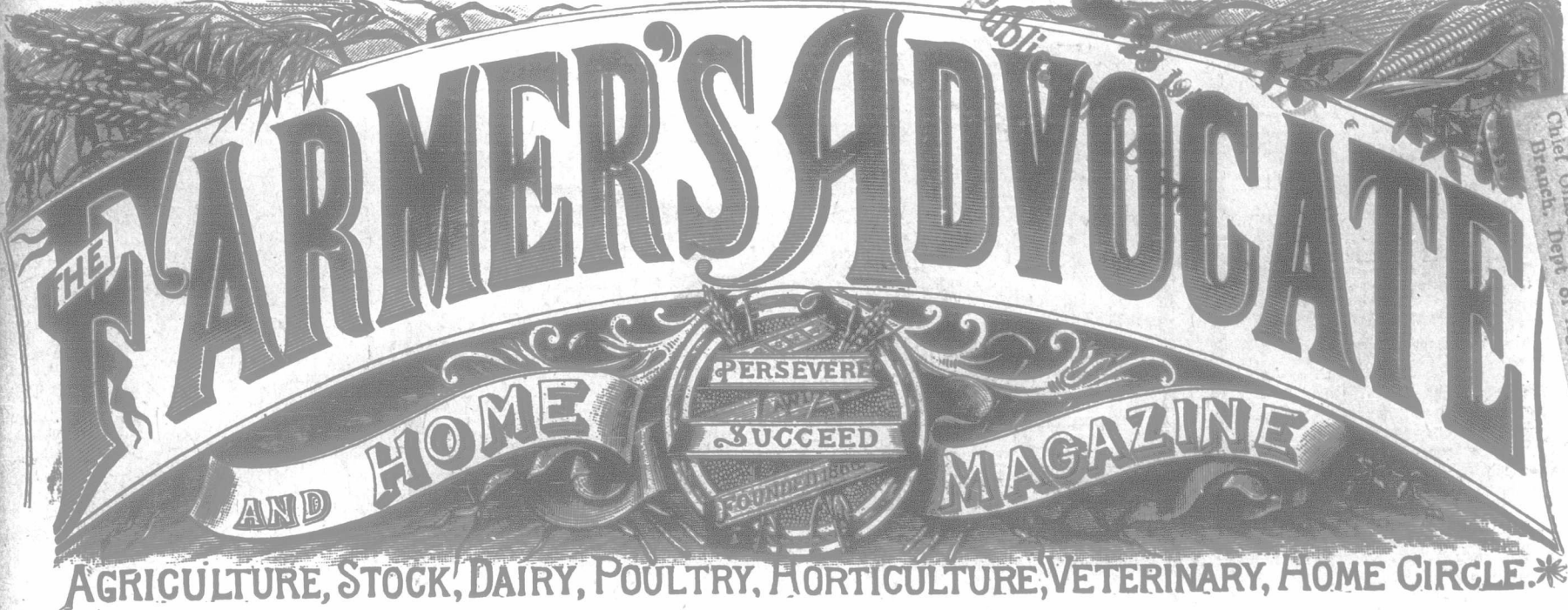


PUBLISHED EVERY WEEK. **\$1.50 PER YEAR.**



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

ENTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1878.

VOL. XLVIII.

LONDON, ONTARIO, JUNE 26, 1913

No. 1083

We Thought This Ad. Was Important Enough To Put On The Front Cover

WE are paying our good money to have this ad. appear on the front cover, because the front cover is the most conspicuous part of the Farmer's Advocate, and every subscriber is therefore certain to see this ad. And, we hope, read it, because it contains information of importance to you, no matter whether you do or do not enjoy the benefits of a telephone service in your locality.

If you do enjoy telephone service in your locality, and your telephone company is an independent local or municipal one, proposing to extend its lines or add more telephones to the system, we want you to remember that we guarantee three things:

FIRST.—The quality of all our telephones, switchboard and construction materials.

SECOND.—To make prompt shipments.

THIRD.—To furnish accurate and reliable information on all telephone matters.

IF your locality is not served with a telephone system, but is considering the building of one, bear in mind these three things:

FIRST.—That we have been closely identified with the majority of the independent local and municipal systems that have been built in Ontario, therefore we are in a position to supply you with the kind of information most valuable to you.

SECOND.—We are the only independent manufacturers of telephone equipment in this Province, and, as we must depend for our Ontario business on the independent local and municipal systems, we are therefore directly interested in their success. It is to our advantage to put forth our very best efforts to insure any new system getting started in a manner to insure its success.

THIRD.—If our service is good enough to secure the business of the large majority of independent local and municipal systems now in existence, does it not seem reasonable to believe that we can serve you satisfactorily too?

FREE:

Our No. 3 Bulletin tells how to build telephone lines. Our No. 4 Bulletin—just off the press—fully describes our magneto telephones. Both free on request. Write for them.

Canadian Independent Telephone Co., Limited
20 Duncan Street TORONTO

**Write for the
Sta-Rite Book**

IT'S a revelation, telling how the vexing troubles of gasoline engines have been overcome in the *Sta-Rite*.

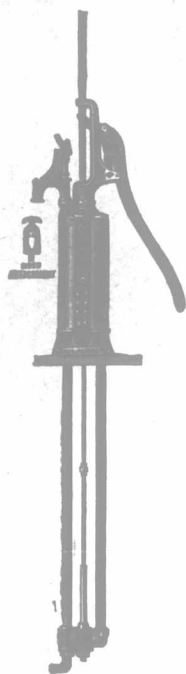
The *Sta-Rite* has proven that it will give absolutely dependable service year in and year out at the lowest cost for fuel and upkeep. Stationary and portable models—1½ to 16 h. p.

There's an agent near you where you can see and inspect the *Sta-Rite* before buying. We'll send his name with the book. Write now. **More Agents Wanted.**

Empire Cream Separator Co.
Canadian Distributors
101 King Street, TORONTO, ONT.
Branches: Winnipeg—Montreal—Sussex



Pump annoyances never worry the Farmers who are fortunate enough to be using
Imperial Anti-Freezing Pump



The "Imperial" is the pump best suited for all farm purposes.

It has a large air-chamber, extending to top of stand, containing 127½ cubic inches. Has 1¼-inch plunger-pipe instead of stuffing-box. The advantage over the stuffing-box is that it has three plunger buckets which are self-expanding, and therefore require no attention. Can be used on any sized pipe from 1¼ to 2 inches in diameter, tapped for 1¼, 1½ or 2-inch pipe. On tubular wells, the plunger can be withdrawn without removing the pump.

Get our illustrated catalogue with prices—sent postpaid. This interesting catalogue sent to you on receipt of post card. Send us your address to-day.

Aylmer Pump & Scale Co., Ltd.
AYLMER, ONTARIO

FOR SALE
A number of second-hand
Gasoline Engines
at a very low price. Sizes 2 to 12 h.-p. Also one oil tractor. Inquire for further information.

CANADIAN ENGINES, LIMITED
Dunaville Ontario

Farm Help
Weekly parties of young men now arriving. Apply:
BOYS' FARMER LEAGUE
Drawer 126 Winona, Ontario

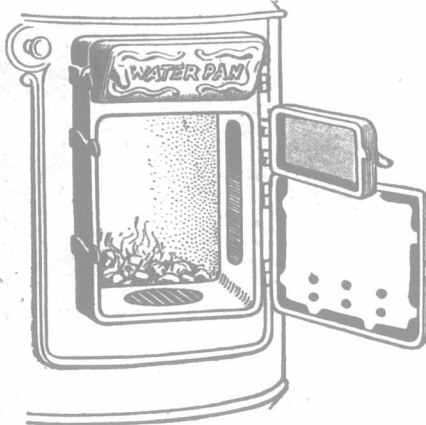
Special prices on
BEE HIVES

During May, June and July. Anyone can winter bees in my perfection wintering case. Write right at once for right prices on right hives.

A. T. HAINES
Cheltenham, Ontario

Max Stolpe, Landscape Architect—Artistic plans, sketches furnished for all kinds of landscape construction work. Ornamental trees, shrubs, Conifers, Hardy Perennials, etc. Ask for price list. 17 Main St. East, Hamilton, Ont. Phone 148.

Large Doors--Easy Firing



Look at these roomy *Double Feed Doors*. You can use a big shovel—there is no danger of hitting the sides and spilling coal all over the floor. These doors will admit a big chunk of wood too.

Ask our agent to explain its many advantages, or write our nearest branch for booklet.

The Sunshine Furnace is easy to operate.

**McClary's
Sunshine Furnace**

London Toronto Montreal Winnipeg Vancouver St. John, N.B.
Hamilton Calgary Saskatoon Edmonton 331

**CANADIAN PACIFIC
GREAT LAKES SERVICE**

Fastest and Most Luxurious of Steamers
**PORT McNICOLL, SAULT STE. MARIE, PORT
ARTHUR, FORT WILLIAM**

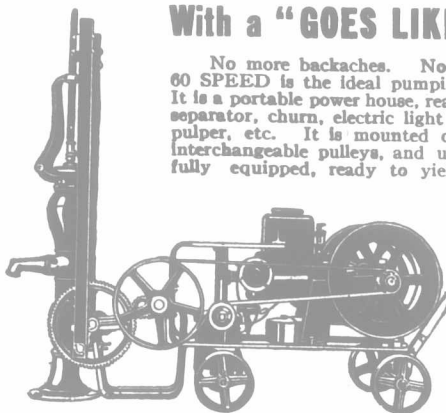
57 HOURS
TORONTO TO WINNIPEG
Leaving Tuesdays and Saturdays.
Other Luxurious Steamers, Mondays,
Wednesdays, Thursdays.

**Steamship
Express**
Leaves Toronto Daily, except Friday
and Sunday, 12.45 noon, and arrives at
Ship's side 3.55 p.m. Parlor Cars, First-
class Coaches.

A Service Perfected by Studied Effort and Years of Experience.
Homeseekers' Excursions Each Tuesday Until Oct. 28
Winnipeg and return \$35.00. Edmonton and return \$43.00
OTHER POINTS IN PROPORTION. RETURN LIMIT TWO MONTHS.
HOMESEEKERS' TRAIN LEAVES TORONTO 2.00 P.M. EACH TUESDAY UNTIL
AUG. 26. FULL PARTICULARS FROM ANY C.P.R. AGENT.

PUMPING

With a "GOES LIKE SIXTY" Pumping Outfit



No more backaches. No more waiting for the wind. The **Gilson 60 SPEED** is the ideal pumping engine. It "GOES LIKE SIXTY." It is a portable power house, ready to operate your wash machine, cream separator, churn, electric light dynamo, wood saw, feed cutter, grinder, pulper, etc. It is mounted on wheels, complete with line shaft, five interchangeable pulleys, and universal pump jack. The only engine, fully equipped, ready to yield 100% service. A powerful, durable engine, built to last a lifetime. The simplest engine on the market. A child can operate it.

Write for full particulars and also catalogue of pumps, pump jacks, wood saws, etc.

Gilson Manufacturing Co.
303 York Street, Guelph, Ont.

"STOP! HERE'S A DYER FENCE!"



Do you want a strong, durable fence, one that holds the strongest animal and lasts for years? Dyer has it guaranteed. 17c. per rod up, freight paid. Lawn fence 7½c. Cut this ad. and mail to the Fence Man, Dept. C, Toronto, to me. Please send me your June special fence and gate outfit. I want to save dollars and I want the best—but this is the only one to do so.

Name and Address
Dear Sirs: A. to Postal to receive my order for Dyer's Fence.

TRADE MARK
Wilkinson
REGISTERED
**PNEUMATIC &
ENSILAGE
and STRAW CUTTERS**

Our Climax "A" mounted is the only successful combination machine of this capacity on the market. It will cut and deliver green corn into the highest silo, or dry straw or hay into the mow. 18" mouth, rolls raise 8 inches and set close to knives, making solid compact cuttings surface. Requires less power than any other of same capacity. No lost power. Direct pneumatic delivery, no worm gears or special blower attachment. Knife wheel also carries the fans. No lodging on wheel arms, everything cut, wheel always in balance. Steel fan-case. Supplied with pipe enough to reach any silo, also pipe rock, tools, etc. Ask your dealer about them and write for catalog. We also make a "B" machine unmounted.



THE BATEMAN-WILKINSON CO.
LIMITED
418 Campbell Avenue, Toronto, Ontario.

**An Ideal Tank for
Windmills, Gasoline
and Oil**

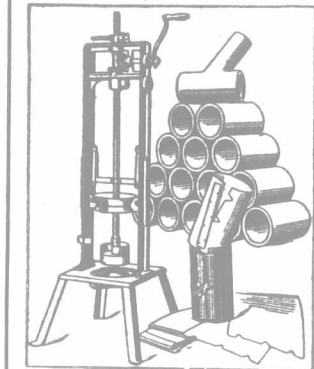


This round steel Tank is the finest thing of its kind made. Light and yet supremely strong. A perfect tank for use in connection with Windmills, Gasoline Engines, Cheese Factories.

Note how strength is given to this Tank by means of corrugations at top and bottom—far better than hoops which allow water to get in behind. No place in this

"TWEED-MADE" Tank
for water or dirt to lodge and destroy the tank. Made any size to suit any capacity, of galvanized steel, thoroughly soldered and finished. Send for Illustrated Price List of "Tweed" Equipments—Threshers' Tanks, Milk-cooling Tanks, Water Troughs, Hog Troughs, Indoors Sanitary Closets, etc.
Steel Trough and Machine Co. Ltd.
5 James Street, TWEED, Ont.

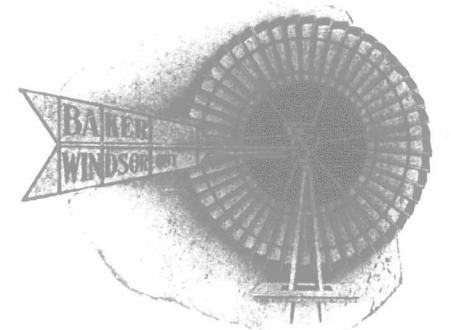
MAKE YOUR OWN TILE



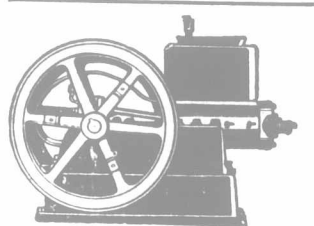
Cost
**\$4.00 to
\$6.00**
per
1,000
Hand
or
Power
Send for
Catalog

Farmers' Cement Tile Machine Co.
Walkerville, Ont.

"BAKER" WIND ENGINE



Write for catalogue.
THE HELLER-ALLER CO., Windsor, Ontario



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

Best makers of Concrete Machinery in Canada.
PATENTS procured everywhere
EGERTON R. CASE
Registered Attorney, Dep. E. Temple Building,
Toronto. Booklets on request, 20 yrs. experience

2 IN 1 SHOE POLISH 10¢



The Modern Shine! *Easier to Use
Better for the Shoes*



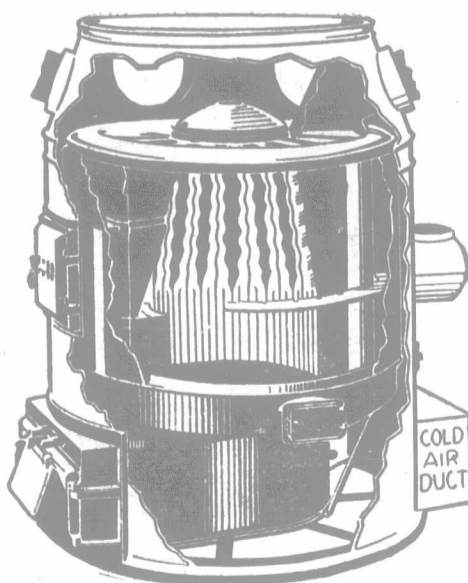
275,577 is the number of a motor that left our factory one bright morning not long ago. It was a wonderful motor---the result of a big and unmatched experience. And the thousand or more motors we are building every day are exactly like it.

More than 275,000 Fords now in service---convincing evidence of their wonderful merit. Runabout, \$675; Touring Car, \$750; Town Car, \$1,000---f.o.b. Walkerville with all equipment. Get interesting "Ford Times"---from Dept. G., Walkerville factory. Ford Motor Company of Canada, Limited.

HEATING THE GUEST ROOM

ALL the heat generated by a Kelsey Warm Air Generator can be quickly directed to any room or any part of a building desired.

When quick heat is called for the whole strength of the fire can be immediately concentrated into one circulating pipe, if necessary, by means of the Kelsey Positive Cap Attachment.



This feature of Kelsey construction absolutely controls the heat circulation, directing the warm air to where it is most needed at any given time.

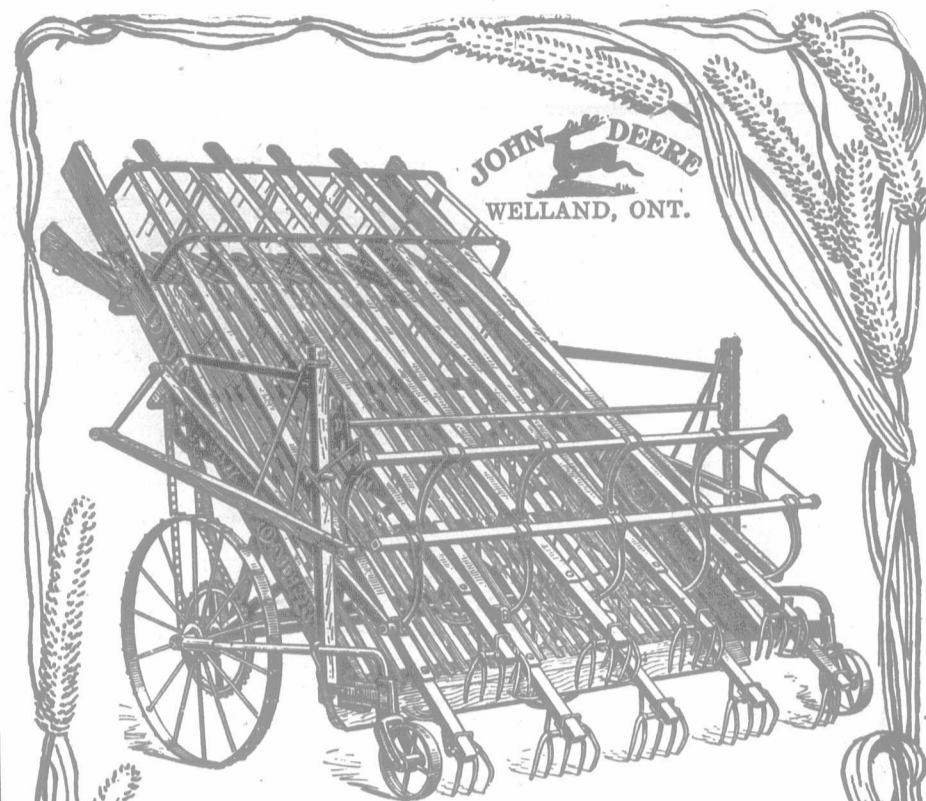
This positive Cap Attachment can be operated at will by the occupant of any rooms, and can be shut off to normal when the necessary heat has been served.

Positive control of heat circulation prevents waste of heat and keeps down coal bills. That is why a Kelsey Warm Air Generator requires about one-third less coal than an ordinary furnace.

The economy of proper circulation of heat is fully explained in our booklet, "Achievements in Modern Heating and Ventilation." Send for it.

THE
Jas. Smart Mfg. Co.
LIMITED
Brockville Winnipeg
Ont. Man.

2



DAIN THE LIGHT DRAFT "ONE MAN" HAY LOADER

HERE is a real Hay Loader; a genuine labor saver; not a mere hay elevator. It's rightfully called the "One Man" loader because one man is all that's needed to run it. The force delivery pushes the hay well forward on the load, where it can be easily handled by the driver.

DAIN EXCLUSIVE ADVANTAGES

Easy to couple to all wagons without adjustment. No long, crooked crank shaft to break or cause trouble. Geared right to insure light draft and greatest hay gathering efficiency. Gathering rakes and elevating parts operated by hammock mounted pitmans. Works equally well on swath or windrow. Caster wheels in rear lessen draft and make turning easy.

The Dain Loader is lightest draft, most simple in design and most convenient to operate. Gets all the hay; made to last from best materials. That's why it is the most popular loader built today---why it is most widely imitated and just why it should be your choice.

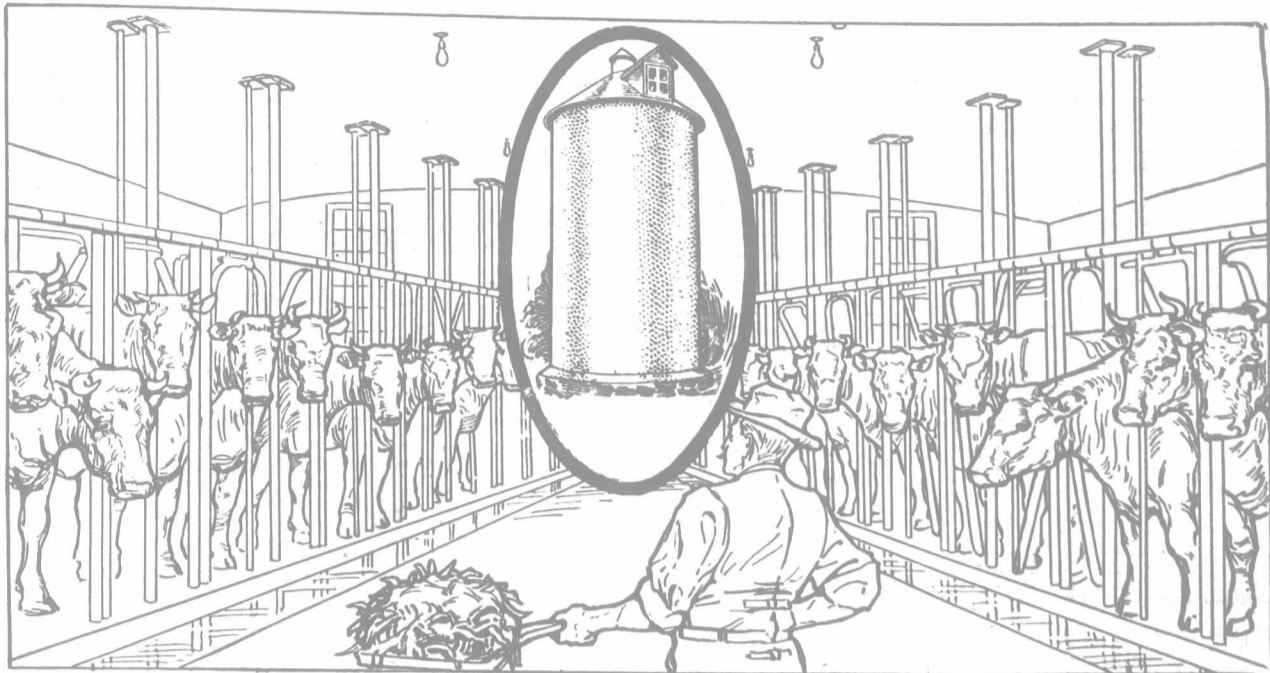
Consult your nearest John Deere Dealer about any of our Tools: Mowers, Loaders, Side Delivery Rakes, Stackers, Sweep Rakes, Presses. Write us, mentioning the tools in which you are interested, and we will send you new booklet and our free book, "Better Farm Implements and How to Use Them," the most practical and helpful book ever published. Ask for package No. U119

John Deere Plow Co., Ltd.,
Toronto, Ont.

Get Quality and Service---
John Deere Dealers Give Both

WHEN WRITING ADVERTISERS PLEASE MENTION

The Farmer's Advocate



Feed Ensilage---it makes Fat Stock

STOCK LIKE ensilage—their instinct tells them how good it is for them. They thrive and grow fat upon it—and, once fattened, ensilage will keep them in that condition until a favorable market makes their sale most profitable.

Dairy cows fed on ensilage give more and better milk, because the silo retains all the fresh succulence of the undried fodder, preserving its natural juices in the same proportions as they are found in green pasturage.

A concrete silo makes money for its owner---

By giving his stock a balanced, healthful ration the year round—and keeping them in good, thrifty condition.

By preserving all his feed in the condition in which it contains the greatest amount of animal nourishment. Dried fodder has lost

many of its most valuable constituents.

By keeping his feed in the form most convenient for handling, and preserving it from all forms of deterioration.

By enabling him to keep stock always in good condition, so as to be

ready to take advantage of the highest market.

By making him independent, to a large extent, of inflated grain prices.

With a silo he is no longer dependent upon grain for fattening feed in winter.

A concrete silo will pay for itself, in actual feed saved, in a very short time—after that the annual saving is clear profit. And all the time there are other profits from its use—in the greatly improved health and condition of the herd, in greater convenience of feeding, in safety from the danger of fire—which might destroy feed stored in barn or granary—and in the increased value of the farm that the possession of a concrete silo gives it.

Concrete silos, as well as scores of other improvements of concrete, are fully described in the book :

“WHAT THE FARMER CAN DO WITH CONCRETE.”

It tells how to build them, and gives full instructions for successful concrete work of all kinds.

A copy will be sent to you free upon request to

INFORMATION DEPARTMENT

CANADA CEMENT COMPANY LIMITED

Montreal



When you buy cement for use on the farm, be sure to get CANADA PORTLAND CEMENT. You will know it by this label on every bag.

"SUNSHINE LAND AND PROSPERITY"

WE are placing on the market 3,000 acres of Truck Garden Land, and are offering it in 5, 10, 20, 30 and 40-acre tracts. This land is located 18 miles from the city of Wilmington, North Carolina, and only 1 1/2 miles from Edgecombe Station, on the Atlantic Coast Line Railway. Good schools, good roads, churches of almost every denomination—and the finest climate in the United States—make this an ideal location for settlement. We own in fee about 100,000 acres of virgin land; but only 3,000 acres will be sold on this proposition.

The land is geologically known as the "Portsmouth Type," and has from four to nine feet of humus on it. The U.S. Department of Agriculture says of this land:—"It is one of the richest areas of undeveloped wealth in the United States." Ten acres of this land will produce more profit than eighty acres of northern corn or wheat land will.

In early vegetables, the district is as famous as for its strawberries, and all crops net big profits, not only because the vegetables are early, but because you can grow from three to six crops a season.

Men on small farms make a living and from \$1,000 to \$1,500 a year besides. Some get as much as \$1,000 an acre just from the early vegetables.

There are other trucking sections in the South, but we are within 36 hours' freight service of New York, Philadelphia, Baltimore and Washington.

Here is our offer; and remember, it applies only to 3,000 acres; only 300 ten-acre buyers can possibly take advantage of it.

For every \$100 you pay on your land, you will receive one preferred share (\$100 par) of the Holly Shelter Land Company, drawing 7% dividends.

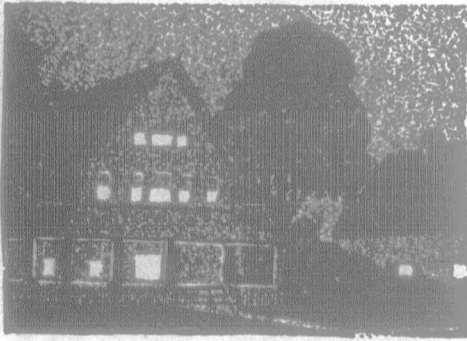
You have seen "money back guarantees" before. The best of them offered to give you your money back if you were not satisfied. This "money back guarantee" of ours gives you your money back whether you are satisfied or not.

If you wish to take advantage of this great offer, do so at once, as it will positively close when 3,000 acres are sold.

Perfect title, perfect guarantee, highest references.

Send to-day for descriptive booklet which gives full information. It is free.

The Holly Shelter Land Co.
5 to 9 Randolph St.
DETROIT, MICH.



Why Fill Lamps and Pump Water?

These drudgeries are no longer necessary. You can light your home and barn with electricity and have running water in bath and stable by installing the economical

Home Electric and Water System

Costs only 20c. a week to operate. Very easy to install. Write for our special price and terms of payment.

THE HOME ELECTRIC LIGHT & WATER SYSTEMS
Welland, Ont.

The Excelsior Life

Insurance Co.

Incorporated 1889
Assets nearly
\$3,500,000.00



Excelsior's liberal up-to-date policy contracts. The best for protection, for investment or to provide a fund to liquidate mortgages, etc.

Absolute Security, Liberal Profits
Company being foremost in all desirable features
Desirable vacancies for agents to devote either entire or spare time to work. Apply to any branch office, or to:

HEAD OFFICE, TORONTO

Two dollars for Automatically Adjusting Milking Stool, Canadian patent. Write F. K. CRUMB, Patentee, Manila, Philippine Islands, or procure from Schofield-Holden Machine Co., Toronto.

There is nothing like a "Tea Pot" test at your own table to prove its sterling worth!

"SALADA"

TEA "Always and Easily the Best"
BLACK, GREEN, or MIXED. Sealed Airtight Packages Only

The Sign of a Good Dairy Farmer

WE USE THE
DE LAVAL
Cream Separator

There are more than a million such signs on the best farms the country over. They are almost invariably a badge of prosperity and practical progressiveness. They are a most impressive object lesson to the farmer who hasn't one. They point the sure way to better things in dairying.

Where there's a De Laval user without a De Laval User's Sign, a new enameled sign will be gladly sent him free of all cost.

Where there's a dairy farmer—big or little—without a De Laval Separator, the De Laval User's Sign—that badge of prosperity and progressiveness—will come to him with his separator.

Why not buy a De Laval Separator now? Try one anyway, through the local agent, and satisfy yourself. This will cost you nothing and may save you much. There never was a better time to make so important and self-paying an investment than right now—and the "sign of a good dairy farmer" goes with it.

DE LAVAL DAIRY SUPPLY CO., LTD.,
MONTREAL PETERBORO WINNIPEG VANCOUVER

GRAND TRUNK SYSTEM
NEW SERVICE

BETWEEN
TORONTO—SARNIA—SAULT STE. MARIE
PORT ARTHUR—FORT WILLIAM—WINNIPEG
STEAMBOAT SPECIAL —Effective June 7th
Westbound

Lv. Toronto, G.T.R.	10.45 a.m.—Mon, Wed, Sat.
" Hamilton, "	11.53 a.m.—" " "
" London, "	2.18 p.m.—" " "
" Sarnia Wharf, Nor. Nav. Co.	4.15 p.m.—" " "
" S. S. Marie, Ont., Nor. Nav. Co.	11.30 a.m.—Thurs., Sun.—3.00 p.m. Tues.
Ar. Port Arthur, Nor. Nav. Co.	7.30 a.m.—Mon., Fri.
" Fort William, Nor. Nav. Co.	9.00 a.m.—Mon., Fri.—2.30 p.m. Wed.
" Winnipeg, G.T.P. Railway	7.45 a.m.—Tues., Thur., Sat.

Parlor-Cafe, Parlor Cars and First-class Coaches between Toronto and Sarnia Wharf. Standard Sleeping Cars (electric lights in lower and upper berths), Colonist Sleeping Cars (berths free), Dining Car and Coaches between Fort William and Winnipeg. Commencing June 16th, a through electric lighted Standard Sleeping Car will be operated between Fort William, Winnipeg, Saskatoon and Edmonton.

This is the inauguration of Grand Trunk Lake and Rail Route Service between Eastern and Western Canada.

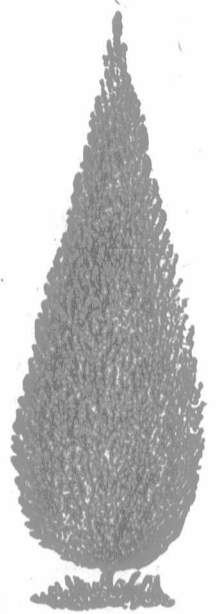
A Special Train will run the reverse way—from Sarnia Wharf to Toronto, commencing June 8th, and each Tuesday, Friday and Sunday thereafter.

Full particulars, Reservations on Steamers or Trains, may be obtained on application to Grand Trunk Agents, or write

C. E. HORNING, D.P.A.
Union Station, TORONTO, ONT.

Evergreens
FOR
Everyone

We have the largest stock in Canada of Evergreen Ornamental Trees and Shrubs. Thousands and tens of thousands of Spruce and Arbor Vitae for windbreaks and hedges at prices within the reach of everyone.



IRISH JUNIPER

We have the stately Irish Junipers and Pyramidal Arbor Vitae, which are well suited for planting on lots in cemeteries or for single specimens on the lawn. Write for prices and information which is always furnished cheerfully and promptly.

E. D. SMITH & SON, Ltd.
(900 Acres)
WINONA, ONTARIO

JUNE

Is the half-way post for every year. It is a good time to strike a balance in your own personal assets and liabilities. How many of us would find our balance on the right side? Many of us who thought we were amply fortified against need would find that we were not so secure as we ought to be. The easiest, safest and quickest method of increasing your credit balance is by taking out Life Insurance. The most popular and up-to-date policies, free from all unnecessary red tape and restrictions, are issued by

The Federal Life Assurance Company of Canada

Head Office: Hamilton, Ont.

"GOES LIKE SIXTY" TRACTOR

With All Latest Improvements
The economical, practical tractor for modern farming. Light in weight, strong and powerful, easy to operate. The real one-man tractor for field work.

Special Heavy Duty Tractor Motor
Long stroke type. Large crank shaft, connecting rods and bearings. One-piece cam shaft. The Gilson is the pioneer light-weight tractor and no experiment. Will do any kind of farm work more cheaply than horses.

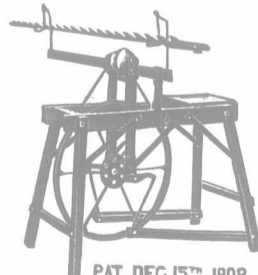


GET OUR CATALOG FREE

Learn about the new Gilson before you buy a tractor. Write GILSON MFG. CO., 3 York St., Guelph, Canada.

The DAISY Grinder

The greatest labor-saving grinder ever placed on the market. All made of steel. As a foot-power grinder it has no equal for grinding chisels, drill-bits, knives, axes, scuffer and cultivator points, and all kinds of grinding that is required in a shop or on a farm. For grinding mower or binder knives, it excels any grinder offered to the public. Cut shows mower knife in position. Price \$8.50 complete, with two of the best vitrified grinding wheels. Freight paid to your railway station in Ont. and Que.



Pat. Dec 15th 1908
Mfd. by W. J. MANDLEY, SHELBURNE, ONT.

The Farmer's Advocate and Home Magazine

PERSEVERE
AND
SUCCEED

ESTABLISHED
1888

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875

Vol. XLVIII.

LONDON, ONTARIO, JUNE 26, 1913.

No. 1083

EDITORIAL.

I am not bound to win, but I am bound to be true.—Abraham Lincoln.

Fresh ground is one of the big factors of success in raising chickens. Have large portable yards or coops and move them often.

"Give us some good names for a horse driving colt," beseeches one confident subscriber. Next thing we know we shall be asked to name the babies.

In this latitude and comparatively humid climate, hard-clay slopes are about the only places where an alfalfa stand is reasonably safe for many years without tiling.

Many a rolling field seeded to alfalfa is patched and spotted by killing-out in the hollows, on the loamy knoll-tops and in springy runways, even down the slopes. A few tile drains in such a field will overcome the difficulty, and practically insure a beautiful even stand.

It is idle to talk about keeping big issues out of politics, or of keeping politics out of big issues. What people usually mean when they speak about keeping a certain question out of politics is that it should be considered by all men on its merits, without the prejudice of partizanship. Why should not all questions be, in that sense, kept out of politics? When judgment supersedes prejudice, when voters are prepared to weigh matters without bias, better government will come. That is the idea of independence in politics.

Wheel-barrow patrol of the highways is the idea which Jonathan Bourne, Jr., Chairman of Joint Good Roads Committee of the United States Congress, intends to put into effect. He has learned from the French that wheel-barrow patrolmen are the secret of economy in the upkeep of rural highways. A shovel and a barrow are all the equipment necessary. He has written to all the 42,000 rural mail carriers in the United States, and when Congress meets in December the committee will be ready to report a complete plan of maintenance and repair. Common sense at last! Prompt repair is the big secret of the problem. But instead of a wheel-barrow why not a light wagon, especially on the longer and less travelled beats?

A great many alfalfa fields have been spoiled in the Province of Ontario. An open winter, which heaved the roots, is generally ascribed as the cause. We suspect if the truth were known the excessive wetness of last summer started the trouble by weakening the plants, and favoring the encroachment of grass. On our own farm some remarkable comparisons are now evident, seeming to prove that serious injury followed removal of the second cutting during wet weather when the soil was saturated. Where the second cutting was removed during a few days of fair weather there is now rank alfalfa, which stood the adverse May weather much better than did clover or timothy meadows. Last summer was a most exceptional season. Let it discourage no one. Get good seed, clean land and drainage.

Co-operation Gradually Gains Ground.

A new country like Canada presents far more difficulties to the inauguration and successful operation of agricultural co-operation than does an older country where economic and social conditions favor a working together. It is a good thing to be independent, but self-reliance may be carried too far for the individual's own good, and certainly too far for the good of the agricultural community as a whole. Notwithstanding all the drawbacks presented by the people co-operation is growing, and the co-operative spirit is beginning to permeate and enthuse the minds of some leading men and organizations which are working for better things for the farmer and fruit grower. Ontario fruit growers are taking a forward step, and are organizing a central selling agency or association to handle a large part of the co-operative pack of the province. Nothing could be more commendable than this action. Canadian farmers may be able to produce high-class farm products, but up to the present very little has been done to facilitate selling or marketing. With agriculture operated as a business, it becomes necessary to incorporate business methods. Imagine a large wholesale or manufacturing plant without its selling organization. The farm is essentially a wholesale plant, and it is just as necessary that all the best marketing methods be used to dispose of the crop as it is that the soil be worked and the crop produced by approved cultural methods. The old days, when the consumer sought his purchases, are gone forever. We are living in a vastly different age. It is now necessary, owing to the fact that others do it, for the producer to find his market, or, in other words, go out and sell his goods. There is a good market, in fact many good markets, but unless business methods are used in marketing, highest returns can not be made.

One of the greatest drawbacks to the development of co-operation is the lack of co-operative spirit, and a fear which still seems to lurk in the minds of many that the affairs are not going to be managed properly, or that someone else is going to get a little more out of it than they are. If a co-operative company can dispose of a season's crop of apples at \$2.50 to \$3.25 per barrel with the services of a first-class manager and sales agent, and the average price paid by apple buyers is not over \$1.25, what reason has a grower, who has consigned his apples to the association, to raise a "kick" if the manager gets 20 or 25 cents per barrel for all his work in connection with the handling and disposing of the crop? A business man will jump at the chance of investing 25 cents if he knows he is going to make from \$1.25 to \$2.00 out of his venture. Petty jealousies and all narrow selfishness must be banished from the mind of every member of a co-operative association. It is a case of each for all and all for each. Absolute confidence must be placed in the directorate and management, and, of course, to warrant this good reliable men must fill these positions, but none but this class should be admitted as a member of the association, and if any do happen to get in they should be promptly expelled upon proof of offence. No "knockers" should apply for membership. Individual identity is all right, but it must not be used to the detriment of the association work. The association should be the

uppermost consideration in the minds of the members.

It is not wise to start on too small a basis, nor yet too large. Funds are necessary, and there should never be any difficulty in raising these in a truly co-operative concern. The association is better off without the man who is afraid to go down into his pocket and get out the small share which is necessary from each member to commence business. A man of this stamp lacks the co-operative spirit. Of course, we would not advise the wholesale stock-taking in so-called co-operative concerns. What is referred to is an association purely co-operative, and operated altogether by men engaged in the production of the particular crop or product to be marketed. A man must be vitally interested in the association to be a valued member.

An Ontario central fruit growers' organization is needed, and can do much to aid fruit growing or rather fruit selling. A uniform pack for all apples sold through the association is possible; competition between various Ontario associations as to price may be done away with; better transportation facilities may result, and Ontario apples may be sold at the top price in all markets, as the quality must be unquestionably good and uniform. It is the way to develop and hold the market.

Nature at Rest.

On one of these perfect moonlit June evenings a farmer sat on the spacious verandah of his comfortable home. A good week's work had been finished, for it was Saturday night, and the men were off to town. About him spread broad acres planted to crop. The cattle and horses grazed in his meadows; but it was not of these things he pondered. The Spirit of the Infinite possessed his soul. Nature for him held a charm that appeals to one chiefly in his pensive moods. A wide rectangle of trees enclosed his house. Pines and spruce abounded on the north and west, while a splendid row of maples bordered the driveway on the east. The air was perfect, neither chilly nor close. Not a leaf stirred. Nature was at rest.

Late into the evening he sat, surveying the matchless handiwork of God. The rising moon brightened the pale green of the maples, casting deep shadows along the pines and spruce. What painting could equal it? What city glare or splendor could suggest comparison with the scene in its calm beauty and majesty and peace?

The city with its hectic flush for the maddening crowd with no reflections of their own to indulge, but for true men and women with intellect, natural kinship and spiritual impulse, the attractive country home holds an incomparable charm.

Steady Progress the Ideal.

Important American journals, like the New York Times Annalist, have been indulging in severe criticism lately of what they call the startling economic and financial position of Canada. While their motives in this are probably not disinterested, the situation has features that should command our serious attention. Canadian governments, municipalities and corporations have been borrowing upon an enormous scale for some years back, and while most of the investments are sound enough, there is such a thing as drawing too heavily upon the world's money chests. If an era of tight money checks

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.

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inflation it may serve a good purpose. The get-big-quick mania is almost as bad as the get-rich-quick craze. Steady progress is a better ideal, with speculation curbed, subventions eliminated, and every business tub standing firmly on its own bottom. Let us go calmly ahead.

Business on the Farm.

On any farm the amount of time given to the business of the farm—call it farm management if you like—is ridiculously small. On the farm where the owner is a worker with the men in the field or by himself, and from daylight to darkness is spent in the field or at "chores," the time given to business is practically a negligible quantity and explains the reason, in many cases, for the non-success of hard-working farmers.

To the exceptional farmer who is not himself engaged in the farm work, long hours do not affect farm administration. In such cases, only as long work hours bring dissatisfaction and poor work by hired men, is the farm affected, but, on the majority of farms, the owner is actively at work, and it is only in the long evening that he has time for undivided attention to the business of the farm, time for discussion of farm business and co-operative buying and selling with neighbors and time for reading or business letters.

G. F. Warren, of New York State College, who has spent years of study of successful farms, states: "Long ages of experience and a generation of scientific research have resulted in a fund of popular knowledge on how to raise crops and animals. But there is less background of tradition concerning business methods on the farm, and colleges have given little attention to this kind of problems. The success of the individual farmer is as much dependent on the application of business principles as it is on crop yields and production of animals."

To give the farm the business attention it requires it is necessary to have time, not only to take up the immediate business of the farm, but to study all the sides of farm management. Do not lessen the work on the farm, put it into

fewer hours and put vim in it. Then come from the field in time to conduct the business of the farm in a business way. We know it is easier to preach this than to commence practicing it, but the practice should be adopted even though it means selling a cow or two. Sell the poor ones and there will not be much loss.

Selling Farm Implements.

We publish below a letter from a substantial British firm of implement manufacturers who have made preliminary arrangements to enter the Canadian field with their one special line.

"Does the average farmer prefer to buy machinery direct from the manufacturer, or through a local agent? We find that in most market towns in Ontario the legitimate and recognized implement agents of any standing are tied up or run by one or other of the big companies. The manufacturer of a special line of goods, such as engines, who may not make any other implements, is compelled to appoint, either less substantial implement agents or farmers, or advertise the goods direct, or appoint firms outside the implement trade to exhibit his goods if he wishes them shown at all.

"Do you consider the smaller farmers generally buy on the mail-order system, or the larger and better-class farmers?"

"We notice one United States firm has opened a branch at Winnipeg and are selling all their goods direct on the mail-order system, giving the alternative of cash and time payments, and eliminating all agents. We notice that there are more firms advertising machinery in your columns with agents than there are firms advertising a direct mail-order system."

The questions raised admit of some discussion. There is no doubt the amalgamation of agricultural-implement firms is reducing the number of local warehouse agencies and equipping those remaining with complete lines, against which it is difficult for agents of smaller firms, with restricted lines, to compete successfully. So we find an increasing number of firms with their goods being sold by one or another of our large corporations. There would seem to be in this plan possibilities of economy for the manufacturers. How it may work out for the farmer remains to be proven. It has at least some elements of convenience.

The merit of the local agency versus the mail-order system is a wide question. Personal solicitation is a potent factor in business. The cream separator agent and the silo agent have probably done as much as all other influences together to increase the number of separators and silos. It seems strange that the self-interested argument of an agent should prevail so much more strongly than the disinterested advice of practical agricultural authorities, but so it is and there is no use blinking facts. People like to deal personally with a representative of a firm. They like to see the article they are thinking of purchasing, and, last but not least, they like to buy from a local man who carries a stock of repairs. These considerations all weigh heavily in favor of the agency system where a new line of goods is to be introduced, or where educational work is to be done.

In the case of standard goods it is different, especially in lines where repairs do not figure prominently. Here the decided economy of the mail-order system commends it to manufacturer and farmer, and it seems to be steadily increasing. Even where educational work has to be done to introduce the goods, advertising space often proves an economical substitute for a corps of agents. It sometimes appears as though the general reader placed more credence in statements made in the advertising pages than in the recommendations of the editorial columns.

Indications are that mail-order business on a cash basis is destined to grow greatly. Yet laws can scarcely be laid down for guidance. Every firm must size the situation up for itself with special regard to its own line, its facility of introduction, the competition, terms of sale and the importance of promptness in supplying repairs.

With such scrupulous care is all waste material returned to the soil in China that the water is unfit to drink without boiling. Boiled water being unpalatable, the Chinese hit upon the device of flavoring it with the leaves of a shrub which grows there in great profusion. Result: tea drinking.

Why Hold Out Against the Truth?

It is remarkable, the tenacity with which so many men hold out against conviction. One way or another they get a certain prejudice fixed in their minds which blinds them to the light of truth. Take the silo question for example. If ever any progressive feature in farm practice has been proven above another it is the economy of the silo for the storage of cattle feed. Every point of opposition has been met and answered most conclusively. Even the milk condenseries have had to yield their point. All the "old women's yarns" about silage-fed cattle losing their teeth, developing tuberculosis, and not doing well when turned out in spring on grass have been knocked galley-west by the impartial logic of facts. The silo as an investment is capable of giving anywhere from ten to twenty-five per cent. interest per annum. In corn-growing sections it is indispensable to the most profitable dairying or beef making. And yet, and yet, and yet! People hesitate, standing aloof, waiting for evidence which will compel their reluctant acquiescence. It seems as if they were more anxious to vindicate their prejudices than to get at the truth. So they hold out year after year, and every year they put off building they are losing dollars by the score. Is there any sense or reason in that kind of conservatism?

It is the same with other things. We heard the other day of an old close-fisted farmer who maintained that tiling was foolish. "Other people may bury their money in the ground," he said; "I will hang on to mine." In time he came to see differently, and "buried" some money of his own, but was it judgment or foolishness to hold out so long? It is well enough to weigh things and not jump at every new fad that comes to the fore, but let facts be received with an open mind. It is one thing to hold on firmly to that which is good; it is quite another thing to hold out stubbornly against that which is new. An open-minded conservatism is the ideal.

Nature's Diary.

By A. B. Klugh, M. A.

There is a song I love to hear, a song which is not to be heard near the city's busy hum, nor yet in the thickly settled portions of the country. It is the song of the hermit thrush, "the voice of the Northern woods." To hear it one must resort to the forests of the North or to the deep spruce woods which fringe the mighty Atlantic. Here amid the solitude it sounds serenely, a beautiful song, full of soft yet ringing notes, of lovely runs and trills.

The hermit thrush is about seven inches in length, olive-brown above, shading into reddish-brown on the rump and tail. Beneath it is white, olive-shaded on the sides. The throat and breast are tinged with buff, and marked with dusky spots.

The nest of this species is placed on the ground, and is composed of rootlets, grass, and leaves.

In the cultivated parts of the country the hermit thrush is frequent as a migrant in early spring and late fall, but at these times only utters its call note.

We have in Eastern Canada several thrushes, any of which may be easily recognized as a thrush by their fairly large size and their spotted breasts, but the different species are not easy to tell one from the other, and the following "key" may be of service in identifying them:

- A.—Olive-brown above.
B.—Brightest brown on head—wood thrush.
BB.—Brightest brown on tail—Hermit thrush.
BBB.—Uniform olive-brown above.
C.—Whitish ring round eye—blue-cheeked thrush.
CC.—No whitish ring round eye—olive-backed thrush.
AA.—Tawny brown all over above—Wilson's thrush.

Perhaps we should add a word on the method of using these "keys." The directions are: "if the specimen agrees step to the right; if not, step down." That is if the bird you have seen comes under "A.," then go to "B.," if it does not, then go to "AA."

In many places in pastures, particularly damp pastures, one frequently comes across little "chimneys" built of pellets of earth. These are the work of a Crayfish, which lives underground during the daytime and only comes out at night. This is a distinct species from the cray-

fish which we find in our streams and lakes. The crayfishes are frequently termed "crabs," but we have no crabs in our fresh waters. The crabs are marine animals with oval bodies which move sideways in walking.

An attractive little plant flowering at this time of year is the dwarf cornel, or bunch-berry. It is about ten inches in height with a whorl of oval leaves towards the top of the stem, and at the apex of the stem is a head of very small flowers, surrounded by four white bracts, which look like petals.

Later in the season it bears a bunch of red fruits, which are edible. These are commonly termed "berries," but are really "drupes," that is, pulpy fruits with a stone in the middle. The term "berry" should really be applied only to pulpy fruits containing many seeds, such as currants, gooseberries, etc., and most of the so-called "berries" are, botanically, not berries at all.

A close relative of the little bunch-berry is the flowering dogwood, which is one of the most beautiful shrubs we have. It grows from six to twenty-five feet in height, and has ovate leaves. The flowers have showy white bracts, and are borne in clusters. It is, in my experience, a rather rare species.

A commoner and very showy shrub is the moose-wood or hobble-bush, one of the viburnums. It has heart-shaped leaves which are heavily veined beneath, and are clothed with a rusty down on the veins. The flowers are borne in compact bunches and are of two kinds, the marginal ones being sterile with large white petals, the central ones being perfect (that is bearing stamens and pistils) and with very small petals.

We have three large groups of plants which are "grass-like" in appearance, the true grasses, the sedges and the rushes. These groups may be told apart by an examination of the stem and leaves. In the grasses the leaf-sheath is split and the stem, (in these groups termed the culm) is cylindrical; in the sedges the sheath is not split and the culm is as a rule triangular; while in the rushes the leaves are not flat but are cylindrical and hollow.

The fruits of some of the sedges are peculiar-looking objects, being something like a large, green prickly caterpillar. The sedges are very common in damp places, and make up a good deal of the marsh hay.

The rushes have little flowers with three sepals and three petals, both of which are usually brownish.

The nights of early summer have their quota of insect life, the big, blundering June beetle goes whirring about, and moths of many kinds are much in evidence. One of the most beautiful of these moths is the luna moth, a large species, pale-green in color with "swallow-tailed" wings.

The Exile's Song.

Now I tread the city's broadways, and my heart is sore,
For the moor calls, and the wind calls, but I go there no more.
And I'm fain for the lonely road, and a wild grey sky,
And the screaming note in a curlew's throat as the rain comes rushing by.

Out beyond the stream of traffic is a stream I love,
And the old hills, the dear hills, and the stars that climb above;
And it's there my heart is roaming while I stand in the street,
And I hear the sigh of a dream gone by when the world was sweet.

My soul is sick of cities, and the crafty strife;
And if gold were all, and greed were all, I have had enough of life.
But always night and day I hear the moorland music creep
To the heart that shall be aching till I sleep.
—Thomas Moulton, in London Academy.

General crop conditions on June 1st averaged for the United States slightly lower (0.5 per cent. lower) than on same date last year, and also lower (1.1 per cent.) than the average condition on June 1st of recent years. Conditions are generally somewhat below average in States east of the Mississippi river, except Pennsylvania, Ohio, Wisconsin, Tennessee, and Mississippi, and above average conditions west of the Mississippi river, except in North Dakota, Kansas, Oklahoma, Montana, New Mexico, Arizona, Utah, Idaho, and California. Few States show any decided deviation from average conditions; best conditions are in Nebraska, with 12.7 per cent. above average, and Iowa with 7.6 per cent. above average. Lowest conditions are in California with 20.9 per cent. below, Georgia with 14.3, South Carolina with 12.9 per cent. below average conditions.

HORSES.

The scrub sire still gets mares, and still is a detriment to progress in horse breeding.

Train the colt for the fall fair. It increases his chance of winning.

Thoroughbred mares are said to be in great demand in England and Ireland, foreign buyers keeping up prices.

Most of the work horses would be better out to grass these warm nights. Keep up the grain feed, however, if they are working hard.

It is said that Canadian buyers are making extensive purchases of horses in Great Britain and France. This should mean, with a strong lot of home-bred stock coming on, well-filled classes, and keen competition at the coming fall exhibitions. Canada still has a place for many of the best sires of the various breeds, and the best type of fillies for breeding purposes can be used to advantage.

The two-months breeding season ends shortly. Are your mares with foal? Some mares are non-breeders and some stallions leave few foals, but a large number of the mares are "missed" each season through carelessness or mismanagement, a great deal of which the mare owners are responsible for. If the mare does not get in foal early in the season she is often let miss a year, when, if she were returned after the season and when the horse was not so rushed, it is more than likely that she would produce a foal.



On Good Terms.

The colt, Bonnie Dell, is a Clydesdale, owned by Mrs. A. H. Bardwell and Annie R. Eadie, Middlesex Co., Ont.

"Whoa" means, when rightly used, that the horse is to come to a halt, but so many drivers, and very good horsemen too, use the word when they mean "steady" or when they wish to reassure a nervous animal. How is the horse to know the difference between "whoa" used to mean steady, and "whoa" used when a complete stop is desired? The only right method is to use each expression in the right place, "whoa" for a dead stop and "steady" for a slower gait. It is a good plan to talk to the horses in a quiet way, but never confuse them by using commands wrongly.

People admire a good horse. Let a big circus put on a parade in a town and thousands upon thousands through the streets to witness it. True, it has its novel features and its menagerie, but listen to the conversation of the people after it has passed, and you will hear something like this "I wouldn't have come out to see it only I enjoy looking at the wonderful horses," or "The horses were simply grand." Few people talk of the gaudily dressed acrobats and clowns after the circus has passed; some speak occasionally about the ponderous elephant or the awkward camel, but all remember the horses. A good circus always has a large number of excellent horses, and they use them in the street parade as a drawing card. People estimate the show before they have seen it upon the appearance and number of horses in the parade. It will be a long day before circus processions are horseless.

When the Mare Fails to Breed.

All mares do not breed. If the horse is proving sure on other mares and a mare is returning throughout the season one must conclude that she is responsible for the failure. In an article on sterility in mares the Farmer's Gazette takes up the subject as follows:

When an animal fails repeatedly to become pregnant, and the circumstances of the case make it improbable that the mare is at fault, an endeavor must be made by careful examination and observation to ascertain the exact cause of the failure. Ascertain if the animal is in good health, with normal temperature, and appetite; note if oestrus appears at the proper interval, and is of the correct duration. A veterinary surgeon can examine the ovaries by manipulation through the rectum, but it is not advisable for the average owner to attempt this; in all probability they would not be recognized if located.

Examine with proper care the genital organs by introducing the hand, which must be smeared with a lubricant. Feel carefully for any injury, growth, or abnormality in the vulva or vagina. These organs are symmetrical, and any difference in the two halves calls for notice. If the mare is in oestrus, note if the os uteri is dilatable. Test the secretions of the vagina and uterus for acidity; this can be done by the insertion of litmus paper—the blue paper turns red on acid contact. Should these investigations lead to no satisfactory conclusion—and very probably they will not—an attempt must be made to rectify matters on general lines. If the secretions, periods, and general health are normal, act against the commonest and easiest treated causes of failure.

Wait until the mare is in oestrus and douche the genital passage thoroughly with bi-carbonate of soda and water (one ounce to the pint) several times. This is best done with the ordinary douche-can, with rubber pipe, sold by all chemists. The vagina should be thoroughly flushed out and the nozzle of the appliance gently inserted into the uterus. To do this, the os must be dilated if necessary, an operation which will be described presently. The liquid, which should be warmed to body heat, should be allowed to flow freely into the uterus, but it is not advisable to insert the hand.

On the following day, about an hour before you wish to have the mare served, flush the vagina again with the bi-carbonate solution, but do not pass any through the os uteri. Unless your previous examination has shown that the os opens freely, dilate it as follows:

Lubricate the hand with vaseline or a similar substance and gently pass one finger into the os, following it by more until all are inserted; then by separating them excite the organ to relax until the constriction gives way, which it usually does fairly easily. This must be done thoroughly, but without any violence, and is most important. Lead the mare quietly about for half an hour, allowing her to completely rid herself of any remains of the injection and bring the horse to her. Select a piece of ground so that she can stand with her head down a slope, and station an assistant with a bucket of water ready. Serve her with as little excitement as possible, and directly the horse dismounts, let the assistant dash the bucket of water under her tail, and trot her gently away, if possible down hill.

By this treatment you will, with luck, have overcome the commonest cause of failure, acidity and non-dilation of the os. The downward position of the mare, and the bucket of water—which will cause a spasmodic contraction of the uterus—aid the ingress and forward movement of the seminal fluid, and the subsequent trotting will prevent the mare from ejecting it should the trouble be undue relaxation of the os after copulation.

If these methods fail recourse must be had to artificial insemination. This operation is useful in many cases, but is credited with powers beyond reason. By it, the seminal fluid of the male is placed in the uterus of the female, and it is only successful when its non-entrance is the cause of failure. Artificial insemination is usually, and quite rightly, brought into play in conjunction with the treatment recommended just previously, and in many cases of success it received the credit which is justly due to the simpler methods. In many cases, however, especially where large males are used to cross with our smaller mares, the failure to "take" is due to a shrinking or withdrawal of the mare, probably at the instant of the enlargement of the glans; this, aided sometimes by the difference in size of the two animals prevents the entrance through the os of the seminal fluid, which falls into the vagina and is discharged by the subsequent straining of the mare. This state of affairs is common in mares which have been injured—perhaps unknown to the owners—during a previous serving or parturition. In such cases, and also in cases where a local injury of a temporary

nature renders service difficult or dangerous, artificial insemination is of great value, and is, indeed the only means of treatment.

Though the procedure is perfectly simple, precautions have to be observed, and any carelessness will lead to disappointment. As already stated, the operation consists of placing in the uterus of the female the seminal fluid of the male; any change of temperature is fatal to the vitality of the spermatozoon, and it must be remembered that everything used, including the hand of the operator, must be kept as nearly as possible at body temperature, that is between 99 degrees and 101 degrees. If the mare to be impregnated is capable of receiving the male, the following procedure should be followed as nearly as possible:—The douching and dilation of the os should be carried out, as already recommended, unless circumstances very clearly indicate that they are unnecessary or undesirable. The safety of the operator should be secured by the use of covering hobbles. The inseminating instruments should be thoroughly boiled and left in the water, which must be allowed to cool to body heat. All being in readiness the horse is brought to the mare; directly he dismounts the operator takes the instrument from the water and rapidly dries it on some antiseptic wool or gauze, at the same time discharging any water from it. The left hand should be inserted into the vagina, on the floor of which by pressure of the fingers, a slight depression is made, into which the seminal fluid in the vagina flows. The instrument is passed in by the right hand, and its point is placed in the seminal fluid, and grasped by the fingers of the left hand. The right hand now draws the fluid into the instrument, an assistant being advisable if the operator finds any difficulty at all. The instrument, which is really a syringe, being full, its point is carefully passed by the left hand through the os, and its contents are discharged into the uterus. If all the fluid in the vagina has not been collected, the process may be repeated, without removing the instrument from the vagina. The hand and instrument should be withdrawn and a bucket of water thrown under the tail; the mare should be quietly led about to prevent straining and excitement, and the neighborhood of the male avoided for some hours.

In cases of local injury when the mare cannot receive the horse, the semen may be collected in the vagina of another mare, the os uteri of which has been carefully plugged with boracic gauze, to which a tape may be tied as a precaution. The charged instrument must be quickly transferred from one mare to the other, and the process carried out as already described. It need hardly be said that in such a case the owner must be thoroughly satisfied that the injury will be completely cured before the mare is to foal.

An adaptation of these methods is sometimes used to spare a stud horse, his single discharge of semen being divided between several mares. In all such cases, it is well to excite the unserved animals by allowing them to view fully the act of copulation.

Grow, Not Fatten the Colt.

Develop muscle and frame. No better advice was ever given than to keep the colt growing. It is always advisable not to allow the "colt-fat," as horsemen call it, to slip off the colt. It may be safely stated that more colts are injured by underfeeding than by overfeeding in this country, and yet many a promising youngster has been ruined by being a little overdone while young. The writer remembers a foal which showed great promise, and which developed very fast indeed. He was allowed to suck his dam for a lengthy period, and, at the same time, was fed oats and bran which was good practice, but he also got whole milk which might not have been so injurious had it not been fed in too large quantity. He was literally "stuffed" from the time he was foaled. The consequence was that he made a remarkable growth for a short time and filled out like a mature horse at a very early age, but the filling was excessive fat, and while his appearance was very attractive and he filled the eye well, he soon began to go to pieces. His muscles were flabby and poorly developed, and before he was nearly matured his legs showed unmistakable signs of the results of overfeeding. The fear of feeding too much should not, however, keep those who are raising colts from feeding enough. Growth is what is wanted, not fat. A little cow's milk may be used in addition to the mare's supply especially where the mare is working hard, but skim milk, provided it is fresh and sweet, is generally to be preferred to whole milk, for it must be remembered that a mare's milk is not nearly so rich in fat as is cow's milk, and the fat being removed from the latter leaves the muscle-forming food in it and removes, to a large extent, the danger of overfeeding the colt with fat-producing feed. A liberal portion of bran with the oats in a box in the feed lot, and not accessible to the mare but easily reached by

the foal, is a great aid in developing the colt. Always keep in mind that fat on the youngster in too great quantity is detrimental to his development, and everyone knows that a very thin and underfed colt never makes the horse he would have been had his feeding been sufficient to maintain regular and healthy growth. It is the feeder's business to see that the colt gets enough, but not too much. Many accomplish it with ease; others err one way or the other. There is a great deal in breeding, but there is also almost unlimited opportunity in feeding.

Keeping Up the Mare's Condition.

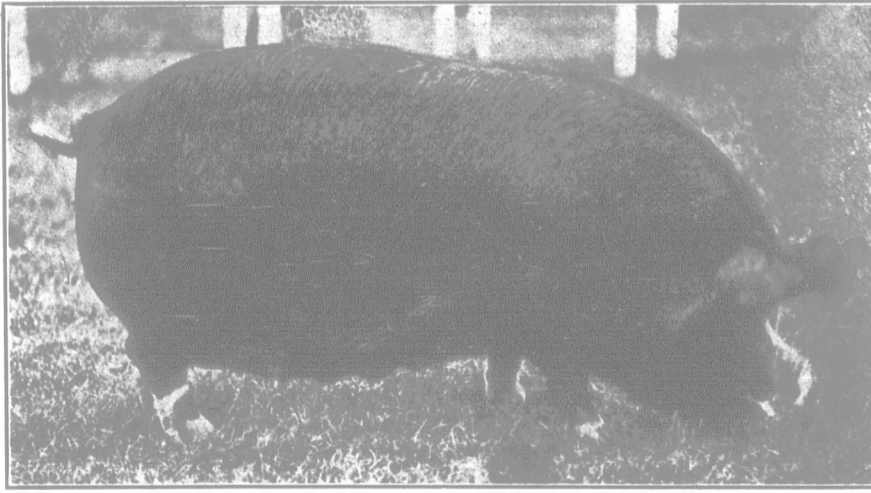
A few days ago we visited a farm where a little horse breeding is done as a part of the mixed-farming operations. A particularly choice Clydesdale filly, with a three-weeks old filly foal by her side, was observed taking her evening meal of oats in a comfortable, cool box stall. The proprietor said: "This mare is a very heavy milker, and we have to feed her well or she would fail in flesh. Last week I was away for several days, and the boys left the mare in the pasture, not bringing her in for her night and morning feed, and she failed considerably." The mare when seen was in beautiful condition, and the foal showed the well-fed appearance characteristic of young stock getting a generous supply of the dam's milk. The mare and colt are on good pasture, but this is not thought enough to make the most of the colt and herself. Remember she is only a three-year-old mare. She was bred as a two-year-old, and to all appearances has not suffered thereby, being an excellent proof of the advantage of early breeding. She took her end of a doubletree, doing the farm work up to foaling time, and it is wonderful what the oats are doing to keep up her condition and promote rapid growth in the foal. While the foal is young and before he commences to eat, this is the only way to increase his food supply, and there is no doubt but that the mare's milk is the very best feed for the colt. A few oats for mare and colt along with the grass do much for both, and the feeding of them to a young mare which is suckling a colt is decidedly advantageous.

LIVE STOCK.

A nice shade tree or clump of trees in the pasture is a great comfort to the stock during the summer season.

Is the bull getting the exercise he requires? This is the heavy breeding season, and exercise means strong vigorous calves, and lots of them.

For the bull nothing equals the grass paddock, into which he may be turned at nights. Keep him in a darkened box stall during the day, away from the intense heat and the troublesome flies.



A Good Type of Berkshire Breeding Sow.

Let the brood sows out to pasture. There is no surer method of producing large, strong litters than by giving both the boar and the sow as much as possible of free range.

The "flush" of the grass is over, and the time has arrived when the live stock is likely to test the fences. Poor tumble-down fences mean breachy stock and endless trouble throughout the summer, for once started to break into other fields the stock seldom forget the trick.

An English judge recently placed the value of a sheep-worrying terrier at a farthing. This dog was valued by his owner at \$25, but we would be inclined to place his worth as a minus quantity. No dog which kills or worries sheep has

any value whatever, and the sooner such useless canines are put out of the way the better.

Get the feeding pigs outside. Nature never intended that they should be kept closely confined in small ill-kept pens generating foul odors and alive with flies. Pure air, green fields, with protection from sun and rain provided, and a large plot to exercise in is a great aid in the production of pork at a profit.

One of the best combinations in stock farming is a herd of heavy-milking cows, either of the dual-purpose or strictly dairy kind, and a number of brood sows kept to produce pigs to consume the skim milk on the farm. If the cows are good dual-purpose animals, stockers and feeders of a high order may also be produced. This makes a nice business when a flock of breeding ewes is kept, and enough working brood mares to do the farm work and raise a few colts. It is an interesting and profitable line of farming.

Nothing satisfies the appetites of sheep more than a change of pasture. As the summer advances and the grasses composing the pasture dry, wither, and become stale, it is a good plan to change the sheep from one field to another from time to time. If they are kept off a field for a few weeks the grass gets a new lease of life, and is a good deal fresher than when they are continually tramping and picking over it. The aftermath on hay fields makes an excellent change for the sheep, and serves to relieve the old pastures.

A few years ago the Bureau of Animal Industry of the United States Department of Agriculture, after years of experimentation, developed a serum which has been demonstrated by repeated tests to be very effective in preventing hog cholera. In many States this serum has been prepared and distributed to farmers with the result that large sums of money have been saved, but thus far no systematic effort has been made to eradicate hog cholera. In some work which is now begun the control and eradication of the disease will be the main object, the serum being used in connection with the necessary quarantine and educational measures.

How to Handle and Market Wool.

Wool growing should be one of the main branches of the sheep business, but, owing to a complication of conditions, prices have not been as high in Canada in recent years as they might have been. In the Ontario bulletin, just issued on "Sheep raising in Ontario," the subject is taken up, and, while considerable has been written the past few months on the wool question, too much cannot be done to impress upon growers the importance of taking more care in producing and grading their crop.

Some years ago, says the bulletin, one of the reasons given for sheep raising not being more profitable than it was, was the comparatively poor price paid for wool, and no doubt there was a great deal of truth in it. If a better price had been obtained for wool, it would have increased the profits from sheep raising, and thus induced the farmers of the province to keep more sheep. This is not true to the same extent to-day, and buyers claim that if the clip of wool was properly handled they would be able to pay still higher prices.

With the object of determining what improvements in the marketing of wool would be most likely to have the desired result, inquiries were made of a large number of firms throughout the province manufacturing wool goods, asking them what classes of woollen goods they manufactured, the kinds of wool used, where they purchased it, the amount of Canadian wool used, and what criticisms they had to offer with reference to it, and what suggestions, if any, they would make with reference to the marketing of it. From the replies received from these various manufacturers the following conclusions are drawn:

London rules the wool markets of the world, and when our manufacturers cannot obtain what they want nearer home, they buy their supplies there. If we do not supply their demands and they go to London, we will suffer to a certain extent because our wool is constantly in competition with wools produced in Australia and other

parts of the world, where proper care is taken to place it upon the market in the very best condition. We have no wool market nor any system of selling. We do not offer large enough amounts for sale at a time to make it worth while for a buyer to go any distance. This can be remedied if more sheep were to be raised.

That almost every known breed of sheep is kept in Ontario, with the exception of the Merino, and no two breeds of sheep produce exactly the same kinds of wool, although the Lincolns and Cotswolds produce very similar wools.

Roughly speaking, there are three great classes of wools:

1. Clothing wool—short.
2. Delaine—fine, strong, short wools (Worsted).
3. Combing—long wools.

That for the fine classes of goods the wools have to be imported, but for the coarser clothings, blankets, etc., for which there is a large and growing market, our Canadian wools cannot be outclassed. The rapid growth of some of our establishments manufacturing such goods and using Canadian wool only is sufficient proof of this. The "Cornwall" blanket, which had a world-wide reputation for its quality, was made entirely of Canadian wool, and would still be famous but for the use of cheaper materials.

The question of breeds of sheep and kinds of wool is not so important as the proper care of the wool while it is on the sheep and at shearing time; uses can be found for the wool from every breed of sheep, provided it is properly cared for. In many cases the weeds are not combated and the sheep are allowed to wander all over the farm, gathering up burrs and boot-jacks as trophies. After these, too, often comes a straw or hay stack, which adds its quota of foreign material to the wool.

While many provide proper places and take care of their sheep, a great many more do not. In many cases the sheep are underfed during the winter, which causes them to lose flesh. When this occurs, a weak spot in the wool fibre can be found which detracts greatly from its value, as the wool will become clotted and will not divide, making it impossible to properly comb or card it. To provide wool of good quality, the sheep must be kept in clean quarters and fed well enough to be in a healthy condition.

Breeds should not be crossed, as it produces a nondescript wool which is not well suited for any particular purpose, and consequently is not very marketable. Excessive inbreeding or anything which weakens the constitution of the flock will have a bad effect on the quality of the wool.

Though the producer may not always take proper care of the wool while it is on the sheep, there should be no excuse for not delivering it in better shape. A great many fleeces are rolled up without being trimmed in any way, including all the burrs and dirt which they originally contained. Too often the fleece is tied up with binder twine, and it is next to impossible to prevent strands of the hemp from being mixed with the wool. This vegetable material will not take the dye which is used for the wool, and it therefore detracts greatly from the value of any piece of cloth into which it happens to find its way. The manufacturer prefers to obtain unwashed wool, as he has to furnish machinery for washing and scouring anyway, and they do it more thoroughly than the farmer can do it with the means at his disposal. It is also better for the sheep, as there is no delay in shearing due to waiting for warmer water.

The producer, however, is not altogether to blame; the practice of selling to small dealers is a great drawback. They pay an average price, and if a man has only a small quantity, no matter what the quality, he cannot command any higher price. Too often the dealers cannot distinguish between the various wools, and cases are on record where they have bought unwashed wool for washed wool.

There is now some encouragement for the farmer to take better care of the wool, but he must, in most cases, change his system of marketing to obtain the full benefit which might be obtained by taking better care of his product. There is no money in it under the system of marketing generally practiced, unless he produces sufficient to attract a manufacturer. There is no business in Ontario where the inexperienced middleman is doing more harm than in the wool business. The farmers should deal directly with the consumer or large wool merchant. This is being done in some districts. Around Lindsay, where the producers have been selling directly to the manufacturers according to quality, the standard of wools has risen considerably. The small dealers sell by bulk, and no large dealer can afford to give them the best price because there can be no guarantee given as to the quality, cleanliness, etc., of the wool. This class of dealer should be eliminated. It is not a business, but a sideline with most of them.

It is estimated that there is an average loss

of 17 per cent in all Ontario wool, due to dirt, poor wool, etc. Were it possible to have every sheep owner visit some mill and have the various processes pointed out to him and shown how, with the most up-to-date processes and machinery, it is impossible to prevent some dirt occasionally finding its way into the manufactured article, he would, no doubt, take greater care to prevent dirt getting into the wool.

The farmers can individually do a great deal to improve the quality of the wool placed on the market, by taking care to prevent dirt getting into the wool while on the sheep, and by being more careful at shearing time in trimming the fleeces. Instead of using twine to tie them, a small strand of wool from the fleece itself should be twisted and used for this purpose. It is not necessary to have the fleeces tied up tightly, so long as they are tied neatly enough to keep each fleece by itself, it is all that is required.

In marketing, some scheme of co-operation as practiced by the fruit men should greatly help to solve the question. In Tennessee, great benefit has been derived from wool clubs. The clubs were formed for the purpose of helping each other in the matter of selling only. Each member of the club furnishes an estimate of the amount of wool which he will have for sale to the Secretary of the club. Arrangements are made to have the wool delivered at a sorting shed, and an expert sorter secured for a time to sort the wool. The wool from each farmer is sorted and he is credited with so many pounds of each grade. When the clip is all in, the club is able to say to buyers we have so many pounds of wool of each grade, what will you pay? The manufacturer or large wool merchant knows the quality of wool, and, as he is buying in fairly large quantities, he is enabled to offer the highest possible price. This scheme eliminates the middleman, and gives the farmer all there is in his wool. Then there is encouragement offered to produce the best grade of wool.

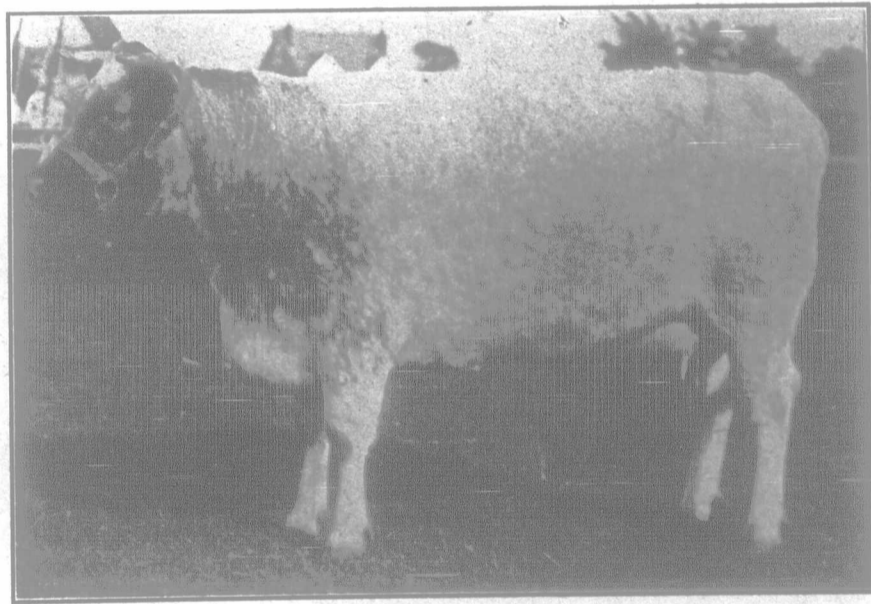
more to feed and care for a pure-bred animal than a cross-bred mongrel or grade of the same class, and the animal is generally worth much more for feeding purposes. Paying high prices for animals as a result of fads is a losing game. Breeding animals should be able to pay their way even though some of them must be sold to the butcher, but none should go to the latter as anything but first-class stuff. If there is anyone in a position to put on the market the best that the market gets it should be the man who from years of breeding up his herd has it on a high plane. He is the man who should be able to produce the highest-priced baby beef, the choicest leg of lamb, and the richest loin of pork. Every breeding animal to be what it should be must be a market topper, or producer of market toppers, or animals which were they not used for breeding purposes would command highest market prices. This is what often saves the breeder when he is overstocked at the time the breeding-stock market slumps. The real lasting value of a breed of live stock is its utility. Milk or meat must form the foundation of value.

Pasturing Hogs on Clover and Alfalfa.

It is generally agreed that pork may be made at smaller cost in summer than in winter, because the pigs may be kept outside in field or paddock and so get the benefit of exercise and fresh air, and, at the same time, a good pasture will aid in rapid growth and fattening. Clover and alfalfa are two of the most suitable crops for the purpose, and a bulletin of the Missouri Experiment Station, just issued, takes up these two crops among many others and also gives a good idea of how to carry the pigs over summer if the clover crop has failed. The bulletin is loud in its praises of these two

the great hog pasture. It furnishes an abundance of excellent pasture that supplies the necessary nutrients lacking in corn; it fertilizes the ground while growing; and fits perfectly into a rotation where corn is the principal crop. The general distribution and popularity of clover as a forage crop is due to its general adaptability to conditions. There is no serious drawback to it as a hog pasture. It is, however, in addition to being a biennial, more easily killed by heavy pasturing than is bluegrass or timothy. If heavily pastured when small the hogs eat off the crown and kill the plant, or too heavy pasturing at any season of the year may cause serious injury. If the clover is to be pastured heavily the hogs should not be turned in until the clover is several inches high. Clover is at its best for hog pasture when heading and blossoming, but if the hogs are not turned in until the clover reaches this state it will take a very large number to keep the pasture from getting too ripe. After the heads are ripe the plant is so woody that the hogs do not relish it as pasture. When the plant is in this stage it should be cut or clipped, and a new succulent growth allowed to spring up. The clover can be pastured heavily enough to keep the pasture from getting woody, but when pastured too heavily a short dry spell is liable to cause it to die. Alsike clover is better in some regions than red clover, especially in low, moist ground. It will supply about as much pasture as red clover, if sown at the same time, and furnishes for about the same period.

Alfalfa is shown by the experience of its users to be somewhat superior to red clover as a hog pasture, both as to quality and amount of feed furnished. While an acre of clover will pasture from eight to twelve hogs averaging 75-125 pounds per head, the same area of alfalfa will pasture fifteen to twenty head of the same kind of shoats. Alfalfa comes earlier in the spring than clover, and, if kept from heading, will make a green succulent nitrogenous forage from spring until heavy freezing comes in the fall. Not only does this plant give a good forage during the growing season, but the hay, especially the last cutting, will furnish a high-class roughage for hogs in winter, and anyone who has used alfalfa hay for this purpose never fails to recommend it very highly.



Bankfields Belle.

Champion Shorthorn heifer at the Oxfordshire Show, in England.

If clubs of this sort were formed in districts throughout the province, it would help to increase the profits from sheep-raising, and also create more interest in the industry. This would be a step towards establishing a market, each club centre would be a market on a small scale, and afterward, if it appeared to be advisable, co-operation among a number of clubs would make larger markets and attract more buyers.

The End of All.

The end of all beef cattle, pigs, and sheep is the butcher's block. All breeding is, or should be, done with a view to improving the type of the animal and quality of the meat as desired by the butcher. There are a few things which the butcher would just as soon do without, but which must go along with what he wants, however, and these are the portions of the animal frame developed as a result of strong constitution and good feeding qualities. For instance, a good feeder's head is desirable, and the animal must be well let down at the front and hind flank, and should carry a fair amount of brisket. The butcher cares nothing for these cuts. He wants an animal well developed where meat is of the highest quality and well covered with firm flesh. He wants the one which is likely to shrink the least, but the feeder must keep in mind constitution and feeding qualities as well.

In all stock breeding utility is the determining factor. It is a nice thing to feel assured that no matter what fads and fancies arise, the product of the herd can be sold at a profit for consumption. The best animal to breed is the pure bred, all things considered. It costs no

The same precautions should be taken when pasturing alfalfa as when pasturing clover, i. e., the hogs should not be turned on before the pasture is well started, should not be pastured while the land is wet, nor so heavily that the plant does not grow well, and should not be allowed to grow large enough to get woody. If the purpose is to use the alfalfa solely for pasture, the field should be divided and one part pastured while the other is growing. The common practice, however, is to allow enough pasture, so that about two crops or more of hay are harvested each year while the hogs are using it for pasture. By cutting the parts of the field a few days apart, one part is furnishing pasture while the other is being cut for hay. In this way pasture is furnished for a very large part of the year.

The composition of clover and alfalfa, and the character of the forage furnished by pasturing the two, are so nearly the same that the best methods of feeding for one will apply equally well for the other. As neither alfalfa nor clover seed can form any considerable part of the ration, the feeding value of the pasture rests on the forage alone. Since both plants furnish an abundance of protein for the growing hog, and corn is the great fat-producing food, corn, alfalfa, clover and hogs are fitted by nature to be closely associated.

The amount of grain to be fed on clover or alfalfa pasture varies, of course, from no grain at all to full feed, according to the time the hogs are intended for market. Of the 153 replies to the questions asked by the Missouri Station as to whether hogs will make a satisfactory gain on pasture alone, 121 replied in the negative and 32 in the affirmative. Of the 32 men who got satisfactory gains without grain, 16 use clover alone, 2 alfalfa, 3 clover and alfalfa, while 6 more use clover in connection with other crops, and 2 do not designate the kind of pasture. It is safe to say that the experience has been sufficient to warrant the statement that clover in bloom, or alfalfa, will, under favorable circumstances, make a fairly reasonable gain on grown hogs in thin flesh without grain. An excellent comparison between the different amounts of corn to feed to shoats on alfalfa pasture was made at the Nebraska Experiment Station with corn alone fed to shoats on alfalfa pasture.

The results of an experiment lasting 63 days with 10 pigs weighing about 75 pounds per head in each lot are shown below:

Ration.	Daily grain per pig.	Total gain per pig.	Average daily gain.	Grain per 100 lbs. gain.
No grain		1.4	.02	386
Light feed	1.33	21.7	.34	398
Medium feed	2.48	39.8	.63	423
Heavy feed	3.46	53.7	.85	

These results show that with 75-pound pigs a feed of corn is necessary to get satisfactory gains. With no grain, the pigs little more than held their weight; with 1.33 lbs., or about two ears of corn daily, a gain of .34 lbs. daily was made; with 2.48 lbs., or between 3 and 4 ears of corn daily, a gain of .63 lbs. daily per pig was made, while with 3.46 lbs., or between 5 and 6 ears of corn daily, a gain of .85 lbs. daily was made. It will be noted, however, that as the amount of grain fed daily was increased the grain required to make a pound of gain was also increased. Another trial was made at the same station, under the same conditions, but with different amounts of grain. These lots, consisting of 17 52-pound pigs, were fed 1/2 pound, 1 1/2 pound and 2 1/2 pounds of corn, respectively, per 100 pounds of live weight, and allowed to run on alfalfa pasture for 98 days, with the following results:

Ration.	Gain.	Daily gain.	Grain per 100 lbs. gain.
1/2 lb. corn per 100 lbs. weight.....	27	.28	124
1 1/2 lbs. corn per 100 lbs. weight.....	36	.37	222
2 1/2 lbs. corn per 100 lbs. weight.....	48	.51	332

The similarity of the results of these two experiments indicate that they are reliable in showing that the smaller amounts of grain make cheaper gains, but that the heavier amounts of grain show faster gains, and are, therefore, getting the pigs fatter and nearer ready for market, because the light ration does little more than keep up a good growth without fattening, while the heavier ration lays on a good proportion of fat.

The farmer is always in danger of his plans being frustrated by some bad weather killing the crop intended for summer pasture. As clover is the principal hog pasture, the question is, "What

shall I do when clover is killed?" A great number of men put the land in corn and either sell the hogs or let them have whatever is handy or convenient. There is no need for this, however, as for pasture in May, oats or rape, or a mixture of the two, can be sown as soon as frost is out of the ground. This will make as good pasture as clover, and will provide forage for about twice the number of hogs per acre. This pasture will last until another of the same kind can be sown, about three or four weeks later. By alternating between these two lots, and not pasturing the rape so close that the stems are bare, new growth will keep coming until spring-sown clover is ready to pasture, or, if this fails, a small patch of sorghum will be of use until a field of cow-peas, planted May 15th to 30th, is ready to pasture in August. After the cow-pea field is cleared, later-sown cow-peas or a patch of late-sown rape will furnish forage for late fall, or rye and crimson clover sown in corn will make good late fall pasture. But with oats and rape sown six to eight weeks before use for early summer and late fall, and cow-peas planted two and one-half to three months before using for late summer and fall pasture, no man need fear to raise a crop of hogs on account of his clover drying. It is entirely possible and practical to furnish the best of hog pasture without having either bluegrass or clover, and on less land, but at a slightly greater cost in money and time, by using small fields of quick growing crops, such as oats, rape, cow-peas, cane or artichokes.

Summer and the Calves.

Nearly every farm raises a few calves each year, but not all calves get the care and attention best suited to their development. Many seem to think that all a calf needs during the summer months is grass and water. True, they will exist on this, but if they are to make the growth which they should, it is necessary that a certain amount of care be given during summer as well as in winter. Prof. H. Barton, writing in the Journal of Agriculture and Horticulture, discussing whether or not calves should be turned out for the summer, says:

"If we were to answer this question by the general practice, the answer would be very decisive. One of the most common sights on the average farm in the summer time is a bunch of starving calves huddled in the fence corner in search of shade from the blazing sun, and where they may by chance scrape off some of the tormenting flies that swarm about them. There are so many factors at work, however, in most cases that pasturing in itself may be easily misjudged.

"The practice of turning calves out in the spring, when they may be of any age from a day to six months, simplifies their care, and the fact that so much can be expected of pasture, sometimes whether there is grass present or not, amply satisfies the average man in the matter of feed provision. The calves should grow and do all right whether they do or not, and, in any case, eventually they will make cows.

"At present there seems to be an ambition among many to obtain better cows, and frequently we have extravagant prices paid for both bulls and cows to improve the herd. Yet in the next step with the calf, the same old practice prevails. We can with difficulty buy the right classes of cow, but we can never produce her without developing her, and the most vital stage in the whole developing process is undoubtedly in her calfhood. Be it understood then that we must feed her; no calf develops unless in fairly good condition, and no calf will be found in good condition without a liberal food supply.

"After feed comes treatment. We are now at a common turning point in treatment; should we take the usual course and turn the calves out, or should we reverse things and keep them in? My answer might be either yes or no, but were I to take the turn or advise it to any one else it would be subject to qualification.

"The calf pasture should be a special one, not necessarily large but of good quality and where access may be had to shade. Shade is indispensable. If no trees are in the field, the calf pasture should certainly be connected with the buildings. Grass will prove abundant during part of May, June, and early July, after which roughage should be supplied. It may be necessary earlier, but during the grass period a small patch will furnish a large amount of feed and the calves will do well, the flies and sun both being not too severe. After this period, unless under especially favorable conditions for grass, it should not be depended upon.

"Calves that were dropped in the fall or early winter will do well on grass as soon as it is ready for them. They will have become accustomed to it and be doing well when conditions commence to become more severe, and they will suffer less check than if turned out later.

"Calves that have been dropped in late winter or early spring will do best in the barn. If a fresh grass paddock is in close connection with a building to which they may have free access, they will be somewhat more easily kept clean,

and if fed just as if they were indoors will do fairly well, but rarely as well as if kept inside. When the after grass is abundant and after the most severe season for sun and flies has passed these early calves can be put out, but still fed at least a grain allowance. They will be checked in growth, but will feed well through the winter and take to pasture readily this next spring as a result of having had a fall run.

"Calves that were dropped in late spring or early summer should not be turned out. Invariably the late calf, if it is fortunate enough to be kept inside and allowed a little extra attention because of its late arrival, will surpass those that are much earlier, and will do so in the first year of its life."

Our English Correspondence.

SOME RECENT SHOWS DESCRIBED.

Oxfordshire is going in for the milking Short-horn, and as a consequence great attention is now being paid to the type at the annual County Show, held recently. The class for bulls bred on the lines laid down by the Dairy Shorthorn Association consisted of eight. J. A. Attwater's Fairyland, a good roan, of nice color and style, was given pride of place.

There were at least three cows of more than average merit amongst those which competed in the older cow class, and all but one of which gave above the standard quantity of milk. The winner was Fyde Morwenna 2nd, a neat and stylish roan, by Blood Royal 3rd, out of a cow of T. S. Stokes' breeding. She was exhibited by K. Silcock & Son, and, although only four years old, gave 32 pounds of milk in the ring. C. R. W. Adeane took second with Babraham Countess Clara, a very nice looking red seven-year-old, possessing a good top and fine Shorthorn character. Her yield was 30 1/2 pounds. Third went to Lord Lucas for Charity 23rd, a light roan of true milking type, whose yield was 27 pounds.

In three-year-olds, Sir Arthur Nicholson had no difficulty in taking lead with his Tring purchase, Wild Cherry, by Conjuror, and carrying a good udder. Her yield was 23lbs, an amount exceeded by 1 1/2 lbs by Daisy 26th, a nice sort of dairy cow by Kelmscotoman, shown by R. W. Hobbs and sons. The last named exhibitors were perhaps a trifle lucky to win in the younger class with Rose 49th, a straight, good-uddered heifer, by Cranford General, and one which gave 22 1/2 lbs of milk. The favorite with some ring-siders was Samuel Sanday's Puddington Solo, a very good roan, which gave the splendid yield of 25 1/2 lbs of milk. Third was E. S. Godesell's Salmon's Darling 3rd, the Dairy Show winner, which, although calved as long ago as last September, is still giving 2 1/2 gallons a day.

Turning to other breeds the Earl of Coventry was the successful exhibitor in Hereford cattle. The special for best Aberdeen-Angus went to J. J. Cridlan's bull, Proud Esmine of Maisemore. Lord Rothschild was prominent in Jerseys, his successes including both championships.

In ordinary Shorthorns champion prizes fell to F. Miller's Man-o'-War and R. Cornelius' Bankfields Belle.

In Shires the championship went to Lord Rothschild and Sir Walpole Grenwell.

Naturally, there was a great array of Oxford Downs. Yearling rams numbered 21, but a capital exhibit which won first, second, and third for James Horlick earned a signal success. The winning ram and champion male of his breed is one of the best rams of his age seen for some years. Ram lambs, in pens of three, had as winners a beautiful trio, evenly matched, with good tops and heads, owned by J. T. Hobbs. In single ram lambs, J. T. Hobbs again led, and correctly so, for his is a choice lamb of scale and spread. Yearling ewes saw J. T. Hobbs win first and second places with six grand ewes, mellow to the hand, with great spread and fleece. They were indeed choice ones, more especially so the first-prize pen, which were made the champion pen of females. Ewe lambs again had the Maisey-hampton flock at its head, and this was a beautifully even and well-grown trio. The flock ewe class was a really good one, for J. T. Hobbs' winning pen were of rare style and merit. The great scale and good color of D. F. Moore's pen ran the winners close. Ewe tegs, in full fleece, were a grand lot, particularly H. W. Stilgoe's pen.

To strike off West—to Barnstaple—Devonshire show is notable for three things, its Devon and South Devon cattle, and its pretty dairy-maids. Devon cattle were strongly represented. In old bulls, Bryanston Amber, oldest of the lot, well deserved premier award, being shown in the pink of condition, by Viscount Portman. Viscount Portman also led in two-year-old bulls with Marmion, one of deep, strong carriage, and typical head. There were fourteen in the young heifer class, which was of exceptional merit. L. H.

Alford's Horridge Bell repeated her Somerset Show success.

Entries of South Devons numbered thirty. D. Camp's Ley Marquis, six years old, was shown in rare condition in old bulls. He is a wonderfully good specimen of massive proportions, measuring about 9ft. from head to tail, exceptionally broad and deep, characteristic head, and as good a beast as was ever shown. He was awarded first. Bulls calved in 1911, Whitley's Primley Excelsior, last year's winning yearling, led. In cows, premier award went to J. D. Ellis for Magnet, a fine cow. In 1910 heifers, D. Camp's Orange Girl, shown in good all-round condition, repeated last year's success. In the 1912 heifer class Ben Luscombe took first and third with Countess Girl and Countess Maid, the thirteen months old twins of the famous dam Countess.

For the Bath and West Show, held this time at Truro, there were 248 head of horses on view, 431 cattle, 213 sheep, and 122 pigs. Naturally, the peculiarly local breeds made representative displays. South Devon cattle simply excelled themselves. In old cows, J. D. Ellis stood first with a magnificent cow just old enough to show the matured perfection of the breed. F. B. Mildmay won in three-year-olds with his shapely heifer, Camelia 2nd. The yearling heifer class contained some astonishingly large heifers for their age. B. Butland scored with Handsome 12th, a large heifer and well put together. The Cornish prize was taken by W. E. Catley's Rose-land Gentle, with C. A. Hanson's Orange Girl reserve. Old bulls were led by J. Leach's New Year's Gift, of very great proportions, and well put together. His weight is nearly a ton and a half. There was quite a number of smart young bulls in the yearling class. First fell to B. Luscombe's Langston King, very deep, with a nice back; second to W. Tucker's Dairyman.

In Devon cattle there was a choice class of yearling heifers, the first and foremost, as well as being the best Devon in the show, for she secured one of the champion prizes offered by H. R. H., the Prince of Wales, was L. H. Alford's Horridge Belle, a heifer full of merit, with a lovely coat and nicely sprung ribs. In bulls calved in 1911 Viscount Portman was first with that lengthy, growthy, deep-set bull Marmion. He was run very close indeed by W. Brent's Ford Plumper, a very free-walking, lengthy bull, with a good middle.

Shorthorn cattle gave us a foretaste of what to expect at the Royal Show in July. A fine class of eight older bulls was headed by R. Stratton's roan, Mischief, which, since his last appearance at Newport, has filled out and let down into a very massive and masculine animal. To him fell the championship of the breed, together with the honor of reserve for the Prince of Wales' cup. In a good class of two-year-old bulls another surprise was in store, for, contrary to expectations, Mr. Hosken's Damory Landmark met with defeat by Lord Fitzhardinge's Aldsworth Pride, a very massive and well-fleshed roan of rather light hue. Lord Fitzhardinge won again in the yearling class with Brave Marquis, a lengthy roan, by Stranraer Marquis, possessing well-sprung ribs and plenty of range.

Hereford's were forward in great style, and a feature was the success of G. Butters in the bull classes. His old bull Sailor King won the championship, and his Charity, a very fine bull, led a fine lot of two-year-olds. Hughes showed the winning yearling bull. Cooke-Hill was equally successful in the cow and heifer classes, taking the first prize and the championship with Shelsley Primula, and first prize for yearling heifers. The Sailor King spoken of is a massive son of the Royal champion Sailor Prince, bred and owned by G. Butters. To him went not only the championship, but also the crowning triumph of the Prince of Wales' cup as the best bull of any breed in the show.

Seven yearling Aberdeen-Angus heifers took some sorting out before Mr. Prior was given first and subsequently silver medal for Persepha, a shapely and sweet heifer by Everlasting of Ballindalloch. A clear winning amongst three bulls calved before December, 1911, was Sir George Cooper's Bandolier of Hurstey, which has filled out and furnished into a grandly impressive bull of great scope, yet full of quality. He was awarded the gold medal. Mr. J. E. Quedest won the principal prizes in Romney Marsh sheep. In the Southdown classes Sir J. Colman won three first prizes, and Lady Wernher one.

Captain J. A. Morrison was the most successful exhibitor of Hampshire Downs, taking three first prizes and a second. For Oxford Downs James Horlick took the lead in the shearing ram class, and J. T. Hobbs in the ewe and lamb classes. The principal prize-takers for Dorset Horns were Sir E. A. Hambro, Merson and Son, and A. Johnson; for Dorset Downs, Eden and Watson and Wood Homer; for Exmoors, P. Smyth and D. J. Tapp, and H. L. Kingsford; and for Dartmoors, Johns & Sons, H. Northley, and Rose. In Devon Longwools R. Cook and F. White shared leading

awards, and in South Devons J. Stooke and J. S. Hallett scored.

The Huntingdonshire County Exhibition has grown quite famous for its Shires. Two-year-old stallions saw F. W. Griffin's Boro' Vulcan lead. Mares suckling foals were topped by Griffin's five-year-old Menestrel Forest Queen, a well furnished mare, with good legs and feather. Filly foals were a promising collection, and here Griffin won with a well-made bay by Redlynch Forest King, which subsequently secured the champion prize for best foal in show. In a nice lot of three-year-old fillies first went to T. Gee's shapely Wrydelands Sunstar, full of quality and a free mover. The female champion prize fell to Griffin's Menestrel Forest Queen with Rowell's Lady Superior reserve. The gold medal went to the same animal.

London, England. G. T. BURROWS.

THE FARM.

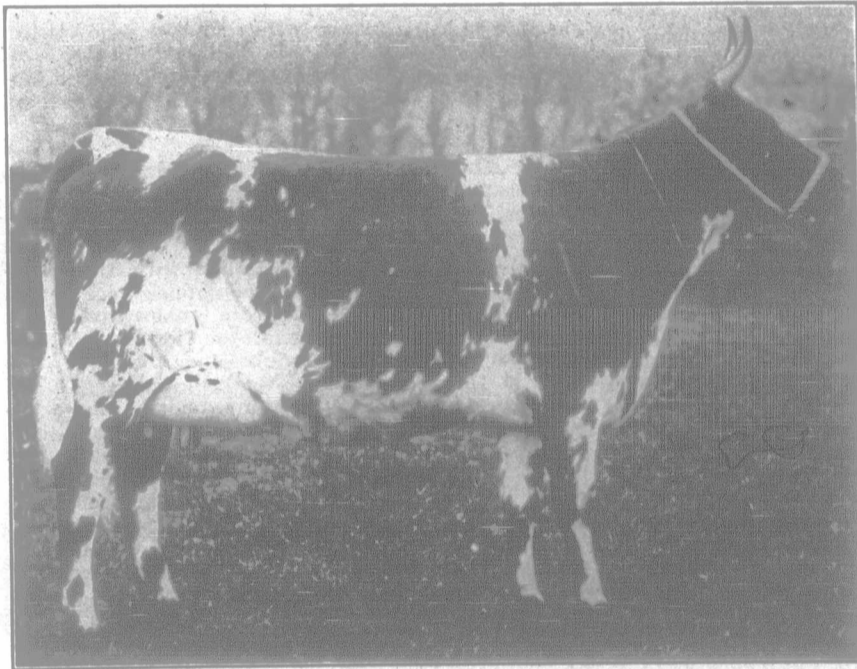
Alfalfa in Kent County.

Editor "The Farmer's Advocate.":

In the year 1911 the field was tile-drained, four rods apart. It was put into corn and kept perfectly clean. Not one weed was left in it. We didn't plow it any more, but in the spring of 1912 we gave it a double turn of the disk harrows, a single stroke of the drag harrows, drilled a bushel and a peck of barley per acre, sowed 20 lbs. of alfalfa per acre. Give it a single stroke of the drag harrow, harvested 66 bushels of barley per acre. In the fall of 1912 cut a ton and a half of alfalfa per acre, and now the field is all lying down. None in blossom yet, but we are going to cut it on June 20th.

It lies to the road, and everybody admired the lovely field.

Kent Co., Ont. WM. PRATT.



Melkie Kilmory Perfection.

Winner of Derby, and female champion at Ayr Show, in Scotland.

Fungi in Soils.

"The need is urgent," says C. N. Jensen, of Cornell University, in a recent bulletin, "for a study of the fungi in soils generally recognized as sick to some particular crop, as well as of the relation of these fungi to crop rotations, fertilizers and fungicides. Do not the debris of the crops in the rotation serve as excellent pabula for the fungi that produce the disease in question? Which crops are of this nature? What effect on the soil fungi results from the addition of various kinds of fertilizers? Is the application of fungicides such as sulfur effective in changing the fungous flora? If so, in what way? These are but a few of the questions that need elucidation."

Feeding Value of Alfalfa.

The United States Department of Agriculture gives alfalfa hay the following rating: \$20.16 per ton as compared with red clover at \$14.12, timothy hay at \$9.80 and wheat bran at \$22.80. While we consider the disparity somewhat exaggerated, there is no question but that alfalfa hay is decidedly superior in feeding quality to red clover. It pays to take pains in saving such valuable feed, especially to preserve the leaves, which are the richest portion.

It has been found in New York State that an application of lime, about a ton to the acre, almost invariably benefits certain of the leguminous crops, alfalfa in particular. In Bulletin 313 of

the Geneva Experiment Station are given some interesting results on the benefit of lime for alfalfa. Of sixty-four alfalfa fields, well distributed over the State, only eleven were successful without lime, and all the fields except six were improved by the addition of lime.

THE DAIRY.

The art of milking is considered as being on a level with pumping water, observes the Maritime Farmer, with a neat touch of humor. Just so. And that is one reason among several why there are so many low-producing cows. Ordinary milking is about as skillful as pumping. Expert milking is quite another matter. Try to be an expert milker.

The five-year-old Holstein-Friesian cow, Spring Farm Pontiac Lass, whose seven-day and thirty-day official records were given in "The Farmer's Advocate" of May 29th, has broken another world's record, according to the Holstein-Friesian Register. In a ninety-days' test, under direction of experts from Cornell Agricultural College, she yielded 6,786.8 pounds of milk, testing 5.17 per cent of butter-fat. This is more in three months than many cows give in a year.

POULTRY.

Fresh Ground for Poultry.

If human beings were confined in small prison yards with no sanitary conveniences, fifty or a hundred persons together in a space only three or four times larger than sufficient to give them all standing room, compelled to eat their food off

ground soiled by their own alimentary secretions, how long would they retain their health? The horror of it would appeal. Yet something quite similar is practiced by many poultry keepers who wonder why their chicks die of dysentery, cholera, tuberculosis, gapes, and other diseases. Common sense should indicate the reason, but apparently it doesn't, for they fail to remedy the conditions until a devastating outbreak of disease occurs and the expert from whom advice is sought counsels change of quarters as an absolute necessity. How much better would prevention be? Chicken coops should be moved once a day, also the wire-netting pens or yards in which brooder chicks are confined. It is surprising how much better the chicks will thrive under this rational treatment and how much less disease will

develop. It is best for the chicks to have access both to grass and to cultivated ground, the former to supply vegetable food, and the latter insects. It is not always feasible to give both, however, while the brooder chicks are still confined in their portable pens. As between the two we believe it is better to yard the young chicks on a grass run where the grass is short. Later when they are large enough to run at large they will probably do better with their roosting pens adjoining cultivated ground, such as a corn field, or a well-worked orchard. To these observations of our own we wish to add a few well put paragraphs by N. E. Chapman, a poultry specialist of Minnesota. His advice is especially applicable where many chicks are kept on a small space and where grass runs are not available.

"On most farms feed for the flock is scattered about on the ground, and the chickens are continually fed within a small space. The surface of the ground soon becomes foul with the droppings of the flock. True, the sunshine acts as a germicide, and if the space is at all sloping the washing of the rain helps some, but generally the spot is level and often muddy. The ground quickly becomes contaminated with the continual tramping of the flock, and if there be one sick fowl many may soon become infected. This is especially true with small chicks and young turkeys. The first advice given in cases of general loss is "change your feed place." It is often impossible to find another location so convenient and accessible.

"The spading up of the feeding place once or twice per week will bring good results. It will tend to purify the ground. It will induce exercise on the part of the flock, which is always desirable. Especially is this true when the flock is confined in yards, and green feed, so necessary, is difficult to obtain. If grain is scattered as one spades up the ground, much will be buried so deep that hens will not scratch it out, and it will be thrown up at the next spading with green succulent blades that are greatly relished by the flock."

"Be sure to try this method of often spading up the feeding places and watch results in avoiding infectious diseases and improving the general health of the flock by inducing exercise and furnishing palatable succulent feed."

Prevention and Treatment of Black-head and Tuberculosis.

Black-head and tuberculosis are two of the worst diseases affecting fowl. From the report of the Health of Animals Branch we take the following on prevention and treatment of these two dread diseases.

TUBERCULOSIS.

The best means of preventing and treating tuberculosis in fowls is to destroy the entire flock if all have been running together, and to thoroughly cleanse and disinfect the quarters which they have occupied with any good disinfectant, one of which is a five per cent solution of crude carbolic acid. This may be made by adding two teacupfuls of crude carbolic acid to a pail of hot lime wash. This should be applied with a spray pump, brush or old broom to all parts of the house occupied by the fowl. This method of disinfection is suggested, owing to the fact that in tuberculosis or consumption in fowls, as has already been indicated, the bacilli or germs are found in the droppings in great numbers, and these should be destroyed. This action is further recommended as it has shown that fowls dead of tuberculosis if eaten by hogs communicate the disease to them, and it is probable that the droppings would also communicate the disease in a similar manner.

When destroying the birds after it has been demonstrated that tuberculosis is present, some may be suitable for food if an examination of the livers shows no yellow or white spots from the size of a pin point to that of a pea, and there are no nodules or lumps on the intestines. When these lesions are present the flesh cannot be considered suitable for human food.

We have found that eggs from tuberculous fowls may contain the bacilli or germs in the white, and have also demonstrated that they are in sufficient numbers to infect small experimental animals. This suggests a possible source through which tuberculosis may be introduced into a flock, namely by the unsuspecting purchase of eggs from some one who has tuberculosis among his fowl.

The drastic measures above recommended should be followed in all cases when tuberculosis appears among fowl. These measures, while temporarily entailing a considerable loss, will, in the end, prove the most economical to the owner and the community.

BLACK-HEAD.

The placing of poults on clean, sanded board floors in a dry, well-lighted and well-ventilated building with southern exposure, is considered a means of prevention. The continued contact with the floors, however, tends to weaken the poults. I believe it to be an advantage to see that they are quartered on sanded board floors at night, and prevented from ranging in the early morning when the grass is wet. When the birds are older the roosting places should receive consideration. The free application of lime and sulphur wash (that used in spraying fruit trees is suitable) on the ground under the roosting places and the ground on which they are reared two or three times during the season, will destroy any infection on the ground. We believe that persons raising turkeys should be very careful not to introduce the disease when making additions to improve their stock. A turkey tom may be a source of infection when he heads the flock of a neighborhood, or the disease may be introduced with sittings of eggs. The greatest care should be exercised to prevent any possible source of infection reaching a flock or locality now free from disease.

The early diagnosis of the first case is an essential feature in connection with the prevention and treatment. As has already been indicated, it is the early diagnosis that will prove the most essential factor in successful prevention and treatment. The isolation of the first case may many times prevent further manifestations of the disease. From our experiments, however, it appears that there may be chronic carriers of the disease whose droppings are continually infected, notwithstanding the fact that they exhibit very slight if any symptoms. This suggests that isolation may not be as potent a factor in pre-

venting losses as desired, but I believe that it should be enforced to such an extent as will prevent the old and young flocks intermingling after the first appearance of the disease.

There is, to my knowledge, no known specific for controlling the ravages of this affection. The use of muriatic acid in the drinking water was found, some six years ago, to be followed by beneficial results on affected turkeys, which I was trying to raise at my home. Later it was given a further trial, and three years ago a single turkey at the Ottawa laboratory made an apparent recovery. During the past two years we have recommended it as being the best medicinal agent which we know to assist in overcoming the affection. Last year five affected birds recovered after receiving liberal allowances of this acid. One of these, which was later autopsied to determine the presence or absence of lesions, was found to be normal in every respect so far as we could determine.

Some apparently remarkable recoveries have followed the use of this acid, but one cannot hope to bring all affected birds through an attack. I was prompted to use this acid, as I found the contents of the digestive tract in turkeys dead of entero-hepatitis or black-head to be alkaline in reaction.

The acid to be used is a teaspoonful of muriatic acid in a quart of drinking water. This acidulated water should be placed in a porcelain or glass vessel, and is suggested in the hope that the birds may be carried over an acute attack. At the outset when the birds show evidence of being severely affected, it may be of advantage to triple the amount of acid (using three teaspoonfuls to the quart of water) for the first three days. This amount will not injure the turkeys, and may assist them in more rapid, ly overcoming the infection.

They should be confined during this period on dry, sanded board floors in well-lighted and well-ventilated quarters, and allowed access to no other liquid. If allowed to roam they may obtain sufficient water for their requirements from the dew-laden grass or other sources, and, therefore, will not drink the acidulated water. If confined, green food should be supplied in addition to the grain ration.

Post-Mortem Appearances of Fowls Dead from Tuberculosis and Black-head.

Many people are not familiar with the difference between the post-mortem appearance of a bird which has suffered from tuberculosis and black-head. In black-head the lesions are confined to the liver and intestinal tract. The liver is the seat of lesions which appear on the surface, described as circular spots about the size of a five or ten cent piece, yellow or whitish yellow in color, and surrounded by what, to the naked eye, appears to be normal liver tissue. At a point between the lesions and the liver tissue, a ring almost bright red in color is observed. These lesions in the liver, if cut open, may have a uniform color throughout, or, in the more chronic cases, there may be a core in the centre. The intestines may be the seat of a chronic inflammation. The caeca or two blind guts, which lie along the course of the intestine and enter it about six inches from the vent, are usually inflamed, and, in either or both, a single or a number of lesions the size of a walnut are usually present. These lesions are yellow in color, have a thick wall and a degenerated center. There may be, in addition to the above in severe acute or chronic cases, either a localized or general peritonitis with adhesions and fluid in the cavity. Such is the post-mortem appearance of a bird suffering from black-head, given by C. H. Higgins, pathologist of the Dominion Department of Agriculture.

The post-mortem findings in a fowl dead from tuberculosis, when considered in relation to the symptoms and general history, are characteristic. The liver is usually the principal organ affected, and there are lesions, from the size of a pin point to that of a large pea, which are white or yellow in color. The larger lesions, when cut into, give a gritty sensation as the knife passes through them. These lesions are distinct from the liver tissues, and may be quite easily separated from the liver itself. In the more acute cases the liver may be greatly enlarged, even to twice its normal size. This enlargement in chronic cases is noticeable. The spleen is usually involved, the lesions having the same characteristics as mentioned for those in the liver. The enlargement of the spleen is usual, and it may be four times its normal size. The intestines may or may not be involved. When lesions are present, we find nodules from the size of a small pea to that of a medium-sized nut. The minute dissection of these usually presents a free opening into the inside of the bowel, and at this point of entrance there is an ulceration. It is through this opening, from the nodule on the intestine to the interior of the bowel, that the bacilli gain access to and are so easily distributed by the droppings.

Other visceral organs are seldom involved. It is frequently observed that the joints, notably that of either or both hips, may be the seat of tubercular ulcerations. Such an ulceration is the cause of lameness during life.

It will be noted that the lesions on the liver in case of black-head are depressed, while those on the liver of the tubercular fowl are raised.

To Reduce Breakage in Transit.

To reduce the enormous breakage of eggs in transit, which yearly causes a loss of millions of dollars to producers, and raises the price of eggs for consumers, the United States Department of Agriculture, through its Bureau of Chemistry, is conducting extensive experiments to determine the safest manner of packing eggs for long and short shipment by rail. The waste from the breakage of eggs, according to official calculations, in New York City alone in 1909 was over 137,804,768 eggs, or over 11½ million dozen, out of a total consumption in 1909 of 127,689,600 dozens of eggs. In other words, about 9% of all eggs received in New York were cracked, and of these a large number were unfit for food use.

The Bureau, through the Food Research Laboratory, is now engaged in shipping eggs handled in different ways on long journeys to different points in the United States, and is carefully noting their condition on receipt at their destination. Shippers, railroad men, and commission men are co-operating heartily with the investigators. The railroads are claiming that their damage losses are such as to make the carrying of eggs an unprofitable commercial proposition.

In some Cornell experiments, sour skimmed milk was found to be a very beneficial food for chick rearing, and had no hurtful effect when fed from the first meal.

HORTICULTURE.

Outlook for Fruit.

The fruit crop report for June just issued by the fruit division at Ottawa, says that it appears certain that the late frosts will undoubtedly lessen the prospects for all kinds of fruits. The southwestern peninsula of Ontario has suffered more than the Niagara district. All correspondents complain of too dry weather. The apple crop bids fair to be almost as large, if not quite as large, as that of last year.

The Spy and Baldwin are the characteristic apples in Western Ontario, and this year these two varieties appear to be somewhat short. Nevertheless, a good crop is reported generally. Eastern Ontario and Quebec is a region of small orchards, not too well cared for, and for two years has suffered severely from the ravages of the Tent Caterpillar. Even the crop that has set in many cases will scarcely mature on account of the weakened condition of the trees; in fact, in many of the smaller orchards, perhaps more than 50 per cent. of them, the trees have been completely defoliated. Those orchards that have been well sprayed and well cultivated have a good crop. It will be a difficult matter to make any helpful estimate of the number of these orchards, but speaking generally this district will have a light apple crop. The Annapolis Valley, on the contrary, is likely to have a better crop than last year. The only adverse condition there was the rather cold and somewhat dull weather during the blossoming period, which may interfere with pollenization. Spraying and cultivation are quite general in this district.

The plum crop has been injured by frosts in Ontario, and plums have set only fairly well in British Columbia. The commercial peach-growing districts have been little damaged. A large crop is expected. Early peaches are not so promising as later varieties.

Cherries are likely to be a medium crop only. Strawberries are reported a light crop in nearly all districts in Ontario, and the frost also did a great deal of damage to early potatoes.

The Tent Caterpillar in Eastern Ontario, Quebec, and New Brunswick is still the feature of the season. The infestation appears to have worked its way west as far as the Georgian Bay district. British Columbia also complains of some serious local infestations. The infestation of last year has had its effect. One implement dealer in Montreal reports having sold 187 spraying outfits this spring, or as many as in any previous four years of his experience. Many other reports show that spraying is being done on account of the Tent Caterpillar where it was never done before.

The Codling Moth is not yet in evidence. Bud Moth evidently is becoming a serious menace in orcharding. Cutworms are worse than usual, and many correspondents report the White Grub (larva of the June beetle) as doing serious injury in strawberries. In British Columbia and parts of Quebec, the Aphis is reported troublesome.

Pennsylvania Experiments in Fertilizing Orchards.

Experiments started in 1907-08 by Prof. J. P. Stewart, of the Pennsylvania State College Experiment Station, have shown that the plant-food needs of an orchard may be the most important check on its production. By variations in fertilization alone they obtained average differences in yield ranging from 50 to 460 bushels per acre annually for the past four or five years. At this rate and with a valuation of only fifty cents per bushel for the extra fruit, they have had, on certain orchards, average profits from fertilization running up to more than \$200 per acre annually. The differences in growth and general vigor have likewise been marked. The deductions presented below are derived more or less directly from the results of thirteen experiments, involving ten soil types, twelve locations, and 2,653 trees in the last five years. It is to be noted, however, as stated in one of the summarized conclusions, that, in one case no form of fertilization produced a profit, while in two others profitable response has come only from manure and mulches. It is evident, therefore, as the author observes, that the actual fertilization of a given orchard is still largely a local problem. Some of the many other important conclusions are as follows:

The total plant-food draft of a mature and active orchard is greater than that of a 25-bushel crop of wheat in every important constituent except phosphorus. It is practically inevitable, therefore, that sooner or later the cut-pot will be reduced or off seasons will be developed in any productive orchard because of a lack of sufficient plant food.

The mineral requirements of wood growth are comparatively low. This largely accounts for the fact that young trees usually do not make a profitable response to fertilizer applications, although they frequently respond well to manure or to other methods of conserving moisture.

The relative amounts of the various food elements required by the other parts of the apple plant are also of interest, but as a rule they are not especially reliable as bases for making fertilizer applications. The latter are best determined experimentally, as there seems to be very little relation between the response of the trees and their total chemical requirements.

Applications of nitrogen and phosphates and also of manure have been very beneficial in two of the experimental orchards. In those orchards potash has been of little or no service. These results are reversed at the present time in one of the other orchards, so far as yields are concerned.

The time required for results to appear has been surprisingly short in all cases where fertilization has proved to be really needed. In such cases, both the value of fertilization and the kinds needed were clearly evident by the middle of the second season, and no material changes have occurred since.

Neither acid phosphate nor "floats," when applied alone, have resulted in any important benefit. The fertilization of their plots is being "completed" by the addition of nitrogen and potash, in order to test further their relative values as carriers of phosphorus for trees. Basic slag was introduced into this comparison in 1912.

Lime also has failed in most cases, though it may have some value in aiding growth. In addition, it may have some indirect value in facilitating the growth of leguminous intercrops, and also in correcting a possible toxic action possessed by the basic radicals of a number of salts, some of which are present in commercial nutrients.

At present the high-grade sulphate in these experiments is showing no superiority over the muriate as a carrier of potash, but the reverse is usually true. The lower cost and easier handling of the latter, therefore, give it the preference. It is possible that the low-grade sulphate, or the 24 per cent. "double-manure salt," as it is often called commercially, may be superior on account of its magnesia content, but this has not yet been fully demonstrated.

The influence of proper fertilization is not transient. The gains from it have been greater in the sixth and last year of some of our experiments than at any time before. In one case, these gains have exceeded 1,100 bushels per acre. Where the crops of the full years are not too high, the yields usually have been greatly steadied by proper fertilization.

In all the experiments, the action of manure has proved to be practically identical with that of a commercial fertilizer rich in nitrogen and phosphorus. Their successes and failures have coincided with but two exceptions, and in those cases moisture rather than plant food was apparently the controlling factor. The commercial nitrates and blood have acted more quickly than the manure, and the potash in the latter has apparently been less effective than that in the commercial forms.

In general, the influences that have materially increased the yields have also increased the

growth. This is true generally, unless either occurs to an abnormal extent. The phosphates seem to be a partial exception to the rule, and mild injuries also may stimulate yield at the expense of growth.

Manure and potash are the only fertilizing materials that have shown a consistent benefit on the average size of fruit. This is doubtless associated with their favorable relations toward available moisture which is the chief determiner of fruit size. Above a rather indefinite point, however, the size of the crop on the tree becomes the dominant influence on fruit size. Proper thinning and moisture conservation, therefore, are the most important means of improving the average size of fruit.

The red color in apples can not be increased materially by any kind of fertilizer applications, though potash and possibly phosphates may be of some slight assistance. These colors are directly dependent upon sunlight and maturity, with the latter occurring preferably on the tree. Late picking, open pruning, light soils, sod culture, and mildly injurious sprays, therefore, tend to increase the reds in fruits, while opposite conditions decrease them.

The retarding influence of nitrogenous fertilizers or manure on color makes it advisable to use them less freely on some of the red varieties, especially those in which the color comes on rather tardily. On the lighter soils, or in localities with the longer growing seasons, this precaution is less important.

It is possible to indicate the more prominent characteristics of orchards that are in need of fertilization, and to formulate a general fertilizer, based on present experimental results, that may be used in such orchards until more definite local data can be secured.

Present evidence indicates that the nitrates, or other specially soluble plant foods, are best applied somewhat after the fruit has set. In addition to greater effectiveness, this delay enables the rate of application to be varied somewhat in accord with the amount of fruit set, making the applications heavier when the crop is heavy and vice versa. In the long run, this plan should steady the yields and get maximum benefits from the fertilization applied.

The general fertilizer that they are now recommending is a combination carrying about 30 pounds of actual nitrogen, 50 pounds of actual phosphoric acid (P2O5), and 25 to 50 pounds of actual potash (K2O). These are the amounts per acre for bearing trees. Suitable carriers and formulas for obtaining these materials are given in the article headed "A German Fertilizer for Apple Orchards."

This general fertilizer can be modified and directly adapted to the actual needs of any orchard, by following a local testing plan.

Ontario Fruit Growers' Association to have a Central Selling Agency.

Of fifty-two fruit growers' associations now operating in the Province of Ontario, twenty-four were represented at a meeting of the recently incorporated Co-operative Fruit Growers of Ontario, which was held in the Parliament Buildings, Toronto, June 17th.

Owing to the fact that competition is getting keener year after year, it was deemed advisable by a number of the leading growers in this Province to form a central agency for the purpose of selling the fruit, or at least part of the fruit of the various associations operating in Ontario. Accordingly meetings were called, and provisional directors appointed, and application made for incorporation, which has gone through, and the Central Association is at last a fact. On June 11th, a committee met, and instructed the secretary, P. W. Hodgetts, to send out a letter to each association, informing them that if a sufficient number of these associations will, before July 1st, 1913, guarantee 50,000 barrels of apples, or the equivalent in other fruits to the Co-operative Fruit Growers of Ontario, and will put up their notes for ten cents per barrel to enable the company to finance the selling agency until such time as returns begin to come in the company will immediately make the necessary arrangements for the employment of a competent manager and assistants for a period of three years, and will proceed with the sale of the fruit, and if the guaranteed quantity is not sufficient to warrant the above the company will still make the required arrangements to sell the fruit offered.

This circular letter was responded to by over thirty prominent growers, representing, as previously stated, twenty-four different associations. Elmer Lick, of Oshawa, Ontario, the president of the Association, was in the chair, and made out a strong case for this new central selling agency, pointing out that the growers in the western States, and in Western Canada, had organized such associations, and unless Ontario did likewise there would be a possibility of Ontario apples being practically driven out of the western market. At any rate competition promises to be

very keen this season, and in seasons to come, and it is necessary that Ontario growers be prepared to meet it in the best way possible. It was also shown that if a central agency were not established in all probability six or seven selling agents, representing different associations in Ontario, would be sent out west this fall and thus competition would be keen in Ontario fruit alone. A central association would do away with all this, and could be operated at smaller cost than if so many men were sent out. The Grain Growers' Association with its 1,200 branches was mentioned as a fine market for Ontario apples, and there seems to be no reason why these two associations could not get together with results satisfactory to all concerned.

P. W. Hodgetts, secretary of the association, read letters from representatives now in the west, showing that the western market prefers Ontario-grown fruit, provided it arrives in good condition, and is of a quality corresponding with the marks on the packages. Bad fruit has injured the market, and unless buyers out west are assured of good fruit Ontario is in danger of losing a large part of the trade.

A great deal of discussion arose over the method of obtaining the money to commence business, all the details of which are not as yet worked out, but the executive hopes to have everything in running order by July 1st. Mr. Lick proposed that each individual association taking stock in the central be allowed preferred selling on ten barrels of apples for every dollar of stock taken, or in other words, should take ten cents in stock for every barrel of apples consigned. That is, if an association guaranteed 2,000 barrels of apples to the central association the amount of stock it would be required to take would be \$200. This ten cents per barrel is, of course, a permanent investment, and is only needed to finance the undertaking until such time as returns for fruit sold begin to come in. It was estimated that about 25 cents per barrel would be needed for selling, but this figure cannot be determined exactly.

From the number of barrels offered by representatives present, it seems as though no difficulty will be experienced in getting the 50,000 barrels consigned. Over 30,000 barrels were practically promised at the meeting, and many of the representatives wished first to report to their associations when the number of barrels to be sent in by each could be ascertained. Fifteen of the associations represented put out last year 95,000 barrels of apples. If the crop this year averages only 50 per cent. of that of last year these fifteen alone could very nearly supply the required amount.

The officials are: President, Elmer Lick, Oshawa; Vice-President, Robt. Thompson, St. Catharines; Directors: C. W. Gurney, Paris; Adam Brown, Owen Sound; Roy A. Carey, Oakville; Sec.-Treas., P. W. Hodgetts, Toronto.

During the meeting reports upon the fruit crop prospects were received as follows: Robert Thompson, St. Catharines: an average crop in the Niagara Peninsula; apples uneven; about 60 per cent. of a full crop with Baldwins light; strawberries light; plums, a full crop, and cherries improving. Roy Carey, Oakville: Spies light; other varieties as good as last year; cherries heavy; small fruit good, excepting strawberries, which are light. T. A. Lampman, Arkona: Apples, 30 to 40 per cent. of last year's crop; strawberries scarce; peaches scarce; cherries and plums good. Alex. Jamieson, Forest: Apples about 50 per cent. of last year's heavy crop; just a fair crop with Baldwins light. W. H. Porter, Petrolia: Apples 50 per cent. of last year; peaches heavy; strawberries light; plums injured by frost. R. A. Thomas, Barrie: Early and late fruit good; not much spraying done. Adam Brown, Owen Sound: Apples about 50 per cent. of a full crop; Spies, Greening, and Kings well loaded; Baldwins and Russets light. Chas. F. Howard, Hagersville: Baldwins light; Spies a fair crop. Walter Palmer, Marshville: Baldwins and Spies set well; E. Clemons, Pelham: Apples 50 per cent. of a crop; small fruit light; C. W. Gurney, Paris: Baldwins and Spies light; plums and cherries heavy; peaches good. R. W. Grierson, Oshawa: Spies double last year; Baldwins light. W. J. Bragg, Bowmanville: Spies and Fallwaters good; about 75 per cent. average crop on the whole. Win. Oke, Port Hope: Spies setting well; Ben Davis average; Baldwins light; Greenings fair; all early varieties heavy. Baldwins light in Oxford county and Middlesex; early fruit good. Wentworth reports Spies light. Tomatoes were reported badly damaged by frost.

Ventilation for Fruits in Storage or Transit.

Several practical points bearing upon the keeping of fruit in storage are brought out in a recently issued Cornell bulletin on respiration of fruits.

The respiration of ripe fruits as well as that of green fruits is rapid.

Ripe fruits that spoil quickly, such as cherries, have a higher respiration rate than those that do not spoil so quickly, such as grapes.

Ripe apples lose their color, texture, and flavor, and take on the qualities of half-baked apples, by being kept for a sufficient length of time in oxygen-free gases. This emphasizes the need of good aeration for apples.

Peaches become brownish and acquire a very bad flavor when oxygen is withheld from them.

"Ice-scald" seems to be injury due to insufficient oxygen, and to an accumulation of carbon dioxide within the paper wrappers in which peaches are so often shipped. With good ventilation in conjunction with good refrigeration, such injury may be greatly reduced. This applies to fruits in storage as well as to those in transit.

Good ventilation in conjunction with refrigeration is of prime importance for the successful storage of fruit.

In connection with their nineteenth convention, the International Apple Shippers' Association will hold their fourth annual apple show at Cleveland, Ohio, August 6th to 8th, 1913. The secretary is R. G. Phillips, 612, Mercantile Building, Rochester, N.Y. No entrance or other fees.

FARM BULLETIN.

A German Fertilizer for Apple Orchards.

(Amounts per acre for bearing trees.)

Nitrogen 30 lb (N) Carried in :	Phosphoric Acid 50 lb (P2O5) Carried in :	Potash. 25 to 50 lb (K2O). Carried in :
100 lb Nitrate and 150 lb Dried Blood or 150 lb Am- onium in sul- phate.	350 lb Acid Phos- phate or in 200 lb bone meal, or in 300 lb Basic slag.	50 to 100 lb Muriate or in 100 to 200 lb of low-grade sulphate.

This table means that a fertilizer carrying about 30 pounds of actual nitrogen, 50 pounds of actual phosphoric acid (P2O5) and 25 to 50 pounds of actual potash (K2O) should be applied on an acre of bearing trees. Where potash is not known to be lacking, the smaller amount may be used, or after a little testing it may even be omitted entirely. With the smaller amount of potash, the essentials of the present combination are carried in 500 pounds of a 6-10-5 fertilizer, or its equivalent. In the usual ready-mixed fertilizers, the nitrogen is likely to be carried in ammonium sulphate, with which some liming may be necessary if many applications are made, and especially if leguminous cover crops or permanent covers are desired. In special or in home-made mixtures, the various elements may be carried in any of the materials indicated in the table.

More Agricultural Offices Opened.

The Ontario Department of Agriculture adds several new district branches to its work every year. The Province is now nearly covered by these county officials, only a few being left to be opened up. This year Haldimand County gets a representative with an office in Cayuga. H. M. King, B.S.A., will be in charge. Oxford county is to be looked after by G. R. Green, B.S.A., who will have offices at Woodstock. Northumberland county is another one to get a representative, R. S. Beckett, B.S.A., being the man appointed. His office will be in Brighton. Renfrew will have a district branch in Renfrew, in charge of J. L. Tennant, B.S.A. Peel county will have the services of W. H. J. Tisdale, B.S.A., whose office will be located in Brampton. Besides those, four summer offices have been opened, R. M. McElroy going to Rainy River District, J. N. Ponton to Sudbury, C. McRae to Birks Falls, and P. Stewart to Dryden. This makes forty district branch offices all told.

Hay and Grain Short in York Co.

At this date, June 20th, all hoe crops have been sown, and are looking fair. The weather has been very dry and warm, and growth of all grain has been set back, the straw will be very short, and many farmers had to sow barley in with their fall wheat, which is heading out about two feet high.

Farmers who have silos have planted their corn and it came up very well, the warm dry weather suiting it.

Hay will be very short, and prices will be high in the fall. Farmers are plowing up their clover sod and sowing on buckwheat. Pastures are short, and late corn is being sown for green feed in the fall.

The scarcity of small pigs makes the prices of both young pigs and fat hogs remain high.

The orchards are well loaded with fruit, raspberries will be plentiful if enough rain comes, and strawberries are plentiful, but slow to ripen. A numbers of farmers are setting out young apple orchards, which is a very good practice.

York Co., Ont.,

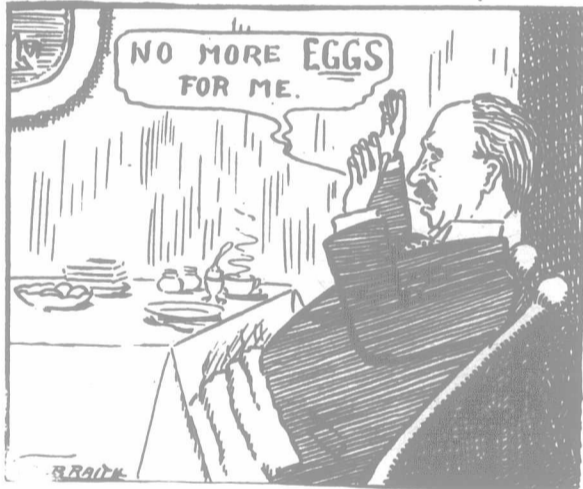
R.E.R.

Growth was Backward in May.

A bulletin of the Dominion Census and Statistics Office, issued June 13th, gives preliminary estimates of the areas sown to the principal grain crops and reports on their condition at the end of May, according to the returns received from crop-reporting correspondents throughout Canada. The reports show that the month of May proved cold and dry with frequent night frosts, and that these conditions, whilst favorable to seeding, retarded the growth of the crops sown and caused them to be unseasonably backward.

The total area under wheat in Canada is provisionally estimated at 9,816,300 acres, or 57,900 acres more than in 1912; the area in spring wheat being 8,990,500 acres, or 13,100 acres more. Oats occupy 9,608,500 acres compared with 9,216,900 acres in 1912, an increase of 391,600 acres; barley occupies 1,425,200 acres, an increase of 10,000 acres, and rye 126,500 acres, a decrease of 9,610 acres. For wheat, barley and oats taken together the increase represents 459,500 acres. The estimated acreage under hay and clover is 7,475,600 acres compared with 7,633,600 acres last year.

For the three Northwest Provinces of Manitoba, Saskatchewan and Alberta, the total wheat area is estimated at 9,013,800 acres, as compared with 8,961,800 acres, that of oats at 5,207,700 acres compared with 4,913,900 acres, and that of barley at 852,600 acres compared with 809,800 acres, these differences representing increases of 52,000 acres for wheat, 293,800 acres for oats, and 42,800 acres for barley, or 388,600 acres for the three crops.



A Stale Egg a Poor Advertisement.

South Perth Notes.

The season here at this writing (June 6th) is somewhat backward. North and east winds prevail with very little rain, consequently spring-sown crops are growing very slowly and grass is none too plentiful. The frost injured most of the early fruit buds, and the cold weather prevented the bees from flying far in fruit bloom. Consequently only those orchards in immediate vicinity of bees will be well pollenized, and set a full crop of fruit. Alfalfa was badly winter-killed, though other clovers escaped very well. This appears to be due to some lack in vitality of the plant, as it is not always traceable to poor drainage. I think this explains why it is not grown more extensively. There is something affecting the hatching of chickens this spring—a large number die in the shell. There is very little trading in horses, as few care to sell at the reduced prices. Cattle and hogs, however, hold up well, and eggs are always a good price. The cheese-factory season opened about May 1st, but the yield of milk has not been phenomenal so far, although cows were wintered well in most cases. An unusual number of washouts of tile and culverts have occurred since a year ago, requiring an extra amount for repairs.

Perth Co., Ont.

J. H. BURNS.

It is said that Oro township in Simcoe county, Ontario, has been particularly hard hit by the decrease in rural population. We were told the other day that this township fifteen years ago had a population of 4,500, but now can only muster 3,000.

Hay and Pastures Poor.

Editor "The Farmer's Advocate.":

I am glad to see the stand you have taken, exposing some of the inner workings of our Banking System. There must be something to conceal, else they would not be afraid of a little light on the subject. I don't think Peter McArthur is through with them yet. His different articles are very interesting and cause people to think.

We have had a backward season so far, the seed had a good bed but the temperature became low with frosts at night, vegetation made slow progress. Very little rain has fallen for a month back. We had a thunder storm this morning, (June 16th) and a good deal of rain fell, which will do a great deal of good. Most of the root crops are sown, so this rain will soon bring the plant.

The hay crop is not very promising; the clover was badly winter-killed on many farms, and old meadows are short and thin; if hay be half an average crop it's all it will be. Mangels and corn are fair plants. Barley was damaged a little with the frosts. Pastures are not good. A few cattle soon consume a large field. J. G. Wellington Co., Ont.

Toronto's Winter Fair, Nov. 17-22.

At a meeting, held last week in one of the Committee Rooms of the Parliament Building, Toronto, Nov. 17th-22nd was fixed as the date of Toronto's new National Winter Fair. The meeting comprised representatives of the various provincial Horticultural Associations, the beekeepers and poultrymen. R. J. Fleming and Controller Foster, of the City Council, waited upon the meeting. The latter gave it to be understood that he had authority to put up sufficient money to ensure a good prize-list for live stock as well as horticultural products. Judging this year will probably be carried on in the Transportation Building on the Toronto fair ground, but agitation will be commenced for the erection of a judging arena with seating accommodation for 15,000 people.

Depth of Corn Roots.

C. P. Hartley, Physiologist in charge of corn investigations for the United States Department of Agriculture, says that when the soil is loose to a sufficient depth, corn roots penetrate in abundance to a depth of three or four feet. The proviso is well included. In this country we suspect it is uncommon for corn roots to attain such a depth. Many of the feeding rootlets spread out near the surface, and are liable to be seriously injured by deep cultivation after the corn is, say, six inches high.

The Third International Road Congress is being held in London in order to continue the studies begun in Paris in 1908, regarding the construction and maintenance of roads in view of modern methods of locomotion. The Congress, at which the Governments of the different States have been invited to be officially represented, opens on June 23rd and will last six days.

It is organized by the Permanent International Association of Road Congresses, formed in Paris in 1908, and by an organizing committee formed in the United Kingdom.

Among the delegates from Ontario in attendance at the Congress are W. A. McLean, Provincial Highways Engineer, representing the Province; Prof. A. W. Lang, from Toronto University; H. B. Bowman of Berlin, representing the Canadian Society of Civil Engineers; W. G. Trethewey representing the Ontario Motor League; A. W. Clark, representing the Ontario Good Roads Educational Association, and S. D. Robinson, of Hamilton.

The better-farming special train, now touring Ontario, is meeting with unqualified success, the attendance being unusually large for this time of year. Geo. A. Putnam, Superintendent of Farmers' Institutes, informed a member of "The Farmer's Advocate" staff a few days ago that 500 farmers, their wives, sons and daughters attended an afternoon meeting held in Shelburne, and Chatsworth also furnished a large crowd. Over 200 coming out in the evening following the very large crowd in the afternoon.

You will find enclosed money order for \$1.50, being renewal of my subscription to "The Farmer's Advocate." I wish to congratulate you on the just and firm stand you have taken for the revision of the Bank Act. I anticipate favorable results for the farmers, and sincerely trust that the old Advocate will be none the worse for it.

Nipissing District, Ont.

AUREL CLEMENT.

Educating Canada's Indians.

It is not so many decades ago that North America was the property of the freedom-loving, warlike Indian. In those days the lakes and streams fairly teemed with fish, and the thousands upon thousands of acres of virgin forest knew well the voices of all wild animals native to the continent. These furnished food, clothing, and shelter for the copper-colored race to whom the cares incident upon advanced civilization with its rush for gold were not known. Natural conditions made living a comparatively easy matter and the Indians spent most of their time in hunting and fishing, or in tribal warfare, while their more industrious squaws did the minimum of domestic work required during that primitive age.

Then out of the east came a sail, and the white man landed upon his bronzed brother's beach. Gradually he pushed inland and rapidly did his numbers increase. The Indian fell back before him as the giant monarchs of the primeval forest fell before the axes of the newly-landed stalwarts. As the hunting grounds became smaller Indians gradually grew less numerous until to-day the white man holds the major portion of the land, Indians being pretty well confined to reserves.

One of these reserves is situated in Middlesex county, Ontario, and on it is located what is known as Mount Elgin Industrial Institute, a school for educating the young of this and other reserves. Here all the best that is known in the white man's elementary education is being taught the children of Indian parents who as a general rule are apt pupils.

This school, the corner stone of which was laid in 1859, was founded by the Missionary Society of the Methodist Church in Canada. The corner building is now used only as a minor structure, and, in its stead, on the north bank of the river Thames, in a fine grove of forest trees and looking majestically down upon thousands of acres of pastures and cultivated lands, has arisen a building complete in every detail—light, well ventilated and sanitary, and surrounded by barns and out-buildings which mark the place as an agricultural school as well as an academy for general education.

It is with the agricultural end of the work that this article is to deal in particular, but in passing it might be well to note that the boys and girls are taught all subjects leading to high school entrance examination, and one year beyond this; the girls are taught to sew, cook, and all kinds of domestic service, and the boys are taught mechanics as well as all kinds of farm practice. Music has recently been added to the curriculum. Children are taken in at the beginning of school age and may remain until eighteen years of age, or such times as the Department of Indian Affairs deems it advisable that they should leave the school.

The farm, as operated, composes about 1,000 acres, between 600 and 700 acres of which is pasture, and about 300 acres being under cultivation. On this part a four-year rotation is operated as far as possible about 100 acres of hay being produced yearly; fifteen acres of potatoes, thirty to forty acres of winter wheat and forty acres of corn being grown annually besides spring grain. All the land is kept thoroughly cultivated, the aim being to teach the boys the better class of farming, and to produce highest crops to meet large expenses.

The farm is operated as a live stock proposition, and the success which has resulted during recent years is but another proof that with proper management cash returns from live stock are sure to far outweigh cost of production. The pig pen will accommodate about 50 fattening hogs. Six to eight brood sows are kept to ensure a good supply of young pigs, and the sows now on hand average ten pigs per litter. They are of the Yorkshire breed, and to produce good-feeding pigs are bred to Berkshire boars. From \$800 to \$1,000 worth of pork is sold each year, besides what is consumed by the 150 people at the Institution, composed of 135 pupils, the remainder being officers. At present there are 250 head of cattle on the farm, including fifty milk cows, forty-four of which are in milk, and one of which, a grade Holstein, has averaged 60 lbs of milk per day from April first until the 20th of June. Several others have averaged 50 lbs per day during this time. One-half of these cows are grade Holsteins, of a very high order, and the other half are milking Shorthorns, four of which are pure bred. After making butter and supplying milk and cream for the entire Institution, this herd produced last year \$2,500 from cream sold, and the buttermilk and skim milk, which went to the pigs, was valued at \$800. The herd is being improved. Records, commencing April first, 1913, are being kept on all cows, and it is the intention to weed out and eventually make the herd one-half pure bred, and the

Practical Agriculture Demonstrated

other half grades of the two breeds mentioned, thus dividing the herd into four sections. It is the aim of the management to keep up the herd by breeding, that is, by using the best bulls procurable upon the selected females, and keeping the offspring to form the herd of the future. From eighty to one hundred first-class steers are turned off each year, it being no uncommon occurrence for \$4,000 worth to be sold at once. Three large plank silos built on cement foundations and inside the barns are depended upon to supply the major portion of winter roughage.

on the best farms of this country is not overlooked here, a thoroughly up-to-date poultry-house with accommodation for 100 hens being a feature of the work. It is fitted with chopping boards, and a straw loft, and has a combination glass and cotton front. The breeds kept are Brown Leghorns and Barred Plymouth Rocks. All garden vegetables required by the Institution are produced in the Institution garden, and the boys learn how to grow these from actual experience.

The children rise at six a.m., and have a busy day with lights out at nine p.m. Boys and girls are divided into three divisions and work in monthly shifts, so many boys going to the farmer, so many to the stockman, so many to the mechanic, etc., while the girls get sewing, laundry work, cooking, etc., in turn. All this is in addition to school work under three competent teachers. After several years of this training the pupils, upon leaving the school, are well fitted to face their life's work, and in most cases they do well, very few of them returning to reserve life.

Such is the work being carried on by Rev. S. E. McVitty, who has been principal or superintendent of the school during the past four years. The extent of his success in agriculture can only be understood when it is known that from this farm he must be able to make \$10,000 each year, in addition to the per capita government grant before expenses are paid. This, he has been able to accomplish each of the last two years. Farming properly carried on is a profitable undertaking, and with such stock, such methods of cultivation, and such a system of farm management being taught the Indian boys and girls together with all the other education, technical and general, which is offered, a lasting good must be done all those fortunate enough to be admitted. The accompanying illustrations show the main building, the senior class of girls, and the type of work horses used on the farm. If the white man took the Indian's forest he has given him a vastly more precious gift in return—education and Christianity.

We have just finished hoeing. Our corn is pretty good—a little on the thin side. I think that there was only about sixty per cent of the corn started. Our root crop looks well and the grain is fine, but hay is very light. All the clover killed with the ice in the winter.
JAMES BLAIR.



The Main Building. Where Indian boys and girls are educated.

The dairy stable is fitted with chain ties, but all the stalls in the large feeding-cattle barn have stanchions installed. Some idea of the size of the latter stable may be had when stanchions are provided for seventy head of steers and thirty-four head of young cattle. All manure is hauled as made in the winter to the fields and placed in large piles to heat. This has been found very satisfactory.

At the present time there are about forty horses on the place, and a good lot they are. All suitable mares of breeding age are bred regularly, and some particularly promising young

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Senior Class of Girls. These girls come from fourteen different reservations, and each is a good seamstress, the dresses worn being all made by the wearers.

stock is coming on. The superintendent is a stockman, and owing to his good judgment some very large profits have been made from buying and selling all kinds of farm stock during recent years.

Silos are filled, threshing is done, and grinding is accomplished by means of an 18-h.p. gasoline engine, which the boys showing an aptitude for are taught to operate. All blacksmithing is done on the place, and boys favoring this occupation are taught all phases of the work.

A sideline which is fast demanding recognition

Lanark Co., Ont.

The kind of man to retire from money-earning labor with the hope of really enjoying life is the man who has really enjoyed life during his period of hardest work. And you will deceive yourself if you imagine that in idleness you will develop virtues or a capacity for sensible enjoyment that you did not have in your working years.—World's Work.



A Team to be Proud Of.

This illustrates the type of work horses kept on the Mt. Elgin Industrial Institute Farm.

The New Pasture.

By Peter McArthur.

Last year I had one experience of farming that I said nothing about. It was a sore point. When it was decided to put the whole place under pasture I naturally decided to use the mixture for permanent pasture recommended by the Government experts. I asked several authorities what the seed would cost, but they were all indefinite. "Oh, not very much." "I really couldn't say." "The price of seed varies from year to year, but it will not be very dear." That was the only kind of answer I could get from them. Finally I sent a request to one of them who lived in a city to send me the amount of seed mixture needed for a certain acreage. He sent a friend to place the order and the seed came in due course. After a terrible struggle I got the stuff sown by hand. Much of the seed in the mixture was so light that I couldn't sow it when there was a breath of air stirring, but by taking advantage of the still hours that usually precede thunder storms I finally got it sifted over the ground. After I got it sown the bill came. I found that my seeding cost about seven dollars an acre. As I had expected that it would not cost much more than seeding to clover the bill came with something of a shock. In fact I wanted to thrash some of those indefinite men who had reassured me by saying "Oh not very much," and that sort of thing, but when I went to the city and looked at the broad shoulders of the man who had really placed the order I changed my mind. He weighed about forty pounds more than I did, and was in absolutely fit condition. After taking one look at him I assumed my most ingratiating manner and assured him that I had a splendid catch of the grass mixture and was so much obliged to him. Then I came home and avoided the place where I had made the costly experiment. As the seed had been sown in oats and a lot of the oats had shelled and grown during the wet harvest I could not tell what kind of a catch I had.

This spring I got a chance to see the results of my expensive seeding. The first thing I noticed was that the seed was growing in strips that were about four feet apart. I thought I had been careful when scattering the mixture to see that it was evenly distributed over the ground, but apparently the clover was heavier

and carried farther than the other seeds. The result was that I had strips made up of the different kinds of clover alternating with meadow (escue, orchard grass, and oat grass. I felt decidedly bilious as I looked at this unexpected result, and I still feel that instructions should go with that kind of mixture, so that an amateur can sow it evenly. But it was growing splendidly, and I kept the cattle off until it had a good start. Towards the end of May I opened all gates and let them have the run of the farm, and now I have about recovered from the shock I got when I learned the price of the seed. Things are turning out so well that I can talk about it without wanting to thrash someone. The cattle took to the new pasture as if it were a luxury. Although there is good pasture on other parts of the farm they put in most of their time on the field sown with the mixture. They certainly like it, and it seems to be standing the heavy cropping in splendid shape. The ground is well covered, and the growth seems to be constant in spite of the dry weather. If it is going to be like this every year I shall be obliged to admit that once more the scientists are right. The pasture is so much better than the old sod, and so much better liked by the cattle that it is certainly turning out to be a success. Perhaps it is just as well that I didn't know how much it was going to cost, for if I had, it would not have been sown. Still, I shall not take chances on anything else until I get definite prices. Seven dollars an acre seems a great deal for seed, even for a permanent pasture, but if it continues to be as unusually good as it is this year it will, no doubt, prove profitable in the end.

* * * * *

This week I was able to do something for the memory of the pioneers that I have had in mind for a long time. As so many cement bridges are being put up in the country it had occurred to me that it would be a good idea to print on them the names of the pioneers of the surrounding district. Many with whom I discussed this plan approved of it, but no move was made to put it into practice. Instead of the names of the pioneers the names of school boys, and some objectionable wit was scrawled in the soft mortar of many bridges, to go down to the future as an indication of the spirit of our time. This week, however, a new cement bridge was put in at our corner, and I secured the permission of the coun-

ty engineer to put on the names of the pioneers. To my surprise I found that some of these names were unknown, even to young men of the neighborhood who were working on the bridge. The names of the men who really made the country are being forgotten in the places where they lived. Of course, I was able to put only a few names on record, but I think it was a move in the right direction, and if other bridges are used for the same purpose future generations will be reminded occasionally of that part of our Canadian history in which we should take the greatest pride. With all the talk that is going on about the naval and military responsibilities of Canada we are in danger of overlooking our peaceful heroes who conquered the wilderness, and whose achievements should be held up for the admiration of our children, at least as prominently as those of the fighting men.

This seems to be an unusual season for wild life in this part of the country. Of course hunters have been discouraged in this district for some years past, but not until this year did we notice any particular difference. There are times when quail seem to be whistling from every fence post, and we see them constantly when driving along the road. In the woodlot we counted eight young black squirrels that were playing around like kittens, and to have a boy sit and watch them with a rifle lying across his knee shows that a change has come over us. The rifle is used only for sparrows, and for the crows and blackbirds that are raiding the corn fields. It is also used on occasion to rid the place of woodchucks and rabbits. The latter seem so plentiful this summer that I may have to put a bounty on their heads next fall on account of the new orchard which they would probably girdle unmercifully during the winter. In a lonely pasture field that is cut off by the railroad I have noticed quite a few strange birds that I have decided are rail. They are larger than the killdeer, have long necks, beaks, and legs, and when disturbed they make a strange whistling cry, with which I am unfamiliar. They must have their young hatched out at the present time for they are particularly noisy whenever the field is approached. Even the canaries have returned to the orchard now that the sparrows are thinned out, and the little song sparrows are bubbling over with music everywhere. The boys report that they have found a bob-o-link's nest on a neighboring farm, and as that is something I have never been able to find I am going to take an hour off some evening and visit it. A pair of orioles have a pocket-like nest swinging from the end of an elm twig a few yards from the door, and just now they are working over-time feeding their young. Brown thrashers are also unusually plentiful this year, and with so many birds of every kind about the place there is music of one kind or another in the air at all times from dawn till dark.

Hay Crop Below Average.

Enclosed please find \$1.50 for "The Farmer's Advocate", as we do not care to be without your weekly visits, and would recommend your liberal-minded journal to all our fellow farmers.

Warm weather comes slowly in Frontenac County. Hay crops will be below the average. Apples seem quite plentiful on most of trees; caterpillars have stripped some orchards, and many of the young maples and other young trees are nearly cleaned up.

Frontenac Co., Ont. BYRON GORDON.

The tent caterpillar is the feature of the season in Eastern Ontario, Quebec and New Brunswick, according to the June Fruit Crop Report. Bud moth is becoming a serious menace in orcharding. Cutworms are reported worse than usual, and many correspondents complain that the white grub is doing serious injury to strawberries. In British Columbia and parts of Quebec the aphid is reported troublesome.

Trade Topics.

AERONAUT TO MAKE THRILLING DESCENT

Winnipeg, Man.

E. W. Hutchinson, the famous aeronaut, has been engaged by the Winnipeg Fair officials to give a series of thrilling parachute descents during the Exhibition, July 8-16. One descent of a particularly thrilling nature is to be made from a bomb fired into the air, which on exploding releases the daring performer, with only a frail parachute between him and certain death.

Attention is called to the advertisement of the Daisy Grinder, appearing in another column of this issue. The season is again at hand when mower and binder knives must be regularly and well ground. There is a large lumber of edged tools on every farm, and which demand a

grinder. It is operated by one man, having foot-paddles and knife-holder. It is reasonable in price, and W. J. Mandley, of Shelburne, Ont., who manufactures the grinder, pays the freight to any station in Ontario or Quebec. It would be well worth your while to look up this advertisement.

CANADIAN PACIFIC GREAT LAKES EXPRESS STEAMSHIP SERVICE.

Few people realize with what ease and speed a trip from the East to Fort William and Winnipeg can be made via the Canadian Pacific Great Lakes Express Steamships. Stop for a moment and consider that you can leave Toronto at 12:30 noon on Tuesday or Saturday and arrive in Winnipeg at 9:40 p. m. Thursday or Monday. Fifty-seven hours from Toronto to Winnipeg, twelve hours faster

than any other service. For those who wish to leave on different days in the week, and have a little more time on the water, the trip can be made leaving Toronto at 12:45 noon on Mondays, Wednesdays and Thursdays, arriving in Winnipeg at 11:40 a. m. on Thursdays, Saturdays, and Sundays.

Think of a steamship service five days each week across the Great Lakes. The steamships are built and furnished to give the very best comfort that marine architecture can devise, and the cuisine is the result of years of studied effort and experience, and is, needless to say, the best.

The Tuesday and Saturday boats contain inside and outside staterooms and Cabins de Luxe. Large, well-ventilated dining-saloon and rest-rooms, together with spacious decks for promenading.

All staterooms on the Monday, Wednesday and Thursday boats are outside, and in addition there are parlor rooms.

If you are contemplating a trip, don't let this slip your memory, Canadian Pacific Steamships make the fastest time, have the best of accommodation, and the table is unexcelled. Full particulars and reservations on trains and ships, at every Canadian Pacific Ticket Office. Toronto City Office, temporarily located at 16 King St., East, in a few days will be in the new big building, south-east corner of King and Yonge Sts.

Brand-new Automatic Cream Separators (two latest models), with a capacity of 600 lbs. per hour, are advertised for sale in this issue at half-price to clear, by Premier Separator Co., Toronto.

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

On Monday, June 23rd, receipts at the Union yards were 54 cars, comprising 1,200 cattle, 132 sheep and lambs, 40 calves, and 18 horses. No sales were being made. At the City yards, there were 4 carloads, comprising 55 cattle, 21 hogs, 110 sheep and lambs, and 87 calves. Trade dull for cattle, no sales having been made at 10 o'clock. Sheep sold at \$5 to \$6 per hundredweight. Lambs, \$10 to \$11 per hundredweight. Calves, \$6 to \$8.50 per hundredweight. Packers quoted hogs at \$9.50 fed and watered, and \$9.15 f. o. b. cars.

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

	City.	Union.	Total.
Cars	25	374	399
Cattle	518	5,081	5,599
Hogs	221	6,057	6,278
Sheep	487	2,356	2,843
Calves	284	940	1,224
Horses	—	44	44

The total receipts at the two yards for the corresponding week of 1912 were as follows:

	City.	Union.	Total.
Cars	160	188	298
Cattle	1,769	1,771	3,540
Hogs	4,298	4,702	9,000
Sheep	1,483	409	1,892
Calves	766	245	1,011
Horses	11	154	165

The combined receipts of live stock at the two markets for the past week, show an increase of 101 cars, 2,059 cattle, 951 sheep and lambs, and 213 calves; but a decrease of 2,722 hogs, and 121 horses, compared with the same week of 1912.

Receipts of live stock at the two markets last week were a little larger than for the corresponding week of 1912. The quality of the bulk of cattle on sale has not been excelled during the present season for stable-fed cattle. The supply was greater than the demand, which caused a slow, draggy market, with prices 15c. to 25c. per cwt. lower in all classes of fat cattle except for choice, handy-weight butcher's cattle, which were no lower, as the supply was none too large.

Exporters.—Swift & Co., of Chicago, bought 300 export steers at \$6.80 to \$7.15; Lunness & Halligan bought 36 selected steers, 1,340 lbs. each, at \$7.40 per cwt. This made a total of 336 export steers bought for export.

Butchers'.—Choice steers of export weights and quality, \$6.75 to \$7; good to choice butchers', \$6.50 to \$6.75; medium butchers', \$6.25 to \$6.50; common, \$5.75 to \$6.20; choice cows, \$5.75 to \$6; good cows, \$5.25 to \$5.50; medium cows, \$4.50 to \$4.75; common cows, \$3 to \$4; choice bulls, \$6 to \$6.25; medium to good bulls, \$5.25 to \$5.80; common bulls, \$4.25 to \$5.

Stockers and Feeders.—The demand for feeders and stockers was greater than the supply, and prices for them were firm. Steers, 800 to 900 lbs., sold at \$6 to \$6.40; stockers, 600 to 700 lbs., sold at \$5 to \$5.85; stockers, 500 to 650 lbs., of Eastern quality, \$4.75 to \$5.

Milkers and Springers.—Receipts of milkers and springers were larger than for some time. There were few buyers who wanted cows unless they were of extra choice quality. The result was that common and medium, and even fairly good cows, were, on an average, about \$10 per head lower. Prices ranged from \$40 to \$90, one only at the latter price, and very few went over \$60 to \$65.

Veal Calves.—Calves were in good demand all week. Choice calves sold at \$8.50 to \$9.50; good, \$7.50 to \$8; medium, \$6.50 to \$7; common calves, \$5.50 to \$6.

Sheep and Lambs.—Both sheep and lambs have sold readily at firm prices all week. Light ewes, \$5.75 to \$6.25; heavy ewes and rams, \$4 to \$5; yearling lambs, \$7.50 to \$8.50; spring lambs sold at \$10 to \$11.50 per cwt., and quick sale at these prices.

Hogs.—Prices for hogs varied very little from our last report. Selects, fed and watered, sold at \$9.85 to \$9.95, and \$9.60 f. o. b. cars, and \$9.15 weighed off cars.

Horses.—Trade in horses at the Union Horse Exchange at West Toronto last week was the quietest of the season thus far. One carload was sold to go to Ottawa, and another to Renfrew, besides the local sales, which were not as active as usual. At the other sale stables also, business was reported very quiet. Drafters sold at \$175 to \$250; general-purpose, \$160 to \$200; expressers, \$160 to \$225; drivers, \$140 to \$200, and serviceably sound at \$40 to \$90.

BREADSTUFFS.

Wheat.—Ontario, No. 2 red, white or mixed, 97c. to 98c., outside; inferior grades, down to 70c.; Manitoba No. 1 northern, \$1.04; No. 2 northern, \$1.01½c.; No. 3 northern, 97½c., track, lake ports. Oats—Ontario, No. 2, 34c. to 35c., outside; 36c. to 37c., track, Toronto; Manitoba, No. 2, 40c.; No. 3, 38c., lake ports. Rye—No. 2, 61c. to 62c., outside. Peas—No. 2, 90c. to 95c., outside. Buckwheat—No. 2, 52c. to 53c., outside. Corn—American No. 2 yellow, 64½c., Midland; 69½c., track, Toronto. Flour—Ninety-per-cent. Ontario winter-wheat flour, \$3.95 to \$4.05, seaboard, in bulk. Manitoba Flour—Prices at Toronto are: First patents, \$5.30; second patents, \$4.80; in cotton, 10c. more; strong bakers' \$4.60, in jute.

HAY AND MILLFEED.

Hay.—Baled, in car lots, on track, Toronto, No. 1, \$12 per ton; No. 2, \$11 per ton. Straw.—Baled, in car lots, \$9 to \$9.50 per ton. Bran.—Manitoba bran, \$17.00 in bags, track, Toronto; shorts, \$19; Ontario bran, \$17 in bags; shorts, \$19; middlings, \$21 to \$23.

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 12½c.; country hides, 12c.; cured, 13c.; country hides, green, 12c.; calf skins, per lb., 16c.; deacons, each, \$1.10 to \$1.25; lamb skins and pelts, 15c. to 25c. each; sheep skins, \$1.50 to \$1.75 each; horse hair, 37c. per lb.; horse hides, No. 1, \$3.50; tallow, No. 1, per lb., 5½c. to 6½c.

WOOL.

Unwashed, coarse, per lb., 14c.; washed, coarse, 24c.; unwashed, fine, 15c.; washed, fine, 26c.

COUNTRY PRODUCE.

Butter.—Prices steady, at last quotations. Creamery pound rolls, 28c. to 29c.; creamery solids, 27c. to 28c.; separator dairy, 24c. to 25c.; store lots, 21c. to 22c.

Eggs.—Market firm, at 22c. to 23c. for case lots.

Honey.—Market unchanged, at 13½c. per lb., extracted.

Cheese.—New, twins, 14c.; large, 13c.; old, twins, 15c.; large, 14c.

Potatoes.—Prices easier. Ontarios, 60c. per bag for car lots, track, Toronto, and 80c. to 85c. per bag for New Brunswick.

Delawares, for car lots, track, Toronto. Poultry.—Receipts light. Turkeys, 18c. to 20c. per lb., dressed; spring chickens, 30c. per lb., dressed; spring chickens, 35c. to 45c. per lb., dressed; hens, 18c. to 20c. per lb., dressed.

Beans.—Hand-picked, \$1.60 to \$2 per bushel; primes, \$1.75, ranging down to \$1.50 for poor quality, track, Toronto.

FRUITS AND VEGETABLES.

Canadian strawberries sold at 17c. to 20c. per quart, by the case; gooseberries, 60c. to 75c. per small basket; rhubarb, 25c. to 40c. per dozen bunches; spinach, 50c. to 75c. per hamper; new carrots per hamper, \$2; new potatoes, \$2 per bushel; radishes, \$1.50 per hamper; watermelons, 50c. to 65c. each; Canadian head lettuce, dozen, 40c. to \$1.

Montreal.

Live Stock.—The market for live stock was very firm all the way round last week. Cattle were rather higher, the price for the best butchers' steers being 7½c. per lb., and even more, while good went from 6½c. to 7c., and medium 5½c. to 6½c. Common ranged down to 5c. per lb. Prices on small meats were fairly steady. Sheep sold at 4½c. to 5c. per lb., while lambs were \$4 to \$6 each. Calves showed very little change in price, sales taking place at \$3 to \$6. There were very few good calves offering. Hogs were reported to be slightly lower in price, the quotation being 10½c. per lb. for selects, weighed off cars.

Horses.—Dealers report a fair demand for horses. The tone of the market was firm, and offerings very light. Prices were as follows: Heavy-draft horses, weighing from 1,500 to 1,700 lbs., \$300 to \$350; light-draft, 1,400 to 1,500 lbs., \$225 to \$300; light horses, 1,000 to 1,100 lbs., \$125 to \$200; broken-down animals, \$75 to \$125, and choicest saddle and carriage animals, \$350 to \$500 each.

Poultry.—Cold-storage stock continued steady, and prices were: Turkeys, 23c. to 24c. per lb.; geese and fowl, 15c. to 17c.; ducks, 20c. to 22c., and chickens, 18c. to 19c.

Dressed Hogs.—Very little change was shown in the market. Dressed hogs continued to sell at 14½c. to 14½c. per lb., this being for abattoir-dressed, fresh-killed.

Potatoes.—The market was still very firm, and went up to \$1, the range being 90c. to \$1 per 90 lbs. for Green Mountains, carloads, on track. Quebec potatoes were 15c. or 20c. under these figures, and smaller lots brought 25c. to 30c. more than carloads.

Syrup and Honey.—There was little change in these products. Three-quarter tins of maple syrup cost 85c. to 95c. Syrup in wood was 7c. to 8c., and maple sugar, 11c. to 12c. per lb. Honey was steady, as follows: White-clover comb, 16c. to 17c. per lb.; extracted, 11½c. to 12c.; dark comb, 14c. to 15½c., and strained, 8c. to 9c.

Eggs.—Receipts of eggs continued fairly large, and there was an active demand for everything arriving. The export of eggs has been discontinued entirely. Selects still sold about 25c. here, in a wholesale way, and straight receipts at 22c. to 23c.

Butter.—Although the prices on creamery were quoted a little lower in the country, the market held steady here. The finest creamery was quoted at a range of 25½c. to 25½c. per lb., while fine quality could be had at about ½c. under this figure, and other grades a cent or two less. Dairy butter held at 22c. to 23c. per lb.

Cheese.—Prices were practically the same as the previous week. Western white was 12c. to 12½c., and sold at a premium of about ½c. over colored. Eastern white was quoted at 11½c., and was also ½c. over colored.

Grain.—Local grain dealers still quoted as follows: No. 2 Canadian Western oats, 41c. to 41½c., ex store; No. 1 extra feed, 41c., and No. 1 feed, 39½c.; No. 3 Canadian Western, 38½c. Ontario malting barley, 61c. to 68c., ex store. Manitoba No. 3 barley, 56c.; No. 4, 55½c., and feed, 50c. per bushel. No. 3 yellow corn was quoted at 65c., ex store.

Flour.—Prices held at \$5.40 per barrel for Manitoba first patents, in bags; \$4.90 for seconds, and \$4.70 for strong bakers'. Ontario winter-wheat flour was \$5.25 for patents, and \$4.75 to \$4.85 for straight rollers.

Millfeed.—Local mills quoted \$17 a ton for bran, in bags; shorts, \$19, and middlings were \$22. Mouille was quoted at \$30 to \$32 per ton for pure, and \$26 to \$28 for mixed.

Hay.—Prices were \$12.50 to \$13 a ton for No. 1 baled hay, car lots, track; \$11.50 to \$12 for No. 2 extra; \$9.50 to \$10 for No. 2 ordinary.

Hides.—Prices were higher on lamb skins. Beef hides sold at 11½c., 12½c. and 13½c. per lb. for Nos. 3, 2 and 1 hides, respectively. Calf skins were 17c. and 19c. per lb., respectively, for Nos. 2 and 1. Lamb skins were 25c. each, and horse hides \$1.75 and \$2.50 each. Tallow sold at 1½c. to 3c. per lb. for rough, and 6c. to 6½c. for rendered.

Cheese Market.

Peterboro, Ont., 12½c.; Madoc, Ont., 11 3-16c. to 12½c.; Woodstock, Ont., 12½c. to 12½c.; Brockville, Ont., 12½c.; Alexandria, Ont., 12½c.; Victoriaville, Que., 12½c.; Kemptville, Ont., 12½c.; Picton, Ont., 12½c. to 12½c.; Perth, Ont., 12½c.; Vankleek Hill, Ont., 12½c.; Iroquois, Ont., 12½c.; Cornwall, Ont., 12½c. to 12 13-16c.; Napane, Ont., 12 13-16c.; St. Hyacinthe, Que., 12½c.; butter, 24½c.; Cowansville, Que., butter, 25½c.; Belleville, Ont., 12½c. to 12 11-16c.; London, Ont., no sales, bidding from 11½c. to 12½c.

Buffalo.

Cattle.—Prime steers, \$8.75 to \$9; shipping, \$8 to \$8.65; butchers', \$7 to \$8.60; heifers, \$6.75 to \$8.35; sows, \$3.75 to \$7.25; bulls, \$5.50 to \$7.70; stockers and feeders, \$6 to \$7.75; stock heifers, \$5.50 to \$6.50; fresh cows, \$35 to \$85.

Veals.—\$6 to \$10.50. Hogs.—Heavy, \$9.05 to \$9.10; mixed, \$9.10 to \$9.15; Yorkers and pigs, \$9.05 to \$9.10; roughs, \$7.80 to \$9.50; stags, \$6.50 to \$7.25; dairies, \$8.75 to \$9.

Sheep and Lambs.—Lambs, \$5.50 to \$7.75; yearlings, \$4.50 to \$6.25; wethers, \$5 to \$5.25; ewes, \$2.50 to \$4.50; sheep, mixed, \$4.55 to \$5.

Chicago.

Cattle.—Beeves, \$7.20 to \$9; Texas steers, \$6.90 to \$8; stockers and feeders, \$5.90 to \$8; cows and heifers, \$3.80 to \$8.40; calves, \$6.75 to \$9.50.

Hogs.—Light, \$8.50 to \$8.80; mixed, \$8.45 to \$8.80; heavy, \$8.25 to \$8.75; rough, \$8.25 to \$8.45; pigs, \$6.75 to \$8.50.

Sheep and Lambs.—Sheep, native, \$4.60 to \$5.50; yearlings, \$5.40 to \$6.40. Lambs, native, \$5.10 to \$6.50; spring lambs, \$5.25 to \$7.50.

British Cattle Market.

Cattle are making 14½c. to 15½c. per pound.

Gossip.

The death is announced of Thomas Teasdale, well and widely known as a successful farmer, breeder, exhibitor, and judge of live stock, his specialties being Berkshire swine and Cotswold sheep. He was an honest and honorable man, reliable and friendly, and had accumulated a considerable competency. The greater part of his life was spent upon the farm on which he was born, in Peel County, Ontario, near the town of Brampton. Later he purchased and lived upon an excellent and well-managed farm at Concord, near Thornhill, in York County. Owing to failing health he, some three or four years ago, left the farm to one of his sons, and with his wife retired to the town of Weston. He was 77 years of age when his death occurred.

EXHIBITION DATES.

International Horse Show, Olympia, London, Eng., June 19 to July 1.

Royal Show, Bristol, Eng., July 1-5.

Canadian Industrial Exhibition, Winnipeg, Man., July 8-16.

Dominion Exhibition, Brandon, Man., July 15-25.

Regina, Sask., July 26 to August 2.

Saskatoon, Sask., August 5-8.

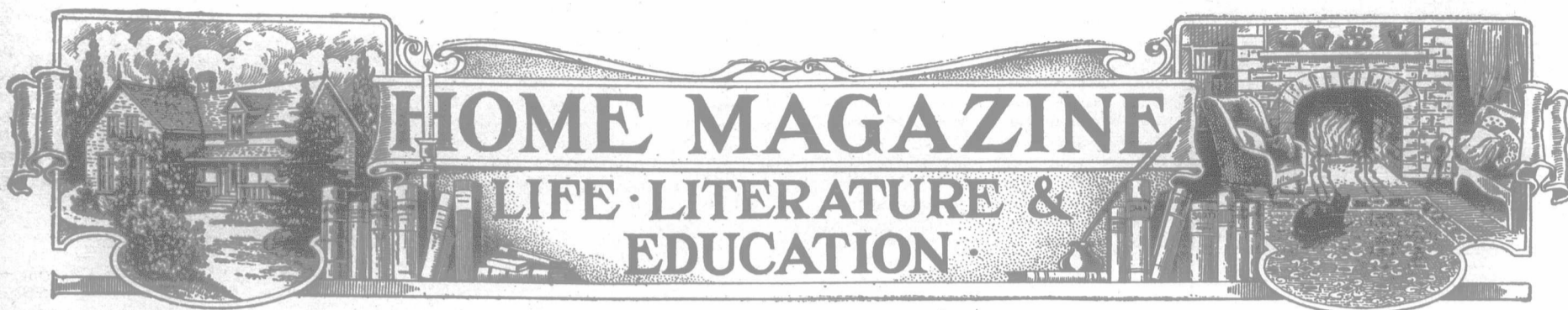
Edmonton, Alta., August 11-16.

Cobourg Annual Horse Show, August 12-16.

Canadian National, Toronto, Ont., August 23 to September 8.

Canada Central, Ottawa, Ont., Sept. 5-13.

Western Fair, London, Ont., Sept. 5-13.



A New Government Enterprise in Public Health.

Numbers of our readers must be, by this time, interested in the department begun some weeks ago in our pages, "The New Public Health," but no doubt many are querying somewhat after this wise:—"The 'new' public health—what does that mean?" "Who is this Dr. H. W. Hill?" "What guarantee have we that his words carry weight?"—and so on, and so on, in the manner of this somewhat suspicious and laudably-prying age.

It was with the object of answering such queries as these and removing all haziness in regard to the matter, that we recently paid a visit to the Institution whence, each fortnight, those pages of copy labelled "The New Public Health" proceed. "Seeing means believing," if eyes are to be trusted, and so our readers must be made to see through our eyes, hear with our ears, so far as practicable.

To come to the point at once, then, the Institute of Public Health, over which Dr. H. W. Hill presides, occupies a large building on Ottawa avenue, in the city of London, Ont., right next door to the vast pile that makes up Victoria Hospital. From its windows on the one side you catch a glimpse of the south branch of the River Thames meandering on its way to the confluence of the waters a little to the northward; from those on the other side you get a view of the city, and look down tree-lined avenues up which come trooping, at regular intervals, the students from the Medical College, for the Institute of Public Health, though established but recently (in July, 1912, to be precise), has already taken its place as a force to be reckoned upon in Western Ontario, and if it has its way, the young doctors turned out from the Western Ontario Medical School will be preventers as well as curers of disease. Lectures are also given to the nurses from the adjoining hospital, and to the girls from Alma College, St. Thomas, who will come up at regular intervals to receive instruction in hygiene, household sanitation, food values, and kindred topics.

Entering at the front door you find yourself in a spacious, airy place, filled with sunlight and smelling as yet of newness—with plenty of space, too, for the new books and apparatus that are being continually added.

If you are lucky enough to find him disengaged, there is a welcome from Dr. Hill, the Director of the Institute, and he himself is your conductor over the buildings. He shows you first a library, with central, double-sided book-cases of the most approved library order, then you pass on after him up broad flights of stairs to the regions above, "the work-rooms" of the institution, rooms in which brain sets itself to its stubborn fight against the wrong conditions, the almost hopeless blunders, the rash indiscretions which make the lives of so many poor humans miserable. "Brain against ignorance"—that is one of the impressions that knock at your consciousness as you follow your guide about the Institute of Public Health.

Here is a large lecture hall equipped with a powerful electric lantern for illustrating the talks given; here is another about which are ranged color charts showing food values, how much fat, how much protein, how much carbohydrates, how much water, how much ash, in all

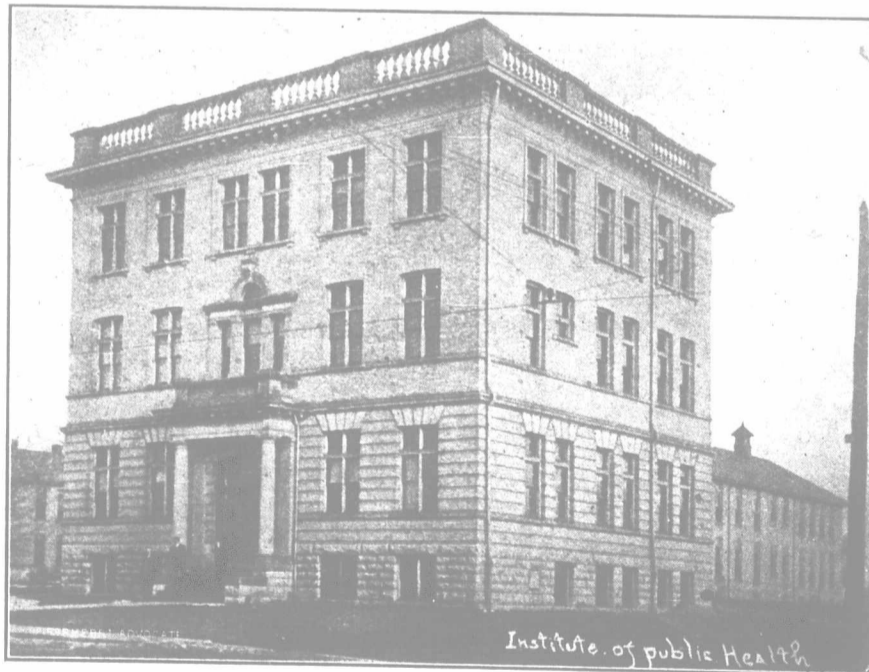
the common foods—oatmeal, wheat flour, corn meal, beef, pork, sugar, molasses, honey, nuts, potatoes, and all the rest.

At first glance one wishes it were possible to put miniatures of the charts in the hands of all the housewives the country over; and then one realizes that scientific instruction must needs accompany the charts, else how would the housewife know how to proportion the foods judiciously? It might be as dangerous to over-stuff with protein or carbohydrates as to under-feed in those essentials.—Just here it may be remarked that such instruction is available to those within reach of the Institute, for Dr. Hill and his staff are quite willing, as has been announced, to give lectures on condition that travelling expenses only are paid.

Now, don't rub your eyes and wonder how this miracle may be. True, this age is one of self-seeking and of graft, and you get little for nothing—but the Institute of Public Health has been established for the public good; the Government pays the salaries; there are no extra "plums"—so there you are.

Is there a suggestion here for the Women's Institute, in its continual quest for lecturers?

A peep into a laboratory in which students are taught practical work in chemistry, and then on to the most interesting departments in the building.



Institute of Public Health, London, Ont.

In a spacious, sunlit room to the westward you find Mr. Slack, the chemist of the Institution, busy among tubes, retorts, and sterilizers.

The room of Mr. Clarke, the Technical Assistant, is placed where the special scientific cooking necessary to prepare the special food for the germs is done. To show how vigorous these little creatures are, it requires some five hundred pounds of meat a year to feed them.

In the next room, presided over by Dr. Fiddler, the bacteriologist, you find the cultures going full blast, if anything so apparently still, yet so insidious, so deadly as cultures in which disease-bacilli

are reproducing, may be said to go full blast.

That is an innocent-looking array of little test-tubes on the shelf there, each plugged with a bit of white batting, each containing about a teaspoonful of jelly-like substance in the bottom, one clear, one yellowish, one purplish, yet another showing streaks of yellow or brown, but woe betide the careless meddler.

Dr. Hill lifts one out of the rack, "These tubes contain the cultures in which living disease germs are working," he says, "This one, for instance, contains cholera spirilla."

You look at it, fascinated by the horror of it, but he goes on taking out test-tube after test-tube.

"This one contains tuberculosis germs; this one anthrax; this one typhoid; this pneumonia, and this—leprosy."

Yes, literally, bottled death. Someone put those first germs, that have multiplied so, in that culture; someone must take them out; someone must experiment with them.—And so you catch a flash-light of the work that these men; and such as these, are doing the world over. Quietly they carry on their investigations, buried in their laboratories, and perhaps you seldom hear of them, but when you do you are glad that we have left the old days behind—the savage old days that glorified an Alexander, a Hannibal, or a Napoleon—and that we

A few bits of glass are lying there covered with a red substance that looks like cochineal dye. It is sputum covered with a substance that colors tuberculosis germs red. Presently the assistant pours over the mass a mixture of hydrochloric acid and alcohol, and instantly all the red is bleached out except, as will be revealed under the magnifying-glass, that which clings to the tuberculosis germs. There are other germs present also. An application of blue tints these, but the tuberculosis germs still remain red, and when you look at the slide through the microscope you behold them, little red, rod-like things, on a ground of blue!

"What a wonderful process!" you exclaim, "How was it ever found out?" And the doctor replies with a smile, "Those wonderful Germans, you know. They are always digging into things and making discoveries."

What a tribute to Germany!—and a deserved one.

Through the microscope also you may be shown, as were we, a brand-new typhoid bacillus, still wiggling, resembling a little thread-like, dark-colored worm.

An adjoining department contains an imposing array of stills for distilling water, and here you are told something of the process of analyzing water to determine its purity. In yet another are thousands of cards which have been sent out to mothers of the city and filled in by them, in course of an investigation into diseases of children.

"Do children really have to have measles and whooping-cough?" someone asks, and the doctor smiles.

"Emphatically, no," he replies. "The day will come when it will be considered just as disgraceful for a child to have measles or whooping-cough, as it now is to have vermin in its head."

—Disgraceful, you see, because so avoidable, if public and domestic conditions are all as they should be. Carelessness in regard to disease germs will, in that day, be looked upon with as much disapproval as is to-day carelessness in regard to cockroaches.

Finally you come to the "menagerie," filled with boxes of guinea pigs and rabbits, some of which bear markings of red or blue to show that they have been inoculated with the germs of various diseases. Guinea pigs, you are told, are especially susceptible to tuberculosis, their inoculation being, indeed, the finest test of that disease.

Here, too, were you to visit this department to-day, you would see one case containing eight turtles, some of which have been inoculated with the serum prepared by Dr. Friedmann, in regard to which controversy still rages.

And now, do you grasp all that is meant by the "New" Public Health? Do you realize what the establishment of this Institute and those similar to it may mean to YOU? Prevention rather than cure is the aim of the Institution. Were its ideals realized, doctors should be PREVENTERS of disease. They would give lectures, they would be custodians of the public health, they would be the reference encyclopædia of the people in regard to all matters of hygiene.

They are hard-working men, these men of the Institute, and they are willing to do more still. They recognize to the full their responsibilities, and their opportunities; and they are patiently waiting to be given the full privileges that a grateful public will only too gladly give them once the real worth of the new movement is known. They will lecture for you—as before mentioned—if you pay just their travelling expenses. They will answer questions in regard to any disease that does not demand personal examination of the patient, through the columns of "The New Public Health" Department, with which you are already acquainted. They will analyze water from your wells to assure you if it be fit to drink, and they will examine sputum to advise you as to whether you have contracted consumption or not.

A word of warning may, however, be necessary. If you wish the water in your well analyzed, or a sample of sputum examined, it is not sufficient for you to bottle up some of it "anyhow" and pack it off. Don't you see that other bacteria, perhaps clinging to the bottle itself, or to its cork, may develop in numberless millions along the way, thus rendering your sample utterly useless for examination?

In either case, apply to your local health officer for information how to proceed. He should be prepared, not only to give you instructions as to how the sample may be prepared scientifically, but also to provide you with the tubes, etc., necessary for sending it.

An eminent doctor remarked not long ago that few people after a serious illness, are just quite what they were before; an organ once diseased is just a little weaker ever after, a little more likely to succumb to attack. Surely, then, it is better to keep well than to break all the laws of health through ignorance, pay the penalty, and have to depend on a physician for cure. And, surely, this being recognized, this new Institute of Public Health, wherever it may be set afoot, deserves the encouragement and patronage of the people it would serve.

Make no mistake:—It does not look to doing away with doctors; far from that. It aims at helping doctors to maintain public health, at co-operating with them, at directing people's attention to them at the beginning of trouble, and so working with them towards creating and maintaining a saner, healthier, happier populace.

The Institute, despite delays in equipment, etc., has already published eight scientific articles in scientific journals; a book; over one hundred and fifty newspaper articles (reaching an average of 150,000 readers weekly); has delivered over 150 technical lectures to over 150 technical students; 45 public lectures to about 2,000 non-professional persons; analyzed over 100 specimens of various kinds; and tabulated the infectious diseases of over 6,000 children, besides giving eight addresses before scientific audiences, and "a few other little things!"

We have called your attention to the movement and its workings; now it is for you to take advantage of it as you may.

The New Public Health.

QUESTIONS, ANSWERS, AND COMMENTS.

Conducted by Institute of Public Health, London, Ont.

[Questions should be addressed: "New Public Health, care of 'The Farmer's Advocate,' London, Ont." Private questions, accompanied by a stamped, self-addressed envelope, will receive private answers. Medical treatment for individual cases cannot be prescribed.]

What Is Cancer -- How Prevent It?

The body is subject to various kinds of diseased swellings called, medically, "tumors." Suppose a mosquito bites you; the resulting swelling is a tumor: suppose you bang your forehead on the

ice; the resulting swelling is a "tumor": suppose one of the very numerous microscopic sebaceous glands in your skin becomes plugged, so that the sebaceous matter gradually accumulates instead of escaping unnoticed as it usually does; the resulting swelling is a "tumor." If you have a "cancer," that is also a "tumor." In brief, "tumor" is the scientific word for a swelling, temporary or permanent, whether due to injury or disease. Those due to injury, like the mosquito bite or the bruise on the forehead are called "traumatic tumors"; those due to disease as "morbid tumors." So you see that when anyone tells you you have a "tumor," he is not telling you anything very much: he is telling you simply that you have a "swelling,"

occurring as the result of the "poison" in the stuff the mosquito stings you with; and both limited to a very small area, as everyone knows. A bruise is due to the actual escape of blood from the bloodvessels broken by the blow: if the skin is cut you bleed outwardly: if the skin is not cut, you bleed into or under the skin, making a bruise. In a sebaceous cyst (or wen), the material which makes the swelling is a natural secretion of the body, held back in the skin by purely mechanical opposition to its escape, i. e., the plugging of the gland-mouth. A cancer, in strong contrast to all of these, is an actual growth of some one of the constituent parts of the body. "Why, all parts of the body are growing all the time; according to that we are

know this: that if the "cancer" can be caught when it is beginning, and if it is thoroughly removed, it cannot spread, any more than a weed can if you pull it up entire.

The real question concerning every tumor is: how can you tell an innocent tumor from a cancerous tumor? If you have a swelling of the lip or breast, or any other part of the body, how can you be sure that it is cancer, or is not cancer? On the answer to this question your life, happiness, and the danger of fearful months of pain, may hang; it involves financial as well as many other factors in the happiness and welfare of your family, as well as of yourself.

Of course, anyone can tell that some tumors are not cancer; mosquito bites, for instance, bruises, etc. But when it comes to a permanent swelling somewhere, anywhere, in the body, an expert physician may be puzzled, especially in the early stages, and that is the only stage when there is much hope of cure.

The safest rule to go on, then, is this: If your physician cannot assure you positively that your "tumor" is not a cancer, have it out anyway! If it is already too big to make this a simple matter, have a small piece removed and examined under the microscope. The Institute of Public Health is equipped and ready to do this, and if your physician will remove a small piece of the tumor, and send it, properly preserved, to the Institute, it will be examined there promptly. The charge of \$1 is made to cover part of the expenses, and this charge goes into the Institute funds, giving the chance for some more public-health work!

Certain things are done free at the Institute, if sent by physicians, such as examination of sputum for tuberculosis, cultures for diphtheria, blood for typhoid, and so on. But for other things the Government prescribes a charge, set so low as not to be a burden to anyone. Cancer examination is one of the things for which a charge must be made.

H. W. HILL.

TREATING BY CORRESPONDENCE.

Suppose a doctor is honest, can he treat a person properly by correspondence? Are there any reputable doctors who do this?

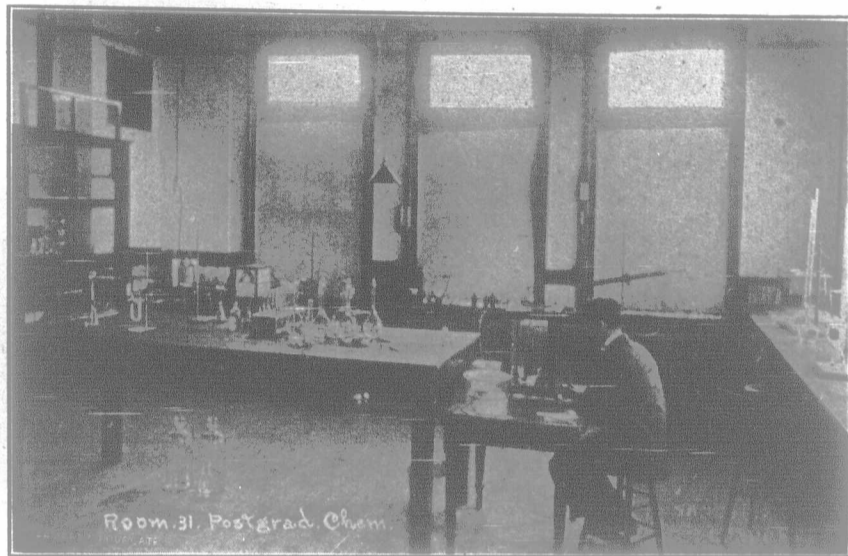
H. M. P.

Ans.—I do not know any method by which a doctor could find out by correspondence what is wrong with a patient from the patient's description of it, unless in the very simplest things, such as no one would want to ask questions about. If a doctor cannot find out what the trouble is by correspondence, how on earth can he treat the patient? Of course, he might give some inert stuff, but that would not be honest. Besides, to undertake such treatment would naturally induce the patient to think that the physician did know what was the matter, and that he was treating the case properly. The patient would be satisfied, and so neglect to secure proper examination and proper treatment until it was too late. No more cruel or heartless fake can be devised against anyone's health or life than to delude people into paying money for treatment that is no good, meantime losing the precious time during which active, intelligent treatment, based on real knowledge, might still be of value.

If you appreciate that the most careful description of a case, given by one physician to another, after a most careful and skilful examination by the first physician, would never justify the second physician in treating the patient without his own personal examination of the patient, you will understand how impossible it would be to treat a patient on the patient's written description of his own case, when the patient has no medical knowledge or skill in examination. Of course, one medical man, after reading a description of a case which he has not seen, might properly suggest something further in the way of examination, or even a line of treatment, but such suggestions would always be subject to the judgment of the physician in actual contact with the case.

We often receive requests for diagnosis or treatment of cases by correspondence, but invariably refuse them, not from unwillingness to help, but because it is impossible to do it safely; and dishonest to pretend to do what cannot be done. Human life is too valuable to experiment with in that way.

I think the answer to the previous



Part of Chemical Department

Department for analytical and research work in chemistry, also for post-graduate students' work.

which may be harmless or very serious: something that may pass off of itself, like a mosquito-sting swelling, or a bruise: something that may require a very simple operation to remove, like a sebaceous accumulation (commonly called a wen); and possibly a cancer. Mints of money are made from many people every day all over North America by unscrupulous "quacks" who use the word "tumor" to frighten people with, and who treat expensively, painfully, for months, or years, innocent "tumors" that might be removed at once, or even left alone safely. Hypnotized by the word "tumor," people will go on with such treatment, believing a "tumor" is necessarily a cancer.

Now, a cancer is a very particular and

just one big cancer, all over!" In a whimsical sort of way there is a ray of truth in that statement; but a cancer is a material constituent of the body growing in the wrong place, too fast, and with a tendency to spread to other parts.

Here is the point: when the constituent parts of the skin, say, grow in the ordinary proper way, each different part of the skin grows in proportion to the rest, keeps itself to itself, and is content to form the part it is expected to form, and to perform the functions that it is there to perform. But if one of the constituent parts of the skin throws off these restraints, grows wildly, irregularly, invading parts of the skin where it has no business, neglecting (like other busy-bodies) its own business, while interfer-



Part of Chemical Department

peculiar swelling: it is therefore proper to call a cancer a "tumor," just as it is proper to call a wart or an abscess (if it bulges out) a "tumor": all cancers are tumors sooner or later; but all "tumors" are by no means cancers.

The special things which distinguish a cancer from all other kinds of swelling are: First, its internal structure; second, its tendency to spread to other parts of the body.

A mosquito-sting swelling is due to a sudden increase in the size of the bloodvessels, and the escape of the liquid parts of the blood from the vessels, both

ing with others', then you have a skin cancer; and if some of this wild, irregular growth enters (as it generally does sooner or later) a vessel, the liquid may carry it to other parts of the body, where it will lodge and grow "wild," just as it did before in the place where it originally began.

Now, we do not yet know what induces certain constituent parts of the body to go "wild" thus; so we do not know how to prevent "cancer" (or the very similar disease known as "sarcoma" in medical circles, but usually lumped as "cancer" in ordinary conversation). But we do

question partly meets your case. If your friends are expert physicians, and have examined you carefully, their opinions are worth considering. If not, they have the same value that my solemnly-expressed opinion on the proper rotation of crops for the north-eastern corner of your farm would have, remembering that I don't know where it is, or what it is like, or even that you have a farm at all!

If the doctor says you need medicine, he may be right—he ought to be if he isn't! How can I take the responsibility of saying if an unknown doctor is correct in his estimate of an unknown case of an unknown disease, or possibly no disease at all?

As a general rule, if one is "run down" and nothing else, "rest and refreshment" are all that are needed; but this depends wholly on what it is that makes you "run down."

Better have a thorough examination made by an expert physician, and then do what he tells you. H. W. HILL.

HOME REMEDIES.

What do you think of such home remedies as castor oil, soda and cream of tartar, sulphur and molasses, and Epsom salts? MRS. L.

Ans.—Home remedies are first-rate things to use as long as they are quite harmless, provided also that there is nothing wrong with the patient! As soon as you begin to use real drugs on people who are really sick (or really well, but you think they are sick), you are playing with fire, and you, or more likely your patients, are likely to get hurt.

Any child, as a rule, and any fool, always will play with a loaded gun, but the old hunter or soldier who has used loaded guns all his life and knows something about them, has a wholesome respect for them. Do you ever see an expert shot "play bear—I'll shoot you," with a gun, even with an unloaded gun?

It is true that the things you mention are practically harmless, and when it is nothing more than a question of securing a bowel movement, they don't do much harm, unless they are used too constantly. If there is real obstruction of the bowels, however, even such simple remedies may do harm in large or frequent doses.

If you have a valuable watch, you won't do even the simplest "fixing" of it yourself, but go to a skilled watch expert. Do you own, or have you seen, any watch you thought worth more than yourself, or your children?

Of the four you mention, castor oil is the least harmful and does the most good; the salts perhaps next. Sulphur and molasses has been out of date for ages, in medicine. What is it supposed to do? H. W. HILL.

DR. FRIEDMANN'S "CURE."

What do you think of Dr. Friedmann's "Cure"? Supposing a doctor discovered a real cure for some disease, what steps should he take so that his cure might most quickly relieve suffering humanity? MEDICAL STUDENT.

Ans.—Friedmann's treatment is following the lines which some of us saw Koch's tuberculin treatment follow twenty years ago: First, wild, unreasoning enthusiasm; second, wild, reckless experimenting; third, wild, unreasoning condemnation; fourth, slow, skillful experimenting, with slow, scientific appreciation of both good and bad points; and at last the revealing of how to take advantage of the good and eliminate largely the bad.

The sale of the treatment, of course, does not affect its value one way or the other. The chief point is this: we do not know, cannot know, within five to ten years of investigation, carried on all over the world, whether any such new treatment is successful, in any chronic disease! That is why patent-medicine people, and all the vast army of "promisers" promise so much to old, chronic cases. In acute diseases, it is quickly seen whether a treatment is successful or not, and that is a financially risky field in which to exploit any new alleged cure unless it is a most positive treatment.

Tuberculosis patients have been exploited over and over again. The old ones die off, and new cases develop and

go through the same weary round, keeping the market for all sorts of "cures" well filled.

Tuberculosis can be cured in a large percentage of bone and gland cases; these however form but a small proportion of the total cases: it can be cured in a fair proportion of lung cases if taken early enough: the "cure" consists, briefly, of rest, feeding, and "outdoors," under the most skillful supervision and constant attention. With this may be combined, in some cases, tuberculin, but it requires the greatest experience and watchfulness to use tuberculin to advantage. Rest, feeding, and outdoors, sound simple. In practice, few patients but the most well-to-do can obtain the best chance for

incubator I have watched the little chicks chipping their way into the new life outside the narrow world of the egg-shell. Feeble little things they were at first, but in a very few hours they were jumping lustily about over their unconscious fellows who were still "asleep within the tomb." The miracle is a commonplace, of course. Many of you have seen it, and all of you know that chickens come out of eggs. But although the miracle has been worked millions of times, it is none the less amazing. There were no chicks in those shells three weeks ago, not a sign of a feather. The white tomb was far more securely sealed than the sepulchre where the body of Christ was laid. A few days ago the eggs

But it is not of the last great resurrection that I want to speak to-day, but of an everyday matter. Day after day those eggs were lying white and still. We looked through the glass and saw nothing but common eggs. It seemed as if no miracle would be wrought, as if nothing was happening. The eggs which held living, growing creatures, looked just the same as those which were dead. But we waited patiently God's time, we worked with Him, and under His directions, by keeping the lamp always going and turning the eggs over every day. We trusted Him to make the great change which was so far beyond and above our powers. In faith and hope we waited patiently for Him, knowing how disastrous it would be to lose patience and dash in with our poor attempts at helping.

I said that we watched the miracle, but that was not quite the fact. God does not permit us to watch His miracles too closely. Secretly, silently, and in the dark He worked; until the mysterious transformation was complete and we were permitted to see His handiwork.

We can wait patiently for Him when He is allowing us to help a little in the matter of changing eggs into chickens; but very often we fail to wait patiently, and rest in the Lord, when He is working out other plans for our good. We don't spoil the result by trying to hurry the process when we are eager for chickens or roses; but we interfere impatiently in many things.

"God's plans like lilies pure and white unfold;

We must not tear the close-shut leaves apart,

Time will reveal the calyxes of gold.

And if, through patient toil, we reach the land

Where the tired feet, with sandals loosed, may rest,

Where we shall clearly see and understand,

I think that we will say, 'God knew the best.'

Have you been praying earnestly for some cherished desire to be fulfilled? Perhaps you watched eagerly for an answer at first, but now you have grown discouraged, for you can't see that any result has come from all your prayers. You can't "see"—no, but you can trust and wait patiently, and so learn the secret of Rest. Remember the eggs which looked lifeless up to the last day, and yet which were steadily growing and developing under God's fostering care. How can you know the answer He is secretly working out in response to your prayers? The children, who are so impatient to see results that they dig up the seeds planted in their gardens to find out whether they are really growing, are not taking the best way of helping forward their desires. If you interfere overmuch with an incubator you spoil the setting. So it is in life.

When David had been told that God intended to make him king over Israel, he did not push his way to the throne. There was no attempt to plot against the reigning king who was openly trying to kill him. He waited God's time for giving him the kingdom. How differently we act sometimes. We plot and plan and contrive—perhaps in an underhand fashion—to get something we desire very much. And yet, if God sees that the crown of our hope will be good for us. He will give it in His own time and way. Remember the incubator, if you are ever tempted to interfere unduly. Think how disastrous it is to interfere with the eggs more than is absolutely necessary. Trust God, and rest on His loving provision for your good and happiness. Wait patiently for Him, knowing that His miracles are worked in silence and darkness.

Perhaps you yourself are almost prepared to compare yourself with the chick in the shell. Your environment seems narrow, you have no chance to cultivate your talents, life looks dark and unprofitable. Wait patiently and rest in hope. You are growing. When the right time comes, you will break your way out into a wider world. What we, in our ignorance of the rest of God's universe, call "Death," may be only like the chicken bursting through its cramped prison into a larger life. The body is shattered. It has served its purpose as a dwelling-place for the kingly spirit, but can con-



Students' Laboratory

For practical work in pathology and bacteriology. Some of the test-tubes contain germs of all sorts of virulent diseases.

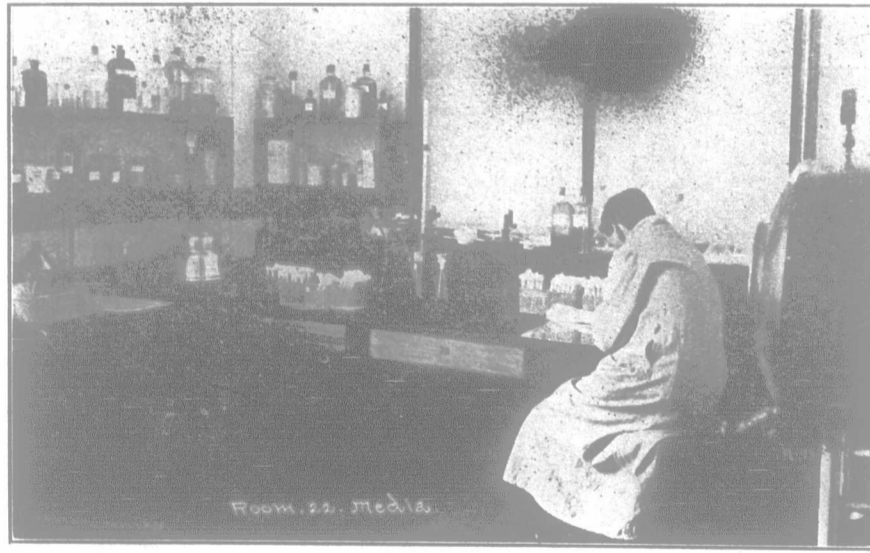
their lives outside of special sanatoria. Moreover, while remaining at home, the risk of infecting the others can hardly ever be wholly avoided, and often is not avoided at all.

Getting free of lung tuberculosis is hard work, not a matter of some mystic injection or medicine: hard work for everyone but the patient!

This is a difficult question. Modern Medicine has not discovered a single remedy of such obvious immediate value, so incontrovertibly good, and so free of drawbacks that it could honestly and conscientiously be advertised for general random use. For this reason we never have had to face the problem you suggest, and it is unlikely we ever will.

were white and still. Now the lively tenants are dancing about, chirping and pecking. Who could pack one of those big, fluffy creatures back into the oval box which fitted him so exactly last Monday? It would be a tight fit indeed, even if "all the king's horses and all the king's men" were clever enough to repair the shattered egg-shell.

But what has the incubator to do with our text? Do you remember that when the Great Teacher wanted to impress spiritual lessons on His hearers He used the ordinary, visible things about Him as symbols. Did He see a woman making bread? It reminded Him of the leavening power of His kingdom in the world. A sower scattered his seed, and



Preparing Media

The real difficulty is not to secure the establishment of a "new" alleged remedy for disease; but to induce the public not to run after any sort of advertised cure. H. W. HILL.

Hope's Quiet Hour.

Wait Patiently for Him.

Rest in the LORD, and wait patiently for Him.—Ps. 37: 7.

A miracle has been worked before my eyes. Through the glass front of an in-

some fell on the trodden pathway, some among thorns, some on the ground. That reminded Him of the soil of the heart where He was diligently sowing spiritual seed. He drew great lessons from the sweeping of a floor, from the daily work of the fishermen, and from many other common things. Would He have passed an incubator without a thrill of delight, do you think?

There are many lessons to be drawn from the mysterious egg-hatching. It speaks to us, of course, of the coming Resurrection—the great day of the Lord when those "that sleep in the dust of the earth shall awake." It is no wonder that the egg is one of the Easter symbols.

tain it no longer. We mourn over the frail shell as we see a dear friend pass out into the wonderful new life—why can't we use our imagination and try to enter with him into the light and life which is so far beyond our experience? Our turn to break the shell—and know—will come. Let us look eagerly forward to that great day, instead of shrinking away from it in horror or fear. Darkness is a temporary thing, and leads forward into light. God's days—the days of His making—begin with the evening and break forth triumphantly into glorious morning.

Why should we try to escape the darkness of sorrow or pain? In the dark, a seed breaks through its shell and pushes up to the light in a grander growth than it could have ever known if it had been always in the light. In the dark the germ of life within an egg develops into a living bird, which also pushes its way into the light. We were made for light and joy. Our nature instinctively reaches out after happiness. But we injure ourselves and spoil our growth when we chafe and fret against the circumstances God has provided. Who tells the birds to keep their eggs warm and dark? If He knows what is best for the development of the weak little bird in an egg—a life so frail that a slight chill will destroy it—can we not trust Him to give us what is needed for the development of our souls? We are "of more value than many sparrows" our Lord Himself has told us. He is watching over the countless creatures which sing and fly among the trees, and not one sparrow is allowed to fall to the ground in loneliness. The Father is always there. Did you think He was making of you the one exception in His universe? If He is keeping you in the dark for a while, it is because He loves you and is very eager about your growth. Are you not eager about the lives you are encouraging, when you watch over an incubator? Are you not disappointed if there is no result? Remember that God cares infinitely more about our spiritual development. Trust Him to give exactly what is needed, rest on His wise and tender love, and wait patiently until He sees that you can stand the light. He will not keep you in the dark any longer than is necessary.

"His appointment must be blessing,
Though it may come in disguise,
For the end from the beginning
Open to His vision lies."

DORA FARNCOMB.

Mending Basket.

From a Teacher's View-point.

Being one of those insufferable creatures following the occupation of school-teaching, I naturally resent the charges laid at their doors by "Greybird," in your issue of June 5th, and beg leave to say my say.

I am very sorry Greybird's vicinity has been so unfortunate in its selection of school-teachers. I can truthfully say that of all the teachers with whom I am acquainted in our inspectorate, and elsewhere, none are worthy of her accusations, either in part or in whole.

In our vicinity the teachers are far too sensible to consider themselves superior to the intelligent farmers' wives and daughters, knowing very well that while the teachers' goal is proficiency in the school-room, their sister's ambition is efficiency in the arts of housekeeping and home-making.

I think Greybird's comparison as to housewifely ability very unfair. The teacher has spent practically all her life preparing herself for the responsible vocation of teaching, while the stay-at-home girl has been engaged all these years in mastering the art of housekeeping. Would you expect a farmer to be as competent in the performance of a lawyer's duties as the lawyer himself? Surely not. Then why expect a school-teacher to excel in her sister's profession as well as her own? Perhaps Greybird thinks washing and scrubbing the only work for girls. I beg of her to consider how many schools in her section would be without teachers if the girls all took to housekeeping. Do not

misunderstand me here. I consider housework a most noble vocation. Any one having been initiated into its delightful mysteries by as skillful a teacher as my mother could not look upon it as otherwise,—but there are other vocations.

And, presto! What think you of the good dame's theory regarding the school-teachers taking "a daughter's place" in her boarding-house? I have yet to find the teacher who expects her room kept in order beyond the sweeping and dusting; but when one pays from three to four dollars a week for board, I hardly think she should be expected to "bake and sew, and cook, and stew," for the

attends four parties a week, with Tom, or Dick, or Harry, and Tom, or Dick, or Harry's sisters cannot be guilty of the burden of Greybird's manifold accusations,—snobbishness. As to its practicability, Greybird has never been a teacher herself or she would know that such revelry is not in the category of the pedagogue.

"Teachee, teachee, all day teachee,
All night longee markee papers,
No more huggie, no more kissee,
Poor old maidee!"

is more after her predicament. But, seriously, no teacher attending parties



Doing Analytical and Research Work in the Department Devoted to Pathology and Bacteriology

aforsaid lady. As to doing her own laundry, I know of several instances where teachers, upon requesting this favor, have been refused on the ground that it causes too much confusion in the kitchen on Saturday morning, which attitude I think is quite reasonable. Those who get their washing done, as far as I can investigate, pay well enough for the trouble involved.

Apparently Greybird's Institute hasn't adopted our motto, "If you know a good thing pass it along," else why should she begrudge the information concerning "the little round flower"? Does she realize that many rural-school-teachers have been born and bred in cities, and have never had it within their power to accept the poet's invitation to

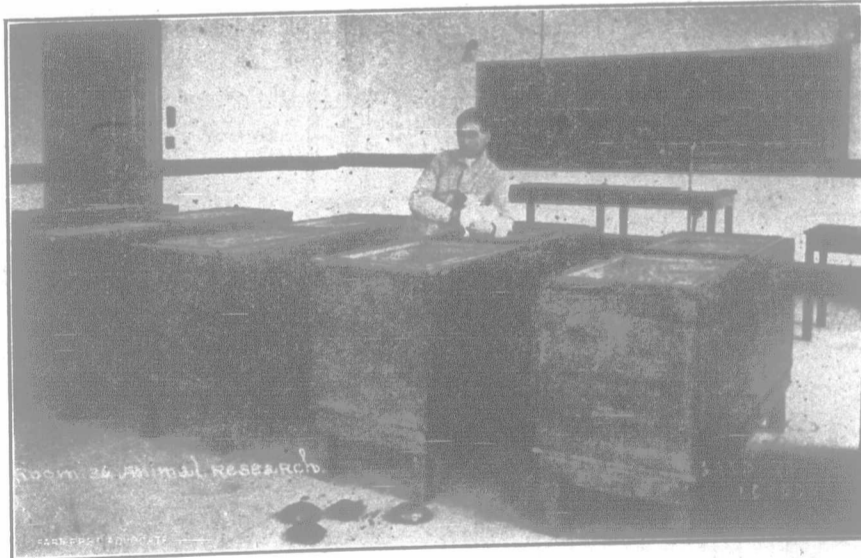
four nights in the week could faithfully discharge her duties in the school-room, at least none of my physical capacity, and I can wash and scrub and milk and make hay with the most of them.

I always make my own bed, too, but when I hand over my board-money to the lady of the house to compensate her for the tremendous labor involved in boarding the teacher, I expect to employ my evenings from seven to ten to better equip me, not for the kitchen, but for the school-room.

RED-HEADED WOODPECKER.
Grey Co., Ont.

The School Teacher.

Dear Editor.—I was much interested in



The "Menagerie"

Boxes contain guinea pigs, rabbits, and turtles, some of which have been inoculated with various diseases.

"Come out into the light of things,
Let Nature be your teacher."

In all my school-days I cannot recall having been taught that the little round flower was a daisy. Was that my fault? Are teachers so infallible as to be able to overcome the mistakes of past curriculums? It is only within recent years that Nature Study has been entered as a school subject. There are countless things that city-bred girls can teach us, and why cannot we reciprocate our knowledge cheerfully and ungrudgingly?

In conclusion, I wish most emphatically to deny the charge re "the gay and giddy." That was "the most unkindest cut of all." But surely the girl who

Greybird's article of June 5th. Upon first reading it I thought she might better have signed herself "Bluebeard," for in her scathing criticism of the school teacher in general, I believe she is cruelly wronging many innocent and undeserving members of that profession. However, I forgive her, since I agree with her on many points.

The reason the standard of school teachers is not so high as it should be, is due to the fact that many of them enter the profession through vastly different callings; it certainly is not with the desire to be famous. Oh, no; such constant criticism and cruel misunderstanding (like Greybird's) called down upon us quenches the spark of ambition

before it grows. They may, however, merely drift into the work along with some friend, and, being too young to stop school, they go into this "worthy, almost sacred, occupation, 'just for the fun of it'; or the profession may be used as a stepping-stone to some other calling in life—for a university course, for instance. As is often the case when money must come from some source. It may also be from the voice of compulsion or necessity, or the love of independence. But are any of these motives likely to call forth the teacher's truest and most conscientious efforts? Certainly not; and that is where so many lose the trail.

The teacher who succeeds is doing her work (I say "her" because the majority of teachers are of the weaker sex), nerve-racking though it may be, from 9 a. m. to 4 p. m. daily because she loves it, because it is her duty to mankind and because, imbedded in her very soul, is the love of the children with whom she works and the desire to uplift them, intellectually, morally, spiritually and physically. She glories in the fact that, under her influence, they are growing into the citizens of to-morrow, and this responsibility is no light one to carry.

Usually you will find in a school from twenty pupils upwards, little specimens of humanity, no two of whom may be handled alike; yet here the teacher meets many an unnecessary and often unexpected handicap, the chief one being the lack of parental support and co-operation. The child's grievances, often imaginary, are rehearsed and sympathized with at home; the result is a sulking child at school and frequently a painful interview from parents or trustees actually demanding explanation.

Years ago, when even less tactful punishments were administered than today, a child was told, "Now, John, be a good boy. Remember, if you get flogged at school, I'll flog you again when I hear of it."

Then again children come to school with certain hereditary tendencies, some only partially controllable, which have been fostered during the five, six or seven previous years. So you must remember that a teacher can only develop the moral character of a child, while it is the parents' duty to implant it.

In this day and age, when the examination is an abomination to teacher, pupil and parent alike, there is no chance of training any child for a special calling. The curriculum is too overcrowded for that. For example, Mary has a decided talent for art and Willie is remarkably clever in mathematics, and mother is anxious that they should excel in these subjects. The time-table allows only a limited time for each, and the child must be torn from his idol and dogged into his grammar lesson because the examination demands it.

But in spite of all these conflicting duties, and, in the face of gross misunderstanding, the conscientious, real, born teacher is striving to prepare each child, under her control, for "complete living," that is:—to reach one's maximum of usefulness and happiness, to love all beauty, to hate all vileness and to respect others as himself.

Now, Greybird, how many times have you visited your school this year, and shown your interest in the good work supposed to be in progress there? Have you praised the sanitary conditions, or, if these were not satisfactory, have you offered a kindly suggestion? (We are quick to distinguish between kindly suggestion and unkind criticism). In short, have you offered her any encouragement whatever, or left her oblivious to the fact that you are thinking enough about her to even air her reputation in "The Farmer's Advocate"?

Often after being on one's feet from 9 to 4, with only a cold lunch at noon, in the dust and noise of the schoolroom and strain of keeping so many little minds and hands busy, a teacher can merely stagger home to the inhospitable boarding-place you have described, tired, discouraged and lonely, and yet you expect her to hurry directly from school to your Women's Institute meeting, fresh and smiling, and take the active part that farmers' wives and daughters of to-day are perfectly capable of filling, this during the one part of the day when she most needs a breathing-space.

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At the same time we cannot overlook the conduct of the young woman who would not keep her room tidy nor do her own washing, who did not recognize the field daisy, and was afraid of tanning her hands. Surely she did not come from our own Canadian farms. If she did, don't ever write of her again. We blush to own her. No intelligent, refined young woman would be ashamed to be friends with the fresh, wholesome daughters and dear, hardworking mothers of our farms. A great many of our teachers now-a-days are farmers' daughters and sons, who understand the rush of the seeding and harvest, and busy round of daily chores as well as a thorough knowledge of birds, insects and flowers, learned from Dame Nature herself, a knowledge of which our city cousins are sometimes deprived. But don't, oh don't conclude that all teachers are blunderers, because several of your acquaintance have made an "heinous" mistake in your presence.

Consider kindly their labors, their responsibilities, their feelings and remember that they are human.

"He has achieved success who has lived well, laughed often and loved much; who has gained the respect of intelligent men and the love of little children; who has filled his niche and accomplished his task; who has left the world better than he found it, whether by an improved poppy, a perfect poem or a rescued soul; who has never lacked appreciation of earth's beauty nor failed to express it; who has looked for the best in others and given the best he had; whose life was an inspiration; whose memory a benediction."

TEACHER.

Elgin County, Ont.

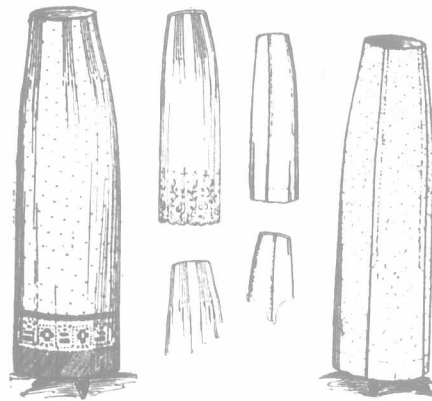
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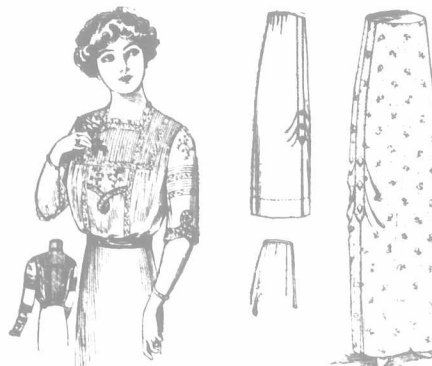
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7807 Tucked Skirt, 22 to 30 waist. 7784 Four Gored Skirt, 22 to 34 waist.



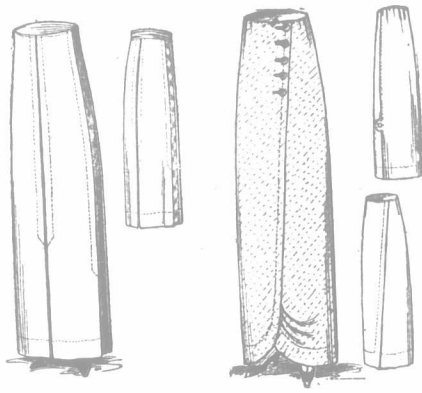
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The Beaver Circle

OUR SENIOR BEAVERS

[For all pupils from Senior Third to Continuation Classes, inclusive.]

The Gipsy Queen.

[Story Contributed by Helen Parry, (Age 14), Compton, Que.]

No doubt you have often seen gipsies driving through the village or town where you live, in dirty caravans, and have thought them more harmful than pleasant, but the gipsies that I am going to write my story on are not at all like that. If one were crossing the mountain called the Beaver, because of its peculiar shape, and it were just as the moon was rising, one would see a huge fire in the valley below, and if one went on further one would come to a wall made of stone and so high that no one could possibly see over it or get in. Now you will wonder what could possibly be kept in this cage. But it is not really a cage at all, but the gipsies' camp. Beyond the wall, if one

could only see over it, there is a huge fire, as you read before, and to the right of this is a high platform on which sits the most beautiful lady that was ever seen in all the gipsy camps. She is seated on a chair wound with the brightest tinsel, and on her head, arms and ankles are the most beautiful jewels. She is also beautiful; her skin is not like the rest of the gipsies but white, her hair is as black as coal, curling all over her well-shaped head. Her eyes are also black and large, and if you were to look into them you might detect a yearning look which makes her have a very sad appearance. Her lips are rosy red, and when she smiles her pearly teeth fairly shine in the fire-light. Here she sits gazing into the fire on a bright September night, while all around her are her people sitting tailor-fashion around the fire, singing and laughing merrily, while some are dancing on a platform to the left of the Queen. Every now and then some of the many gipsies will go before their Queen and throw themselves on their knees and take her hand to kiss it. This is the custom of the gipsies in showing their reverence and love, and they love no one more than their Queen. Gipsies never have kings, so when a gipsy girl offers to become Queen the rest honor her, not only as Queen, but for what they call bravery for giving up having a husband. This particular night is merrier than usual as it is the feast of the Queen, and a funny proceeding it is. Although it is in the honor of Andalusia the Queen, she is not allowed to move from her throne, but sits with her hands on the arms of her gaudy chair so that all may caress them.

In a castle far off in fairy land sit a King and Queen, while around them are many children. It is the small Princess's birthday, and she is holding a large party. Seated in front of King Lorengo is the Queen. The eyes of the children are now resting on the King. Listen! What was that he said? "One night she was out in the garden alone. The nurse went in for a moment and when she came back our darling baby was gone. We were going to call her Angel because she was so beautiful. We have never found any trace of her, but have always taken it for granted that the gipsies must have taken her. She used to have her little parties just like Margaret's, and many the story have I told to her little guests also. But now children I mustn't keep you longer as it is growing late, and Margaret dear! run and find your mother; she must have left the room while I was speaking of Angel; she never can bear to hear me speak of her (poor dear)."

"How old would darling sister be?" asked Margaret.

"Sixteen darling," answered the father. "Now run away for to-night."

At this all the fairy maidens skipped away bidding the King and Queen good night. Although these people are fairies they still have their troubles as you may see. Imagine you are the Queen mourning for a child, who, at the age of two, vanished from your sight, and thinking that she is likely alive and may be living wretchedly, while, if she were at home, she would be heiress to her father's throne. Are not these sad thoughts? But better time comes.

Let us wander back to the gipsy Queen, Andalusia, and her gipsy throng. It is a month exactly by a day since the festive night, and the Queen is not sitting on the throne now but walking along the steep mountain path that leads to the grand fairy city of Amberville, one of the most wonderful of wonderful fairy cities in all the fairy kingdom. She is not decked in jewels as before, but is clad plainly. On her feet are high riding boots, and if one were quick enough one would see on her right hand a magnificent ring that glimmers in the moonlight. This is the magic ring, and if one wears this she or he can overcome any thing or any one.

You will wonder how Andalusia ever came to be here, and how she got over the wall of the gipsy kingdom. It was this way. On the night before the festival she had found a secret passage out of the camp, and when she had reached the end she ran into a hand-

some fairy knight. When she saw him she was terribly frightened. After a moment he asked her to tell his fortune, which she gladly did after finding him friendly. After she had told his fortune she said she would cross his hand with her magic ring, after which he must tell her fortune. So the knight after some delay took her hand and looked at it closely, and, much to his surprise he found that he really could tell her fortune. He told her that she was not really a gipsy but a stolen princess, and that the shorter the time she stayed in the gipsy camp the better as the gipsies were planning evil against her, and that three nights from that time the whole gipsy company were going to move silently away with their stolen Queen.

This, you may think, would make the Queen very frightened, but that was not so. She simply put on her magic ring and walked silently away, leaving the Prince standing watching her. In Prince Granjold's heart there was a yearning to carry her away with him, but thinking again he turned with a last glance at her fairy figure gliding through the bushes, then turned and walked away to release his horse which had been patiently waiting for him. This is why our Queen was wandering alone up the mountain path that night. This, however, was only the beginning of her journey, and by the time she had reached the end she had journeyed over three hundred miles up hill and down dale, through fairy glens and where fierce animals dwelt, but at the end of two weeks she found herself entering the beautiful streets of one of the most glorious cities in all fairy land. After she had found herself quietly walking along the crowded streets for a couple of hours, she realized that she was very cold and hungry, but as she had no money with her and knew no one, she thought she would go into one of the shops and, at least, get warmer. After she got in the shop she saw many curious things, so that she forgot that the time must have been flying while looking at them, and presently while she was wondering what the time was and if she had better go, a sweet little girl ran into the store accompanied by an elderly nurse who did not seem to pay much attention to her small charge. The little girl no sooner spied the Queen, who stood looking rather dejected, than she ran up to her and perching herself on a stool beside Andalusia, poured all sorts of questions out to be answered, and after she had been answered, she told Andalusia who she was, and that her father was King, and about the party she had, and about the story of her little sister who was really princess and was stolen when a baby, and about her mother, the Queen, who never ceased talking about the lost baby; and all the while Andalusia listened with wide opened eyes, for would it not be a little embarrassing for you if you were in Andalusia's place, just coming from a gipsy camp, and on coming into a large fairy city to find yourself talking with the Princess? Then after a little the girl ceased to say more, Andalusia told her about her gipsy life and about the fortune told by the Prince, and told her that this fortune had caused her to run away from the camp, and that if the gipsies found her they would bring her back and likely kill her. This sad story greatly touched the Princess's heart, and she pleaded with Andalusia to come to her palace, and tell her father all about the gipsies because she said, "the gipsies are thought to be the ones who stole baby sister and dear daddy would like to ask you about them, you see, as sister may be in your camp; then if she were and you told daddy he could get her back again."

The Princess went home that night and with her a gipsy Queen. Did the King ask questions of the gipsy about the lost baby Princess? No! He simply took Andalusia in his arms and calling the Queen to his side covered the gipsy maiden with kisses and welcomed their lost baby home again, for she was the stolen Princess.

The gipsies will never steal more baby princesses, for that night the King's mighty army went and destroyed the gipsy camp, leaving only a little remaining of the stone wall that kept Andalusia imprisoned. The royal family lived happily forever after, and

Andalusia was made Queen of all fairy-land.

(The end.)

OUR JUNIOR BEAVERS.

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

THE SPIDER'S COMPLAINT.

By Bonnie Phelps, (age eleven.)

I was coming up the sidewalk
Just a little while ago,
When I met a little spider
With a face plum' full of woe;

And his little nose was flattened,
And one arm was in a sling,
His eye was blue and purple
And he cried like everything.

"Good morning, Mr. Spider,"
I said, in tones polite,
But the little spider only glared
At me with all his might.

"Hello! Miss Band of Mercy,"
The little spider spoke,
"My eye is smashed, and so's my nose,
And my right arm is broke!

"Them plaguy boys! They did it,
And I would like to see
The good your Band of Mercy does
A little chap like me.

"I was going for the doctor,
Because my Dad is sick,
When 'long there came a great big boy
And punched me with a stick.

"He punched and punched and punched
Until
He almost punched me through."
And then the spider cried and cried
Until I just cried, too.

"And then," went on the spider,
And wiped his tiny eye,
"He smashed me with his clumsy foot
Until I thought I'd die!

"And now then," he continued,
In accents sad and slow,
"What does your Band of Mercy do?
'That's what I want to know!"

I was touched with deep emotion
At the little spider's tale,
And I promised to repeat it
To the children, without fail.

Now you see I've kept my promise,
And I'm pretty sure you all
Will protect the little spiders,
If they are extremely small.

Junior Beavers' Letter Box

Dear Puck and Beavers,—I have been reading the Beavers' letters, and was tempted to write and see if I could join. My father has taken "The Farmer's Advocate" as long as I can remember.

I want to tell you how I spent the 24th of May. In the afternoon my sister and some friends and I went to the bush. We picked flowers, and dug up ferns, made arches, played around and had a good time, then we came to the bridge where my brother and some boys were fishing and we stayed there to take off the fish off the hook, which I don't like very well. We came to the house and planted our ferns, then went to the barn and swung till supper was ready. My letter is getting pretty long isn't it? But you will excuse me this time. Bye-bye.
GLADYS CONNEELL.
Harriston, Ont. (Age 12.)

Dear Puck and Beavers.—This is my first letter. I would like to join the Beaver Circle. I live on a farm. The school is on our farm. Our teacher's name is Mr. Pierce. I like going to school very much. I have two sisters going to school, and one at home. I am in the second class. I have two pets, a dog and a kitten. The kitten's name is Dickie, and the dog's name is Jack. My letter is getting rather long, I guess I will close, good-bye.
WALKERS, Ont. HARVEY PARKER.
(Junior II.)

Dear Puck and Beavers,—My father has taken "The Farmer's Advocate" for five years, and I like to read the letters

Ask yourself this question:—
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Important.—We'll prove these claims true and show how you may own this superb instrument and save \$100. Write to-day. 42

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In our "HAPPY HOUR" Washer we feel that we have one of the most up-to-date machines on the market to offer you.

The tubs are constructed of Louisiana Cypress lumber, which, if you do not already know, you will find upon inquiry is the best lumber to stand water.

The lid is double thickness, the lower half fitting tightly inside the tub, which prevents the steam from escaping. This keeps the water hot, and "hot water chases dirt."

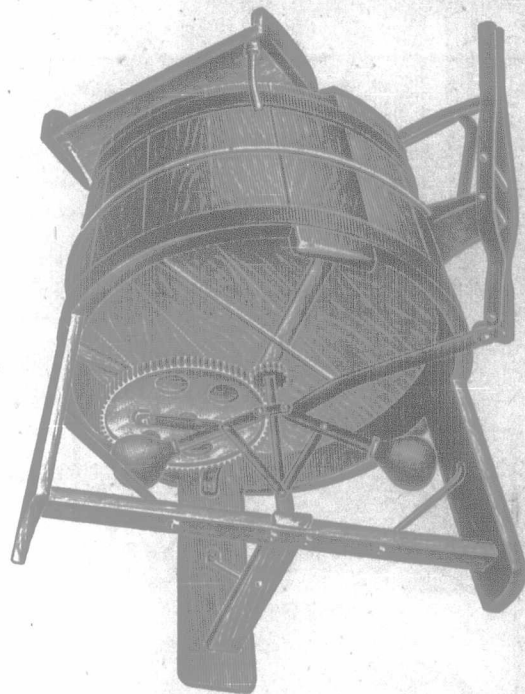
The Washer operates on the principle of the old English Dolly Peg, and this style is still the best method of removing dirt from clothes without the slightest injury to the fabric.

You can operate the "HAPPY HOUR" standing or sitting down. An average family washing can be done in one "HAPPY HOUR."

We will send you this machine on 30 days' trial. If you are not entirely satisfied with it at the end of that time, return the machine to us, and we will refund your money.

We want to tell you more about this wonderful labor-saver, so drop us a postal card to-day.

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"Listen, Rose."

Bud reads:

"Madam, your own white hands are the first to touch FIVE ROSES.

"For nearly one mile it travels through "hygienic automatic processes—more and more spotless.

"Till in a clear creamy stream it flows into "clean new packages, filled full-weight by "infallible machinery—sewed automatically."

"Goodness!" said round-eyed Rose.

Bud reads eagerly:

"Hand-proof, germ-proof. Every littlest "bit of machinery is bright—polished like "those piano keys of yours. FIVE ROSES is "healthy flour, wholesome, none like it. "Unbleached, too."

"Nobody touches my flour—but me" said Rose. Imagine such purity—get FIVE ROSES.

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Not Bleached



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of your Circle very much. In summer we have lots of fun picking berries. We used to live in Toronto, but it is more fun on the farm where you can ride the horses from the stable to the pasture on the gallop, and can hoe corn, pull weeds, pick apples and berries, and eat them too. Our farm slopes all directions from the centre, where there is a wood, and sometimes, when we are working up there, we take our supper to the woods and build a fire. We make tea and boil eggs on it. As my letter is getting long I will close. Good-bye.
CLARENCE J. M. BURGESS.
(Age 9, Class Sr. II.)
Baltimore, Ont.

Dear Beavers.—This is my first letter to the Beaver Club. We have one little calf. We call it Molly, and we have a little colt; her name is Fanny. I like them both. Papa is going to build me a little fowl pen, and I am going to try and raise a few chickens. I am going to school now. In winter I walk across about a mile of ice, in a bay of Lake Rosseau. In the summer we go in a row boat.
SIDNEY PENNY.
Port Carling, Ont. (Age 10 years.)

Dear Puck and Beavers.—This is my first letter to the Circle. I am not going to write a very long one this time. I live on a farm, my father has just started to take "The Farmer's Advocate", but I enjoy reading the letters already.

I have four miles to go to school. I drive in the winter, and in the summer I walk. Our teacher's name is Miss L. Hand. I like her fine. I had my arm broken last summer. I was only home from school one week. I had a nice little dog, I had him five years when he died. One night he ran away and I

never saw him since. We have a new puppy now, black and white, with yellow feet.
WILLIE SMITH.
(Age 10, Book Jr. III.)
Mindemoya, Manitoulin Island, Ont.

Dear Puck and Beavers,—I enjoy reading your letters very much so I thought I would write to your club. I go to school and like it fine. I like my teacher; her name is Miss Steele. We have a nice public school here, and they are going to build a high school this summer. I am glad spring is here. I like to hear the birds sing. As my letter is getting long I will close.
ANNIE HOLMES.
(Age 9.)
Winchester, Ont.

Dear Puck and Beavers.—I thought I would write you for the first time. My father has taken "The Farmer's Advocate" for many years. I like reading the letters that are in it, and thought I would write. I have a pet cat; her name is Tabby, she is black and white. When I call her she will come to me and purr. She is mostly white. We have four other cats; they are all pets. Well, I am in the third class and nine years old.
CAROLINE TAYLOR.
Belmont, Ont.

Dear Sir,—I am a little school girl. I am seven years old. I go to school every day. I am in the first book. I like my teacher very well. This is my third teacher, and I haven't gone to school a year yet. My school chum has a sore foot, and can't go to school. I gave my teacher a ride to-night. My teacher is boarding at McKay's. My teacher is going to stay a year I think. I took my brother to school last Labor Day, and we all had our picture taken at the school. We were playing "pomp,

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pullaway" and my teacher was playing too; that was my second teacher. I wrote a letter to my old teacher. She is teaching in Saskatchewan. We have a dog called Watch, and two cats. One is black and the other is gray, and they both live at the barn. I have a sister called Florence, and two brothers called Stewart and George. I am going to my auntie to spend my holidays. Good-bye.
LORENE McINTOSH.
Southampton, Ont.

Dear Puck and Beavers,—This is my second letter to this charming Circle. I go to school nearly every day. Our teacher was sick for a week, so we had a week holidays. I have a mile and three-quarters to go to school. I took a quarter of music lessons. We live four and a half miles from the village of Teeswater. It is quite a large village. My father was at Teeswater yesterday, and I helped my uncle with the chores. Well Puck and Beavers, don't you think my letter long enough.
Teeswater, Ont. SOPHIA PARKER.
(Age 11, Book Sr. II.)

P. S.—Will some of the Beavers about my age write to me?

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.]

The Clear Vision.

Obviously, it is impossible to outline in detail any one system for the training of children. Children differ in capability, temperament, and tastes, and, as everyone at least who has ever taken the normal training-course for teachers has found out, it is necessary to use one method with one child, another with another, suiting the method to the child. The whole matter depends greatly on the brain-power, originality and patience of the teacher, whether school-teacher or parent.

One absolute essential of success would, however, seem to be a clear vision of what it is desired that a child shall be.

The clear vision—have you ever known any important undertaking or career in life to be brought about without it? The successful farmer, the successful lawyer, or engineer, or statesman, knows exactly where he is and what he is aiming at; it is only the Micawbers, who sit around "waiting for something to turn up," who are, as a rule, the failures in life. And so it is with the up-lifting of children.

Exactly what do you want your child to be when he grows up and has to take his place in the world?—Think that out, then work towards it. There may be something in his nature that will balk you, but again there may not, and you may be able to help him wonderfully up those first rungs of the long ladder. Don't try to make him a counterpart of yourself. You know your own faults and weaknesses. Use them as danger signals, and so make "stepping-stones of your dead self" for your child's life as well as your own. But all the while see to it that you put no block in the way of his developing his own individuality, whatever that may be, so long as it points to wholesomeness. A child's individuality is a sacred possession.

Might it not be possible to have a wrong vision? asks someone. Why, certainly, but the mother or teacher who thinks and feels deeply upon the subject, will run a fair chance of avoiding it.

Just here one can't resist quoting you a few paragraphs from an article by that delightful old Southern gentleman whose writings, when encountered in the magazines are such a perpetual delight. We refer to Mr. E. P. Powell, the third of that trio of eminent Americans, the first two of whom are John Burroughs and John Muir.

"What would I wish my great-grandson to be?" he asks. "How would I have him differ from 'we'uns'? In the first place, I would like to have him thor-



"Many a dollar is lost by putting off until to-morrow. Send for catalogue to-day."
—The Philosopher of Metal Town.

No building material like this— "METALLIC"

is superior in every way. It is most economical—is easy and quick to lay or erect, saving expensive labor, and lasts a lifetime without continual repairs. Lightning, rain, wind or snow has no effect on "Metallic"—it is WEATHER, FIRE AND RUSTPROOF, the best material for all buildings.

Look over this list—all made from the finest quality sheet steel

"EASTLAKE" METALLIC SHINGLES. On buildings for 25 years, and still in perfect condition.

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"METALLIC" ROCK FACED SIDING. In brick or stone design for houses.

"MANITOBA" STEEL SIDING. The best for large buildings, elevators, mills, storehouses, etc.

CORRUGATED IRON—GALVANIZED OR PAINTED. For implement sheds or barns, fireproof and durable.

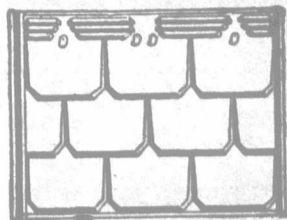
[You should read our interesting booklet "EASTLAKE METALLIC SHINGLES" and our new Catalogue No. 70. A post card with your name and address will bring them to you at once.]

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Steel Shingles

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Winnipeg, July 8th to 16th, 1913

The greatest and best "Wild West" show ever seen. See it all at its best at the Winnipeg Exhibition. Bucking Bronchos. Outlaw Horses. Genuine Cowboys and Girl Rough Riders.

Special train will leave London Tuesday, July 8th

Round Trip Fare \$37.50

COME TO THE WEST'S GREAT FAIR

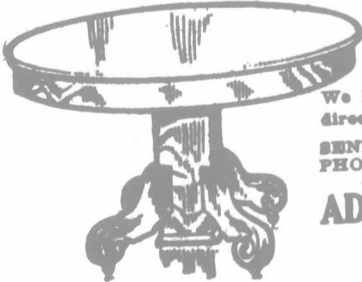
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We are open for shipments of Live Spring Chickens and Broilers, and will pay highest market price according to quality. Write for quotations.

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Prove It Yourself



Everybody that has used a '1900' Gravity Washer says it is the "best ever"—I will send you one for 30 days' FREE TRIAL and let you prove it yourself. No cost to you whatever. Write me personally to-day.
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Manager, "1900" Washer Co.
357 Yonge St. Toronto, Can.

"1900" Gravity WASHER

PLEASE MENTION THE ADVOCATE.

Make Hay While The Sun Shines

if you can, but if the shines are few and far between, you will have need of the most Improved Hay-Making Implements, and here they are.

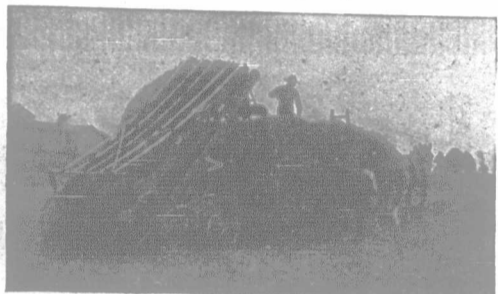
Massey-Harris Side-Rake and Tedder.

As a Tedder it dries the hay quickly and as a Side-Rake it leaves nothing to be desired. Changed in an instant from Tedder to Rake, or reverse. Made almost entirely of Steel. Gearing is strong and simple.



Massey-Harris Hay Loader.

Simple in construction—will not get out of order. Yields automatically to any obstruction or unusual volume of hay. Places the hay well forward on the load. Its motion is steady and constant.



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Yorkton, Calgary, Edmonton.
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Lightning Rods Reduce Your Insurance Premiums

In Some Companies Directly
In All Companies Indirectly

THE Insured pays all the losses. The Company is only the trustee for its clients. The less the Company's losses the less YOUR premiums.

LIGHTNING is the One Big Cause of LOSS

Prof. Day, of the O.A.C., in an address before the Mutual Underwriters' Association at Toronto, as reported in The Monetary Times, said; "Of all the barn claims settled in 12½ years, 66¼ per cent. were due to Lightning."

In 1910, 21 Farmers' Companies reported to us:
Total Losses, all causes.....\$137,095.20
Losses due to Lightning..... 65,375.14
Losses on Rodded Buildings\$3.00

No Buildings Rodded With
Universal Rods Has Ever Been
Burned By Lightning.

Why not Rod now? You will some
day—why not now?

Talk it over with your insurance
man; or, perhaps, some printed
matter or a sample of Rod would
interest you. Drop us a postal
card. Mention the "Advocate".

UNIVERSAL RODS

are properly built of the BEST
materials procurable and have
great carrying surface.

You Are Safe With The
UNIVERSAL ROD

"Made in Canada"

The Universal Lightning Rod Co.,
HESPELER, ONT.

oughly healthy. I want him to have fibre and muscle, only I do not wish him to get it through football rather than through productive labor. I hope that before he comes work will have its honest place in the world as finer than all the games that were ever invented. I should like that his circulation be clean, with no tobacco-smoke in his lungs, and not too much beef in his blood. I would like to have him respectful of old people. I want him to read, but not above ten books in a year. I want him to have his religion in his breath and his hands, and not so much in a creed. I want him trained to do things and to see through things; no blindness like that of being in a world full of God and yet hankering after heaven. . . . If he should happen to be a girl, I would want her to be just as healthy and life-full as the best boy. A woman needs more capacity and tact than a man, a sort of ten-sidedness, with a gift to soothe and be cheerful."

—Not a hint of the money-god here, nor even of very great cleverness just to be at the top, but an emphasis upon "doing" things, and "seeing through" things.—Ah, yes, this useful living and clear seeing—what they mean to us humans!—to see and to think, even though erroneously at times.—Here is a sentence to put in your pipe and smoke when you have time. It is from Joaquin Miller: "I sympathize with all thought, even with error, because error is the pathway to truth."

Paraphrasing those terse sentences quoted from Mr. Powell we may see the whole ideal, and we may add to them. It is necessary that this youth of the future be capable and fit, able to make a fair living for himself and those dependent upon him.

That he be kind and warm-hearted. That he be patriotic, yet more humanitarian than patriot. "The love of truth shows itself in our endeavor to seek out EVERYWHERE that which is good, and to appreciate it," said the great Goethe. "Writers and artists are not usually great patriots in the usual sense of the word," said Earl Barnes in one of his lectures, "they are seeking for excellence, and do not care in the least where they find it." Surely the search for excellence need not be confined to writers and artists.

That he be fond of books, and use them to supplement and inspire independent thinking. This is a very different thing from becoming a mere repository of facts.

That he be also fond of working with his hands, knowing that hand-work also is necessary to his development.

That he be an "abstainer," realizing the danger of tampering with strong drink. "Alcohol," said Dr. Gilmore, Warden of Central Prison, Toronto, speaking before the Canadian Institute last January, "plays the greatest part in sending men to prison to-day." Prison-reform must, he declared, begin with the children.

That he have interests enough to make life a broad, happy experience, rather than a dull, selfish, one-grooved one.

That, above all things, he recognize the worth of ideas. "This, then, is the great education question," says British 'Nation.'—"how to stir the stagnant, pleasure-ridden population to a reasonable measure of belief in, we will not say enthusiasm for, the value of ideas. We do not despair. There are signs of an awakening, a growing demand for serious and instructive literature among the educated section of the workers; some revival of interest in art and the drama as stimulants of thought and finer feeling, some disposition of our churches to concern themselves increasingly with the intellectual as well as the moral aspects of the great social problems of current history."

That he be agreeable of presence, unassuming and simple of manners and life. "I became very well acquainted with the great man later," remarks the "Plain Countrywoman," in Philadelphia Ladies' Home Journal, in speaking of a celebrity, "and I learned this from him and other great men I have met: that before you are great you must be good, you must be simple, you must be 'common,' you must be independent of all the flummery and foolishness of social life."

The clear vision—what it means! The

physician, before he can cure a disease, must diagnose it, he must see it clearly through and through. The parent or teacher who would give a child the best chance, must likewise have a clear vision, not only of what the child is, but of what he may be.

To give a child the best chance—the responsibility of it!—the opportunity of it!—for either parent or teacher or big sister. These little future "citizens of the world"—to start them out "fit" on the long path over the hill,—what work better worth while?

Yet some parents have no vision whatever. If they had they would surely show some sign of being impressed with the responsibility, or at least of understanding children and what they need.

Here, for instance, are those of the "jog-along" type. They dog John to work until he hates it—because they want the work done for themselves; they permit Mary to think and talk about clothes incessantly without even an effort to divert her mind to interests of more consequence; they dodge cheerfully or disagreeably along, as the case may be, day by day, utterly regardless of what may be the consequence of these daily neglects and irrationalities.

And here is the "drudge" type, equally,—perhaps perforce—as irresponsible.

Have you not seen it? The woman representing it may be a society or church drudge, too busy chasing around to teas and bridge-parties, or too busy over church work, as the case may be, to attend to her children properly; or she may be a drudge to work, to amassing property, to really necessary household duties which circumstances beyond her control have placed upon her, or even to a multitude of tasks that she could do away with if she only thought so.

Very often this hard-working type is found on a farm. Its representative is the woman who works, works, works away from morning till night—ofttimes late at night. "There is so much to do," she says, and perhaps with good reason, for she has no help, and there may be a big house to keep clean, meals to get and dishes to wash, bread to bake and laundry to do; perhaps, in addition, sewing, gardening, milking, and caring for poultry. Even this may not end the list, for she may even have to feed pigs and calves, and (whisper it)—"hunt for" summer wood!

Yes, there is "so much to do," and she can't in the least see how the "much" may be lessened any, for the house must be kept clean, and the meals must be got,—oh, they are all "musts"—and "the men haven't a minute to spare to help out on anything. They, too, are busy from dawn till dark at their own work. There are payments to be made, and the money must be got, and so the work must be done.—Yes, there are musts in the field, too.

If the mother is strong, and willing, and interested, she "gets through" somehow; if she is not strong, brave though she may be, she sometimes "goes under"; if she is strong, but neither willing nor interested, she becomes discontented and irritable, not much joy to herself nor to anyone else.

In any case, the child is almost invariably "let run," to a great extent, so far as any especial attention beyond providing clothes and food is concerned. Thanks to the wholesome country environment, if he be lucky enough to have such, he usually comes out fairly well; thrown on his own resources he gains, as a rule, a certain independence; but it does seem a pity that, if he were capable of it, he has not come out better, a hundred times better, developed to the very highest and best that could be made of him.

There is yet another type of mother, directly opposite from the household type. Far from having too much to do, she usually has far too little to do. She has servants to do her bidding. She is petted and babied, and forgets to take, or is not capable of taking life seriously enough to realize responsibility. She does not, she thinks, neglect her child. On the contrary, she spends much of her time with him,—but from a rather curious motive. In short, he amuses her, and she uses him as a toy, a pretty plaything to dress and fuss over, and exhibit to her friends, much as she would a poodle, were there no boy.

Almost invariably the boy so treated comes out less happily than the other. He has been pampered, he has not had the opportunity to develop independence, he has been equipped with a frivolous outlook on life, and has learned a scale of false values.—But, again, the pity of it that any faculty he possesses should atrophy for want of just a little suggestion and opportunity for development!

The case of this last mother may be, perhaps, a little hopeless. The frivolous type is hard to do anything with.

The woman with too much to do, however, is a different proposition, notwithstanding the work and the "musts." She is at least likely to have a good common-sense head upon her shoulders, and to be able to see and feel as well as do. True, she may really have too much to do to leave her any leisure for even so important a thing as the development of her children, but again she may be able to "make" opportunity.

Let someone, or some influence, come along that will impress upon her fully the responsibility of having a child at all, and give her one clear vision of what the present may mean to that child down the endless, hazy vista of the future, and she is likely to seize upon the idea with all the impassioned force of her character, and to devise ways and means by which she may gain time. In a flash, she sees exactly the sort of man or woman she would wish her child to be, she sees her own power in bringing about that end, and henceforth there are no "musts."

—What!—Abolish the "musts"? But yes. Why not? There are many ways by which the "musts" may be abolished, and there is not a clear-thinking, ingenious woman in the country (who is not tied down too much to tradition and conservatism) who cannot find them out.

What about teaching, the children to help, giving each his or her task and throwing the responsibility of it wholly off on to the young helper? It is wonderful how much even children who have been trained to it can do.

What about eliminating useless frills and furbelows everywhere, and falling back upon cotton crepe and pongee for summer clothes. The first needs no ironing at all; the second does not gather dust and dirt readily, and is very easily pressed out.

What about doing away with ironing altogether on common, everyday things?

What about shutting up as much of the house as possible during summer, and living, for the most part, out of doors, where there are no floors to be swept nor bric-a-brac to be dusted?

What about serving foods that are at once nourishing and easily prepared? . . . What about equipping the house with labor-saving devices? . . . What about—but these are suggestive enough. The woman with a "head on her," who is willing to cut loose from old, drudging ways for the sake of a greater aim, can think of plenty of devices more.

So a little time may be saved by most women to give to this greatest work of all,—interesting the children in things worth while, and giving them the start that may dominate their lives. No longer, then, will it be necessary always to respond, impatiently, to the eager questionings of the awakening mind, "Oh, I'm too busy! Run away and play!" until, little by little, the spirit of inquiry is nipped in the bud,—and what a dire calamity that may be.

Have you ever noticed, too, how ridiculously illogical, some people are, even when they do attempt to be "responsible"?

In a house in which the writer of this once lodged, there was a little lad of about ten years of age. "Tommy," the father used to say, "there is some kindling in the cellar. If you split it I will give you ten cents. If you don't I will give you a thrashing."—Imagine the result on Tommy!

One remembers, too, an equally irrational mother who used to say, "Katharine, if you don't behave yourself I'll make you wash the dishes," an excellent way to make Katharine look on all work as drudgery. Some day she will insist on playing the piano and keeping

her hands white while the mother does all the work of the kitchen. . . . I know a mother—perhaps I have told you this before, but it will bear repeating—who says to her little girls, twins of five, "If you are good I'll let you wash the dishes for me," and so on. What a contrast is her method to the other. As a result the bright little tots are absolutely delighted to be permitted to do actual work. It is a privilege. They take an interest in it, and are jubilantly triumphant when they manage to do things as well as mother does them.

Have you never met, too, the woman who, when abroad with her young hopefuls, keeps saying to them, "Now, mind your manners"?—What a pitiful "give-away"—to use a very expressive bit of slang. What an absolute confession of a home-life in which manners have no place except when taught spasmodically in preparation for "company"!

—And yet manners are quite important enough to be a natural, daily attribute of the home. If they are neglected, the youth who goes out into the world with but a few occasional bolsters to fall back upon is at once more or less handicapped. People are judged at first greatly by their manners. "Bad" manners instantly repel. Gracefulness and ease only come from constant using, the earlier begun the better. Manners, in short, should never be an excrescence.

Of course, the home atmosphere is not always sufficient for training in such matters. The child, none too observant in such a—to him trifling—matter as etiquette, needs definite lessons, and following them, very often, the gentle reminder, at least until his manners are so established that they are a part of him.

And so it is with other things. Corrupt influences straggle from without even into the most carefully-guarded home, and definite teaching, given tactfully, and for the most part casually, is necessary. Thus may be taught lessons on truth, fairness, honor, temperance, charity, and all the other graces that make up the ideal character which every good mother would wish to see her boy or girl attain.

BIRD BOOKS.

What are a few of the best text-books, etc., on birds and insects? Where may they be obtained, and at what price?

A SUBSCRIBER.

Algoma, Ont.
Several have asked about bird-books. We have pleasure in referring these to the following publishers: McClelland & Goodchild, Toronto; Musson Book Co., Toronto; Houghton, Mifflin & Co., New York, all of whom make a specialty of nature-study books. Neltje Blanchan's "Bird Neighbors" is excellent. The Musson Book Co. also publish a little book that is very good "as a pocket manual, 'Birds East of the Rockies.'" The price is, if we are not mistaken, \$1.00. Write to these firms for catalogues. We have no advertising plums out of this, but shall be pleased if you will mention "The Farmer's Advocate" when writing.

A PRETTY FLOWER.

Dear Junia,—I am enclosing a sample of a flower which I found in the swamp. If it is not too much trouble, I would like if you would tell me the name of it. I have never written to the Ingle Nook before, but I must say I get a lot of good information from it. I would not like to do without it now, as I have been so used to it for such a long time.

A CONSTANT READER.

Huron Co., Ont.
The beautiful little flower enclosed is the fringed polygala, or fringed milkwort, sometimes called flowering wintergreen.

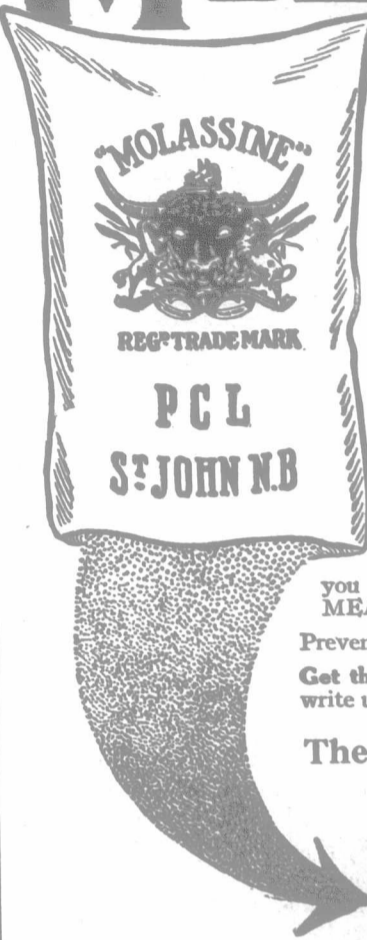
WARDROBE FOR SCHOOL.

Dear Junia,—What clothes are necessary for a girl's outfit who is taking a course at Macdonald Institute, Guelph, Ont.? I know what is necessary to wear during the classes; it is for my own personal wear when not at work. Thanking you for past favors, I remain, yours truly.

A COUNTRY GIRL.

Frontenac Co., Ont.
During fall, should the weather be

MOLASSINE MEAL



Watch a horse when he is eating his oats—note how he slobbers—bolts a lot—and spills a lot—also a large proportion is undigested.

Take a couple of handfuls of MOLASSINE MEAL, and mix with the oats at the next feeding time—reducing the oats by the amount of MOLASSINE MEAL added—then watch him eat—note how he masticates each mouthful and with what evident enjoyment.

Every particle of nutriment is obtained from all its feed—that's why it will cost you less for feed and you get better work out of your horses, if you feed them regularly with Genuine MOLASSINE MEAL, (Made in England).

Prevents colic and eradicates worms.

Get the genuine made in England. Ask your dealer, or write us direct for full information.

The Molassine Co. of Canada, Ltd.
St. John N. B. Montreal and Toronto



Central Canada Exhibition

Ottawa, Sept. 5 to 13, 1913

FREE TRANSPORTATION

Freight paid to Ottawa from last shipping point on all live stock exhibits from Ontario and Quebec. Railways will carry these exhibits home without charge. This is the best opportunity ever offered breeders, large and small, to show animals at one of the world's great fairs.

\$20,000 IN PRIZES

Acres of most modern pavilions filled with dazzling displays of farm implements, novel demonstration features and a splendid array of manufacturers' products. New \$100,000 Machinery Hall completed.

Two daily aeroplane flights of 10 minutes' duration, starting from the grounds. Free band concerts, unrivalled vaudeville and other magnificent attractions. Six monster night shows—Siege of Delhi.

Entries close August 29th. Lowest rates on all railways.

Write for programme, prize list, etc., to

E. McMAHON, Manager, 26 Sparks St., Ottawa

THE PREMIER CREAM SEPARATOR



Three points to consider when purchasing a cream separator:

**Efficiency
Simplicity
Durability**

In these particulars, as in many others, the PREMIER is vastly superior. A free trial will prove to you its many advantages.

Write for further particulars to:

THE PREMIER CREAM SEPARATOR CO.

St. John, N.B. Toronto, Ont. Winnipeg, Man.



St. Lawrence Sugar

Children Need Sugar.

Pure sugar is necessary to the health of young or old. Good home-made candy, sugar on porridge, fruit or bread—not only pleases but stimulates.

Buy St. Lawrence Extra Granulated in bags and be sure of the finest pure cane sugar, untouched by hand from factory to your kitchen.

Bags 100 lbs., 75 lbs., 20 lbs.,
Cartons 5 lbs., 2 lbs.

FULL WEIGHT GUARANTEED.
Sold by best dealers.

St. Lawrence Sugar Refineries, Limited, Montreal.

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.

ALL kinds of farms, Fruit farms a specialty
W. B. Calder, Grimsby, Ont.

AIM FOR VANCOUVER ISLAND—Canada's most favoured climate; suits middle-aged and elderly people well; good profits for ambitious men with small or large capital in business, professions, fruit growing, poultry, mixed farming, manufacturing, mining, fisheries, timber, railroads, new towns, endless opportunities. Write to-day for authentic information. Vancouver Island Development League, 1-29 Broughton St. Victoria, B.C.

HELPFUL literature for Bible students free on application. Secy. International Bible Students' Association, 50 Alloway Ave., Winnipeg.

FARM wanted—50 to 100—timber, orchard, large house, close to village without undertaker. Address Box 50, Farmer's Advocate, London, Ont.

POSITION wanted as manager of estate or farm. Thoroughly experienced in all branches of farming and management of labor. Satisfactory references in every way given. Box H, Farmer's Advocate, London, Ont.

WANTED—Man and wife without children to help on stock farm; wife to help with house work. State wages expected and references. Box 107, Mitchell, Ont.

100 Acres in Township of Ekfrid—This farm is situated between Appin and Glencoe, on good gravel road; has good water, well under-drained, and buildings are in a first-class shape. This is a desirable farm in a good locality. Also 25 acres of pasture, close by. These properties will be sold together or separately. For further particulars apply on premises to Charles Covey, lot 16, con. 2, Ekfrid, Tp. Appin P. O.

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.

SINGLE-COMB Brown Leghorns. The kind that lays, \$1.25 for fifteen. William Barnes & Sons, Living Springs, Ont.

Cream Wanted

We guarantee highest Toronto prices, full weights and prompt returns. Our 15 years' experience ensures satisfaction. We furnish cream cans and pay express charges. Write:

Toronto Creamery Company, Limited
Toronto, Ontario

MENTION "FARMER'S ADVOCATE."

warm, you will probably need two or three cool, one-piece dresses, a separate skirt or two, and two or three waists, and, for cool days, a cloth suit. Most of the girls also provide themselves with a sweater or golf coat for knocking about. A pretty party dress may also be needed. When winter comes, a best "stuff" dress and a long coat, with, possibly, some warm waists, will require to be added, but by that time you will know what the girls are preparing for themselves.

BOOKS FOR LIBRARY—PAINT FOR PARLOR—PLUM CATSUP.

Dear Junia,—Will you open your door to another enquirer? I notice so many come to you for advice, so I will do likewise. "The Farmer," as we call it, has come to my home since the eighties, and if the editor could see the pile in our attic he might feel complimented, I think. None are destroyed but by accident. I have noticed your advice about magazines and "Browsings Among Books," so thought I would ask for suggestions of books for a Sunday-school Library. Our school is made up of elderly men and women, down to young children.

Also about painting, etc., a parlor about 14 x 20, having a large window in the south and east, a bedroom at the north side. It has plastered walls and wooden ceiling, and is now painted cream, with light paper on walls.

I will send a recipe for apple or plum catsup which a friend said was the best apple catsup she had ever eaten.

Seven lbs. crab apples or 5 lbs. plums, 2 lbs. sugar, 1 pint vinegar, 1 teaspoonful each of cloves, cinnamon, salt, and pepper. I like a little cayenne. Cook fruit, rub through colander to remove seeds and skin, then weigh. I usually season to taste.

I have often thought of writing before, especially when the debate was going on about women's work, but have not done so, others having expressed my views perhaps better than I could. Either husband or wife's work is to do what is necessary for the best interest of both if they can.

Thanking you for your advice, which I hope to get, with best wishes.

MUGGINS.

The entire "juvenile list" of "Everyman's Library," which you can get from Eaton's, Toronto, would be suitable for a Sunday-school Library. To these you might add all of John Burrough's delightful books; Thompson-Seton's animal stories; E. R. Young's "My Dogs in the Northland"; Mrs. Aeneas Gunn's, "The Never, Never Land" (a story of Australia); "Greyfriars' Bobbie"; "Bob, Son of Battle," and "Danny," by Alfred Ollivant; Mrs. McClung's "Sowing Seeds in Danny"; Marion Keith's books; Adeline Teskey's new book, "Candlelight Days."—You will think of many others, but these will do for a start.

Ivory-white paint is usually considered as nice as any for either parlor or bedroom.

CLEANING SHOES.

Kindly inform me, through your valuable paper, a good remedy for keeping black patent-leather shoes from cracking.

A COONTOWN LASS.

Stormont Co., Ont.

Patent leather is never guaranteed; that means that you cannot depend upon its not cracking. Some people treat it with vaseline in the hope of keeping it soft. Scientific American gives the following as a good dressing: Wax, 22 parts; olive oil, 60 parts; oil of turpentine, 30 parts. Melt the wax with gentle heat in the olive oil, then remove from fire. When nearly cold, stir in the turpentine.

REPLY TO PANSY.

Dear Junia.—When I read Pansy's letter I felt my sympathy go out to her, as I am in exactly the same place as she. No one who has lived on the farm all their lives will, or can, sympathize with a town girl on a farm. It is indeed a vastly different thing to live on a farm after living in town than for a farmer's daughter to leave her home to live in town. I am sorry, Pansy, that you have none of your own friends near you. I am more fortunate than you in that respect, and it certainly helps to smooth things some. I know what it

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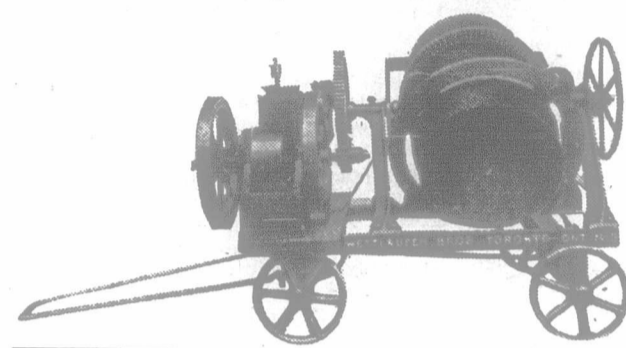
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We want to tell you all about this Machine, so send for Catalogue to Farm Dept. W. 3.

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MOLASSES FEEDS For Dairy Stock and Horses

Write for FREE samples to
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TORONTO

is to have my strength taxed to its utmost, and am now sorry that I worked so hard and had so little thought for myself. I now feel worn and old for my years. I think that women on farms should have more consideration for themselves, for if they don't, not one farmer out of ten will ever think his wife is over-worked. There are too many over-worked farmers' wives. Pansy, I think you have enough to do when you see to three small children and your housework, which is no little thing, I know. I think if farmers were more considerate, and showed that they had sympathy for the over-burdened one, there would be more satisfied women and happier homes in our rural districts. I hope things will be brighter for you as the children grow up, and interest in other things will come to you then. I know you could not do outside things and feel not strong, without completely doing yourself out, and such a life is not worth living. Go out among people. Don't be afraid to leave the dishes and other things undone; they will be there when you get back. Staying at home nearly all the time was one of my mistakes, and I see it was a bad one for me, or any other woman. I hope this will help some, if Junia sees fit to publish it.

Bruce Co., Ont.

FLOE.

News of the Week.

CANADIAN.

Toronto's new General Hospital, the most costly building yet erected in the Queen City, was opened by Lieut.-Gov. Sir John Gibson, on June 19th. It cost \$3,450,000, and will rank with the world's great hospitals.

Explorer Stefansson last week left Victoria for the Far North on his steamship, the "Karluk."

The Christian Chinese of Toronto held a memorial service recently in memory of General Sung, the leader of the revolutionary party that overthrew the Manchus, who was assassinated subsequently. Portraits of General Sung, Sun Yat Sen, and other leaders, occupied conspicuous places in the hall.

It was discovered that the frequent interruption last week of Niagara hydro-power was due to the breaking of a

number of insulators imported from Germany. Those from the United States have proved satisfactory.

Thirty thousand people visited the new General Hospital, Toronto, on the day of its opening.

Sir James Whitney announced at the opening of the hospital, that a Royal Commission is to be appointed to inquire into the question of medical education in Ontario.

Dr. Helen McMurchy, of Toronto, has been appointed Inspector of the Feeble-minded, and Assistant Inspector of Hospitals and Charities for Ontario.

The Medical Association of Canada is in session this week in London, Ont. Eminent doctors from all over America are speaking and conducting clinics.

Montreal women are planning to establish a summer floating hospital for infants.

BRITISH AND FOREIGN.

Berlin medical men almost unanimously express opinions unfavorable to the Friedmann cure, but one averring that cures have actually taken place. Similar scepticism is expressed in New York, where the Board of Health, by deciding that all remedies for disease using live bacilli must be licensed by the Board have practically closed the Friedmann Institute.

Mrs. Pankhurst is ill of valvular heart trouble, caused, her physicians assert, by forcible feeding.

Kaiser William II. last week celebrated the completion of his twenty-fifth year as Emperor of Germany.

Andrew Carnegie has donated \$25,000 to aid in circulating "The Oak," of Berlin, the official organ of the German Peace Society.

Dr. Mehnarto, a bacteriologist of Heidelberg, has announced that he has discovered a serum for the cure of tuberculosis. He calls it "contra-toxin," and reports results as "hopeful and encouraging."

PEACE AND GOOD-WILL.

A Southern Missouri man was being tried into court as the weapons used a rail, an ax, a pair of tongs, a saw and a rifle. The defendant's counsel exhibited as the other man's weapons a scythe blade, a pitchfork, a pistol and a hoe.

The jury's verdict is said to have been: "Resolved, that we, the jury, would have given one dollar to have seen the fight.—Exchange.

Questions and Answers.
Veterinary.

Distemper.

1. Eight-year-old Collie dog had distemper. I gave him a teaspoonful of equal parts gentian, sulphur, and saltpetre twice daily. About a week ago he lost control of his limbs. I gave him one-half teaspoonful of bromide of potassium twice daily, but he seems to be weaker.

2. If he dies, will his skin be suitable for tanning? J. C. H.

Ans.—1. Distemper in a dog of this age is very rare, and it is hard to understand the treatment. However, he appears to have recovered, and as a sequel paralysis occurred. In this case, nerve tonics, as 5 grains nux vomica three times daily should have been given, but you gave bromide of potassium, which is a well-marked nerve sedative, hence would tend to increase the symptoms. If still living, give him a purgative of 2 drams jalap and 3 grains calomel, and follow up with 5 grains nux vomica three times daily.

2. As dogs are shedding, the skin would be of little use tanned with the hair on, but should be all right for leather. V.

Stiff Neck.

I have a horse that has a stiff neck and cannot get his head down to eat grass. F.

Ans.—The symptoms indicate poll evil, in which case there will be noticed swelling and soreness of the poll, just behind the ears. If this be the case, keep him in the stable, and feed and water out of high mangers. Apply hot poultices to the poll until the acute soreness disappears, then apply a blister, and repeat in about ten days. This may dissipate the swelling without the formation of pus. If pus forms, it will be necessary to get a veterinarian to operate, and it will probably prove to be a very tedious case.

It may be a case of tetanus or lock-jaw, in which case it will be necessary to employ a veterinarian at once. It may be a case of strangles or colt distemper, in which case there will be soreness of the throat, with swellings. Apply hot poultices to the throat, give 4 drams hyposulphite of soda three times daily, open abscesses as they form, and flush out the cavities three times daily with a four-per-cent. solution of carbolic acid. V.

Miscellaneous.

Hop Culture in Canada.

Have hops ever been grown in Southern Ontario or the Niagara Peninsula? If so, what results were obtained, and why are they not grown now? I understand the soil and climate are suitable for growing hops, and I should imagine they would be a more profitable crop than fruit. M. F.

Ans.—Many years ago hops were more or less extensively grown in the Niagara District. In fact, I remember as a small boy playing in an old hop kiln on our farm in Stamford Township. There is no difficulty whatever about growing them in that part of the country, as soil and climate conditions are of the best. I have no doubt the reason they are not now grown is because of the limited demand for hops. They are most largely used in the manufacture of beer, and now that the slogans of the political parties are either "Banish Treating," or "Banish the Bar," we would not consider the outlook promising for the hop industry. H. L. HUTT.

CALDWELL'S Cream CALF-MEAL Substitute



is the next best thing to whole milk for vealing up or raising calves and it is guaranteed as such to the Canadian Government. You can raise as healthy calves on it as any man would desire and at a big saving in cost. Ask your Feedman about it, or write us for the proofs.

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need no insurance—because they are permanent. They cannot burn; they will not blow over; last a lifetime.

Built of Hollow Vitrified Clay Blocks

The most lasting material known. Blocks are air-tight and moisture-proof. They are glazed and keep silage sweet and palatable. No hoops to tighten; no staves to paint. Never swells or shrinks. Attractive in appearance—a silo that will improve the looks of your farm.

Any Mason Can Build a Natco Everlasting Silo

Once up—it will last a lifetime without needing repairs.

We have a 50-page illustrated book on silos and silage.

Every stock owner should have it for its valuable

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articles by prominent writers, including Prof. Hugh G. Van Pelt.

Sent free on request. Ask for catalogue 6.



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No More Sore Shoulders

Ventiplex, the new collar pad, positively prevents galls and sore shoulders. Made of a new fabric that carries all sweat and moisture to the outer surface where it evaporates, thus keeping the horse's necks and shoulders always dry—comfortable and free from galls, sores, etc.

Burlington-Windsor Blanket Co., Ltd. Windsor, Ontario



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STALLION INSURANCE

The insurance premium represents only a small proportion of the service fees earned. Better risk the **loss of the premium** than the **purchase price** of your beast if it dies without insurance.

Better have and not need than need and not have.

All kinds of live stock insurance transacted.

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Caustic
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A Safe, Speedy, and Positive Cure
 The safest, Best RESTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FILING. Impossible to produce scar or Blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
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Fleming's
Spavin and Ringbone Paste
 to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and one to three 45-minute applications cure. Works just as well on Sides and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a blemish, write for a free copy of
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 Does not blister or remove the hair and horse can be worked. Pleasant to use. \$2.00 a bottle, delivered. Describe your case for special instructions and Book 5 K free.
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 The Guaranteed Fence
 Made of heavy Open Mesh steel galvanized wire with impurities all burned out of the metal, rendering it much less liable to rust. Rectangular and cross wires strongly locked together. It can't sag. No animal can break through it. Write for catalogue. Agents wanted in open territory.
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GERALD POWELL,
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 Will meet Importers at any port in France or Belgium and assist them to buy Percherons, Belgians, French Coach horses. All information about shipping, banking and pedigrees. Many years' experience; best references. Correspondence solicited. P.S. Nogent is in the heart of the Perche horse district.

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MESSRS. HICKMAN & SCRUBY
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 Exporters of Pedigree live stock of all descriptions.
 Illustrated catalogues and highest references on application. We are doing a very large business in draft horses of all breeds, but especially Percherons, and we are offering unsurpassed values. All over the world there is a shortage of wool and mutton, sheep will go higher, and we solicit orders for show flocks. Our prices on big bunches of field sheep will surprise you.

Clydesdales, Standard-breds, and Short-horns. Our herd numbers about 40 head. Headed by the great stock bull, Trout Creek Wonder. Ten bulls for sale, from 6 to 14 months old; all good colors and good individuals.
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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.**

United States Live Stock and Meat.

A press notice sent out by the United States Department of Agriculture reveals the live-stock and meat situation in that country, and shows that there is a serious shortage making itself felt. It reads:

The shortage in the supply of meat-producing animals in the United States is steadily becoming more pronounced, and it is evident that the country is facing an era of short production of meat. In the last six years there has been a decline of over 30 per cent. in the number of beef cattle in the country, while the population and the consequent demand for meat have increased. According to estimates of the Department of Agriculture, the beef cattle in the country on January 1, 1907, numbered 51,566,000, and at the beginning of the present year the number was only 36,030,000.

More than half of the meat produced in the United States is slaughtered under Government inspection. A decrease of over 13 per cent. is shown in the number of animals killed under this inspection in the first three months of this year as compared with the same period of last year.

The year 1912 was a year of high prices for all classes of food animals, as is evidenced by the greatly-increased average prices of live stock at Chicago, the representative market of the country. Thus, the average price of cattle (native steers) for 1912 was \$7.95, as against \$6.50 for 1911, or an increase of 22.31 per cent., while the advance in range steers was still greater, being 31.58 per cent. The average price of hogs in 1912 at the same market was \$7.55, as against \$6.70 for 1911, which is an increase of 12.69 per cent. Similarly the average prices of sheep and lambs rose from \$3.95 and \$5.90, respectively, in 1911, to \$4.55 and \$7.10, respectively, in 1912, which is an increase of 15.19 per cent. for sheep, and 20.34 per cent. for lambs.

Unfortunately, when prices of live stock rule high, as was the case in 1910, there is a natural tendency for farmers to rush everything saleable to market, including immature animals and, worst of all, breeding animals. This inevitably brings about a future shortage, and so the country suffers from alternate periods of comparative and real stringency, while producers often lose heavily through the instability of prices.

With our diminished production in the face of the heavy demand and high prices of the home market, we no longer have a surplus for export, and it is no wonder that our export trade in meat animals and products has declined heavily. Our once great trade with England in cattle and fresh beef has disappeared, and the only considerable items now shipped to foreign markets are prepared hog products, such as bacon, hams, and lard. England is now drawing its imported beef supply mostly from Argentina, and its supply of mutton and lamb from Australia and New Zealand, as well as Argentina. The Australian colonies are sheep rather than cattle countries, and export probably more than four times as much mutton and lamb (by weight) as beef. The number of cattle in Argentina showed a decrease at the last census (1911) as compared with the preceding one (1908).

For the first time in our history, the exports of animals and animal products of all kinds in 1912 fell below the imports in value. However, the imports are very large only in two items, both of them raw products—hides and wool. The former were admitted free of duty, while the large importations of wool were made, notwithstanding a considerable duty. The import trade in hides and skins has assumed enormous proportions, the total value of the shipments in 1912 being considerably over \$100,000,000.

The total value of the imports of animal origin in 1912 was \$203,444,633. Compared with the previous year, this is an increase in round figures, of no less than \$60,500,000. The greatest single increase occurred in cattle hides, which almost doubled, while all the other classes of hides and skins showed substantial advances. The second largest increase was in wool, the quantity imported in 1912 being 238,118,350 pounds,

DOMINION EXHIBITION
 Brandon, Manitoba
 July 13th to 25th, 1913
\$50,000 Prize List **\$20,000 in Speed Events**
 REDUCED RATES ON ALL RAILROADS
FARMERS! **MANUFACTURERS!**
 We have the most liberal premium list offered in Canada. Refund of 50% of freight on live stock and poultry without restriction as to where else exhibits are shown.
 Transfer track delivers all live stock right to Exhibition Barns.
 A premium won at Brandon will be worth having. Send for Prize List.
 Entries close July 1st. Entries close July 1st.
EVERYBODY!
 Brandon now has the most beautiful exhibition grounds in Canada, covering 106 acres. We have spent \$150,000 on new buildings for the Dominion Exhibition. In visiting Brandon you come to the most beautiful city in the West. Ample provision has been made for the accommodation of the record crowds that will attend. Municipally-owned street car system right to the grounds.
SOME OF THE GRAND ATTRACTIONS Grand fireworks display, picturing "The Naval Battle in the North Sea," a stupendous spectacle 200 feet long, portrayed in brilliant colored fires. A vivid presentation of modern naval warfare. Beautifully illuminated grounds, with spacious promenades. Music by the best bands in Western Canada. High-class attractions from Europe and America's leading amusement centres, Bobker Ben Ali's Whirlwind Arabs, 12 people. The famous Rex Comedy Circus, Modelsky's Russian Troupe of 8 people, The Barkers, Fire Divers, Performing Elephants, Darling Aviation Flights by Monoplane twice a day, and other events.
 The Midway with 18 new attractions and the best of the old. High-class, clean entertainment by the great Patterson Shows.
TRAVELLERS' DAY, MONDAY, JULY 21st.
THE EXHIBITION THAT DOES CANADA CREDIT
P. PAYNE, Pres. **W. I. SMALE, Sec. and Manager**

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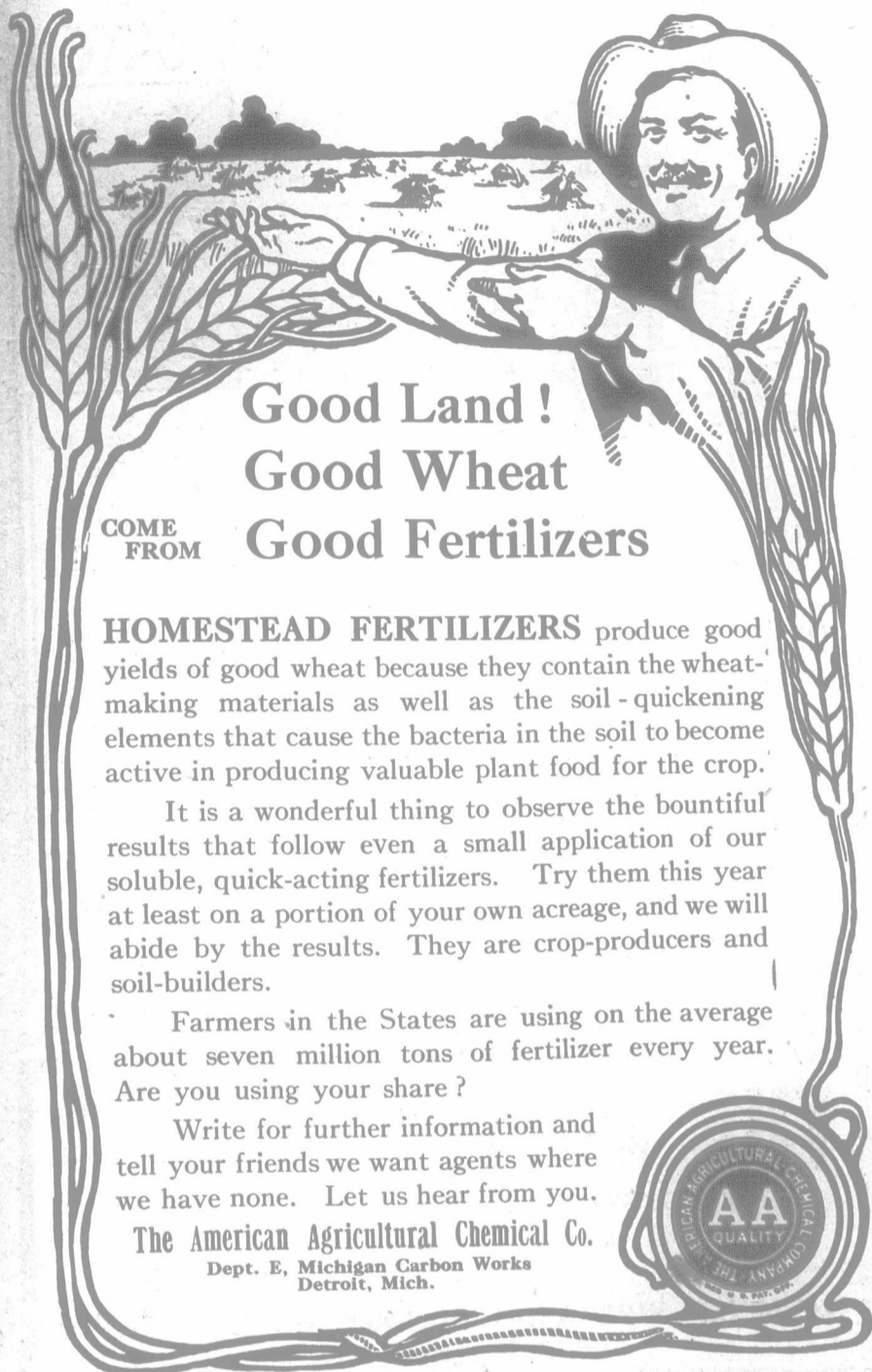
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Clydesdales, Imported Stallions and Fillies. Our record one or more winners in every class. We have new prize-winning Stallions and Fillies with breeding and quality unsurpassed—All are for sale.
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Clydesdales for Sale My first importation for 1913 landed in March. One dozen fillies of the highest standard will be offered at rock-bottom prices during June and July. Write for particulars and prices or phone.
G. A. BRODIE **NEWMARKET, ONT.**

ORMSBY GRANGE STOCK FARM, ORMSTOWN, P. QUE.
CLYDESDALES Imported and Canadian bred of large size, good colours, and the best of pedigrees always on hand. Pure-bred Jersey cattle of the choicest breeding, and Rhode Island Red Poultry of an excellent egg-producing strain. If you want a good start in such stock at lowest prices write me—
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HOMESTEAD FERTILIZERS produce good yields of good wheat because they contain the wheat-making materials as well as the soil-quickeners elements that cause the bacteria in the soil to become active in producing valuable plant food for the crop.

It is a wonderful thing to observe the bountiful results that follow even a small application of our soluble, quick-acting fertilizers. Try them this year at least on a portion of your own acreage, and we will abide by the results. They are crop-producers and soil-builders.

Farmers in the States are using on the average about seven million tons of fertilizer every year. Are you using your share?

Write for further information and tell your friends we want agents where we have none. Let us hear from you.

The American Agricultural Chemical Co.
Dept. E, Michigan Carbon Works
Detroit, Mich.



valued at \$42,210,377, as against 155,922,510 pounds, valued at \$25,479,422, in 1911.

It may be noted that the majority of the imported cattle hides come from Argentina. Europe supplies a good many, as well as most of the calf skins. East Indies is the largest contributor of goat skins, while most of the sheep pelts are from England. The latter country also sends us most of the imports of the fine wools. The inferior grades—the carpet wools—originate in Russia and China.

There was a largely-increased importation of cattle in 1912, the number being 325,717, as against 252,413 in 1911, and 211,230 in 1910. These animals were nearly all brought over the Mexican border for feeding purposes. They help a little, though not very much, in our beef supply.

The importations of cheese continue to be large, the quantity in 1912 being 48,928,857 pounds, valued at \$9,368,578. This cheese comes mostly from Italy and Switzerland.

The domestic exports of animals and animal products in 1912 were valued at \$185,434,196. This is the smallest total since the trade became established on a large scale subsequent to the Civil War. The principal items were: Lard, 552,648,777 pounds, valued at \$58,586,150; bacon, 192,021,658 pounds, valued at \$23,483,949; hams and shoulders, 176,058,810 pounds, valued at \$22,235,899. Each one of these was many millions of pounds less than in 1911.

The United States no longer has the former abundant supplies of cattle raised cheaply on the open range. The range is being cut up and fenced off into farms, or diverted to sheep-grazing. There has also been a great increase in the price of corn and other feeds, which has made cattle feeding a risky and expensive undertaking, especially as for a considerable time the prices received were unsatisfactory from the feeder's standpoint. For these various reasons cattle-raising went into disfavor, and the present greatly restricted supply is the result.

The time has come when we must conserve our meat supply and take steps to increase it, and at the present remunerative prices for food animals, it is probable that this will be gradually accomplished. Farmers generally, and especially those in the corn belt, should take advantage of the situation to develop cattle-feeding under the present favorable conditions. The South has great possibilities for the future as cattle-raising country, but the development of this industry there must await the extermination of the cattle ticks, which, fortunately, is being rapidly accomplished by the joint efforts of the Government and the States.



Make Better Cheese By Using Better Salt

The secret of good cheese-making is—the salt you use.

The smoothness, richness, color and keeping quality—all depend on the salt you use to salt the curd.

WINDSOR CHEESE SALT

Makes Smooth, Rich Cheese

For years, the prize winners at all the big fairs, have used Windsor Cheese Salt.

It dissolves slowly, salts the curd evenly, and makes a deliciously flavored cheese that "keeps." 74C

Refuse all substitutes and insist **YOUR** dealer gives you **RICE'S SALT**

It will pay you because there is a reason.

North American Chemical Co., Ltd.
Clinton, Ontario

SHORTHORNS!

Bulls of useful age all sold. Would appreciate your enquiry for females. Catalogue and list of young animals.

H. Cargill & Son, Cargill, Ont.

Oakland—50 Shorthorns

Present offering. Red Baron—81845—He is a fine massive bull, of a capital milking strain, 3-year-old, our own breeding and all right. Also one good red two-year-old and one sixteen months. All of the Dual-purpose strain and can be bought worth the price. Write, or better still, come and see them. John Elder & Son, Hensall, Ont.

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. - RR. No. 1, Drumbo, Ont.

SHORTHORN Bulls and 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— (69909). **GEO. D. FLETCHER, R. R. No. 2, Erin, Ont.**

Shorthorns and Swine—Have some choice young bulls for sale, also cows and heifers of show material, some with calves at foot. Also choice Yorkshire and Berkshire sows. **ISRAEL GOFF Elmira, Ontario**

SHORTHORNS—Six choice young bulls fit for service, at reasonable prices, from good milking strain. **ROBERT NICHOLL & SONS Hagersville Ontario**

TREASURE Shorthorns Pure Scotch, VALLEY of most fashionable breeding, Scotch-topped, of heavy milking qualities. Heifers and young bulls of show-ring form, high in quality, low in price. **A. G. SMITH, R.R. No. 2, Kippen, Hensall Stn., L.D. Phone.**

A RIFLEMAN, in telling a story, said: "My aim is to always tell the truth." "Yes," said a brother private, "but you're the worst shot in the regiment."



Electric Steel Wheels with Wide-grooved Tires

Are the ideal wheel for farm and road. Built to fit any axle or skein, of any height, any width of tire and capacity.

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Or **NORMAN S. KNOX**
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SHORTHORNS

One high class imported 13-months bull calf; one junior yearling show bull; one promising 11-months bull calf; one 14-months farmer's bull. Some bargains in heifers and young cows, including a few imported heifers.

MITCHELL BROS., Burlington, Ont. Farm 1/2 mile from Burlington Junction

SHORTHORNS AND CLYDESDALES

5 bulls from 8 to 15 months—3 roans and 2 reds. Females of all ages. 11 imported mares—4 with foals by their side, 5 three-year-olds, and 2 two-year-olds; all of the choicest breeding. Catalogue of Clydesdales mailed on application.

BELL 'PHONE BURLINGTON JCT. STA. W. G. Pettit & Sons, Freeman, Ont.

I STILL HAVE FOUR YOUNG BULLS FOR SALE AND MORE COMING ON

Several heifers that are bred right and that will make great cows; some of them in calf now to my great breeding sire, Superb Sultana—75413—perhaps the greatest son of the great Whitehall Sultan—55049—that was imported by me and used so long in Mr. Harding's herd. I sell nothing but high-class cattle, but the price is within the reach of all. A few Clydesdales, Shropshires and Cotswolds always on offer. Local and Long Distance Telephone.

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5 Shorthorn Bulls 5—We have for sale at moderate prices 5 Scotch Shorthorn bulls, including one of our herd bulls. Also a number of high-class heifers and heifer calves.

A. J. HOWDEN & CO., COLUMBUS, ONT.
Myrtle G. T. R. & C. P. R. Long-distance 'phone

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. **J. A. WATT, SALEM, 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 breeding. **HARRY SMITH, HAY P. O., ONT. Exeter Station. Long-distance Telephone.**

5 YOUNG BULLS

My present offering consists of fit for service, 10 females, cows in calf and heifers, 1 show yearling Clyde filly and 1 filly foal good enough to show any place. **JOHN MILLER, Brougham, Ont.**

Gossip.

Attention is directed to the new advertisement on page 1122 of last issue, announcing the 1913 annual Canadian Industrial Exhibition, at Winnipeg, Man., the dates for which are July 8th to 16th. The splendid prizewinning records of live stock from the Western Provinces at National and International exhibitions in the East in recent years clearly indicate the high-class character of that branch of the Winnipeg event, while the display of agricultural products is always exceedingly interesting, as also are the attractions before the grandstand, special features of which this year will be those of frontier days, broncho busters, genuine cowboys, and girl roughriders. The Winnipeg Show is the first of a series in the Western Provinces which may be taken in with much pleasure and profit by Easterners.

Volume 79, of the American Shorthorn Herdbook, has recently been issued from the press, and a copy has, by courtesy of Secretary Roy G. Groves, Stock-yards Station, Chicago, been received at this office. This volume contains 20,000 pedigrees of animals calved before December 28th, 1911, 9,000 of which are bulls, numbered from 350001 to 359000, and 11,000 cows, numbered from 104001 to 115000. This volume is now ready for distribution, the price to non-members being \$2 at the office of the association, or \$2.30 prepaid. Volume 80 has been sent to the printer, and will contain 20,000 pedigrees.

Healthy Cows All The Year Round!

A natural food that strengthens and builds up is far better than any kind of tonic or medicine for animals, as well as for men. Scientists have proved that this new food increases the value of any kind of feed, when mixed with it.

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helps make more milk, and keeps your cows in good condition. It is also a good fattener for beef cattle.

For Horses—Buckeye Feeding Molasses is relished by horses. It keeps their stomachs in perfect condition, aids digestion, and besides saving feed, prevents kidney diseases, colds, etc.

For Sheep—Will keep your flock healthy and well; adds weight and makes finer wool and more of it.

For Hogs—Makes every hog a big hog—no runts. Larger profits in pork.

17 CENTS a gallon in barrels, duty paid. Write for prices on smaller lots.

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I have..... head of cattle.....

sheep.....hogs and.....horses
Send me your trial proposition to prove that Buckeye Feeding Molasses will benefit all of them.


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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 no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vest-Pocket Veterinary Adviser. Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy.

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PURE-BRED REGISTERED Holstein Cattle.
The most profitable dairy breed, greatest in size, milk, butter-fat and in vitality. Send for FREE illustrated descriptive booklets. **HOLSTEIN-FRIESIAN ASSOCIATION,** F. L. Houghton, Sec., Box 127, Battleboro, Vt.

The Maples HOLSTEIN Herd

Headed by Prince Aggie Mechthilde. For sale at present: Choice bull calves, from Record of Merit dams with records up to 20-lbs. butter in 7 days. All sired by our own herd bull. Prices reasonable.

WALBURN RIVERS, FOLDENS, ONT.
Maple Hill HOLSTEIN-FRIESIANS—Special offering: My junior herd bull, Choicest Canary, son of Nannet Topsy Clothilde, 30.23 lbs.; also choice bull calves. G. W. CLEMONS, R. R. No. 2, St. George, Ont.

HOLSTEINS AND YORKSHIRES
Minster Farm offers swine of both sexes and bull calves from R.O.P. cows with records up to 14,752-lbs. milk 1 year. All records made under ordinary conditions. For extended pedigrees write: **RICHARD HONEY & SONS, Brickley, Ontario**

Gossip.

THE DUAL-PURPOSE COW.

The opening that has come for breeding dual cows is of the first magnitude. The only regret in regard to it is, that it was not engaged in long ago. Had such been the case, the breeders would now be in a position to reap a grand harvest. But though this work has been long delayed in America, it would seem that the time has surely come for many to engage in a work so meritorious, and that means so much to the country.

The importance of this work is emphasized by the high prices that are now being paid for meat, and that will be paid for the same in the days that are to come. Good reasons may be given for the advance in recent years, prominent among these is the occupancy of the ranges of the West by the homesteader. In virtue of such occupancy, the breeding and growing of cattle and sheep has declined. In the United States, for instance, the cattle kept for producing meat have gone down by nearly 8,000,000 head. The sheep have gone down by more than 9,000,000 head. The population has increased by 20,000,000 during that time. The population in Canada also has been increasing in the interval, while the grazing lands in the West are being curtailed. How could it be otherwise than that the prices of meat should advance? This advance has been so marked as to make it possible to carry stockers up from Mexico to the Canadian West, and then, after a sufficient interval, to ship them from points as far west as Calgary to the Chicago markets, and yet to make good money on them.

In the face of such facts, how is the country to be supplied with meat? Meat it must have. The supply from range areas will grow less for several years to come. It must come largely from the arable farm. If so, it must come mainly from the dual type of cow, for all who have studied this question must be aware of the fact that more money can be made from milk produced by this cow, added to the money made from that portion of her progeny grown into beef, than can be made from the progeny from the straight beef cow that suckles her own calf.

Why have dual cows not been more systematically bred in America? The breeders in dairy lines are largely responsible. They have persistently claimed that there was no rightful place on the farm for the dual cow. They have said that she could not be bred. They have called her a delusion, a snare, and a myth. They have said that to breed her was like hunting chickens with a bull pup, or like going into battle riding on a draft horse. In this they have followed the leading of ex-Governor W. D. Hoard, who is largely responsible for this pernicious teaching, which is now helping to take money out of the pockets of meat consumers because of the high price of meat.

Why should it not be possible to breed the dual cow? The opponents of this view have said that the dual cow can not be bred for the reason that there will be continually a swinging to milk production on the one hand or to beef production on the other. Why should this follow of necessity? The great dominant and governing law in breeding claims that like produces like. Why should there be any more difficulty in securing equilibrium in transmission in the dual cow than in the Plymouth Rock fowl, or in the Shropshire sheep? Does the transmission in the Plymouth Rock continually wobble first to the production of a table fowl and then to the production of an egg-producing fowl? Does the transmission of the Shropshire sheep first run in the direction of producing more and better wool to the detriment of flesh-production, and then wobble again in the direction of flesh-production to the detriment of wool-production? Answer, ye wise men who say the dual type of cow can not be bred.

Is it not a fact, first, that milk-giving is a normal function in the cow, and that to fulfil the ends of her being she must give some milk? Is it not a fact that she can be so bred as to ultimately strengthen the milk-giving so as to produce phenomenal yields, but at the expense of meat-production? Is it not also a fact that she can be so bred as to reduce the milk yield below what will

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Many old-time ranchers eventually bought EMPIRES for themselves. Their sons and grandsons now own modern dairy farms and use modern EMPIRES. "Prosperity Follows The Cow." Do you know a dairy community that is not prosperous? Rich farms and prosperity follow the dairy cow.

The Third Generation of Empire Users

are even better friends to the EMPIRE than their fathers and grandfathers were before them. The perfection of EMPIRES has kept pace with the growth of dairying.

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start rite, work rite and stay rite, just as their name implies.

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Good men, who desire to handle our well known and popular machines, should write us at once. Write for Catalog 125

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LAKEVIEW HOLSTEINS

Herd headed by Count Hengerveld Fayne De Kol, by Pietertje Hengerveld's Count De Kol out of Grace Fayne 2nd. He has 12 daughters already in the Record of Merit, and many more to follow. Junior sire—Dutchland Colantha Sir Mona, by Colantha Johanna Lad out of Mona Pauline de Kol (27.18 butter) the dam of one daughter over 30-lbs. and one over 27-lbs, also the dam of the World's champion junior three-year-old for milk production. A few bull calves for sale.

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Service Bulls and Bull Calves from A. R. O. Dams.

Sons of Johanna Concordia Champion, No. 60575, one of the richest bred and best individual bulls of the breed. His granddams, Colantha 4th's Johanna 35.22 lbs. butter in seven days, fat 4.32 per cent.; and Johanna Colantha 2nd 32.90 lbs. butter in seven days, fat 5.02 per cent. Average butter in 7 days 30.06 lbs.; average fat 4.67 per cent. If you spare a few good cows and heifers bred to the "Champion." Write me your wants and I will try and please you.

MAPLE AVENUE STOCK FARM, L. E. Connell, Prop., Fayette, Fulton Co., Ohio, U. S. A.

FAIRVIEW FARMS HERD

REMEMBER:—Pontiac Korndyke sired the bull that sired the new 44-pound cow. Do you want a sire to use that has such transmitting ability? If so secure a son of Pontiac Korndyke, or Rag Apple Korndyke 8th, the strongest bred Korndyke bull in the world.

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AVONDALE STOCK FARM Herd bulls: Prince Hengerveld Pietje 8230 (50582). Sire, Pietje 22nd Woodcrest Lad, out of Pietje 22nd, 31.00 lbs. butter 7 days; greatest imported cow, and one of the greatest young sires of the herd, having already sired a 35-lb. 4-year-old daughter. Dam, Princess Hengerveld De Kol, 33.62 lbs. butter 7 days, highest record daughter of Hengerveld De Kol, with 116 tested daughters. King Pontiac Artis Canada 10042 (72294). Sire, King of the Pontiacs, greatest living sire of the herd, and sired by the greatest sire of the breed, Pontiac Korndyke. Dam, Pontiac Artis, daughter of Hengerveld De Kol. Record, 31.8 lbs. butter 7 days, 128 lbs. 30 days, 1,076 lbs. 365 days. Young bulls from these two great sires for sale, from cows with records up to 29 lbs. Write us, or better come and see them. Visitors always welcome. Address all correspondence to:

A. C. HARDY, Owner. **H. LORNE LOGAN, Mgr., Brockville, Ont.**

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Do you realize that you must have another servicable bull soon? Better go down to Hamilton right away and see those well-bred fellows with high official backing, that you can buy well worth the money from

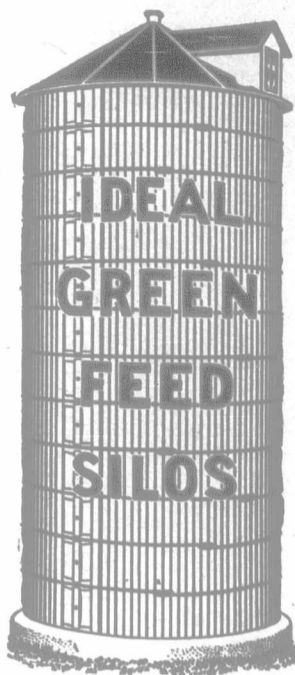
D. C. FLATT & SON, R. R. No. 2, Hamilton, Ont. 'phone 2471.

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L. D. 'PHONE FINGAL VIA ST. THOMAS.

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AS a matter of fact, if you are keeping dairy cows or raising stock for the market there is no investment which you can make which will pay you better returns than an Ideal Green Feed Silo.

The cost is a secondary consideration and it is not a question of whether you can afford to erect a silo this year but rather whether you can afford to be without one another winter.

A good silo is a necessary part of the dairy equipment of every cow owner who wants to realize a profit from his herd.

If you have no silo a little investigation will be sure to convince you that you ought to purchase one right away.

Don't buy anything but a wood silo. Cement, or stone, or brick not only cost a great deal more than wood in the first place, but there is too much waste in the spoiled silage with anything but a wood silo. Our silo book explains why so much better results can be obtained with a wood silo in our Canadian climate than with any other kind.

The shrewdest and best posted farmers in Canada are installing

IDEAL GREEN FEED SILOS

so rapidly that although we have doubled our factory facilities in the last year it is about all we can do to keep up with the demand.

We are the oldest and best known Silo manufacturers in Canada and thousands of our Ideal Green Feed Silos are in use on the most prosperous and best paying farms in the Dominion, and these silos have always given satisfaction.

If you have about made up your mind to build a silo this year you want to be sure and get your order in early so that we can make delivery before it is too late in the season.

Our Ideal Green Feed Silos are constructed from the very best material and by reason of the special solution with which we treat the staves, our silos last from two to three times longer than ordinary wood silos.

Be sure and get our free silo book.

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

LARGEST AND OLDEST SILO MANUFACTURERS IN CANADA

amply supply the needs of her calf? Why then should it not be possible to so breed her as to maintain an equilibrium in transmission between milk and meat?

But the fact is that she has been so bred. The milking Shorthorn has been so bred in England for more than a hundred years. The Red Poll has been so bred in England for more than a hundred years. To deny this would be to deny history. If the dual type of cow can be satisfactorily bred in Britain, why may she not be satisfactorily bred in America? The methods to be followed can not be discussed in this paper, but will probably be taken up in a succeeding issue. Meantime it may be said that the men who will breed dual cows intelligently will be sure of a goodly reward.—[Prof. Thos. Shaw, in Farmer's Advocate and Home Journal, Winnipeg, Man.]

Gossip.

SHEEP AND SWINE AT BATH AND WEST.

At the Bath and West of England Show the last week in May, the aggregate entry of sheep was 213, as against 234 last year, and the animals were well up to average in merit and quality. South-downs made a fuller entry than usual. In the aged-ram class, the winner was from the flock of Lady Wernher; second was Mr. McCalmont's entry, and Sir J. Colman's was third. In yearling rams, Sir J. Colman was first, W. M. Cazalet second, and D. McCalmont third. In ram lambs the order was, first to Sir J. Colman; second, D. McCalmont; third, Lady Wernher. In the ewe class, it was Sir John Colman first; W. M. Cazalet second, and Lady Wernher third.

In the Hampshire Down section, J. E. Baigent led in the yearling-ram class, second and third going to Capt. J. A. Morrison, who was first in the ram-lamb class; second, J. E. Baigent; third, E. A. Edney. Capt. Morrison was first for yearling ewes.

Oxford Downs made the largest entry of the breed seen at this show for many years. The winning yearling ram was shown by J. Horlick, J. T. Hobbs being second and third. Winning ram lambs were, first and third, those of Hobbs; second, the entry of Mr. Rich. Yearling ewes were a handsome lot, and the awards were, first to J. T. Hobbs; second, Jas. Horlick; third, C. F. Moore.

Dorset Horns were shown by Sir E. A. Hambro, A. Johnson, Merson & Son, and C. H. Crawford. In yearling rams, Merson & Son led with first and second, third going to Hambro. In ram lambs, first to Johnson; second to Merson; third to Sir E. A. Hambro. The winning yearling ewes were shown by the latter, who also had the first-prize ewe lambs; Johnson second; Crawford third. Other breeds of sheep shown were Devon Long-wool, Kent or Romney Marsh, Dorset Downs, and Oxford Horns.

Pigs.—Berkshires, with 17 pens, were well represented. Minley Warrior, a grand specimen, headed the aged-boar class for L. Currie, Compton Viscount, for A. Hiscox, was second. The latter led for the best pair; second was W. Buckley, and third J. A. Fricker. The medal for best sow went to L. Currie, for Minley Primrose. For the best pair, A. Hiscox was first and third.

Large Whites were an entry of twenty-one more than last year. Lilion Turk led in the aged-boar class for J. M. Dugdale; second being Worsley Sampson, owned by R. M. Knowles.

Lord Lucas led in the young class, and E. Hosking was second and third.

Tamworths had twenty entries, the same as last year. D. W. Phillip was first in a really good lot of boars, with Whitacre Enterprise, second and third going to R. Ibbotson, and the same exhibitor won first, second and third, with three splendid sows. He was also to the fore in the young boar class with a handsome pair, C. L. Coxon taking second, and Mrs. Morant third. The last named won in the gilt class with a fine pair; C. L. Coxon taking second, and R. Ibbotson third.

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For Sale—Jersey cows and heifers and bulls for exportation. All pedigree and herd-book stock. For further particulars apply to **A. T. SPRINGATE, Breeder and Exporter, Gorey, Jersey, Europe.**

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Four Registered Ayrshire bulls ready for service, 3 Ayrshire heifer yearlings, 4 Ayrshire bull calves, 10 Registered Holstein calves, 1 two-year-old Registered Jersey bull and one yearling Jersey bull. These are all from very heavy milkers, most of which are in the Advance Registry. For full information address:
LINCOLN AGRICULTURAL SCHOOL, Lincolndale, New York.

Ayrshires Last chance. No females for sale, but still have a few bulls, sired by Woodroffe Comrade, whose first heifer in milk gave 11,392 lbs. milk, 480 lbs. butterfat in year; prices right. **H. C. HAMILL, Box Grove, Ont., Locust Hill, C.P.R. Markham, G.T.R. and L.D. Phone.**

Fertilizers For information regarding all kinds of mixed and unmixed fertilizers of the highest grade write.

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WEST TORONTO : : ONTARIO

BRAMPTON JERSEYS The spring trade is on; we are doing the largest business we ever did, chiefly with our old customers; young bulls and heifers from sires with tested daughters. Several imported cows and bulls for sale. **Canada's Greatest Jersey Herd. B. H. Bull & Son, Brampton, Ont.**

Stonehouse Ayrshires Of choicest imported stock and with imp. sires and dams. I am offering young cows, 3, 4, and 5 years of age; a grand bunch of imp. yearling heifers, and a particularly good pair of young bulls. **L.-D. Phone. HECTOR GORDON, Howick, Que.**

STOCKWOOD AYRSHIRES This herd is now headed by White Hill Free Trader (imp.) No. 33273, championship bull at Sherbrooke; also headed the 1st-prize aged herd. All ages for sale. Satisfaction guaranteed. **D. M. WATT, St. Louis Sta., Que. Telephone in house.**

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**

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on fowls and in the houses, use
PRATT'S POWDERED LICE KILLER
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Each the best of its kind
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Toronto Salt Works, 128 Adelaide Street E.
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ABERDEEN-ANGUS CATTLE
SOUTHDOWN SHEEP

Now is the time to select your sire for use this fall. The first choice is guaranteed to those ordering now. Send for circular and prices to
ROBT. McEWEN, Byron, Ontario
R. R. Stn. and Tel., London.

MINSTER FARM

We are sold out of Tamworths also females in Holsteins but still have some choice bulls for sale from 2 to 6 months, officially backed and right good ones.

R. O. MORROW & SON, Hilton, Ont.
Brighton Sta., phone.

FOR SALE: Yorkshire Boar
One choice
fit for service; bred from show stock.
GEO. D. FLETCHER, Erin, Ontario
R. R. No. 2

Strictly speaking, it was only a police court, but to the little old lady who waltzed in and addressed the magistrate it must have been the High or Appeal Court or all our Courts rolled in one.

"Are you the Judge?" asked the purky little party.

"Well, not strictly speaking; but I'm the Magistrate. What can I do for you, madam?"

"What I've come for," rattled on the old lady, "is for help in my trouble. I'm a widder. My husband died detested, and left three little infidels, and under his will I am appointed their executioner."

Still, where there's a will there's a way, and the Magistrate passed her on to a lawyer who happened to be at hand.



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The Feeding, Watering and Resting of Live Stock in Transportation.

In connection with the enforcement of the Twenty-eight-hour Law, the Bureau of Animal Industry of the United States has made investigation of the feeding, watering, and resting of cattle, sheep, swine, and other animals, while in the course of interstate transportation. The results of this investigation, and the conclusions based thereon, are announced as an indication of the views of the Department of Agriculture as to the minimum requirements of the law.

The amount of feed which should be given to different classes of animals varies with the length of time between feedings and the weights of the animals. For each 24 hours, the ration for horses and cattle should be not less than 1 1/2 pounds of hay to each hundredweight of animal; for sheep, not less than 1 1/2 pounds of hay to each hundredweight of animal; and for hogs, not less than 1 pound of shelled corn, or its equivalent in ear corn or other grain, to each hundredweight of animal. For periods greater or less than 24 hours, the ration should be greater or less, respectively, in the same proportion.

The only practicable methods for railroads to transport animals, other than hogs, without unloading during each period prescribed by the statute for rest, water, and feeding, are in "palace" or similar stock cars, and with emigrant outfits. There are cases in which exceptional facilities complying with the law make unloading unnecessary; for instance, specially-equipped cars conveying show animals and blooded stock. In such cases care should be taken to observe the law. In all cases, if animals are not unloaded, sufficient space to permit all the animals to lie down in the cars at the same time must be provided.

Hogs may be led, watered, and rested, without unloading, provided (a) the cars are loaded so as to allow all the animals to have sufficient space to lie down at the same time, (b) the trains are stopped for sufficient time to allow the watering-troughs to be prepared, and to allow every hog to drink his fill, and (c) care is exercised to distribute properly through each car deck sufficient shelled corn, or its equivalent in ear corn or other grain, for each hog.

All pens into which animals are unloaded must contain adequate facilities for feeding and watering, and suitable space on which the animals can lie down comfortably for resting. Covered pens should be provided for unloading animals in severe weather.

Gossip.

ABERDEENSHIRE JUDGE FOR WINNIPEG.

The Scottish Farmer announces that James Durno, Jackstown, Aberdeenshire, has been selected to judge Shorthorn cattle and Clydesdale horses at the Canadian Industrial Exhibition, Winnipeg, Man., July 8-16, this year.

Entries at the International Horse Show, London, England, from June 19th to July 1st, are so extensive that judging is being done every morning. On many days the judges work from nine in the morning until after midnight. Hon. Adam Beck, London, and Hon. Clifford Sifton, Ottawa, have horses entered in the hunting and jumping classes.

Two very creditable publications have recently been published by the American Shorthorn Breeders' Association. One is an album containing excellent illustrations of the Shorthorn prizewinners at the great International Live-stock Exposition in Chicago in 1912. As a pictorial review of Shorthorns at this show, it is valuable, and also serves to depict the type desired by present-day breeders. Illustrations of the late J. H. Pickrell, first president of the American Shorthorn-breeders' Association; the late Hon. Emory Cobb, a past president; the late N. P. Clarke, one of America's pioneer breeders, and the late John W. Groves, a former secretary, are included. This is a pamphlet which every Shorthorn breeder should have. The other publication is a history of the breed, giving characteristics and other useful information. It also is well illustrated.

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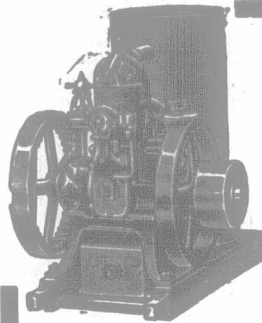
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Combined specification and form of tender can be obtained on application at this office and from the caretakers of the different Dominion Buildings.

Persons tendering are notified that tenders will not be considered unless made on the printed forms supplied, and signed with their actual signatures.

Each tender must be accompanied by an accepted cheque on a chartered bank, payable to the order of the Honourable the Minister of Public Works, equal to ten per cent. (10 p.c.) of the amount of the tender, which will be forfeited if the person tendering decline to enter into a contract when called upon to do so, or fail to complete the contract. If the tender be not accepted the cheque will be returned.

By order,
R. C. DESROCHERS,
Secretary.

Department of Public Works,
Ottawa, June 14, 1913.

Newspapers will not be paid for this advertisement if they insert it without authority from the Department.—42889.



MAIL CONTRACT

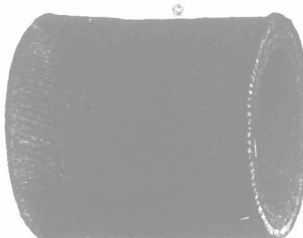
SEALED TENDERS ADDRESSED TO the Postmaster-General, will be received at Ottawa until noon, on Friday, the 11th July, 1913, for the conveyance of His Majesty's Mails on a proposed contract for four years, three times per week each way, over Rural Mail Route No. 1, from Appin (Appin and Inadale), Ont., from the Postmaster-General's pleasure.

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 Appin, Inadale, and Glen Wilow, and at the office of the Post-office Inspector at London.

G. C. ANDERSON,
Superintendent.

Post Office Department,
Mail Service Branch,
Ottawa, May 29th, 1913.

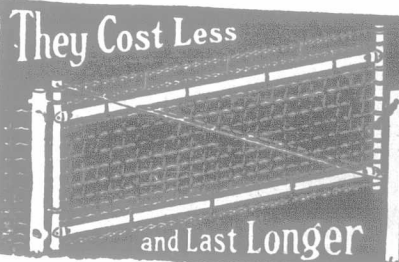
TO THRESHERMEN



Our price for best 2-inch canvas-covered suction hose is only 60c. per ft. We sell the plain 2-inch wire-lined suction hose at only 37c. per ft. It comes in 15-, 20-, and 25-ft. lengths. We carry a large stock. Write for large catalogue of Threshers' Supplies.

WINDSOR SUPPLY CO. - Windsor, Ont.

When writing mention Advocate



"Clay" Gates

STRONGEST and best farm gate made. 30,000 sold in 1912. Can't sag, bend or break. Can be raised as shown. Good for Winter and Summer. Send for illustrated price list.

The CANADIAN GATE CO. Ltd.
34 Morris St., GUELPH, Ont.

WATER!

Portable Well-Drilling Machinery and Well-Drilling Tools

The Most Successful Drilling Machine Ever Operated in Canada.

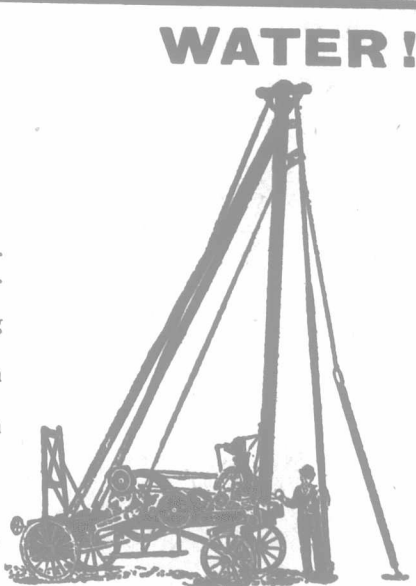
Perfect pipe driving and pipe pulling attachments.

Catalogue and full particulars on application. Local agents wanted.

\$6,700 in six months earned with one of our machines.

Well casing carried in stock.

Listowel Drilling Machine Co.
LISTOWEL, ONTARIO



WATER!

Cunard Line

Canadian Service
Immigration Department

Special Interest to
FARMERS' CLUBS

We 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 your "Help" about 6 weeks: No fee charged. Only regular fare on Ocean and Rail to pay. You need not be without "Help" this Summer or Fall if you send requirements early. Write for further particulars.

Cunard Steamship Company
LIMITED
114 King Street W., Toronto

CHURCH BELLS

CHIMES AND PEALS

MEMORIAL BELLS A SPECIALTY

FULLY WARRANTED

McSHANE BELL FOUNDRY CO.,

BALTIMORE, Mo., U. S. A.

Established 1856



IF YOU WANT BEST RESULTS
Advertise in the Advocate

BISHOPRIC WALL BOARD AND SHEATHING

Made with tough, fire-resisting, everlasting Asphalt-Mastic will give you a drier, warmer house, at a lower cost; in a month less time, than if you used lath and plaster.

Bishopric Wall Board is made by imbedding kiln-dried dressed lath, under 500-lbs. pressure, in sheets of hot Asphalt-Mastic, the other side of which is surfaced with sized fibre-board.

Saves Time—Bishopric Wall Board comes in sheets 4x4 feet ready to go on. It goes on quick—far quicker than lath and plaster. It goes on dry—you don't have to wait for setting or drying as you do with plaster. You can get into the new house at least a month sooner if you use Bishopric Wall Board.

Saves Money—The first cost of Bishopric Wall Board is considerably less than that of lath and plaster. There is no expense for repairs, for neither dampness, vibration, settling of foundations, nor anything else will ever make it loosen or drop off the wall. Moreover, there is a substantial saving in coal bills, as a wall of Bishopric Wall Board is

Warmer than lath and plaster. The Asphalt Mastic in which the laths are imbedded is absolutely air tight, blocking all drafts, and a non-conductor, keeping the heat in in winter and out in summer.

Dryer—This Asphalt-Mastic is also moisture-proof. If your house is lined with Bishopric Wall Board you will never be troubled with that uncomfortable, unhealthy, dampness so common in plastered houses.

A Flat and Rigid Wall—Bishopric Wall Board is the only board made with laths. Laths are positively necessary to back up wall board to make it rigid and substantial—and to keep a perfectly flat surface. Without lath, wall board swells, warps, cracks and pulls away from the joints.

Easily Decorated—Bishopric Wall Board is surfaced with heavy sized cardboard, which takes Oil or Water Colors perfectly, and which forms an ideal surface for Wall Paper or Burlap. Artistic panelling adds to its attractiveness.

Fire-resisting—The Asphalt-Mastic in which the laths are imbedded is toughened by a patented process, and will not burn. Buildings have been saved because of this Wall Board.

Rat and Vermin Proof—The pests find it impossible to gnaw or bore through the tough, gummy Asphalt-Mastic.

Bishopric Sheathing is made of precisely the same materials as Bishopric Wall Board, but the

finished surface is not so smooth. It costs only one quarter as much to apply as lumber and building paper, and makes a better wall. Applied with the laths out, it binds cement or stucco as nothing else can. When weather boards are applied over it, the dead air space between the laths affords splendid insulation.

Write for Illustrated Booklet

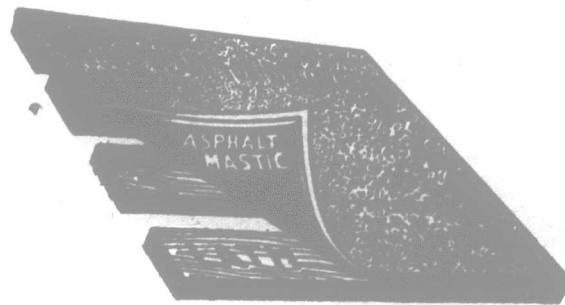
which explains fully the advantages of Bishopric Wall Board and Sheathing, and shows by photographs how to apply it and how it looks when put on the wall and ceilings.

Working plan for Bishopric Model Home—Send 6 cents to cover cost of mailing to our office in Ottawa, and we will send you architectural plan for building, etc.

Dealers—Our proposition for representatives in unoccupied territory is decidedly interesting. Write us.

Bishopric Wall Board Co. Limited
Sparks Street, Ottawa, Ont.

(Coupon)
BISHOPRIC WALL BOARD CO. LIMITED
OTTAWA, ONT.



Please send me your Wall Board and Sheathing Book, and this big sample of Bishopric Wall Board.

Name.....
Post Office.....
L12

Why Grow Old Before Your Time? Secure a "MONARCH" FARM ENGINE To Do Your Farm Work

"MONARCH" Engines are made specially for farm use—that is, they are so designed that they have the very least possible number of ways that a gasoline engine can give trouble.

In this way, you or your son or your wife can all operate your "Monarch" Engine easily. It does not demand skilled operators. The "Monarch" stands all kinds of ordinary hard usage in moving from place to place, etc.

We know this is the right way to build an engine for a farm. It means that the "Monarch" runs, rain or shine, on the hottest summer day or the coldest winter night. It is always a "go-er." It does the work.

You cannot buy a better engine for your money. As a man who wants to use a gasoline engine at his home, where he has to depend on the engine itself, and not on skilled engine doctors, etc., the one best engine is the "Monarch."

We make these claims for the "Monarch."

First, it will wear longer—give you more years of service—stand up under wear and tear longer.

We do this by making the main crankshaft bearings very large and wide, and adjustable as well. This means you can "take up" wear at these bearings every year or two, so your "Monarch" will run sweet and true, like new, by perfect smoothness of action.

To further insure this exact action, we make the crankshaft of high carbon steel, and 50% larger in diameter than the "Monarch" rating theoretically requires. We also make the piston rod in the same way and with very large bearings.

You get a "Monarch" and this feature will benefit you for years to come. Very slow wear, combined with insurance against breakage of shaft or piston rod.

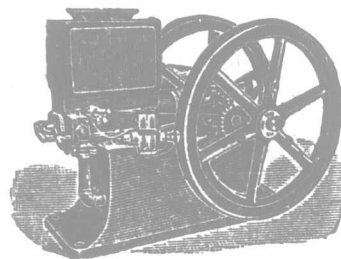
Our second claim for the "Monarch" is that you will save fuel cost. The fuel bills for an ordinary farm engine can run into high figures in the course of years. The running cost counts.

The "Monarch" saves fuel for you from the day you get it in two ways. First, it has a tank in the base made of one piece of metal, and protected from injury by the foundation casting of the engine. This tank cannot waste fuel by

leakage or other loss. Secondly, we have a special carburetor in the "Monarch," designed for the "Monarch" and found only in the "Monarch."

This carburetor is the key to the big "Monarch" power production. It is as costly and as carefully made as an automobile carburetor in a \$10,000 car. It means that out of each gallon of fuel you get full power from 99% of the fuel, with 1% or less lost as smoke and carbon.

In effect, to do certain work with a farm engine may need 1 gallon of fuel. To do the same work with a "Monarch" and this magnificent carburetor, you will only need 1/2 gallon of the fuel to 3/4 gallon at the most. When you buy a "Monarch" this money-saving goes on hour after hour, day after day, year after year. It mounts up to a big saving in 10 to 12 years. In a continuously used "Monarch," this saving alone can completely pay for the engine.



Our third claim for the "Monarch" is its flexibility and speed-changing features. This adapts it to all your farm work. Let us explain.

You expect to do different kinds of work with it, and do each kind of work economically. Cream separating will need a different speed and power from the speed and power for pumping, wood sawing, running a chop mill or cutting silage.

The "Monarch" is ideal for this. A 6 horse-power "Monarch" running a cream separator will consume very little more fuel per hour than a 1 1/2 horse-power, size of the "Monarch," doing the same work. This is not true of the average engine. A 6 horse-power size would be wasteful for cream separator work.

Again, in running a fanning mill, it is very necessary that the "shake" of the mill be just right, and the "blower" be running just right. You can slow down a "Monarch" to run at the proper speed, and while it is still running, readjust

the speed to run a little faster or a little slower.

We have put into the "Monarch" every feature that will make it a perfect engine for farm use. Above are practical features in actually running your "Monarch" on your farm. Every part is machined perfectly, and each part is made by an expert workman, who devotes all his time to that part alone.

The "Monarch" has a spark retarder, priming cup, lever locking device to prevent back firing, and other features that make it dependable.

When you get a "Monarch," you get absolutely the limit of benefit conferred by a farm power engine.

Will you consider buying a "Monarch" this summer? It will pump water, run the cream separator, run the grindstone, run an emery wheel to sharpen harrow and plow discs or plow points, smooth off moldboards. Later on it will cut and elevate silage, chop straw, grind chop or feed, run the milking machine. Still later it will clean your wheat, barley or oats for market or seed, operate your wood saw, or operate a small circular saw. A 6-h.p. size will do all of these things.

The benefit you will get will be personal. Your health will be saved. You will have more time for farm planning and judgment. You will avoid the mere routine labors that lead nowhere. Your chores will be done faster than ever before.

Why not have a "Monarch," and get the very best farm engine, that will last longest, consume least fuel, give most power, and be easiest run and most adaptable?

We want to sell you a "Monarch" this summer, and will make it worth your while to write us to-day. A "Monarch" is within the reach of every farmer in the country. We make it possible for farmers to buy "Monarch" Engines. They have been a revelation for quality to farmers who have had ordinary power units. Scores of customers are astonished at the even running and low fuel cost.

Write us now. Say "I want your red-circle folder, and your summer offer on 'Monarch' Engines." In the meantime lay out your winter work that you will do with the engine. You will be astonished when you figure out the physical labor and time saved, even on a 50-acre farm. But write us first.

CANADIAN ENGINES LIMITED, DUNNVILLE, ONT.

Manufacturers of the "Monarch" Engines Exclusively

If you live east of a line drawn through Peterborough, Ontario, instead of writing to us, write to

THE FROST & WOOD CO., LIMITED

Smith's Falls

Montreal, Que.

St. John, N. B.