTS WANTED

to demonstrate in territory where oil lamps are in use. Experience unnecessary. Many agents average five sales a day and make \$300.00 per month. One farmer cleared over \$600.00 in 6 weeks. You can make money everywhere and spare time. Write quick for territory and sample.

Ship your LIVE STOCK to the old firm of

DUNNING & STEVENS, Inc.

Commission Merchants EAST BUFFALO, N. Y.
Room 1, Live Stock Exchange Building

Established 1876
Paid-in Capital, \$100,000

Write for market paper or pass books

Imported Percherons, Clydes and Shires



My 1913 importation from France and Scotland are now in my stables. If you want the best in Percherons, Clydesdales and Shire stallions and fillies, come and see my offering; 30 head to select from. Also Hackneys and French Coach stallions. I have all ages of best breeding and highest quality, and the prices are low.

J. E. ARNOLD, Grenville, Quebec



CLYDESDALES --- Stallions and Fillies

WE have again landed at our stables a large and choice collection of Clyde Stallions and Fillies of strictly high-class show calibre. We never had a lot that measured up to the standard of this lot, big, flashy quality; close, straight action and bred in the purple. We can supply winners in any company. Write us.

SMITH & RICHARDSON - Columbus P. O.
Brooklyn, G.T.R.; Myrtle, C.P.R. Long Distance 'phone

Imp. CLYDESDALES, PERCHERONS, Imp.



I sold more horses last year than any other Canadian importer. Why? because I had a bigger and better selection than any other man in the business and my prices and terms are the best obtainable. This year I have 80 head to choose from and their breeding, size, quality, character and action are at the top of all others, Clydesdales and Percherons, stallions and fillies.

T. H. HASSARD

Markham, G.T.R., Locust Hill, C.P.R.



STALLION & FILLIES

CLYDESDALES

PRIZE-WINNERS & CHAMPIONS

HOWICK, QUE

ROBERT NESS & SON,

Visit our barns if you want the best.

TOPPERS IN CLYDESDALES AND PERCHERONS

I have just landed a big importation of Clydesdales and Percherons, if you want a big ton stallion with the best of quality, come and see me, I can show you the best lot of stallions you ever saw.

T. D. ELLIOTT, BOLTON, ONTARIO



Imp. CLYDESDALES & PERCHERONS, Imp.

Until my new importation arrives in December I can give better value in stallions above breeds than any man in Canada. Ton Horses, with flashy quality, royally bred. There are none better, come and see them.

T. J. BERRY, Hensall, Ont.

Imp. Clydesdale Mares and Fillies

Seven 4-year-olds and two 3-year-olds with an average weight of 1750 lbs. all of them safe in foal, well matched pairs, have been in Canada over a year and in fine condition. Chocely bred, a high-class quality lot.

L. J. C. BULL, BRAMPTON, ONT.



Mount Victoria Clydes & Hackneys

When in want of a high-class Clydesdale stallion or filly, or something that has won and can win again in Hackney stallions or fillies, visit our barns at Hudson Heights, Que.

T. B. MACAULAY, Proprietor
E. WATSON, Manager, Hudson Heights, Que.

BREEDING & CLYDESDALES—STALLIONS AND FILLIES

My fall importation of Clydesdale Stallions and Fillies are now in my stables; there never was a better bred lot imported, and their standard of character and quality is the highest, and my price the lowest.

G. A. BRODIE, NEWMARKET, ONT. L.-D. Bell Phone.



Imp. Stallions CLYDESDALES Fillies Imp.

To the Clydesdale men of Canada we wish to say our 1913 importation is home, and we have some of the best show material in this country. More size, more style; more quality, more character and better breeding than ever before. In both stallions and fillies.

Electric Cars every hour.

Ormsby Grange Stock Farm

Ormstown, P. Que. Owing to being overstocked I am desirous of disposing of a number of imported fillies and stallions, Clydesdales and Shires at most reasonable prices. They are all personally selected out of A. W. Montgomery's Clyde studs and the Bramhope Shire stud. Send for catalogue.

D. McEachran



Our importation of

Clydesdale Stallions

BARBER BROS.,

Gatineau Pt., near Ottawa, Que.

HUNDREDS of farmers are proving to their own satisfaction that

Caldwell's Cream Substitute Calf-Meal



is a good business proposition any way they like to figure it out. The Meal is precisely what the name implies—a substitute for Cream or Whole Milk. You can veal up or raise just as good calves on Cream Substitute as you can raise on whole milk and at a cost which is trifling in comparison. You owe it to your bank account to find out all there is to know about Caldwell's Cream Substitute Calf Meal.

Ask your Feedman about it or write to us for full particulars. 40
THE CALDWELL FEED CO., LTD., DUNDAS, ONT.

OIL CAKE

Nothing better for milk cows. They give more milk and better milk when fed

Livingston Brand Oil Cake Meal

It is equally good for fattening steers and putting them in the market in prime condition.

Fine ground, or course ground for cattle. Pea size for sheep. We also sell Linseed Meal and Flax Seed.

If your dealer cannot supply you, write us.

The Dominion Linseed Oil Company Limited
BADEN, ONTARIO MONTRÉAL, QUEBEC

SHIP US YOUR CREAM

WE Supply cans and pay all express charges within a radius of 100 miles of Berlin. Send a statement of each shipment. Pay every two weeks. WRITE FOR FULL PARTICULARS.

THE BERLIN CREAMERY COMPANY
BERLIN, CANADA

ABERDEEN ANGUS AND SUFFOLK SHEEP
In the "Black Daddies" I can supply young bulls of serviceable age and females of any age, as choice as the breed produces, big, thick mellow cattle. In Suffolk Sheep I have anything you want in rams or ewes; they are the best all round breed in the world.
JAMES BOWMAN GUELPH, ONT.

Canada's Champion Herefords When selecting a herd header or foundation stock come to the fountain herd; for years my herd have proven their title as the champion herd of Canada. I have always both sexes for sale.
L. O. CLIFFORD, Oshawa, Ontario

Shorthorns—I have ten young Shorthorn bulls, some fit for service now. Part of them are bred, and made so that they are fit to head the best herds in any country, some of them are of the thick, straight, good feeding kind, that will produce money-making cattle; some of them are bred from the best-milking Shorthorns, and the prices of all are moderate. I have Shropshire and Cotswold rams and ewes of all valuable ages. Write for what you want. I can suit you in quality and in price. Ask for Bull Catalogue.
ROBERT MILLER, STOUFFVILLE, ONTARIO

SHORTHORNS Our present offering consists of Nonpareil Lord -87184- Dam imp. Dalmeny Nonpareil 6th. 7 young bulls from 6 to 12 months old. 15 cows and heifers of choicest quality and breeding.
A. J. HOWDEN & CO., COLUMBUS, ONTARIO. Long-distance 'phone. Myrtle C.P.R. and G.T.R.

Questions and Answers. Veterinary.

Sprain of Coffin Joint.
Give treatment for a horse strained in the coffin joint. G. S.

Ans.—Remove the shoes. Give long rest. Get a blister made of 2 drams each of biniodide of mercury and cantharides, mixed with 2 ounces vaseline. Clip hair off for 2 inches high all around the hoof. Tie so that he cannot bite the parts. Rub blister well in once daily for two days. On the third day apply sweet oil, and turn loose in a box stall. Oil every day until the scale comes off, then tie up and blister again. After this, blister once monthly until better. If it be a chronic case, a perfect cure cannot be effected. V.

Miscellaneous.

Keeping Ducks.
What do you consider the best way to keep ducks to get good results from eggs for hatching? Should they run at large with plenty of water to sun in, or should they be kept where they cannot get too much water? C.

Ans.—Let them run at large during the day, and close them in at night. They generally lay at night or early in the morning.

Hens Die.

A neighbor of mine wishes to know what is wrong with her fowl. They get dumpy for a time—sometimes for a week or two—they get dark-purple around the comb and sometimes get diarrhoea, then die. Will you please give the name of disease and what to do for them? J. B.

Ans.—This might be any one of many diseases. Acute diarrhoea, due to improper breeding and housing in close, damp quarters. The hens may be tubercular, or it might be cholera. Clean up the house thoroughly, and white-wash it with a five per cent. carbolic-acid solution of lime. Keep it clean. Feed plenty of grit, meat food, and green food in addition to the regular grain ration, and isolate all diseased birds. We might suggest that your neighbor subscribe for "The Farmer's Advocate."

Dehorning--Drainage.

1. Which is the better way of dehorning cattle, when they are yearlings or when they are calves, by burning the horn buttons with caustic potash?
2. How is the potash applied?
3. Is it liable to pain the calves much, or in any way liable to affect their growth?

There is through the middle of one of my fields a wet, springy place which has to be underdrained. We have put in stone ditches, but they clog up on account of it being a loose, sandy bottom. There is a fall of about two feet in every one hundred feet.

4. Would tile be good? They are not much used around here.
5. What would be the cost per rod for four or five-inch tile?
6. How would we fix it to allow the water from side ditches to run into the tile and not run in dirt, sand, etc.? The side ditches are stone and in good condition. J. B.

Ans.—1. Decidedly when they are calves.

2. Simply rubbed on the buttons, being careful not to get it spread about the head.

3. No.

4. There is nothing better than good tile.

5. This depends some on the digging, and the distance you have to haul the tile. From 70 to 80 cents per rod ought to do it.

6. Use a connecting tile and run a few tile up to the branch drain, and, if you think there is danger of dust getting in, place a protecting screen over the tile. If the stone drains run right to the tile drain there is little danger of clogging. Place silt basins in the tile drain to overcome all danger from dirt.

DANGEROUS

as well as painful
Backache Neuralgia
Lumbago Rheumatism
Stiff Joints Sprains

Combault's Caustic Balsam

WILL RELIEVE YOU.
Its penetrating, soothing and healing for all Sore or Wounds, Felons, Exterior Cancer, Burns, Boils, Carbuncles and all Swellings where an outward application is required. CAUSTIC BALSAM HAS NO EQUAL. Removes the soreness—strengthens the muscles. Price \$1.50 per bottle. Sold by druggists or sent by express prepaid. Write for Booklet No. 1.
THE LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

THICK, SWOLLEN GLANDS that make a horse Wheeze, Roar, have Thick Wind or Choke-down, can be reduced with

ABSORBINE

also any Bunch or Swelling. No blister, no hair gone, and horse kept at work. Concentrated—only a few drops required at an application. \$2 per bottle delivered.

Book 3 K free.
ABSORBINE, JR., antiseptic liniment for man-kind, reduces Cysts, Wens, Painful, Knotted Varicose Veins, Ulcers. \$1 and \$2 a bottle at dealers or delivered. Book "Evidence" free. W. F. YOUNG, P. O. 258 Lyman's Bldg., Montreal, Can.

Heaves

AND HOW TO CURE
—A Standard treatment with years of success back of it to guarantee results in

Fleming's Tonic Heave Remedy

Use it on any case—no matter what also has been tried—and if three boxes fail to relieve, we will refund full amount paid. Further details in

Fleming's Vest Pocket Veterinary Advisor

Write us for a Free Copy of Best Ever Used.
Dear Sirs—Enclosed find \$1.00 for 1 package of Tonic Heave Remedy. I used a package last year and completely cured a case of Heaves of some 5 years standing.
H. B. BURKHOLDER, Lillooet, B. C.
Per Box \$1.00, 3 for \$2.50

FLEMING BROS., Chemists
75 Church St. Toronto

Logs Wanted

Maple, Soft Elm, Rock Elm and Basswood Inspection at point of shipment; terms cash.
THE BRADLEY COMPANY, Ontario. Hamilton.

Notice to Importers C. CHABOUDEZ & SON

205 rue La Fayette, PARIS, FRANCE.
If you want to buy Percheron Horses and Mares, I will save you time and money and all trouble with papers and shipment. Will meet importers at any landing port. I am acquainted with all breeders and farmers. 30 years experience. Best reference. Correspondence solicited.

NOTICE TO HORSE IMPORTERS GERALD POWELL,

Commission Agent and Interpreter, Nogent Le Rotrou, France.
Will meet importers at any port in France or Belgium and assist them to buy Percherons, Belgians, French Coach horses. All information about shipping, banking, and pedigrees. Many years' experience; best references; Correspondence solicited. P.S.—Nogent is in the heart of the Perche horse district.

Horse & Cattle Insurance

Against Death by Accident or Disease
Specialties of Stallions, In-foal Mares, Track Horses, Transit, etc. Liberal policy issued by a Company operating under Federal Insurance Department's supervision.

WRITE FOR FREE BOOKLET
The General Animals Insurance Co. of Canada Head Office: 71a St. James Street, Montreal, Que.

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

Aberdeen-Angus Bulls & Heifers, In both young bulls and heifers we can supply first, and second prize winners, nice thick good ones Mayflowers and Fair Ladys. (Geo. Davis & Sons R. R. No. 2, Erin, Alton Sta.

Shorthorns and Swine—Have some choice young bulls for sale; also cows and heifers of show material, some with calves at foot. Also choice Yorkshire sows.
ANDREW GROFF, R. R. No. 1, Elora, Ontario

Kendall's Spavin Cure The Old Reliable Horse Remedy

THOUSANDS of farmers and horsemen have saved money by using Kendall's Spavin Cure for Spavins, Curb, Ringbone, Splint, Bony Growths and Lameness from many other causes. It keeps horses working. A \$1 bottle may save a horse for you. Get a bottle the next time you are in town. Sold by druggists everywhere, \$1 a bottle, 6 for \$5, also ask for a copy of our book "A Treatise on the Horse"—or write to
Dr. R. J. KENDALL COMPANY
Essexbury Falls, Vermont

For Cooking, Butter, Cheese, Table and all purposes.

RICE'S PURE SALT

North American Chemical Co., Ltd.
CLINTON ONTARIO

LOCHABAR STOCK FARM

Choice Dairy Shorthorns, Leicester Sheep, and Berkshire Pigs. I am offering males and females of different ages, same breeding as won for me at Guelph, London and other fairs. The above stock are mostly the get of imported sires and dams. Correspondence solicited. Prices reasonable. Long distance phone in connection.
D. A. GRAHAM, R. R. No. 3, Wyoming, Ont.
Shipping Stn., Wainstead, G. T. R.

Shorthorns

Fourteen good young bulls, from 6 to 12 months old, and a number of females. Would appreciate your enquiry for same.

H. CARGILL & SON, Cargill, Ontario

OAKLAND 45 SHORTHORNS

25 breeding females of milking strain headed by Scotch Grey 72092, a first prize and sweepstake roan bull; and Red Baron 81845, a fine large dark red bull of excellent dairy strain. Both for sale. Also a pair of grand young bulls 10 and 14 months, of excellent milking strain, youngest if properly placed will head a herd.
JNO. ELDER & SONS, HENSALL, ONTARIO.

Spring Valley Shorthorns

A few of the best young bull prospects we ever had. They will please you. Will sell females too. Visit the herd; we think we can suit you. Particulars on application.
KYLE BROS., R. R. No. 1, Drumbo, Ontario

WOODHOLME SHORTHORNS

I have for sale a most attractive offering in young bulls and young females, pure Scotch, breeding unsurpassed, the low thick kind. Write me your wants. **G. M. FORSYTH**
North Claremont Ont.

1854 MAPLE LODGE STOCK FARM 1913

Shorthorns and Leicesters

I have a most excellent lot of young rams for sale, mostly sired by imported Connaught Royal. Something very choice in young bulls. House one mile from Lucan Crossing G. T. Ry.
A. W. SMITH, MAPLE LODGE, ONTARIO

Shorthorns For Sale

2 yearling bulls of the right kind, 2 high-class herd headers, 12 months, one from imp. cow 4 bull calves, also young cows and heifers, some good milking strains
Stewart M. Graham, Lindsay, Ont.

THE MANOR SHORTHORNS AND LINCOLNS

Young bulls, also heifers, got by, and cows in calf to one of the good bulls of the breed. In Lincoln 5 yearling rams and 10 ram lambs by an imported ram. Inspection solicited. **J. T. GIBSON,**
Denfield, Ont.

SHORTHORN Bulls & Heifers—choice lot, and heifers in calf. Former sires: Joy of Morning (imp.) = 32070—and Benachie (imp.) = 69954—. Present stock bull, Royal Bruce (imp.) = 55038 = (89909).
GEO. D. FLETCHER, R. R. No. 2, Erin, Ont.

Shorthorns "Trout Creek Wonder" at the head of the herd which numbers about 40 head. Heifers and bulls of the best quality for sale at reasonable prices.
Duncan Brown & Sons, RR 2, Shedden

SHORTHORNS

Choice young bulls and heifers from good milking strains.
Robert Nichol & Sons, Hagersville, Ontario

Questions and Answers. Miscellaneous.

A Bull Deal.

Being a constant reader and subscriber to your paper, which we all enjoy, I am going to ask you to grant me a little space in the Question and Answer column, hoping it may reach you in time for print this week. If not, kindly insert at first available opportunity.

A is a drover, and comes to B and asks him if he has anything fat to sell, to which B replies that he has a bull, and to come and look at him. With this, A ties up and goes to stable with B, where he inspects the bull in a large, light stall, the bull being tied with a rope, and has plenty of freedom to be moved about. A asks B his price, and B states it, to which A replies, "Too much"; handles the bull some more, compares him with a neighbor's bull he had just bought, and finally makes B an offer. This B declines, stating that he is a pure-bred animal, and that he had been asking considerably more for him as a sire, but that now he was placing him at a fair beef price. To this A said that it was pounds they were after, that breeding didn't count. Finally A gives B his price, and agrees to keep him one week, and then deliver him to station. Later, A requests that the bull be held a few days more, which B does, and finally delivers him as agreed, upon request. B meets, A down street and is asked by A if he got the animal in all right, to which B replied, "Yes." Then A asks if he had brought the animal's registration papers, to which B replied, "No," that he had not agreed to, but A at once claimed they were his, and demanded them. B refused, but offered to sell them to him at cost, but A declined, saying he would have them in his bargain. Two months and one-half later, B receives a letter from A's lawyer, stating that the bull was "suffering from a large glandular swelling in the jaw, and owing to it being in the stable at the time it was inspected by A, he was unable to discover the defect." The letter demands \$15 to be returned to A as reimbursement for his loss. B was aware that one side of jaw seemed somewhat abnormal at time of sale, but can prove that the animal had performed service right along, and was in the best of spirits and vigor at time of sale and delivery. B supposed he might have bruised the place on stall or otherwise, but as it caused no apparent inconvenience to the bull, he thought no more about it.

1. Are the drover's eyes his market, or can he rightfully claim damage?
2. Must B acknowledge A's demands until A produces papers from the inspector in Toronto who he claims condemned the animal?
3. To whom should B write to find out if said animal was diseased in any way?
4. How is B to know that it was his animal which was condemned when it was shipped as one in dozens? Must A prove identity of animal, B having his markings on registration papers? A re-sold the animal to second drover C. C was the man who paid A, and C also was the one to discover lump while the animal was still in the yards, and before shipping. B would have willingly taken the bull back had he been notified.
5. Had A any right to papers under such sale?

FARMER.
Ans.—1. If B knew there was a swelling on the bull's jaw, he should have pointed it out to the drover. If B guaranteed the bull all right, and knew there was something wrong with him, he would likely be liable. If he did not know that there was anything the matter with him, or if he pointed his defects out to the buyer, he would not be liable. If nothing was said about soundness, and a reasonable time elapsed before any unsoundness appeared, B should not be liable.

2 and 4. Not necessarily. A must give satisfactory proof that the bull in question was the one purchased from you. He likely has witnesses to this effect.

3. B would likely have considerable trouble in proving whether or not it was his bull which had been condemned. If the veterinary inspector at the market upon which the bull was rejected has a detailed description of the bull, it would be easy. In any case, he would be the

GUNNS



STOCK & POULTRY FEEDS

Beef Scrap Charcoal Chick Scrap Poultry Bone
Beef Meal Bone Meal Oyster Shell Calf Meal
Crystal Grit Dairy Meal Hog Meal

Or any other line of stock and poultry food. Write:

GUNNS LIMITED,
West Toronto, Ontario

DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO
The 47th Annual Convention & Winter Dairy Exhibition
STRATFORD ONTARIO
WEDNESDAY and THURSDAY, JAN. 14 & 15, 1914
S. E. FACEY, President, SPECIAL RAILWAY RATES—COME. FRANK HERNES, Sec.-Treas., London, Ont.

Shorthorns & Clydesdales
We have seven yearling bulls and seven bull calves from 7 to 12 months. All reds and roans, and of choice breeding. We have some extra good imported mares for sale, also some foals. If interested write for catalogue of their breeding.
W. G. PETTIT & SONS, FREEMAN, ONTARIO Bell 'Phone.
Burlington Junction, G. T. R.

SHORTHORNS

—Records show that cattle bought from the Salem herd won numerous ribbons the past season; we have others. Several young bulls are priced reasonably.

ELORA G. T. R. and C. P. R. J. A. WATT, SALEM, ONT.

100 SHORTHORNS IN OUR HERD 100
For sale—Imported yearling show bull; 14 calves 8 to 14 months old; cows and heifers and show material all ages. Herd headed by 3 high-class imported bulls, all 3 were prizewinners at Toronto this year.

Farm 1/4 mile from Burlington Junction. **MITCHELL BROS., Burlington, Ont.**

Willow Bank Stock Farm Shorthorns and Leicester Sheep. Herd established 1855; flock 1848. The imported Cruickshank Butterfly Roan Chief = 60865 = heads the herd. Young stock of both sexes to offer. Also an extra good lot of Leicester sheep of either sex; some from imp. sires and dams.
James Douglas, Caledonia, Ontario

Maple Grange Shorthorns
Pure Scotch and Scotch topped. Breeding unsurpassed. A nice selection in young bulls, and a limited number of thick, mossy heifers.
R. J. DOYLE, Owen Sound, Ont.

SHORTHORN BULLS FOR SALE
8 head from 10 to 18 months, bred from cows which are from imported dams and sired by choicely bred bulls, prices are not high as I need the space for stabling cattle. Shropshire and Cotswold ewes bred to imported rams.
BLAIRGOWRIE FARM JOHN MILLER, Jr., ASHBURN, ONT.

Springhurst Shorthorns
Four of the first-prize Shorthorns at the late Guelph Show, including the champion and grand-champion fat heifer, were all sired by bulls of my breeding. I have now for sale ten young herd headers of this champion-producing quality. **HARRY SMITH, HAY P. O. ONT.** Exeter Station. Long-distance Telephone.

IRVINE SIDE SHORTHORNS
We are offering just now some very choice Scotch-bred heifers, high-class in type and quality, bred in the purple; also one right nice yearling roan bull.
L.-D. phone. JOHN WATT & SON, Salem, Ont.

Brampton Jerseys
tested daughters. Several imported cows and B. H. Bull & Son, Brampton, Ont. bulls for sale. Canada's Greatest Jersey Herd.

B Sp

No mat
low lam
have the
Spavin
Use it q
second.
minute
cured.
Hiddebr
for deta
FI
Miner-
and ill
vetaria
tree
75 Ch

Calv

BLAT
The
The result
calf-raiser
exclusive C
milk at lea
growth. S
raised on i



RA

Our
RA
free
and e
as go
separ
charg
is no
from
HAL
N. H
John
with
with

MO

For D

GHISE

Royal
Herd head
whose d
months af
young cov
bull and d
bull calf 5
young bu
Paul De
P Cows.
R. I

The

Headed
offering:
Record of
butter in

R.R. No.

H
Minste
sister of
14,753-lb
Burke Fa
23,14-lbs.
write: Ri

Hols

headers a
Toronto
richly br
R. W. Wa

Please r

Bone Spavin

No matter how old the animal, how lame the horse, or how many doctors have tried and failed, use

Fleming's Spavin and Ringbone Paste

Use it under our guarantee—your money refunded if it doesn't make the horse sound. Most cases cured by a single 15-minute application—occasionally two required. Cures Bone Spavin, Ringbone and Sidebone, new and old cases alike. Write for detailed information and a free copy of Fleming's Vest-Pocket Veterinary Adviser

Ministry of Agriculture, Ottawa, Ontario. Fleming Bros., Chemists, 75 Church Street, Toronto, Ont.

Calves Without Milk

BLATCHFORD'S CALF MEAL

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



Steele, Briggs Seed Company, Toronto, Ontario

RAW FURS

Our specialty is CANADIAN RAW FURS. Write for our free price list. We pay all mail and express charges. Remit same day as goods received. Hold shipments separate when requested. Prepay charges for returning furs if valuation is not satisfactory. We do not buy from dealers, but from trappers only.

HALLMAN FUR CO., Toronto, Ontario. N. Hallman, Manager, 4 years with John Hallman; E. J. Hagen, Texas, 11 years with John Hallman; J. L. Jewell, Boyer, 7 years with John Hallman; G. Hagen, Boey, 7 years with John Hallman.

MOLASSES FEEDS

For Dairy Stock and Horses. Write for FREE samples to

CHISHOLM MILLING COMPANY TORONTO

Royalton Stock Farm Holsteins

Herd headed by Royalton Korndyke Major, (imp.) whose dam gave 111.1 lbs milk in one day, 3 months after freshening. We are offering a few young cows (2 years and up) bred to the above bull and due to freshen from now on. One young bull calf 5 months old from above bull. Also four young bulls fit for service, sired by Sir Abbecker Paul De Kol (my former herd bull) and from R. O. P. Cows. E. C. GILBERT, R. R. No. 7, St. Thomas, Ontario

The Maples Holstein Herd

Headed by Prince Aaggie Mechthilde. Present offering: Bull calves and bulls fit for service, from Record of Merit dams, with records up to 20 lbs. butter in 7 days. Prices reasonable.

WALBURN RIVERS Ingersoll, Ont. R.R. No. 5

HOLSTEINS & YORKSHIRES

Minette Farm offers bull fit for service from a sister of a 4-year-old Heifer with R.O.P. record of 14,753-lb. and 540-lbs. butter, and Lakeview Burke Payne whose dam and sire's dam average 23,14-lbs. of butter 7 days. For extended pedigree write: Richard Honey & Sons, Brickley, Ont.

Holsteins, Young herd headers. Just now offering up to 15 mos. of age, closely related to our Toronto Dairy Test Champion, and sired by the richly bred, Imperial Pauline De Kol. R. W. Walker & Sons, Utica P. O. Manchester Station.

Please mention "The Farmer's Advocate."

man to write to, but it may be that a full enough record has not been kept to identify the bull. The drover surely knows which bull it was that was rejected, and it might be wise to get together and reach some sort of settlement.

5. If he bought the "pounds" of beef only; no. On the other hand, the papers are no use to B after the bull is sold. This seems to be too small a matter to wrangle over.

Questions and Answers.

Miscellaneous.

Cow Testing Fee.

B is buying cattle for shipment to Montreal. He buys a cow from A, which he sells to C at the yards before being loaded. C has the cow tested for tuberculosis; she reacts to the test. C informs B; B informs A, and A takes the cow back. Which, by legal right, is entitled to pay for the testing of the cow? Quebec. A SUBSCRIBER.

Ans.—In the absence of any arrangement of the matter between the parties, we should say that C is the one legally liable.

Veterinary.

Incontinence of Urine.

English bull dog is unable to retain his urine, and it escapes from him almost constantly in small quantities. L. A.

Ans.—Give him 30 drops tincture of hyoscyamus and 1 drop tincture of nuxvomica in a dessertspoonful of cold water three times daily. If this fails to effect a cure, get a veterinarian to neutralize him. V.

Bloody Milk.

Cow produced twins last spring, and I allowed them to nurse her for some time. When I began to milk her, I discovered that she gave bloody milk out of one teat. This has continued more or less marked all summer. L. A.

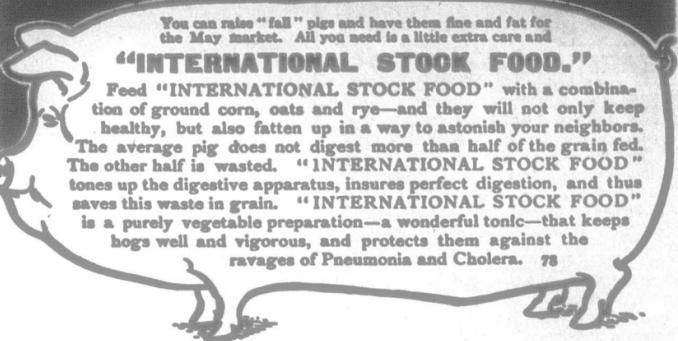
Ans.—This is due to rupture of some small bloodvessels in the quarter. In some cases there is a congenital weakness of the vessels, and the cow will never make a satisfactory milker. Bathe the quarter often with cold water, and give her 1 ounce tincture of iron in a pint of cold water as a drench three times daily until blood ceases to appear. If she shows symptoms of constipation, give 1 pint raw linseed oil. V.

Abortion.

Three young cows have aborted, one at six months, and two at four months of gestation. The afterbirth in each case had bunches of a yellowish color on it. All the cows showed oestrus in four days after abortion. Is this infectious abortion, and if so, what would you advise? E. M. M.

Ans.—The symptoms indicate infectious abortion, but it is possible all cases were accidental. If it be infectious, other pregnant cows will very probably abort. Treatment is very tedious. It usually takes from one to two years to rid a herd of the scourge. A new treatment was given in this journal a few weeks ago, but we are unable to say anything about its reliability. The usual treatment is to isolate all aborted cows, burn all fetuses and afterbirths, and take great care that the infection is not conveyed from the diseased to the healthy animals, by attendants, stable utensils, etc. Make a solution of corrosive sublimate 30 grains to a gallon of water, and heat this to about 100 degrees Fahr. each time before using. Flush out the wombs of the aborted cows with this once daily until the nozzle of the injection pump will no longer readily enter the opening into the womb, then inject a little into the vagina once daily until all discharge ceases, and wash off the tail and hind quarters of all pregnant cows once daily with it. Do not breed an aborted cow for at least six months. The bull that has been bred to a diseased cow should not be bred again for six months, and in the meantime his sheath should be flushed out daily with the solution, and when bred should be flushed both before and after service. Disinfect the premises by giving a thorough coat of hot-lime wash with five-per-cent. carbolic acid. V.

A Prize Food for Prize Stock



You can raise "fall" pigs and have them fine and fat for the May market. All you need is a little extra care and

"INTERNATIONAL STOCK FOOD."

Feed "INTERNATIONAL STOCK FOOD" with a combination of ground corn, oats and rye—and they will not only keep healthy, but also fatten up in a way to astonish your neighbors. The average pig does not digest more than half of the grain fed. The other half is wasted. "INTERNATIONAL STOCK FOOD" tones up the digestive apparatus, insures perfect digestion, and thus saves this waste in grain. "INTERNATIONAL STOCK FOOD" is a purely vegetable preparation—a wonderful tonic—that keeps hogs well and vigorous, and protects them against the ravages of Pneumonia and Cholera. 78

Make a nice profit on your "fall" pigs by feeding "INTERNATIONAL STOCK FOOD." Get a trial to-day from your dealer.

INTERNATIONAL STOCK FOOD CO., LIMITED TORONTO

Feed "MAPLE LEAF" Brand Oil Meal Cake

Old Process, Absolutely Pure

MAPLE LEAF CANADIAN LINSEED OIL CAKE BRAND

It is very high in Protein, varying between 30.63% and 36.75%, making it invaluable as a feed for dairy cows, young growing animals, etc., because protein is a large constituent in the make up of



MILK, FLESH and BONES

Most feeds grown on the farm are deficient in protein, but by the judicious addition of "Maple Leaf" Oil Meal Cake the farm ration is materially strengthened, making it rich in feeding value.

When ordering, specify "Maple Leaf" Brand, and avoid substitutes.

If your dealer cannot supply you, write us direct.

CANADA LINSEED OIL MILLS, LIMITED Mills at Toronto and Montreal

KING SEGIS WALKER

The greatest transmitting family of the breed, holding the world's records for 3, 4 and 5 generations. I have for sale sons of this bull, from high-record daughters of Pont. Korndyke, making the greatest and most valuable combination it is possible to get in the whole Holstein breed. Photo and pedigree on application.

A. A. FAREWELL :: :: OSHAWA, ONTARIO

HOLSTEIN CATTLE

The Buyer's Opportunity

We have more Cattle than we can stable. Some of the finest young bulls and heifers we ever offered; their breeding and quality is the very choicest, they will be sold worth the money. Don't wait to write, but come and see them.

D. C. FLATT & SON, R.R. No. 2, Hamilton, Ont. Long Distance Phone 247 1

FAIRVIEW FARMS HERD

Offers for sale: A son of Pontiac Korndyke, out of a cow with a record of over 31 pounds in 7 days. Calf is nearly ready for service. Have only a few sons of this great sire left, and remember, these are the last. Look up the record of sons of Pontiac Korndyke, and see what they are producing.

E. H. DOLLAR HEUVELTON, NEW YORK

Evergreen Stock Farm High Class Registered Holsteins

Winners of 80% all first prizes at the Canadian National Exhibition 1913. For Sale—a few choice females all ages and are booking orders for what calves will be dropped during December. I will also buy on commission anything in pure-bred or grade Holsteins, singly or car lots. A. E. HULET, NORWICH, ONT. R.R. 2 Bell 'phone

HOLSTEINS—I can supply a limited number of high-producing and highly-bred bulls, bred on both sides from high official backing. Let me know your wants. W. E. THOMPSON, R.R. No. 7, Woodstock, Ont. L.-D. 'Phone.

LAKESIDE AYRSHIRES

A select lot of young bulls, all ages, sired by the following: Barcheskie Cheerful Boy (Imp.) 28879 (7731); Hobland Bonnie Boy (Imp.) 33275 (8776); Morton Mains Planet (Imp.) 33279 (8774); Auchenbrain Sea Foam (Imp.) 35758 (8865). Imported dams. Record of Performance dams.

GEO. H. MONTGOMERY, Proprietor Dominion Express Bldg., Montreal. D. McARTHUR, Manager Phillipsburg, Que.

GLENHURST AYRSHIRES ESTABLISHED OVER 50 YEARS

AGO, and ever since kept up to a high standard. We can supply females of all ages and young bulls, the result of a lifetime's intelligent breeding; 45 head to select from. Let me know your wants. JAMES BENNING, WILLIAMSTOWN, P. O. Summerstown Sta., Glengarry.

STOCKWOOD AYRSHIRES

Stocks of all ages for sale, one 12 months old bull (Imp.) in dam will make a winner for someone; also bull calves from a week to two months old all from show cows and sired by White Hill King of Hearts, a son of the great bull Emy Mee, and a half-brother of Brae Rising Star, highest priced bull in Scotland; prices and terms easy. D. M. WATT ST. LOUIS STA., QUEBEC.

1595 AND UPWARD ON TRIAL. AMERICAN CREAM SEPARATOR

A SOLID PROPOSITION, to send fully guaranteed, 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. The bowl is a sanitary marvel, easily cleaned. Different from this picture, which illustrates our large capacity machines. Shipment made promptly from WINNIPEG, MAN., TORONTO, ONT., and ST. JOHN, N. B. Whether your dairy is large or small, write for our handsome free catalog. Address:

AMERICAN SEPARATOR CO. Rex 1200 BAINBRIDGE, N. Y.



Lump Jaw

The first remedy to cure Lump Jaw was

Fleming's Lump Jaw Cure

and it remains today the standard treatment, with years of success back of it. Known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair play of selling, together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vest-Pocket Veterinary Adviser. Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy.

FLEMING BROS., Chemists, 77 Church Street, Toronto, Ont.

HICKMAN & SCRUBY

Court Lodge, Egerton, Kent, England
Exporters of Pedigree Live Stock
of all Descriptions.

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

OXFORD DOWN SHEEP

We have the champion Oxford Flock of America. Winners at Chicago International, Toronto, London, Winnipeg, Regina, Brandon and Saskatoon Fairs. Present offering: 100 ram and ewe lambs, and 50 yearling ewes by imported rams. Consult us before buying.

Peter Arkell & Sons, Teeswater, Ont.

Farnham Oxfords & Hampshires

The Oldest Established Flock in America
We are making a special offering for 30 days of 30 fine yearling Oxford Down ewes. Being now bred to our imported Royal winning ram. Also 20 first-class Oxford Down ram lambs.

HENRY ARKELL & SON, Arkell, Ontario
Phone Guelph 240-2

ALLOWAY LODGE STOCK FARM COLLIES

A few young puppies now for sale both from imported and home bred stock. Place your order early for a good young Angus bull this year if you wish to secure first choice.

ROBT. McEWEN, BYRON, ONT.
Near London

Oxford Downs choice ram and ewe lambs from prize-winning stock \$10, \$12 each, also yearling rams and ewes at close prices. Satisfaction guaranteed.
W. A. BRYANT, R.R. No. 3 Strathroy, Ont.

MAPLE LEAF BERKSHIRES

for sale at reasonable prices, boars fit for service, also young pigs ready to wean; boars and sows 3 and 4 months old, bred from imported stock. Satisfaction guaranteed.
J. Lawrence, Woodstock, Ont. R.R. 8.

Gramandyne Yorkshires & Tamworths Gramandyne Stock Farm supply Yorkshires and Tamworths, either sex, any age, bred from prize-winners, none better. Long-Distance Phone. 3874 Ottawa.

Please mention "The Farmer's Advocate."

Questions and Answers. Miscellaneous.

The Hired Man.

A hired B to work for eight months, commencing to work on the first of April. No holidays were mentioned. During the eight months, now completed, B was sick for six days—part of the time in bed—and A and his family cared for him as a friend.

1. Should B work twenty-six days for a month, or is it a calendar month when only working by the month?
2. Can B take the four holidays that come between the 1st of April and 1st of December?
3. Is A obliged to take care of B while sick and not collect pay for same?
4. Can B collect pay from A while he was sick at A's place, as he put in the time at A's, but not at work?
5. B was sent to do roadwork drawing gravel, and the tire ran off the wheel. B drove home nearly a mile with the tire off, and part of the way the load was on. Who should pay for damage to wheel?

Ontario.

Ans.—1. A calendar month.

2. Yes, but subject, of course, to the doing of chores.

3. Yes.

4. Yes.

5. B.

Landlord and Tenant.

A rents farm from B in October, 1912, and has lease drawn at once for a term of years, it being agreed upon, also stated in lease, that A's term shall start April 1st, 1913, A having right to do fall plowing in fall of 1912. Previous to A's lease, farm has been rented to C. B reserved the sap-bush; also a second house which is on the farm. A rents entire farm from B. B agrees to allow A free use of second house any time A chooses to occupy it, after lease is drawn before April 1st, 1913; also to allow A to tap the sap-bush as soon as season opens in March, 1913. A and B later agree to terminate said lease in one year, or April 1st, 1914.

1. Has A a legal right to the use of sap-bush in spring of 1914, until April 1st?
2. Has incoming tenant any right to use of sap-bush before April 1st, 1914?
3. Has B any legal right to enter upon said farm to cut wood during A's term, no provision being made for such?

Ontario. P. R. D.

Ans.—1. We think so.

2. No.

3. No.

Taxation.

1. Am I liable for income tax or not under following circumstances? Assessor asked me if I had any money bringing in interest. I made the statement that I had \$50 interest coming in. He did not ask if I had any debts. I am receiving \$50 interest; am paying out \$180. I went to Court of Revision and told Council I was paying interest on \$3,000, and drawing interest on \$1,000. Now I have my tax bill, and my \$50 interest is added to my land assessment, and taxed at full value, whereas land in this municipality is assessed at not more than 50 per cent. of its value. Am I liable for this income tax?

2. Will you state briefly the law concerning taxation of incomes?

3. How is it some men can have \$700 of income free of tax, and a farmer must pay tax on every dollar?

Ontario.

Ans.—1. Yes.

2. According to the general rule, all incomes are taxable. But there are exceptions; and one of these is the income of any person derived from any investment, or from a bank deposit, or loaned on mortgages, notes, or other securities, provided the person's income from all sources is not more than \$400.

3. Such is not the case. The entire income of a farmer derived from his farm is exempt from taxation.

HER HANDICAP.

Stella—"Has she an impediment in her speech?"

Bella—"Yes; there are only twenty-four hours in a day."



The Roofing Question

SETTLE it once and for all. You don't want to have it coming up periodically—then why not decide on Galt Steel Shingles, and make a permanent job? The best service you can hope for from a roof of the ordinary, present-day wood shingles is from 10 to 15 years. Galt Steel Shingles will last a lifetime. Such a roof cannot burn, rust or decay, assuring permanent satisfaction and freedom from repairs. Write for literature and information on the roofing question. We will gladly furnish full particulars on request. Simply write the one word "Roofing" on a postcard, together with your name and address.

THE GALT ART METAL CO., Limited
150 Stone Road, Galt, Ontario.
Cor. Richard and Pine Sts., Winnipeg, Man.

SHIP YOUR

RAW FURS

To the Largest, Most Reliable and Oldest House in Canada

We pay Express and Postage Charges. Prompt Returns.

E. T. CARTER & CO., 84 Front St. E., Toronto

Special Offering of SHROPSHIRE EWES—40 imported shearing ewes and 40 home-bred shearing and two shear ewes. These ewes have been bred to choice imp. rams. One crop of lambs should nearly pay for them at prices asked. Also some good ewe lambs at a low price. JOHN MILLER, Brougham, Ont. Clarendon Stn. C.P.R., 3 miles. Pickering Stn. G.T.R., 7 miles.

SPRING-VALLEY SHROPSHIRE back. Can supply shearing rams and ewes, ram and ewe lambs, all got by imp. sires highest types of the breed. Thos. Hall, R. R. No. 2, Bradford

NEWCASTLE TAMWORTHS, SHORTHORNS AND CLYDESDALES Present offerings: boars and sows all ages. Sows bred, boars ready for service, chuck full of imported blood and show ring quality; I think the best I ever bred, also younger ones of both sexes. A few nice bulls 4 to 8 months old. Heifers carrying their first calves and others with calves at foot, of splendid milking strains. Two or three nice fillies and mares that are bred to imp. stallions, all registered, prices right. A. A. COLWILL, Newcastle, Ont. L.-D. Phone

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, Cainsville P. O., Langford Station on Brantford and Hamilton Radial.

Hampshire Swine I have a choice lot of Hampshire belted hogs for sale. Will be pleased to hear from you; and give you description and prices. J. H. Rutherford, Box 62, Caledon East, Ont.

Duroc Jersey Swine—Twenty-five sows bred for fall farrow; a few boars ready for service; also one Jersey bull, 11 months, and two bulls, 6 months old, out of high-producing dams. MacCampbell & Sons, Northwood, Ont.

Large White Yorkshires Have a choice lot of sows in pig Boars ready for service and young pigs of both sexes supplied not akin at reasonable prices. All breeding stock imported, or from imported stock from the best British herds. Write or call H. J. DAVIS, Woodstock, Ont. C. P. R. and G. T. R.

Morrison Shorthorns and Tamworths bred from the prize-winning herds of England. Have two choice young bulls for sale 10 months old, out of large deep-milking cows and also some choice cows. Tamworths both sexes. CHAS. CURRIE, Morrison, Ont.

Cloverdale Large English Berkshires No matter what your needs in Berkshires may be, see Lang the live Berkshire man. He is always prepared to furnish anything in Berkshires. Write or come and inspect. G. J. LANG, Hampton, Ont., Durham Co.

CHAMPION HAMPSHIRE SWINE We have the Champion Herd of Canada. We import more Hogs every year than all others combined; at all times we can supply either sex of any age desired. Write us. HASTINGS BROS., Crosshill P.O., Newton G. T. R., Lindwood G. P. R.

Tamworths—I have two choice lots of sows, 8 months old, that are bred to an extra good boar. Also a few boars large enough for service. HERBERT GERMAN, St. George, Ont.

Tamworths—Boars, \$15 to \$30. Sows bred for spring farrow, \$40 to \$50 each; registered. Write for particulars. JOHN W. TODD, Corinth, Ont.

Sunnybrook Yorkshires and Holsteins In Yorkshires we can supply either sex from a few weeks old up to breeding age, sired by our champion boar Eldon Duke (32228), and out of prizewinning sows. Also richly-bred Holstein cattle of all ages. WM. MANNING & SONS, WOODVILLE, ONTARIO, Grasshill Sta., C.P.R. and G.T.R.

Contents of The Farmer's Advocate and Home Magazine

VOL XLVIII.

JULY 3 TO DECEMBER 25, 1913.

PART II.

APIARY DEPARTMENT.

Beekeeping, Intensive Agriculture.....2242
Bees in Winter1890
Buckwheat Honey Crop: The1676

Honey by the Ton1297

Nectar and Honey1544

DAIRY DEPARTMENT.

A Substantial Myth1222
Average Yields1366
Ayrshire Arguments1296

Butter Inspection: Federal2289
Butter and Cheese Makers Have a Lively Meeting.....2243
Butter Industry: Preserve the2100
Business Dairy: The2053
Breeding and Feeding for Dairy Purposes1402
Bulgarius Bacillus in Buttermilk.....1222
Butter: Flavor of, Injured by Metals1296
Buttermilk Cheese1222

Canadian Cheese-making: The Outlook for2166
Cheese From Pasteurized Milk: More Water in1222
Clipping Cows1710(b)
Co-operation: Beekeepers Discuss.....2101
Cotton Seed Meal: Feeding1922
Cow and the Milker: The.....1438
Cream: Keeping Right1259
Cream: What Should it Test?.....1878
Cream Separator: Caring for.....1295
Cream Testing2013
Cream Test Varies: Why.....1332
Crime Against Life: A1479
Cull the Cows2053

Dairy Cows: Buying and Selling.....2101
Dairy Business: Beginning the.....1836
Dairy Cattle: Selecting1439
Dairy Cows: Judging1296
Dairy Farm: A British Columbia.....1480
Dairy Methods and Rotations1922
Dairying: Some Essentials to Success in1629
Dairying: Some Sunday-morning.....1710(a)
Dairy Test at Guelph: The Great.....2243

English Correspondence: Our.....1969, 2013

Farmers and the Milk Question.....1835
Farming, Limited Vs. Unlimited.....2288
Feeds: Two or Three Daily.....1879
Feed the Cows to Fill the Pails.....1366

Goal Unfixed: The2012

Heifers: Raising for the Dairy.....1480
How Brown Whitewashed His Cow Stable1791

Injuries to Cow's Teats and Udders1710(b)

Jersey: A New World's Record.....1747

Milk a Wholesome Food1296
Milk and Cream Testing: Official.....1878
Milk: Causes of Bad Flavors in.....2289
Milking: Condensed Rules for.....1710(b)
Milking: Periods Between1746
Milk House: A Convenient.....1185
Milk Inspection: The Importance of1403
Milking Machine: With the Help of a1438
Milking Machines in England1790
Milk Prices in Oxford Co., Ont.....2100
Milk Production: Feeding for Greater1675
Milk Production in Canada.....1630

New Brunswick Dairying: Profit in.....1439
Oleo Parasite: The Wolfish2289

Private Dairy Market: Building up a1791

Responsibility: Fix the1403

Separator Speed: Losses From Incorrect1675

Testing Milk on the Farms.....1968
Toronto Milk Prices1746
Tring Dairy Trials1535
Winter Creamery: The2012

EDITORIAL DEPARTMENT.

Agricultural Labor: A Strike of.....1325
Alfalfa: Will it Kill Bindweed?.....1362
Alfalfa for Canada: Hardy1217
Alfalfa Pays: Why1471
A Lost Oration1290
Ambassador's View: The1537
Arena: The lesson of the.....2094

Bank Inspection: Commission Needed for1706
Banking and Farm Credits1254
Bartram's Sandpiper1255
Beef: Who Should Produce?.....1741
Begin Now2007
Book of Books on the Farm: The.....2151
Breach and a Bridge: A1625
Bricks Without Straw1670

Canadian Dairying and the United States Tariff1785
Can Beefsteak and Ham and Eggs be Replaced?1830
Cattle: Finishing the1741
Cattle Purge: The1873
Children's Books: The1584
City Growth and Cost of Living.....1706
Clover: Seeding and Preserving.....1253
Coolness and Counsel1217
Co-operation2284
Co-operation: Proper1363
Co-operation and Sanity1253
Corn: An Ear of1581
Cornfield: The1325
Credit Where Credit is Deserved.....1472
Credit: Handicapped in Regard to.....1433
Cultivate Now1398

Danger in Silos1471
Dust Nuisance: Abate the1181

Educating the Farmer1669
Educational Bungling1253
Empire Builders: Real1829
Europe Through Canadian Eyes:1472, 1581, 1626, 1670, 1707, 1742, 1786, 1831, 1875

Farmer: The Good, Succeeds2237
Federal Aid and Provincial Action.....2237
Federal Aid to Agriculture by Provinces2238
Farming in the Lothians Forty Years Ago2153
Family: Our Duty to the.....2093
Farm: Give the, its Just Dues.....1362
Farming and the Farm: Know Before Buying1397
Farm Experience for Implement Manufacturers1289
Farmyard Fertilizer: Save the.....2007
Farmer's Son and University President1874
Feeding: Count the Cost in.....1917

Good Roads and Good Citizenship.....2238
Government: The Concern of.....2095
Gold Getting Cheaper1254

Hay Fields: Lengthening the Productive Period of1361
Heifers: Sell the, Spoil the Herd.....2049
Highways: The Economy of Good.....2049
Hog Market Fluctuations1873

Insects Reduce Production2008
Insect Foes: Fight the1917
Interest: The Returns of1625
Irish Farm Labor Movements.....1625

Let us Keep Cool1829
Living: Cost of2049
Live-stock Breeders: A Bright future for1829
Live-stock Markets: Study1785
Live-stock Pictures1471

Man Who Takes the Other Man's Price: The1537
Maple Industry Policy: Wanted a.....2007
Marketing: Cost of1961

Meat and Milk1372
Medicine: International Congress of.....1538
Milk Production: Increasing Cost of1325
Money-making Penalty: The1325

Nature's Diary1182, 1218, 1326, 1362, 1398, 1434, 1472, 1538, 1582, 1626, 1670, 1706, 1742, 1786, 1830, 1874, 1918, 1962, 2008, 2050, 2094, 2239, 2284.

National Show: Could the, be Doubly Domiciled?1961
Neck-yokes Needed: Longer1362
Newspaper Hawker: The Spurious.....2281
Night Thoughts1326
No Liability Without Warranty.....1433

Observations by the Way1254
Opportunity Capitalized1742

Pigs: Why Fewer, are Produced.....2238
Parcel Post: The Profit of.....2093
Permanent Institution: A2261
Politics: A Farmer's2095
Plowing, the Basis of Cultivation.....1918
Power: The New, Farm1917

Rats in Silage1289
Recognition: The Road to.....1361
Roads: Daily Repair on1705
Roadways: Cropping1218
Rural School Work: Model1290

Satisfaction From Personal Effort.....1471
Scottish Letter: Our1583
Sensible Summer Talk1289
Snow: The, Its Beauty and Utility.....2152
Some Misdirected Effort1669
State Landlordism1706
System With a Reversible Gear: A.....1254

Taxes for Road Improvement1327
Teachers' Course at Guelph: The.....1473
Together We Stand2093
Town Boy: What to do With the.....1181

Wages and Progress1326
Water Supply and Milk Flow.....1397
Weeds: Pruning1433
What the Winter Fair Teaches.....2281
What is Missing?1537
Wheat: The Place of1434
Who Will Get Busy?1669
Wind: The Waste of the1581
Winners: The most Worthy1625

FARM DEPARTMENT.

Agricultural Education in Canada.....2099
Alfalfa: June Seeding of, Condemned1222
Alfalfa and Tile Drains1438, 1835
Alsike: Some1674
Artificial Fertilizers; Their Nature and Use2052, 2241, 2288

Australia: Notes From2285

Barnyard: The1222
Barnyard Manure: Using1258

Cider Making and Cider Vinegar.....1384
Clover After Grain Harvest: Sowing1258.
Cold Weather, Concrete Stable Floors2099
Corn: How Fast Does it Grow?.....1258
Corn Cultivation1184
Corn for Silage: Thick-planted.....1478
Corn Harvest: The1543

Distributing Pipe: Another1674
Down on the Farm1330
Drainage and Insect Injury1295
Drainage Demonstrations1294

Europe Through Canadian Eyes.....1542
Farm: A Lover of the1833
Farm: What's the Matter With the?1295
Farm Work1834
Farm Producing and Marketing Costs1968
Farmers' Clubs: "Results" From.....2052
Fences: Keep, Repaired1295
Fence Posts: Preserving1402
Field Contests1400

Galvanized Fencing1833
Gasoline Engines: Operating1497
Gasoline Explosion: Cause of1543
Golden Rule on the Farm1585

Hay: Cost of Making1221
Highways Commission: The2011
Hogs Fighting Bindweed1438
Humble Bees: Where are the?.....1479

Lightning-rod Efficiency: Some Facts Concerning1921
Lightning-Rods: The Truth About.....2286 and Use2052, 2241, 2288
Liming the Soil1835

Manuring for Corn and Wheat.....1438
Marketing: Attractiveness in2052
Meadow Lark a Useful Bird: The.....1401

Neck-yokes too Short: Implement.....1366
No Consideration1366

Oats: O. A. C. 72,1294
Oats Sorghum and Clover1221
Oat Acreage: A Larger1293

Peat for Organic Manure1885
Pipe for Distributing Corn in Silo.....1541
Plank-frame Barn: Material for.....1877
Plowing: Fall Vs. Spring1674
Plowing: Spring Vs. Fall1543
Potatoes: Growing1877

Quack Grass: Killing1366

Roads: Permanent, Divide Cost of.....1620
Road Congress: America1746
Root Harvest: The1710(a)

Sappy Corn: Wilt1541
Seed Corn: Saving1541
Septic Tank for School1674
Sewage Disposal on the Farm.....1293
Silo: Build a1339
Silage Sours: When1478
Silo Filler: Horse-power1746
Silo: A Home-made2286
Smut Spread by Threshers1710
Soil Conservation: The Gospel of.....1478
Sparrows: English, a Use for1674
Stave Silo: Constructing1745
Storm: The2011
Stored Crop: Protect the1221
Summer Pasture: Growing2011
Sweet Clover: Palatability of.....1790
Sweet Clover: The Mission of.....1185
Sweet Clover's Soil Preference.....1268

Thistles: Ridding a farm of.....1880
Thistles in the Corn: Killing.....1365
Thread Cutter1222
Vise: Wooden1222

Water Tank: A Round, Cement.....1185
Weeds: Liability for1073
Weed for Identification: A1401
Weed Seeds Broadcast1330
What is Wrong With Our Economics?1966

White Grubs: Hogs to Destroy.....1295
White Grub Pest: The1540
Why Not Ontario?2099
Why We Stopped1967
Wilted Corn: Good Silage From.....2099
Winter Wheat: Life History of.....1541
Wit: Buying Their2286
Work: A Normal Day's2010

HORSE DEPARTMENT.

Aged Horses Serviceable1256

Balker: Handling the1364
Bishop and the Jockey: The.....1474
Breeding Two-year-olds: On1899
Brood Mare: The Value of the.....2009

Colt: Box Stall for the1920
Colt: Handle the1899, 1920
Colt: How Fast Does the, Grow?.....1474
Colts in the Fall1708
Corns1628

Drafter: Good Action in the.....1474
Draft Colts: Developing1709

Exmoor Pony: Evolving the.....2239
Feed the horses1976
Feeding Pregnant Mares1876
Foal With Mammaries Active1435
Foal's First Winter: The2050

Gelding: The Big1182
 Good Care and Long Life1219
 Harness: Take Care of the.....1899
 Hernia in Colt: Umbilical1291
 Horse: Back to the1892
 Horse of To-morrow: The2155
 Horse Breeding: United2096
 Horse: Talk1474
 Horse: The Indispensable1255
 Horses: Good, Thick, Weighty.....1291
 Horses: General-purpose and Agri-
 cultural1672
 Horses and Silage1832
 Horses: Some Common Fall Ail-
 ments of1919, 1963
 Horses' Legs Swell: When1832
 Horse Breeding on the Farm1627
 Horse Losses: Preventable1219
 Horse Show: Toronto's Open-air.....1218

Idle Horses: How a Western Farm-
 er Winters1783
 Interfering, Speedy-cutting, Over-
 reaching1787
 Mare and Colt: Separating the.....1589
 Mare's Influence: The1876
 New York Horse Show: The.....2096
 Percheron Horse in America: The.....2156
 Rapid Crower: A2050
 Silage Ration for the Horse1963
 Sore Shoulders and Necks: Treat-
 ing1219
 Stable Methods: A Farm Buyer's
 Observations on1594
 Stallion Act: The2283
 Stallion: Give the Work1255

The Lesser of Two Evils.....1182
 Thinking Horses1744
 Two-year-old: What About the?.....1182

Water Troughs1899
 Weanlings: Care of1435

HORTICULTURAL DEPARTMENT.

A Job for Mr. McArthur.....1166
 Annapolis Valley Apple Shipments.....2014
 Apple as an Article of Diet: The.....2290
 Apples, etc.1543
 Apples Selling Well1676
 Apples Wanted in the West: Good
 Ontario1831
 Apple Crop Light1544
 Apple Scab in Ontario: The pre-
 valence of1923

Bad Baskets1887
 Barrels: Grading and size in.....1747
 Baskets: Damage to1747
 Better Baskets Imperative1837
 Bitter Pit of the Apple1711
 Buy Tried Varieties1792

Canning Tomatoes: Growing2102
 Co-operation of Consumers1259
 Co-operation of Fruit Producers.....1259
 Corn Smut Hard to Control.....1482

Dandelions: Spraying to Kill1222
 Fancy Fixings1837
 Fillers and Specials1970
 Fire-blight: Pruning Out1970
 Fire-blight is Disseminated: How.....1404
 Flea-beetles and Their Control.....1186
 Frost: Experiences With1970
 Fruit: A Shortage in1678
 Fruit: Grow, in Ontario, Sell it on
 the Prairie1440
 Fruit Crop Prices1482
 Fruit Crop Report1367
 Fruit Growing in New Ontario.....1298
 Fruit-growing Possibilities in the
 North2242
 Fruit Notes From Brant County.....1481
 Fruit Marks Act: Amendment to.....1298
 Fruit Packages: Mistakes in1675
 Fruit Sales Company: A1297

Golden Bantam Rhapsody1544
 Land and Apple Show: A1223
 Making Hay While the Sun Shines.....1586
 Nova Scotia Apples Spoiled in
 Transit2290
 Ontario First1836
 Ontario Fruit the Best1482
 Orchard: An Illustration1331
 Orchard Heating: The result of.....1544
 Our Optimistic Outlook1880

Packing Apples and Pears1880
 Packing Number Threes1837
 Peach: Enemies of the2290
 Peaches: Two Baskets of.....1710(b)
 Peach Harvest: A Forest1748
 Plant Proven Varieties1923
 Potatoes: Favor Northern-grown
 for seed1631
 Potatoes: Raising in New Bruns-
 wick1867
 Potatoes: Spraying for Blight and
 Rot1890
 Pumpkin Monopoly: The Great1676

Quantity of One Kind: A.....1298
 Rash Courage1836
 Raspberries: Red2014
 Raspberries: Repair the1887
 Refrigerator Cars for Fruit to Mon-
 treal (export)1830
 Rueset Bands on Pears Due to
 Frost1792

San Jose Scale1879
 San Jose Spreading1186
 San Jose Scale in Western Ontario.....1331
 Scab Bad, Prices Good1710(b)
 Season's Results: A2054
 Seed Potatoes: Healthy2102
 Selling and Buying1710(b)
 Shade Trees: Plant a Variety of.....1439
 Stick by the Standard1936
 Storing Winter Vegetables2102
 Strawberries: Mulching2014
 Strawberries and Weeds1222

Trees: Protection for1747
 Truck Farming in Essex1439
 Vermin: Fortify Trees Against.....1924

ILLUSTRATIONS.

Aberdeen-Angus Cow, Juana Erica.....2159
 Aberdeen-Angus Two-year-old Heifer,
 Benton Bride.....2159
 "Across the Common".....2185
 American Gold Finch or Thistle-
 Bird2181
 Angus bull: A Champion2160
 Apple Dessert2186
 At the Window2178
 Apple Exhibit: The Best 300-box.....2102
 A Cloudy Day, Katwyk, Holland.....1488
 A Coming winner1483
 Adelia de Kol Tensen1488
 Aged Ayrshire Cows at Chicago.....1928
 A Good Crown2016
 A Good Land2016
 A Good Type1291
 Albright Art Gallery, Buffalo, N. Y.....1481
 "All-cheering Plenty, With Her Flow-
 ing Horn"1643
 Alfalfa: Three Acres of, in Coil at
 Weldwood1258, 1913
 Alpine Valley and Village: An.....1627
 Angus Bull: A Good Type of.....1629
 Angus Winner: A Present-day1478
 A Nice Pair1363
 Annie Hume, For 13 Years a Show
 Cow2288
 Another Plague Coming1830
 A Perfect Day1340
 A Popular Costume for Men, in Ber-
 chtesgaden, Germany1799
 A Profitable Acre1297
 Apple Woman: The1801
 Arm in Arm1926
 A Round-up Before Thanksgiving.....1793
 A Shady Pasture1186
 Aster: White forms of Fall Purple.....1626
 A Straight Finish2016
 At the Beach1265
 "August Days"1339
 Avondale1256
 Ayrshire: A Good1710(a)
 Ayrshire: An Unbeaten1484
 Ayrshires: Four Snow-ring2053
 Ayrshires in Canada1484
 Ayrshires Herd in Western Canada:
 A Young1879
 Ayrshire Herd: First-prize at Can-
 adian National Exhibition1913, 1630
 A Young Flockmaster1964

Baby Bees: Two2241
 Barn Swallow2181
 Baron Ian2283
 Berkshires at Breakfast2160
 Blue Jay2180
 Burke: Edmund2162
 Baron's Pride1633
 Baronet of Ballindalloch1399
 Basin of Latona, Versailles1707
 Bawdsey Laddie1255
 Beautiful Surroundings1966
 Beech Fern1472
 Before the Fair—A Promising young
 Farmer1886

Beef-ring Charts1882
 Bees: A Mass of1297
 Bellis: Mondel2257
 Belt: Embroidered2024
 Belisarius and the Boy1597
 Berkshire: This is Also a Can-
 adian1482
 Berkshire Sow: First-prize at Tor-
 onto1629
 Black Shawl is Universally Worn
 by Venetian Women1594
 Berkshire Sow1295, 2010
 Blue Belle of Menie2012
 Bonnie Brae 31st2011
 Boston Ivy: The Possibilities of.....1804
 Bowles: Rev. Richard P.....1874
 Boys' Potato Growing Contest... ..2295
 Braiding the Hats2067
 Brampton Raleigh Duke1548
 Broomhill Flora 2nd1547

Canadian Poets.....2254
 Cora Countess Echo2244
 Chickadee2181
 Christmas Is, Above All, the Chil-
 dren's Day2176
 Clydesdales at Pasture: American.....2155
 Chrysanthemums at the Flower
 Show2110
 Christmas Doll: The Joy of the.....2114
 Calf Hard: A Winning1710
 Camp Time1304
 Campbell: Dr. Wilfred2064
 Cape Blomidon, N. S.1889
 Carrying the Varsity Atmosphere to
 the Claim1407
 Carsegowan Coronation1402
 Cart Horses at an English Fair.....2051
 Champlain: Samuel de1833
 Champlain's Drawing of Port Royal
 in 16051887
 Champlain's Lost Astrolabe1974
 Champion large White Sow at
 Bristol1487
 Champion of the Milk Test.....2061
 Champions: Two1833
 Charnock1435
 Chateau Du Breau: Large Interior-
 salon of the1489
 Chester and May in Corn tent With,
 —What?1801
 Chester White Sow1481
 Chester White Sow at Toronto:
 Champion1674
 Chilton: A1826
 Church of Calviñ and Knox.....1707
 Clydesdale Filly Foal, Five Weeks
 Old: A1475
 Clydesdale Stallion: A Three-year-
 old1474
 Clydesdale Stallion Which Has
 Proven His Worth in Canada: A.....1474
 Club Moss: The Common1918
 Corn: Results From Crossing.....1485
 Coster at the International: A.....1225
 Cotswold Ewe: Champion1589
 Cotswold Ram at Toronto: Cham-
 pion1673
 Cotswold Shearling Ram1540
 Cotswold Winner: Two1479
 Courthouse: The, Tete Jaune Cache.....1444
 Crawford: Isabel Valancy1930
 Crawford: Where Miss; Lived1930
 Crucifixion: A Wayside1627
 Cuts of Beef: Learn the1844

Demonstration Farm, Monteth, Ont.,
 450 Miles North of Toronto.....2199
 Dairy: Plan of Mr. Bradt's1185
 Dairy Barn Ventilation: Diagrams
 (a) and (b)1965
 "Daisy" Bow2024
 Dauntless Princess1436
 Dictator1708
 Dolomites: In the,
 "Jack and the Beanstalk"1680
 Peasants Coming From Church.....1681
 The Crucifixes are Placed at Al-
 most Every Crossroads1681
 Dorset Ram2010
 Dorset Horn, Bred and Raised in
 Canada1479
 Drafter and His Load: A2239
 Driving Out the Invader.....1495
 Drummond Cup: Winner of the.....2285
 Dual-purpose Cow: A1673
 "Dunure: The"1291
 Duroc: A Home-bred1481
 Duroc-Jersey Boar1920
 Dutch Cow Stable: A1543

Eaton: Timothy2163
 Elms in the Lowlands, Kent Co.,
 Ont.: The2165
 Evener: Three-horse2127
 Early Evening1598
 Eddie Timbers and His Outfit2016
 Ellen's Isle, Loch Katrine1371
 Eminent's Bess1747
 English Cart Horse: An.....1183
 English Fair: At an1836
 Eunice Calamity Garnet1747
 Experimental Plots At Guelph:
 Fifty Acres of1188

Farming for Women in Canada2255
 Feldherrenhalle, Munich: The2255
 Flicker or Gold-winged Woodpecker.....2180
 Friends: The Best of.....2170
 Fairy Ring: The1889
 Fair Start 2nd and Queen Mildred.....1580
 Florence, Italy: Davanzati Palace,
 14th Century1808
 Old Well in Cloister Gardens.....1302
 The Certosa Cloisters1302
 The Hat Market1552
 The Misericordia1229
 The Palazzo Vecchio1228
 The Ponte Vecchio1229
 Florentine Lion: The1558
 Flounder1826
 Flower Pots: The2050
 Flower Show: A Corner in a1769
 Forest Covers a Mountainous Tract
 Many Miles in Extent: The.....1748
 Forest Growth Around Heidelberg
 Castle1743
 Foster Mother: A1833
 Four of a Kind1963
 Friends1225
 Fyvie Baron1672

Garden: Dorothy Newton's.....2259
 Garden: Howard Jamieson's2258
 Grand Champion.....2250
 Grand Champion: The2240
 Glencarnock Victor II.....2172
 "Glory to God in the Highest".....2175
 Gloster Fashion2097
 Guest: Miss Emily2108
 Gaspé, Que.: Entrances to1190
 Geneva and Mont Blanc1708
 Getting Ready for the Fair.....1643
 Gipsy Girl1791
 Girdle: Fancy2024
 Gladioli1759
 Gleamers: The1755
 Glencaple1875
 Going!1872
 Gone!1872
 Gondola on the Grand Canal,
 Venice1598
 Good Chums1966
 Goodington Winks1296
 Grand Plaza, Toronto Exhibition
 Grounds1596
 Grey: Sir Edward1192
 Ground Cedar: The1918

Herefords: The Great White-faced
 Grazers2242
 Habitant: The Old.....2165
 Haymakers: The2165
 Highlanders2157
 Highlanders: Two Lusty Pairs of.....2154
 Hollyhocks2179
 Hamilton: Mrs. I. A.2108
 His Eye on the Future2104
 Homestead Colantha Prince Canary.....2100
 Hackney Pony Stallion: Many Times
 Champion of Leading Shows1478
 Hampshire: A Typical1479
 Hampshire: A Winning1789
 Hampshires: Champion1876
 Hampshire: Boar2052
 Hampshire Sow: A1481
 Hart: F. C.2291
 Harvesting Poppies1755
 Hawkshaw: Home of W. S., Chilk-
 wack, B. C.1486
 Hazel Legget's Prize Garden2297
 Head of Champion: The1921
 Heather Queen 3rd1928
 Hereford Cow: A Wonderful Can-
 adian1476
 Hereford Winner Well Known in This
 Country1477
 Holehouse Randy 9th1630
 Holstein Cow Class at Toronto.....1581
 Holstein Heifer at Toronto: A
 First-prize1581
 Holsteins on the Farm of Richard
 Robinson1968
 Horticultural Exhibition: A View
 at the2290
 Homestead King Colantha Abbekerk.....1790
 Homeward Bound1478
 Honey: Twenty Dollars Worth of.....1298
 Honeycocks: One of the1408
 How Would You Like a Driving
 Pony Like This?1473
 Hydro Aeroplane Ready for Real
 Test: New2068

Icaque1588
 Ichnobate1787
 Interesting Group: An1754
 Inversnaid Falls From Loch
 Lomond1370
 Irish Setters on Grouse1490
 Jerseys: Two-year-old2251
 "Joan of Arc" of Mexican Rebels.....2257
 Jelly: An Attractive Way of Serv-
 ing2186
 Japan: In far1399
 Jersey Cow: A Champion1488
 Jersey Producer: A Young1878

Judging Bull
 Judging Milk
 onto
 Judging of
 Toronto Fa
 Jungfrau: T
 Ground, Su
 Pastures
 Jureur

King Ludwig
 Kingston: T
 Kinglet: Gol
 Kinglet: Ru
 Kitchener: L
 Kanaille
 Kif Kif
 Kilford Bell
 King Darrel
 Kitchen and
 Kirkcudbright

Loch Achray
 Larkin: Jin
 Leader
 Leicester Cha
 Lady McTag
 Laheuviniere
 Lampman:
 Land of Nod
 Lawn: A F
 Leicester Rav
 Leicester Cha
 Lessnessock 1
 Level Crossing
 Lincoln Shea
 Lincoln Shea
 Lily Pond:
 Lillian
 Literary Soc
 Lord Hermoi
 Lord Ullin
 Lunch at the
 Lunch Time

Milk-makers
 Milking Shor
 Mills: Dr. J
 Moore: Thor
 "Marguerites
 Marquis of I
 Milk-house a
 Bradt's
 Milking Shor
 Milking in th
 Miss Brae 2
 Miss Moffatt
 Missie Marq
 Model Maid
 Monkey Flow
 Montreal E
 Montreal Fr
 Morden Peac
 Mouse Tower
 the Rhine
 Munich:
 A Curious
 The New C
 Towers:
 The Terrib
 ways Cli
 the City
 Muriel's Ox
 Musician: T

Nooks and
 Garden
 Nova Scotia
 Indian Chi
 Royal
 Scene at I
 Nuthatch: C
 Nuthatch:

Oak Fern
 Old and the
 Old Church,
 Old-time Me
 One of the
 Ontario Agr
 Building o
 Oxford Ran
 Oxford Ran
 Offered by
 Season
 Oxford Year

Parliament
 Pauline Job

Judging Bull Calves at Toronto.....1833
 Judging Milking Shorthorns at Toronto1877
 Judging of Horses and Cattle at Toronto Fair: Watching the1547
 Jungfrau: The, Scheidegg in Fore-ground, Surrounded by Mountain Pastures1671
 Jureur1875

King Ludwig III, of Bavaria.....2255
 Kingston: The Late Miss Agnes.....2256
 Kinglet: Gold-crowned2180
 Kinglet: Ruby-crowned2180
 Kitchener: Lord2163
 Kanaille1632
 Kif Kif1709
 Kilford Bell 3rd1927
 King Darrel1744
 Kitchen and Dining-room: Plan of.....1337
 Kirkcudbright2009

Loch Achray: Refreshing2166
 Larkin: Jim, the British Labor Leader2112
 Leicester Champion of 1913: A.....2097
 Lady McTaggart1919
 Laheuviniere1919
 Lampman: Archibald2019
 Land of Nod: The1553
 Lawn: A Fine Flower-bordered.....1716
 Leicester Ram1920; 2010
 Leicester Champion: A Canadian.....1480
 Lessnessock Forest King1835
 Level Crossing1881
 Lincoln Shearling Ewes1789
 Lincoln Shearling Ram1401
 Lily Pond: The1230
 Lillian1488
 Literary Society Study1933
 Lord Hermeine1583
 Lord Ullin1628
 Lunch at the Ranch1482
 Lunch Time1601

Milk-makers: The Black and White.....2166
 Milking Shorthorns in the Pool.....2167
 Mills: Dr. James.....2163
 Moore: Thomas2162
 "Marguerites": Among the1193
 Marquis of Dorchester1292
 Milk-house and Milk Cooler: Mrs. Bradt's1185
 Milking Shorthorn: A1292
 Milking in the Show-ring1922
 Miss Brae 26th1788
 Miss Moffatt1366
 Missie Marquis1588
 Model Maid1883
 Monkey Flower1434
 Montreave Ebbing1400
 Montreal From Helen's Island.....1973
 Morden Peach1539
 Mouse Tower and Vine Terraces on the Rhine1587
 Munich:
 A Curious Fountain in1932
 The New City Hall and the Twin Towers1932
 The Terrible Dragon That is Always Climbing up the Corner of the City Hall1932
 Muriel's Oxford Daisy1259
 Musician: The1407

Nooks and Unexpected Walks in Garden1715
 Nova Scotia of To-day:
 Indian Chief and Family Annapolis Royal1888
 Scene at Port Greville1888
 Nuthatch: Canada2181
 Nuthatch: White-breasted2181

Oak Fern1472
 Old and the New: The.....2169
 Old Church, Tadoussac1931
 Old-time Method: An2066
 One of the Right Sort1964
 Ontario Agricultural College: Main Building of1224
 Oxford Ram: Yearling2052
 Oxford Rams: This is the Class Offered by Hy. Arkell & Son This Season1480
 Oxford Yearling Ewe1709

Parliament Buildings, Toronto2109
 Pauline Johnson (Tekahionwake).....2294

Plant Physiology: Figs. I. II. III.....2094
 Putnam: Mr. George A.....2108
 Pailo, Siena: The1408
 Paul Calamo Korndyke1927
 Peaches: Elberta, Actual Size1599
 Peaches: Elberta, Actual Size1748
 Peach Orchard, Forest, Ont.1748
 Percheron Mares and Colts at Pasture on the J. E. Judge Farm, Iowa2157
 Pellatt: Sir Henry, of Toronto, Residence of1632
 Stables From the North1682
 Stables and Greenhouses From the South1682
 Percheron Stallion; Imprecation.....2156
 Percheron Yearling: Champion of America, 19132156
 Perce, Que., Mount St. Anne.....1191
 Perce Village, Quebec1191
 Pergola: A1716
 Percheron Mare in the Canadian West: A 1913 Champion1475
 Percheron Stallion: A Three-year-old, owned by Hodgkinson & Tisdale, Beaverton, Ont.,1474
 Percheron Stallions: Three Prize Winners at Paris, France1831

Pigs at Home in Western Canada.....2160
 Pipe for Distributing Silage1541
 Plowing in Canada1487
 Plum Orchard: Niagara District.....2169
 Plunkett: Sir Horace2163
 Potato Planting in France1264
 Power: The New1882
 Prince Abbekerk Mercena1637
 Prince Luitpold of Bavaria.....2255
 Princess Carruchan2283
 Puggins and Poppett1757

Quack! Quack! Quack!1924
 Quarto1541
 Quebec: Modern1974
 Quebec Winter Landscape2164

Railway up Mt. Rigi1671
 Rain Forest: Victoria Falls1599
 Ram: Champion Border Leicester.....1184
 Red Crossbill2181
 Red Poll Bull1364
 Rhine Castle: A. Vines in Fore-ground1587
 Rillington Victor1435
 Ringlet 9th1840
 Rivers are Rapid and Treacherous: The1443
 Rock Formations: Figs. 1, 2, 3.....2008
 Royal Group: A.....2153

Sail Boat on Lake Geneva1672
 Sailor King1220
 Salt Mine: A Trainload of People Coming Out of the1800
 Salt Mines: Shooting Down a Slide in the1799
 Sand Dollar1326
 Sandpiper: Least2180
 Sandpiper: Semi-Palmated2180
 Sauce: A Marvellous2183
 Scow Building on the Fraser River.....1443
 Scott: Duncan Campbell2111
 Sea Cucumber1326
 Septic Tank: Diagram of1293
 Septic Tank at Weldwood1293
 Service: Robt. W.....2254
 Settle, Organ and bookshelf Above: The1338
 Shadow Tricks1890
 Sheep: Primitive Breeds as Seen at the Royal Show, Bristol, Eng.....1634
 Shepherd's Collie on the Watch: A.....2152
 Shipping the Last of Eighty Head of Export Steers1584
 Shire Brood Mare: First-prize.....1744
 Shire Mares and Foals Parading at Peterborough, Eng., Show1327
 Shire Stallion, Rowington Dray King1327
 Shore of FitzWilliam Island.....2050
 Shorthorn Heifer, Bred and Owned in Ontario: A World Beater1477
 Shorthorns in Summer2161
 Shorthorn Heifer: Bred and Owned in Ontario, Head of a1476
 Shropshire: A Fine Type of.....1480
 Shropshire: Champion1745
 Shropshire Head: A Canadian1479
 Shropshire Shearling Ram2241
 Shropshire Wether: Grade2173
 Sideboard: A Built-in1338
 Silver Queen1921

Sittyton Lady2053
 Slipper Bag2024
 Smith: The Late A. W.....1795
 Snowflake and Snow-bunting2180
 Song Birds2180
 Song Sparrow2180
 Southdowns in Clover: Canadian.....2158
 Southdown Hard to Beat: A.....1179
 Southdown Ram1221
 Southdown Shearlings1585
 Sow: A large, White1877
 Spinulose Shield1472
 Stackhouse: Mrs. A. L.....2108
 Stackyards in Winter1597
 Stallion: Exercising the1831
 Standard-bred: A Winning1473
 Steer: A Smooth1745
 Steer: A Winning1746
 Steer: Grand Champion2061
 Stock Pens: Five Hundred Acres of1925
 Stock Yards: New York Central.....1750
 Stolzenfels Castle, Rhine Valley1587
 Storm: The Coming2171
 Summer Morning1490
 Surely Prize Winners1757
 Swiss Cottage: A1627

Table: The Prize2111
 Tamworth Boar1401
 Tamworth Sow: A1481
 Tamworth Sow at Toronto: Champion1589
 Tandem: A unique1329
 Tell: Wm., In Remembrance of.....1787
 The Rewards of Hard Work.....2095
 "The Noisy Geese that Gabbled O'er the Pool"2161
 "The Stockings were Hung by the Chimney with Care"2182
 Tile Drain: Outlet for a1294
 Tile Laid in a Trench Dug by a Traction Ditching Machine1294
 Toronto Union Stock Yards1794
 Trail: A Stopping-place on the.....2168
 Trail: On the, Mud and Snow Axle Deep2168
 Traction Ditcher in Operation.....1294
 Train: The first New York Central. 18321720
 Tree Club Moss: The1918
 Tree Club Moss: Longitudinal Section of a Spike of the1918
 Trossachs Scenery: A Bit of.....1370
 Trueman: Prof. J. M.1261
 Twins: The1847
 Twin Flower1231, 1398
 Twylsh 11th1674
 Types of Beef Steer2284

Utility Horse: A Great1219
 Vendor: The1756
 Victoria Falls1600
 Virgin Adoring the Infant Saviour: The2177

Wade: R. W.2247
 Walking Stick: The1538
 Wanderers Returned1602
 Wardville Rural School: Proud Little Gardeners of the1837
 Wardville Rural School Fair1886
 Water Hemlock1434
 We are at home in Canada1480
 Well Protected1837
 Wellington: Duke of2162
 Who Said Fruit?1642
 Whyte: R. V.2295
 Wild Orange Lily1231
 Wild Phlox1231
 Windsor Belle1183
 Winter on the Erft1489
 Wolf Contrada: The Banner Carriers of the1409
 Wood Sorrel1398
 Woodpecker: Downy2181
 Woodpecker: Hairy2181
 Woodend Stamp1328
 Woodlawn Queen1580
 Work-Bag2024
 Worth Celebrating1333

York City Wall: Minister in the Background1542
 Yorkshire: A Big1832
 Yorkshire Sow: A Canadian-bred.....1481
 Yorkshire Sow: A Champion1746
 Zyp: Mr., and His Best Cow.....1542

LIVE-STOCK DEPARTMENT.

Aberdeen-Angus Cattle Breeding: Developments in2158
 Abattoir: Public, and the U. S. Meat Situation1838
 Abortion in Swine1968
 Abortion: Carbolic Acid for1258
 Abortion: Methylene Blue for1678
 Australia: Notes From1328

Bacon Industry: Canada's2159
 Baby Beef Making1477
 Bacon: The World's2010
 Beef Situation: Figures on the.....1790
 Beef Steer: Types of2284
 Better Finish2009
 Black-nosed Cattle1188
 Bloating: Cause of, and Cures for.1585, 1629
 Bovine Tuberculosis: Fighting1486
 Breeding Stock: Prepotency and Character in1589
 Bride for Fence-lifting Pigs1478
 Bruising of Stock Condemned1790

Calves are Weaned: When the.....1929
 Care for the Young Stock.....2051
 Cattle Barn Ventilation1965

Disinfect a Cattle Barn: How to.....1632

English Correspondence: Our1210, 1789, 1877, 1921, 2284

Feed Care: What it Will Do.....2241
 Farmer, the Butcher, the Pigs, the Public and the Law: The.....1486
 Feed the Flock1876
 Feeders: A Strong Demand for.....1678
 Feeding Beef Cattle in Ontario Under New Market Conditions1745

Grub in the Head1292

Herd: The Measure of the1719
 Hints: A few Useful1184
 Hogs: An Experiment With1789
 Hog Cholera Serum is Prepared: How1400

Jewels Not Pigs1477

Killers: The1475
 Live-stock Exportation: Some Startling Figures on.....2240
 Live Stock: Types of Canada's.....1476
 Live Stock Imports Prohibited2052
 Live-stock Notes From England.....1487

Measles in Cattle1744

New National Exhibition at Toronto: The2096
 Pigs that Paid2240
 Pastures: Freshen up the1221
 Pigs: Breeding, to Feed1292
 Pigs: Good Profits From1220
 Pigs for Profit: Raising1267
 Pork Production: Cost of1789
 Prepare, Show and Win1257

Rape for Sheep and Other Stock.....1399
 Rape Pasture for Hogs1183

Scotch Poetry and Prose.....2158
 Sheep Industry: The Canadian—Its Decline and Re-development2157
 Sweep Down the Stable Walls.....2098
 Scottish Letter: Our1291, 1364
 Selling Heifers is a Short-sighted Policy2051
 Sheep: Fitting for Show1264
 Sheep Extension Car: A Maritime.....1329
 Shipping Live Stock: Co-operation in1710

Shorthorns: Good Milking1710
 Shorthorn and Milk Production:
 The1628
 Silage: Feeding Out the2051
 Silage and Corn Stover1828
 Silage Makes Beef at Low Cost.....1221
 Silos: One or Two1477
 Silo Opening1966
 Skim Milk: When to Give the Calf.....1256
 Sows: Age of Breeding1184
 Sows: Flushing2285
 Stock: Classify the1539
 Stock: Good Gains in Growing1256
 Stockmen's Glory: Our1964
 Swine: City-owned1436

Toronto Junction Fat-stock Show.....2240
 Tapeworms in Sheep: Treatments
 for1184
 Tuberculosis: Breeding Herds and.....1920
 Whitewashing Stables1710

POULTRY DEPARTMENT.

Breeding Poultry for Egg Produc-
 tion2160

Canadian Hen to the Front.....1837
 Chickens: Raising1401
 Colds and Roup of Poultry.....1969

Disease in Poultry: Prevention of.....1545

Eggs: Sell Only the Good.....1367
 Egg Barometer: The1440
 Egg Laying Contest and Breeding
 for Eggs1403
 Egg Marketing in Dundas County:
 Co-operative1837
 Egg Preservatives1630
 Egg Trade in Canada: The.....2289

Getting Ready for Winter's Egg
 Business1792

Hen in Her Place: The.....1970
 Henhouse: How Often Should the
 be Cleaned?1970
 Henhouse for Winter Layers1879
 Hopper for Feeding Poultry1879
 Housing of Poultry1747

Laying Hens: Winter Feeding of.....2103
 Lice Powder and Disinfectant1187

Poultry Show: Canada's Greatest.....2244
 Poultry: Grading, Packing and Ship-
 ping1260
 Poultry: Killing, Dressing and
 Cooling1223
 Poultry-houses: Simplicity in1711
 Poultry Pointers: Some2054
 Pullets: Developing, for Winter
 Layers1483

Roosters: What to do With1792

Sour Milk for Chickens1747
 Sphinx Chickens and Pyramid Eggs.....2290
 Sprouted Oats for Winter Green
 Feed1924

QUESTIONS AND ANSWERS.

VETERINARY.

Abortion2311
 Abscess1673
 Abscess in Mammae1388
 Blistering Colt1208
 Brain Trouble1861
 Breathing: Heavy1208
 Bursal Enlargements1950

Calf: Fatality in2080
 Calf Chews Cud and Grinds Teeth.....1962
 Calves With Cough1861
 Canker1277
 Capped Elbow1388
 Chronic Pustular Eruption1614
 Coffin Joint: Sprain of2809
 Colic: Subject to1241
 Cough1900
 Cough: Chronic2034

Distemper1352

Eczema1361

Foetus: Contents of the Mouth of.....1242
 Frog: Diseased1778

Hard Milkers1242
 Hernia: Scrotal1778
 Hernia: Umbilical1778
 Hocks: Capped1519

Indigestion1208
 Influenza1773

Joint Ill1388

Lump Jaw2107
 Lame Cows1242
 Lame Colt1242
 Lame Horse1241, 1519, 1520, 1778
 Lame Mare1262

Mammitis: Suppurative1658
 Milk: Bloody2311
 Miscellaneous1778

Nostril: Growth in2079

Paralysis in Lamb1351
 Patella: Luxation of1277
 Pigs: Fatality in2269
 Pin-worms1658

Rheumatism2217
 Rheumatism1461, 1462

Silo2267
 Scirrhous Cord1520
 Skin Disease1351
 Skin Trouble1352, 1900
 Spavin1461
 Spring Hock1617
 Stomach Staggers1718
 Swollen tendons and Knuckling1208
 Tuberculin Test1910
 Tumor: Malignant1461
 Tumors: Melanotic1950
 Tympanitis1994

Undesirable Habit1617
 Unthrifty Heifer and Steer2034
 Urine: Incontinence of2311

Worms2217
 Wounds1262
 Wound: Result of1351

QUESTIONS AND ANSWERS.

MISCELLANEOUS.

Abortion in Cow.....2272
 Abortion: Contagious2129
 Abattoirs1275
 Abortion1948
 Accident to Employee1390
 Address Wanted1207
 Alfalfa1353
 Alfalfa After Peas1772

Alfalfa for Seed1697
 Alfalfa Queries1527
 Alfalfa Weed: An1275, 1658
 Alsike1574
 Ants and Aphids1209
 Apples Rusty1574
 Assault Case: An2079
 Automobiles: Accidents to1189
 Ayrshire Calves1947

Blackhead2270
 Bull: A Trespassing2253
 Bull Deal2310
 Bequest of Money2126
 Balance Wheel2085
 Bank Failure2080
 Barbed-wire Fencing1390
 Bargain: An Unbound1922
 Beans: Preparing Soil for1660
 Beef-ring Chart1822
 Bees: Italian1523
 Bees: Property in1948
 Bittersweet1120
 Blackhead: Probably1734, 1776
 Blackhead in Turkeys2034
 Black Nightshade1729
 Boundary of Farms2080
 Buffalo Moths1813
 Buggy and Lien1774
 Butter From Cream1573

Cotton-seed Meal2271
 Cow Deal: A2271
 Castration of Young Stock.....2127
 Cement Queries2128
 Cabbage: Storing for Winter1734
 Calf Paralyzed1866
 Canker1276
 Cattle: Agistment of2080
 Caterpillars: Tent1282
 Celery: Blanching1652
 Cement for Silo2086
 Cement for Wall1905
 Cement Kitchen: Building1774
 Cement Silo: Building1523
 Cement Tank2085
 Chattel Mortgage1857
 Chauffer: A1245
 Chester Hogs1529
 Chickens Die1209, 1352, 1657
 Chickens Sneeze1318
 Chicory1656
 Child: Maintenance of1900
 Churns: Beater2018
 Churning: Difficult1858
 Clover1658
 Clover Silage1572
 Coach Horses: French and German.....1820
 Colt: Gains in1902
 Colt: Haltering1527
 Colt: Lame1948
 Colic Remedy1994
 Commission Men1861
 Concrete Cistern2042
 Corns1905
 Corn Silage: Value of2018
 Corn on Ear for Pigs1354
 Cousins1775
 Cow: Diseased1660
 Cow Chews Bones1189, 1279
 Cow Fails to Conceive1866
 Cow Leaks Milk1354
 Cows Eat Wood1245
 Cow Pox1995
 Cow Testing Fee2311
 Crate Fattening1661
 Crop: Buying1658
 Crop: Right to1526
 Curing and Smoking1697
 Currant Cuttings1752

Diarrhea in Pigs2127
 Damaging Mail Boxes1245
 Daughter's Debts1995
 Dehorning, Drainage2309
 Dentistry: Education for1697
 Deportation1659
 Ditch: An Uncompleted1573
 Ditching1239
 Drain: Obstructed1902
 Drainage1519
 Drilled Well for School1318
 Drilling Fertilizer1350
 Ducks Die1524
 Ducks: Keeping2309
 Ducks Overcome1821
 Dutch Sets1865
 Dysentery in Calf1350

Eczema1274
 Eczema: Possibly1279
 Empire Day1318
 Endorser: An2080
 Engine: What horse-power to
 Buy?1819

Engine and Power Queries1852
 Engine and Windmill1528
 Engine for Silo-Filling1241
 Estate: Administration of1239
 Estate: Devolution of1189
 Estate Chattels1995
 Express Charges on Cream1906

Feathers on Legs2128
 Fertilizer2122
 Fall Planting1350
 Farmer's Bank Settlement1318
 Feed: Sudden Change of1354
 Feed and Butter-fat1275
 Feeding: Book on2082
 Fence: A Lawful1572
 Fencing R. R. Culvert1572
 Fertilizer for Fall Wheat1360
 Fertilizer for Wheat1385
 Finish for House1820
 Fires: Setting Out1857
 Fishworms2308
 Fistula1948
 Flax Seed for Horses1992
 Flower-of-an-hour and Others1390
 Foal Stifled1282
 Free-martin: A1245
 Frog: Diseased2308
 Frost-proof Wall1775

Gasoline Engine2042
 Geese: Breeding1573
 Geese: Lumps on1524
 German Millet1995
 Gooseberries: Pruning and Plant-
 ing1657
 Gravel and Cement for Building.....1246
 Grease1903
 Green Manuring Crop.....1526
 Green Manuring With Buckwheat.....1280

Hackney Stallion2128
 Holiday: Legal2107
 Hay: Baling1385
 Hens Ailing1279
 Hens Die1524, 1526, 2309
 Hen-house Plans1210
 Hen Lice1524
 Highway1390
 Highway Allowance1276
 Hired Man's Time1775
 Hired Man: The2312
 Hocks: Capped1512
 Holstein Bull: Sale of1572
 Horse Grunts1858
 Horse Hard to Hold1281
 Horse Queries1865
 Horse: Sale of Unsound1659
 Horse Running Away1820
 Hunting: Book on1821
 Hydro-Electric and Trees1866
 Hydro for Farm Purposes2041

Itchy Skin2270
 Interest2129
 Inbreeding1276
 Indian Pipe1519
 Itchy Legs1905

Joint Ownership1774

Kitten Has Cough2270

Land Plaster: Sowing2308
 Landlord and Tenant2312
 Line-Fence Dispute2217
 Lumber Journals2122
 Lameness: Concealed1995
 Lantern Smokes Globes1729
 Late Crop for Feed1238
 Lawns1907
 Lawn Mixture1946
 Leaf-miner1351
 Leg: Injured1903
 Lice or Eczema1775
 Line Fence Repairs1774
 Lightning Rods: 1245, 1519, 1523, 1526
 Lightning Rods: Home-made1529
 Lightning, Insurance, Etc.1573
 Lightning-rod Ground Connections.....1660
 Liver Complaint1276
 Lotus: A European1353
 Lump Jaw1385, 1523
 Lump on Cannon1907
 Lump on Mare1527

Municipal Councillors2219

Manuring for C...
 Maple-sugar Bul...
 Miscellaneous...
 Mortgage: Imm...
 Magnetic Needl...
 Milk Pails: Se...
 Minor Owning...
 Mammitis or G...
 Manuring
 Maple Leaf Cut...
 Maple Planting...
 Maps
 Mare Fails to...
 Milking Ration...
 Millet
 Miscellaneous...
 Mites
 Mites and Lice...
 Mold in Bee. H...
 Mortgage and...
 Mucilage
 Mushroom Cult...

New Ontario...
 Nursing
 Nursing Parent...

Oestrus: Abs...
 Oats and Corn...
 O. A. C. No...
 Obstructing R...
 Oestrus: Con...
 Ophthalmia...
 Orchard: Wor...
 Overrun
 Ox-eye Daisies

Parrot: Want...
 Pastures
 Pasture: Perr...
 Pasturing and...
 Pasteurized W...
 Patent: A...
 Patella: Luxa...
 Peat as Fertil...
 Pedigrees: W...
 Photographing...
 Pigs: Raising...
 Pin-worms
 Plant
 Plant: A Lov...
 Plowing: Dep...
 Pneumonia in...
 Potato Seed I...
 Potatoes, Swe...
 Queries
 Poultry Quest...
 Pruning: Sun...
 Pruning Everg...
 Public School...
 tees
 Pullet Dies...
 Pumps Remov...
 Pumping Quer...
 Pumpkins as...
 Pure-bred: C...

Quack Grass...
 Queries: A S...
 Quitting: No...

Rails: Right...
 Rain Water...
 Railway Catt...
 Raspberries...
 Raspberry Buc...
 Rats
 Red Water...
 Register: To...
 Registration...
 Registering S...
 Rented Farms...
 Right of Way...
 Roads
 Roofing
 Root Cellar...
 Roup
 Rye for Hay...
 Rye Grass:

School Secret...
 Saluting the...
 Scratches...
 Seed: Spurio...
 Septic Tank...
 Service Fees...
 Shareholder...
 Share-farming...
 Sheep: Book...
 Sheep: Killin...

Manuring for Corn2271
 Maple-sugar Bulletin2270
 Miscellaneous2272
 Mortgage: Immature2271
 Magnetic Needle2219
 Milk Pails: Sanitary2129
 Minor Owning Land2128
 Mammitis or Garget2040
 Manuring1512
 Maple Leaf Cutter1571
 Maple Planting: Autumn1734
 Maps1903
 Mare Fails to Breed1208
 Milking Ration1904
 Millet1353
 Miscellaneous.....1514, 1526, 1527, 1694
 Mites1230
 Mites and Lice on Hens.....1618
 Mold in Bee Hives.....1353
 Mortgagee and Mortgagor1774
 Mucilage1275
 Mushroom Culture1907

New Ontario1865, 2081
 Nuisance1390
 Nursing Parents1275

Oestrus: Absence of2126
 Oats and Corn for Silo1519
 O. A. C. No. 72 Oats1615
 Obstructing Road1390
 Oestrus: Continuous2018
 Ophthalmia1618
 Orchard: Working1907
 Overrun1210
 Ox-eye Daisies1277

Parrot: Wants A1524
 Pastures1385
 Pasture: Permanent1207
 Pasturing and Feeding Queries.....2269
 Pasteurized Whey1246
 Patent: A1866
 Patella: Luxation of1947
 Peat as Fertilizer2081
 Pedigrees: Withholding1281
 Photographing Children at School.....1275
 Pigs: Raising Young1519
 Pin-worms1350
 Plant1946
 Plant: A Low-ground1906
 Plowing: Depth of1280
 Pneumonia in Steers1210
 Potato Seed Bulbs1821
 Potatoes, Sweet Clover and Other
 Queries2307
 Poultry Question1203, 1281, 1770
 Pruning: Summer1282
 Pruning Evergreens1189
 Public School Inspector and Trus-
 tees2129
 Pullet Dies2308
 Pumps Removed from Well2219
 Pumping Queries2086
 Pumpkins as Feed2086
 Pure-bred: Crosses to1512

Quack Grass1318
 Queries: A Score of1530
 Quitting: Notice of2081

Rails: Right to2129
 Rain Water: Filtering1574
 Railway Cattle Passes1572
 Raspberries: Black1523
 Raspberry Buds: Diseased1207
 Rats1275
 Red Water1529
 Register: To1857
 Registration: Four-cross1189
 Registering Sow1773
 Rented Farms: Selling1207
 Right of Way: A1617
 Roads2128
 Roofing1906
 Root Cellar1906
 Roup1276, 1660, 1694
 Rye for Hay1659
 Rye Grass: Perennial1514

School Secretary: Appointing2126
 Saluting the Flag1210
 Scratches1905
 Seed: Spurious1318
 Septic Tank1615, 1865
 Service Fees1858
 Shareholder: A1384
 Share-farming1694
 Sheep: Book on.....2269
 Sheep: Killing Neighbor's1977

Sheep Pasture1992
 Silage Comparison1773
 Silage for the Horse and Bull.....2080
 Silage Queries1910
 Silo Roof: Octagon1318
 Skim Milk for Mare1282
 Skim Milk and Whey: Value of.....1210
 Skunks1902
 Snake Identified1861
 Sore Shoulders: Lotion for1352
 Sowing and Reaping1618
 Spanish Fly1697
 Splints1905
 Spreading Vervain1390
 Spurry1657
 Squabs1406
 Squirrels: Shooting1657
 Squirrel-tail Barley1354
 Stable: Building1528
 Stabla Queries1590
 Stallion: Feeding1658
 Stamps1904
 Statute Labor1239
 Stave Silos2082
 Stinkweed1208
 Stomach Staggers2219
 Strawberries: A Book on1861
 Strawberry Blight1245
 Strawberry Plants1387
 Sulphur in Well1246
 Sun Spurge1946
 Sweet Clover1354
 Swine: Books on2034
 Swollen Head1203
 Syphon for Irrigating2040

Tax Exemption2219
 Tax Exemption on Woodlands1618
 Tetanus1209
 Tomato Rot1573
 Top-dressing Fall Wheat1866
 Toulouse Geese1994
 Trout: Speckled1902
 Trustee: Election of1774
 Tuberculosis1770
 Tuberculosis: Hens Have1280
 Tuberculous Cattle1203
 Tuberculin Testing1571
 Turbine for Water Supply1462
 Turkeys Die1527, 1656
 Turkeys Lame1693
 Turkeys: Mating1950
 Turkeys With Colds1656
 Turnips: Pitting1659
 Turnip Lice1528
 Twitch Grass1420

Uterus: Inversion of1241

Veterinary Books.....2272
 Vetch: Tufted1352
 Ventilating Horse Barn1900

Wages1902
 Well Chipping1865
 Wart1948
 English Hens Win: The2015
 Essex: Conditions Good in1298
 Experimental Farm Work1441
 Experimental Farms to Distribute
 Seed Grains and Potatoes: Do-
 minion2055

Water Flow: Preventing1776
 Weed: A Bad1241
 Weed: A Meadow1384
 Weeds: Five1420
 Weeds: Noxious1282
 Weeds: Spray for1657
 Weeds: Three1995
 Weeds: Two1528, 1657
 Welland's Cistern Combined2270
 Well Drainage2039
 Wheat After Millet1350
 White Grub1246, 1282
 Wild Carrot1729
 Windfall1512
 Wireworms1245
 Woods Plant1857
 Working Hours1279
 Working Land for Oats.....2267
 Worms in Colt2128
 Worms in Mare1241

Yellow Clover1353

FARM BULLETIN.

All the Year Work1712
 Agricultural Canada, from Ocean to
 Ocean.....2169
 Animal Husbandry: Associate Pro-
 fessor1640
 Apple Crop Light: The1299
 A Ticklish Load1631

Artificial Fertilizers: Their Nature
 and Use2104
 Autumn in Lambton County.....1883
 Autumn in Oxford County.....1840
 Autumn and Winter Care of Cows..1840

Bats, Guano and Mosquitoes1713
 Bean Crop Light in Kent County.....1841
 Big Classes at O. A. C.1678
 Binding the Farmer's Advocate.....1226
 Black Foxes: To Register1677
 Bolts, and Other Things1880
 Brandon: Sheep and Hogs at.....1425
 Brandon's Dominion Exhibition.....1335
 Brandon's Great Dominion Exhi-
 bition1368
 British Columbia Has a Good Exhi-
 bition1795
 British Live-stock News1883
 British Live Stock Notes: A Few.....2105
 Buffalo, a Great Live-stock Market..1749
 Butter-making Contest at London..1640

Calgary's Summer Show1261
 Campbell's Clearing Holstein Sale..1882
 Canada's Crop Condition1677
 Canadian Grain Wins Again1884
 Canadian National: Expansion
 Year at the1546
 Canadian National: Fine Weather
 and Great Crowds at the1596
 Canadian Stock Going to the Inter-
 national: Regulations re1928
 Cheese and Butter Likely to go
 Across the Line1793
 Chicago's National Dairy Show.....1927
 Clydesdale Sales in Scotland.....2015
 Cobourg Horse Show1441
 Collars, Celluloid and Linen1881
 Co-operation Reduces Cost1678
 Co-operative Selling in British Col-
 umbia1226
 Co-relation of Home and School
 Work1441
 Corn: Curious Crosses in1485
 Corn Crop Short: U. S.1676
 Corn Growing on the Prairie.....1341
 Country Home: A1592
 Cows Sell Well in British Columbia..1838
 Crop in York and Ontario Counties:
 The1332
 Crops Improved by Recent Showers..1298
 Crop Estimates Lower1838
 Crop Prospects Better in Canada..1441
 Crown Lands to be Grazed in British
 Columbia1841

Dairy Convention: Western2106
 Distribution of Pure-bred Sires ...1678

English Correspondence: Our2274
 Essex County: Progress in2104
 Egg Contest: The International...1883
 Embargo on Feed From Europe Con-
 tinued1299
 English Hens Win: The2015
 Essex: Conditions Good in1298
 Experimental Farm Work1441
 Experimental Farms to Distribute
 Seed Grains and Potatoes: Do-
 minion2055

Farmers' Institute, the Country
 Woman, Boy and Girl2123
 Farmer's Year in Canada.....2164
 Platt: Death of John Ira.....2105
 Fall Harvest: The1926
 Farming Electrified1882
 Farm Talk: Some Reasonable.....1884
 Featherston: Death of Joseph.....1298
 Federal Grant: Distribution of.....1188
 Fires Damage Exhibition Buildings..1405
 Fodder and Pasture Plants2291
 French Painting: A Great.....2165
 French-Canadian Artist: Eminent...2165
 Fruit Growers in Annual Con-
 vention: Ontario2057

Good Roads2103
 Good Roads: Six More Counties
 Declare for.....2291
 Grain Growers' Message Replied to..1678
 Guelph Winter Fair: An Expansion
 Year for the2247

How the Public is Fleeced.....2105
 Halifax Exhibition1677
 Harvest Over: See the Fair.....1486
 Harvest Delayed on Prince Edward
 Island1883
 Hay a Failure in Huron.....1261

Hay Poor in Prince Edward Island,
 Too1261
 Highway Commission: Ontario's.....1367
 Highways Investigation1888
 Honey Crop: The Ontario1834
 Holstein Sale at Woodstock2292
 Hot Weather1224

Independent Inspection or Audit1298
 Institute Work in Ontario1971
 International Grand Championships:
 Canada Wins2171
 International Horse Show: The.....1225
 International Horse Show: A pre-
 lude to the1187
 International Rules, Entries and
 Judges1971
 Ireland: The Achieving Sons of.....2162

Landscape and Marine: An Inter-
 preter of2165
 Landscape Before Storm.....2171
 Lectures at Guelph: Some Instruc-
 tive2245
 Live-stock Branch: New Director
 of1550
 Live-Stock Markets in Montreal:
 Two1899

McNeill: Alex., Death of2252
 Maple-sugar Industry: The2055
 Maritime Winter Fair: The.....2252
 Market Branch: A2291
 Meat Inspection: American1298
 Middleman's Profit: The1884
 Monteith Demonstration Farm: A
 Day at the1868

New Brunswick Provincial Exhi-
 bition1711
 New National Exhibition at Toron-
 to: The2059
 North Land of Glorious Future: A...2199

O. A. C.: New Buildings and Les-
 sons at1188
 Ontario's Crops and Conditions.....2014
 Ontario's Harvest Good1485
 Ottawa Exhibition: The greatest
 of Twenty-six Annual1636

Panama-Pacific Exposition1834
 Past and the Present: The.....1464
 Pasture Comparisons1441
 Peace River Trail: Over the.....2167
 Persian Lamb in Prince Edward
 Island1441
 Pig Shortage in Ireland1841
 Poison Ivy1953
 Potato Experiment: A1889
 Potato Canker Danger1569
 Prince Edward Island1545
 Prince Edward Island Notes.....
 1299, 1334, 1441, 1838, 2015, 2058, 2292
 Prince Edward Island's Big Fair.....1712
 Prince Edward Island Harvest Late..1677
 Prize Tickets Deceiving1751
 Provincial Plowing Match: A Re-
 vival of2016

Quebec Exhibition: A Visit to.....1586

Read Systematically1485
 Record System: Likes Our1545
 Regina Exhibition Makes a Record..1405
 Road Congress in Detroit1752
 Road Work and Road Roller.....1226
 Rural School Fairs1971

Saskatoon's Great Fair1441
 School and Farm: Weaving to-
 gether1484
 Scottish Letter: Our1796, 2017
 Seed Centres: Registered1834
 Seed Growing Centres2291
 Seed Corn: Urges Field Selection
 of1594
 Seed Corn: Where and How to Pre-
 serve1884
 Sheep: Some Advice for Beginners
 With1952
 Sherbrooke Exhibition the Best on
 Record1593
 Shorthorn Sale: The Spring Grove,
 Spring Hurst1187
 "Small Deer"1483
 Soldier Bug: The1226

Some Amateur Science1260
 South Peel Notes2014
 Stallions to be Inspected Only Once
 in 19141712
 Storms1440
 Stockman Passes: A Noted1795
 Subscription Fakirs: Warning
 Against.....2292
 Subsidies: Want Increased1928
 Sulky Plow: On the2055

Texas Students the Best Judges.....2106
 Transportation and Canadian Mill-
 ing2105
 Tariff: New, United States, Be-
 comes Law1751
 Tariff Relief and Tariff Stability:
 Deputations Ask for2292
 Thanksgiving Day1793
 Timothy Seed: Market, Early1924
 Toronto Milk Prices Rising1640
 Toronto, Ontario's Greatest Live-
 stock Market1794

Union Stock Yards, Chicago,
 Illinois1925
 Up Early1187

Vegetable Field Crop Exhibits,
 Western Fair1640

Vegetable Growers in Annual Con-
 vention: Ontario2056

Why Seven?.....2244
 Weldwood Notes1332
 Weldwood Work1338
 Weather Proverbs: Some Useful.....1332
 Western Fair Arisen From its
 Ashes1593
 Western Fair: Dame Fortune Smiles
 on1631
 Western Fair Fire1545
 What of the People?.....1830
 "What Will You Take"?1749
 White Grub: Studying the1594
 Winnipeg Exhibition1299
 Winter Wheat Varieties1486
 Year for the2247

HOME DEPARTMENT.

Albright Art Gallery: The1487
 Ants: To Drive Away1271

Birds: Our Wild1775

Canadian: Poets2111
 Canada's Big Fair1596
 Canadian History Series2294
 Canadian Poets.....1930, 2019, 2064, 2294

Disinfecting2025
 Eggs: Preserving for the Winter.....1558

Food: Keeping, in Summer1271

Garden Competition: The1687
 Getting Even with the Jones Crowd.....2297

Hallows'en Party: A1716
 Honyocker: The Lady1407

Jelly Making: Easy1345

Kitchen: A Certain, Farmhouse.....1337

Laundering1977
 Legends of the Fireflies in Japan.....1338
 Little Trips Among the Eminent:
 Samuel de Champlain.1843, 1973, 2019
 Living Out of Doors and Sleeping
 Out of Doors2256

Meat: Cooking1844
 Meat or Eggs During Hot Weather.....1229

Photography: Birth of1765
 Planting Home Grounds1802
 Poison Ivy1230

Railway Trains: Something About.....1719
 Roundabout Club: The.....2296

Soap: Hard, to Make1235

Tomatoes: Preparing for Winter
 Use1447
 Tan: The Summer's1269

Victoria Falls: The1599

VALUABLE PREMIUMS

These Premiums are Given Only to Our Present Subscribers for Sending in Bona-fide New Yearly Subscriptions Accompanied by \$1.50 Each.

Present Subscribers (if not already paid in advance) are expected to send their own renewal for 1914, at the same time as sending in new subscriptions. Below are described some of the premiums which we are offering for procuring new yearly subscriptions to "The Farmer's Advocate and Home Magazine"

TWENTY-ONE-PIECE AUSTRIAN CHINA TEA SETS BEAUTIFUL DELICATE PATTERN

These would retail at from \$3.50 to \$4.50 per set, depending on locality. FOR TWO NEW SUBSCRIBERS or \$3.00 CASH.

FARMER'S ADVOCATE KNIVES

Manufactured by Joseph Rogers, Sheffield, England. Jackknife and Penknife, both nickel-handled and having two blades. Manufactured specially for "The Farmer's Advocate," worth, retail, \$1.00 each. ONE NEW SUBSCRIBER FOR EACH KNIFE.

COMPLETE KITCHEN EQUIPMENT

A utensil for every purpose. All made of the highest grade of crucible steel. Rubberoid finished. hardwood handles, mounted with nickel-plated ferrules. All six articles for ONE NEW SUBSCRIBER or \$1.00 Cash.

SET SCISSORS

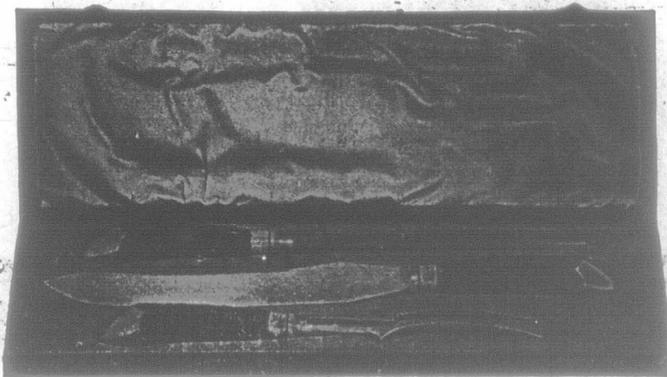
One self-sharpening scissors, one embroidery scissors, one buttonhole scissors. All good quality steel. ONE NEW SUBSCRIBER.

SET STAGHORN CARVERS

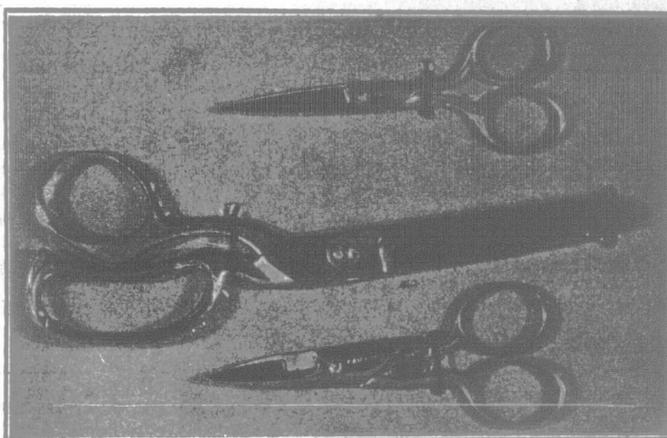
First quality steel, with staghorn handles and handsome nickel mounting. These carvers retail from \$3.50 to \$5.00 per set. TWO NEW SUBSCRIBERS or \$3 Cash.

SANITARY KITCHEN SET

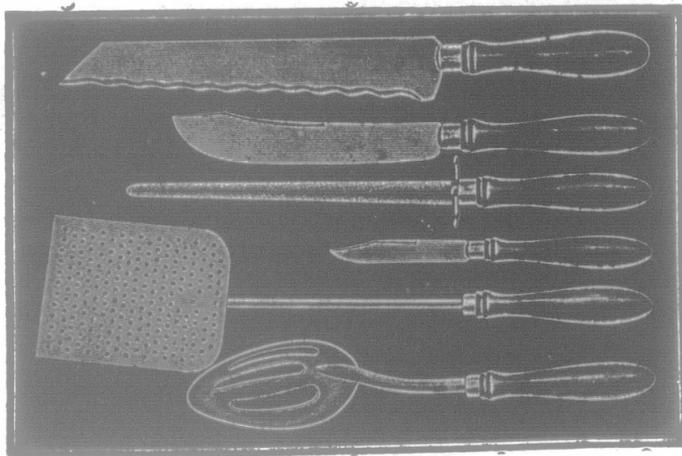
Best quality steel; five pieces and rack which can be hung on the wall. ONE NEW SUBSCRIBER.



SET STAGHORN CARVERS



SET SCISSORS



COMPLETE KITCHEN EQUIPMENT

SIX MONTHS' CREDIT

Any subscriber may have the date on his own label advanced 6 months for sending us the name of one new subscriber and \$1.50.

These premiums are all extra good value, and excellent remuneration for the short time necessary in securing the required number of new subscribers.

Send for sample copies and agent's outfit to-day.

BIBLE

Old and New Testaments in beautifully clear, legible type; references, concordance to both old and new Testaments. Index to names of persons, places and subjects occurring in the Scriptures. Twelve full-page maps; all excellent in type and outline. This book is of most convenient size, being 7 x 10 inches when open; weight, 23 ounces; and would sell at regular retail price from \$1.00 to \$1.50. ONE NEW SUBSCRIBER.

"THE VISION OF HIS FACE"

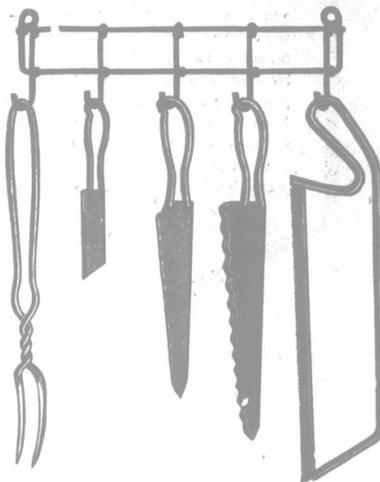
By Dora Farncomb, writer of Hope's Quiet Hour in "The Farmer's Advocate," contains 18 chapters 224 pages, in cloth with gilt lettering. 75c or ONE NEW SUBSCRIBER.

"CARMICHAEL"

By Anison North—A Canadian farm story, bound in cloth, illustrated. Buffalo Courier says: "It is far above the ordinary run of fiction." Toronto World says: "Should be in all the homes of the people." Cash, \$1.00 or ONE NEW SUBSCRIBER.

"IN THE GARDEN WITH HIM"

A new book by Dora Farncomb, marked by the same sweetness and spirituality that characterized "The Vision of His Face." Bound in cloth with gilt lettering. Cash, 75c or ONE NEW SUBSCRIBER.



SANITARY KITCHEN SET

The William Weld Co., Limited, London, Ontario



Hello! Is the 4.30 train on time? Four hours late! What a convenience the Telephone is! My husband was getting ready to drive to the Station now—in all this snow—and he would have had to wait 4 hours.



Can You Talk to the Town?

Think! If you could talk to the town—the stores, business houses and the people you deal with—without having to leave your farm—wouldn't you save a lot of money every year? Just stop and figure out what this means. You could get the market prices every day—and know when to sell your produce to get the most profit. And the weather reports and so protect your crops from damage. You could get the veterinary in a hurry when sickness threatened your live stock and order spare parts for broken farm machinery without having to drive miles and lose valuable time to do it. You



"I wish you didn't have to drive to the Station, John, in that awful storm. I hope it hasn't delayed the train."

"The 4.30 train is four hours late on account of the storm, Mam."

could save money in a hundred other ways if you had a Telephone—which will only cost you about the Value of 20 Bushels of Wheat.

We Will Back You Up

The Northern Electric & Mfg. Co., Limited the largest and oldest Telephone manufacturers in Canada—will guide you and advise you in every step of the work until success is assured. We have helped thousands of farmers to establish their own Telephone Systems and every one of these systems has proved successful,—self-maintaining. Our Free Book makes the construction work as easy as building a fence. It is a book you ought to have—being the most complete book of its kind ever published.

How to Get a Telephone

You and your neighbors can build, own and operate your own Rural Telephone System at a cost to each of about the value of 20 bushels of wheat. Our Free 100 Page Book shows you how—and you and your friends can form your own company, build every foot of the line and establish the system on a self-paying basis. Sooner or later every farmer will have a Telephone—why not get the movement started in your district now.

Northern Electric Telephones

are used by 95% of the telephone owners in Canada—they are the telephones you will want for YOUR system—because they are the best telephones that money can buy, and cost no more than many inferior makes. When you have studied over our Free Book, and you and your friends have decided to build a telephone system of your own, remember that the best equipment you can get bears the name Northern Electric—and that equipment will only cost each of you about the value of 20 bushels of wheat.

FILL OUT THE COUPON AND MAIL TO-DAY.

THE **Northern Electric** AND MANUFACTURING CO. LIMITED



Manufacturer of Telephone and Fire Alarm Apparatus and Distributor of Electrical Supplies for every possible need.

MONTREAL
REGINA

HALIFAX
CALGARY

TORONTO
EDMONTON

WINNIPEG
VANCOUVER

The Northern Electric and Manufacturing Company Limited 237 L.F.A.

Gentlemen: Please send me FREE one copy of your 100-page bound and illustrated book on "How to Build Rural Telephone Lines."

Name
Post Office.....
Province.....