

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

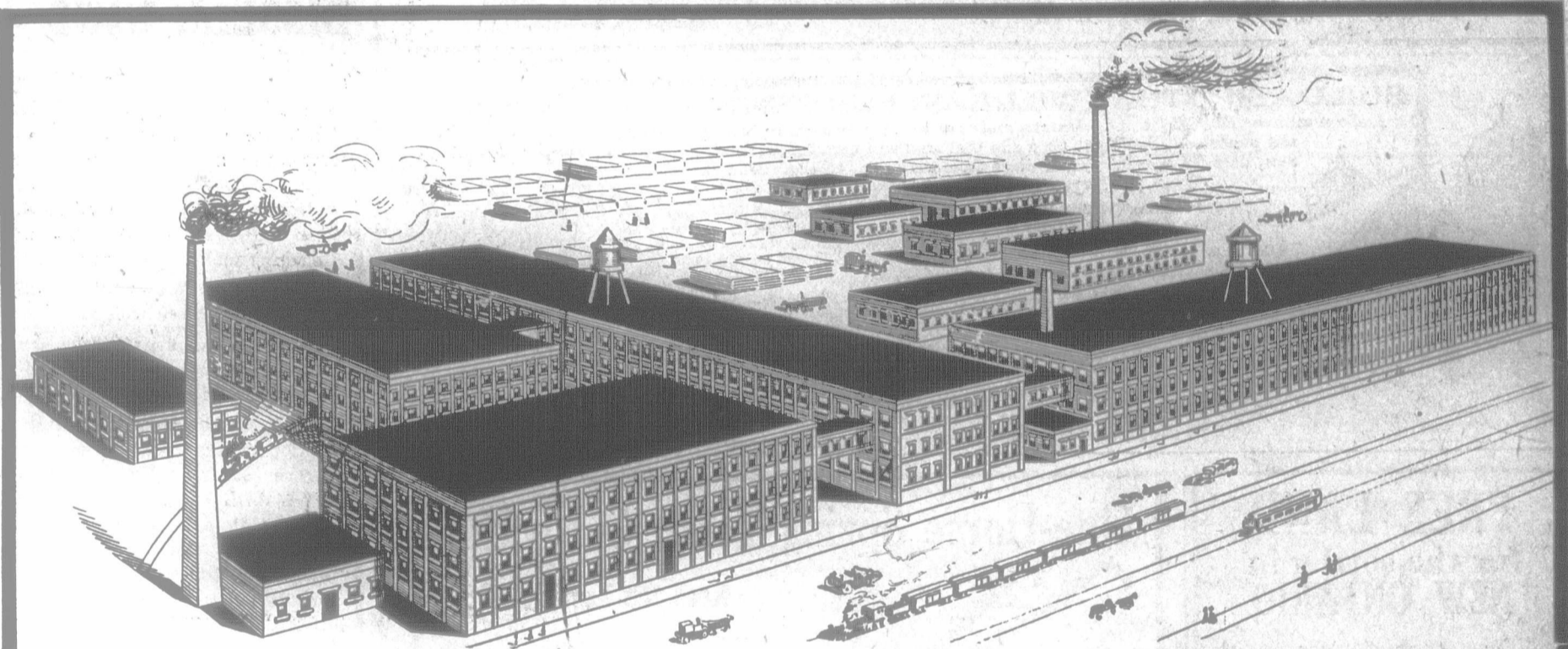
* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE *

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Vol. XLIX.

LONDON, ONTARIO, APRIL 23, 1914.

No. 1126



Ordered Where the Best is Wanted

When the officials of a company are arranging for the erection of a new plant, and want the best material regardless of expense, **BRANTFORD ROOFING** is specified oftener than any other ready roofing made.

This great plant of The McLaughlin Carriage Co., Limited, Oshawa, Ont., was roofed entirely with **BRANTFORD ROOFING**. The Company, having in mind what a heavy investment their new plant represented, wanted a roof that would be fireproof first of all; but also proof against frost, rain, heat, chemical fumes and other unfavorable conditions. They chose

Brantford Roofing

in preference to all others, because it met their demands on every point mentioned. Furthermore, it has a reputation for durability that common roofings cannot earn.

When you roof—whether it's a shed or barn or a great industrial establishment, follow the lead of Canada's foremost business men and have it done with **BRANTFORD ROOFING**. It costs no more. To-day—write for free book on roofing and samples.

Our new patented appliance for laying BRANTFORD ROOFING is worth investigating. Positively prevents buckling or expansion.

Brantford Roofing Company, Limited
BRANTFORD - CANADA

Warehouses:

TORONTO

MONTREAL

WINNIPEG

ingles

Iron

ent Coun- absolutely provides a large adding. The "Eastlake" "Eastlake" and is at- nails. The can obtain the galvaniz-

ans the diff- or Corrugat- sides of an y. Deeper gated Iron, le you can

Barn Roof metallic" roof advantages d strong to s.

DING.

ed RIO

(Free) telling me

ould like to build gles for the roof,



THE AYLMER BRONZE SPRAYER



No. 2—Outfit A

Won highest award at St. Petersburg, Russia, over all Canadian, French and German Pumps. Also secured first place at Manchester (England), Toronto, Ottawa and Halifax.

SPRAYER NO. 2.—OUTFIT D

Being Outfit A, ten feet of hose, with couplings attached, two Bordeaux nozzles, one brass stopcock, one Y, one long iron extension rod, without barrel. Price.....\$15.25
Extra hose, per foot......12

For lined bamboo extension rod, in place of iron extension rod:
Add.....\$1.50
With barrel..... 3.00

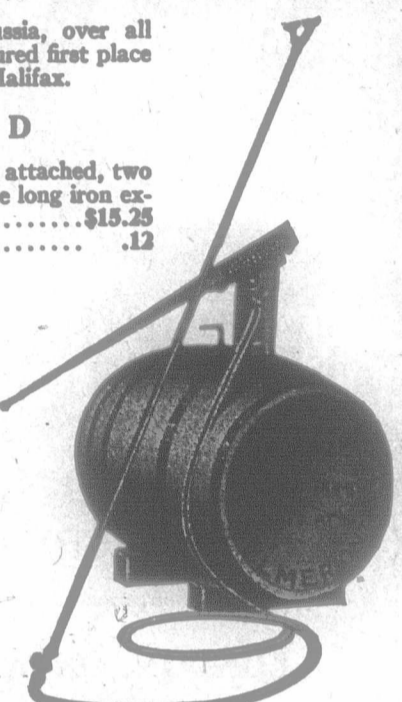
SPRAYER NO. 3.—OUTFIT E

Being Outfit A, two lines of hose, ten feet each, with couplings attached, four Bordeaux nozzles, two brass Y's, two brass stopcocks, and two eight-foot iron extension rods, without barrel.

Price.....\$22.50
With bamboo extension rods in place of eight-foot iron. Price.....\$25.50
With barrel..... 3.00

Our Catalogue gives full information as to sizes, capacity, equipment, etc. Write us for one. If your dealer can't supply you, your mail orders will receive our prompt attention.

The Aylmer Pump & Scale Company, Limited
AYLMER, ONTARIO

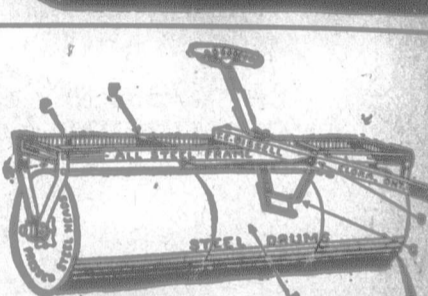
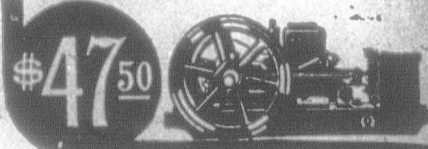


Sprayer No. 2—Outfit D

Johnny-on-the-Spot

"Johnny-on-the-Spot," on skids or on truck, will take care of all your chores—pumping, separating cream, pulping, churning, washing, etc.
Stop wasting your time and energy in useless drudgery. Let "Johnny-on-the-Spot" do it—one of the famous Gilson "Goes Like Sixty" Line—a high quality engine at a low price. WRITE FOR CATALOGUE AND FULL PARTICULARS. ALL SIZES.

Gilson Manufacturing Co. Limited
2409 York St., Guelph, Ontario



BISSELL LAND ROLLERS

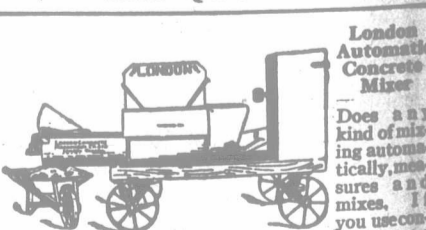
are all steel except the Pole. They are braced and stayed to stand all kinds of hard work and wear well. The entire frame, bottom and all, is built of steel. The (18) anti-friction Roller Bearings make light draught.

The Draw Bracket and low hitch do away with neck weight. The Axle revolves with the drums and there is no squeaking or grinding.

The Cages holding the anti-friction rollers are the best yet; they're MADE OF MALLEABLE ALL IN ONE PIECE—no twisting or binding of the bearings on the axle of the "Bissell" Roller. The Seat Spring is reinforced and is DOUBLED AT THE HEEL. These good features are not all of the advantages of the "Bissell" Roller. Many more good points are built into them, making a Land Roller that is "built for business," that stands up against lots of hard work. Ask Dept W for free catalogue.

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

Jno. Deere Plow Co. Ltd.,
77 Jarvis Street, Toronto,
Selling Agents for Ontario
and Quebec.



better write us for price of this machine. We have the largest line of concrete machinery of any firm in the world. Tell us your requirements. London Concrete Machinery Co., Dept. B. London, Ont.

BUILD A SILO THAT WILL LAST FOR GENERATIONS

A silo must have an airtight and moisture-proof wall to keep ensilage fresh, sweet, succulent and palatable. Don't put up a silo that soon will need repairs, and, even while new, does not prevent your ensilage from souring or rotting. Build a

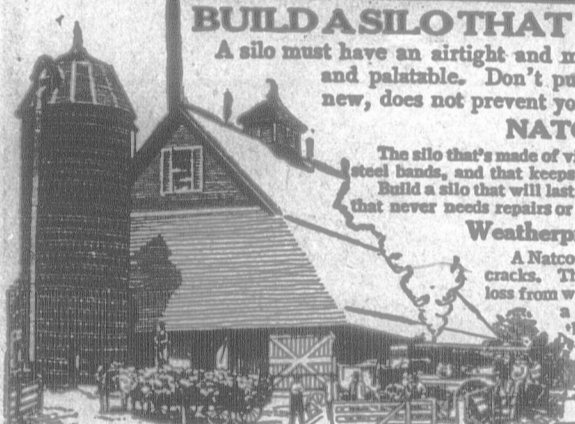
NATCO EVERLASTING SILO

The silo that's made of vitrified clay hollow blocks, each layer reinforced by continuous steel bands, and that keeps ensilage in perfect condition right down to the last forkful. Build a silo that will last all your lifetime and for several generations after you—a silo that never needs repairs or painting and that stands a monument to your good judgment.

Weatherproof—Decayproof—Vermiproof—Fireproof

A Natco Everlasting Silo wall never swells nor shrinks, never warps nor cracks. There are no hoops to tighten, no continual outlay for repairs—no loss from wind or weather—it's proof against them all. Any mason can erect a Natco Everlasting Silo and when the job's completed, you are through with silo troubles forever.

Write Today for FREE Silo Book We have an attractively illustrated book full of valuable information about ensilage and which also gives a complete description of the Natco Everlasting Silo. May we send you a copy? Ask for Book 4 NATIONAL FIRE PROOFING CO. OF CANADA, Limited, Toronto, Ont.



FREE LAND for the settler in NEW ONTARIO

Millions of acres of virgin soil, obtainable free and at a nominal cost, are calling for cultivation.

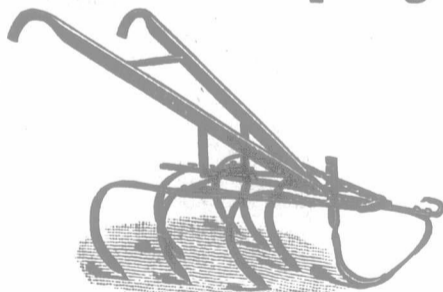
Thousands of farmers have responded to the call of this fertile country, and are being made comfortable and rich. Here, right at the door of Old Ontario a home awaits you.

For full information as to terms, regulations and settlers' rates, write to

H. A. MACDONELL
Director of Colonization
Parliament Bldgs., TORONTO

HON. JAS. S. DUFF,
Minister of Agriculture
Parliament Bldgs., TORONTO

One-Horse Spring Tooth Cultivator



Read the Testimonial:]

Dear Sirs:

I have been using your One-Horse Spring Tooth Cultivator for the last three or four years, and don't want anything else. It will work up the soil that an ordinary cultivator would not touch.

N. UPPER,
Stoney Creek.

THE CULTIVATOR THAT HAS NO EQUAL
WRITE US TO-DAY FOR PARTICULARS

The Hall Zryd Foundry Co., Limited
HESPELER, - ONTARIO
MAKERS OF PILOT STOVES, RANGES and FURNACES

GOOD JOBS

YOU can become a competent chauffeur in a very short time by taking our thorough and complete Auto Course. Our instructors are specialists in their line and our equipment is most complete. Illustrated booklet will be sent free on request.

Y.M.C.A. AUTO SCHOOL
381 Broadview Ave.
Toronto, Ont.



Gilson Speed Governor



will save your cream separator from jars, shocks and the uneven speed of your engine. Starts separator slowly, runs any speed, and relieves separator of all vibration. Power can be cut off instantly. Send for catalogue. PRICE \$11.75.

Gilson Mfg. Co., Ltd., 2509 York St., Guelph, Ont.

WARNING!

Don't Let Them "Bluff" You

A customer of ours ordered (and paid for) some fence from a certain Canadian Fence Company who advertise that their fence is all made from full gauge No. 9 wire. After receiving the fence, the customer discovered that all the wires were not of the same gauge, and immediately advised the said company of the fact.

We have in our possession their reply to our customer, in which they positively confess that they use a smaller wire for the stays.

Don't be misled by their methods and their advertising. Be sure the fence you buy for full gauge No. 9 has horizontal stays of the same size.

STANDARD TUBE & FENCE CO., Ltd.
Dept. A. Woodstock, Ont.



STANDARD FENCE

Corn That Will Grow

Canadian-grown seed corn. Your money back if not satisfied.

J. O. DUKE, RUTHVEN, ONT.

the Spot
 n skids or on
 your chases—
 pulping, chura-
 and energy in
 Johnny-on-the-
 famous Gilson
 a high quality
 WRITE FOR
 L. PARTICU-
 ring Co.
 h, Ontario



That
Little Blue Flag
 ends guess-work
 in buying paint

"You are absolutely sure of satisfaction in buying paint, varnish, enamel, or anything else of the kind, if you see the 'Little Blue Flag' on the pail or can. It is the stamp of highest quality.

"I am glad to recommend

Low Brothers
 High Standard
LIQUID PAINT

Scientific and exposure tests at the factory, as well as use on thousands of farm buildings prove that "High Standard" paint will withstand the weather a long time, keep its color, and leave a good surface for repainting. You'll save money and get sure protection for your property by paying a few cents more a gallon for "High Standard" paint. It's sold by a dealer near you. Ask his name if you don't know. Also write for

Valuable Free Books

"Homes Attractive," "Guide to Farm Painting," and "Mellotone," our book on interiors, which tells about our beautiful and washable wall finish. These books are free. Write today, mentioning books wanted.

Low Bros. Limited

261 to 267 Sorauren Ave.,
 TORONTO, CANADA

Buchanan's Swivel Carrier



For unloading Hay and all kinds of Grain.

For wood track, steel track, rod and cable track. Made entirely of malleable iron; no springs. Fitted with our patent deadlock. 25,000 of our Haying Machines in use, is the best guarantee that we build them right.

Write for catalogue of Carriers, Slings, Stackers etc.—and name of dealer near you who handles Buchanan's. M. T. Buchanan & Co., Ingersoll, Ont.

We also manufacture Steel Cow Stalls and Positive Lock Cow Stanchions.

MAKE YOUR OWN WILL

You can make your own will in the privacy of your own home without expensive legal fees. A "CODE" WILL FORM with complete instructions is perfectly legal and incontestable. Sold by book sellers or stationers or sent direct on receipt of price 25c. THE COPP CLARK CO. Limited, 301 Wellington St. West, Toronto

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Ridout & Maybee, Crown Lth. Building, TORONTO



Good Roads Improve Social Conditions

NO matter what your station in life or where you live, a certain amount of your time must be spent in pleasure to make life worth the living, and to obtain that pleasure you go to town or to your neighbors—especially is this true when living in the country.

Good Roads enable you to get into town or to your neighbors quicker, more often and without you or your horses or vehicles being covered with mud, and without regard to weather conditions or season. They enable your family physician to get to you quickly in times of illness. They enable your children to "foot it" to school every school-day. They keep your boys and girls on the farm by giving them better conditions generally.

Concrete Roads

are "every-day" roads—they have no "closed season" because they are open to traffic every day in the year. They are the most economical roads because they reduce the cost of maintenance to the minimum. They are easy of traction, clean, hard and free of ruts and holes. They keep your road money out of the mud.

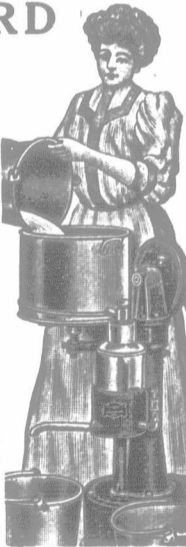
Let us send you, without cost, complete information about concrete roads.

Concrete Roads Department

Canada Cement Company Limited
 817 Herald Building, Montreal



\$15.95 AND UPWARD
 SENT ON TRIAL
AMERICAN CREAM SEPARATOR



Thousands In Use giving splendid satisfaction justifies your investigating our wonderful offer to furnish a brand new, well made, easy running, easily cleaned, perfect skimming separator for only \$15.95. Skims one quart of milk a minute, warm or cold. Makes thick or thin cream. Different from this picture, which illustrates our low priced large capacity machines. The bowl is a sanitary marvel and embodies all our latest improvements.

Our Twenty-Year Guarantee Protects You

Our wonderfully low prices and high quality on all sizes and generous terms of trial will astonish you. Whether your dairy is large or small, do not fail to get our great offer. Our richly illustrated catalog, sent free of charge on request, is the most complete, elaborate and expensive book on Cream Separators issued by any concern in the world. Shipments made promptly from Winnipeg, Man., St. John, N. B., and Toronto, Ont. Write today for our catalog and see for yourself what a big money saving proposition we will make you. Address,

AMERICAN SEPARATOR CO., Box 1200 Bainbridge, N.Y.

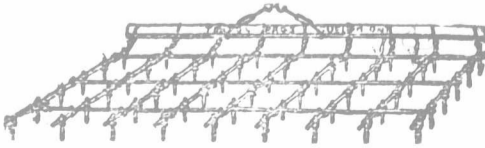
A HARROW BARGAIN

That Will Pay You to Know More About

TOLTON'S

High-grade Steel Harrows

Section and Flexible All-Steel Harrows with an unequalled record. Pre-eminently the most efficient, strongest and longest-wearing Harrows ever manufactured, is our unprecedented guarantee. Send to-day for descriptive circular, furnishing the facts. Address: Dept. F.



TOLTON BROS., LIMITED :: GUELPH, ONTARIO

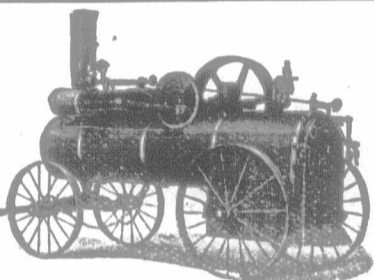
SPRAYERS Are a Necessity and a Benefit.

They save your crop, increase the yield and improve the quality. Our Spray Calendar shows when to spray and what materials to use. Our "Spray" booklet shows 70 combinations of

IRON AGE

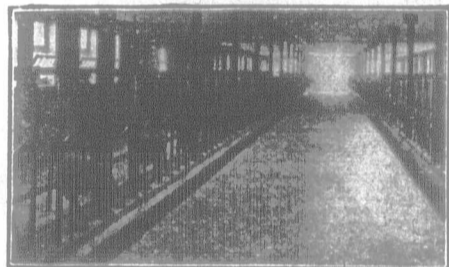


Bucket, Barrel, Power and Traction Sprayers for orchard and field crops and other uses. Built complete or in units—buy just what you need. Ask your dealer to show them and let us send you our spray booklet, spray calendar and "Iron Age Farm and Garden News" free. The Bateman-Wilkinson Co., Limited 414 Symington Av. Toronto, Ont.



REBUILT ENGINES

We have a splendid stock of good, rebuilt portable engines of different types and by different makers, from 10 to 18 horse-power; all splendid value at the prices we ask for them. Ensure having your silos filled at the proper time by having one of these engines on hand to do the work. We have several rebuilt traction engines and threshing machines to offer; also portable sawmills and gasoline engines. **ROBT. BELL E. & T. CO., Limited SEAFORTH**



Cows Stalls Everlasting

These BT Galvanized Steel Cow Stalls last a century. Equip your stable with these and it will not need repairing or renewing as long as you live. And you'll always be proud of it, too, because it will Always "Look Well." **Won't Break, Rot, or Burn** Unlike Wood Stalls, BT Steel Stalls do not soak up manure—they never rot. With cement floors and walls, they make your stable absolutely fire-proof—for Steel Stalls never burn

B.T.

Galvanized Stable Equipment

BT Steel Cow Stalls are galvanized in our factory, so they are not affected by stable acids or moisture—they never rust.

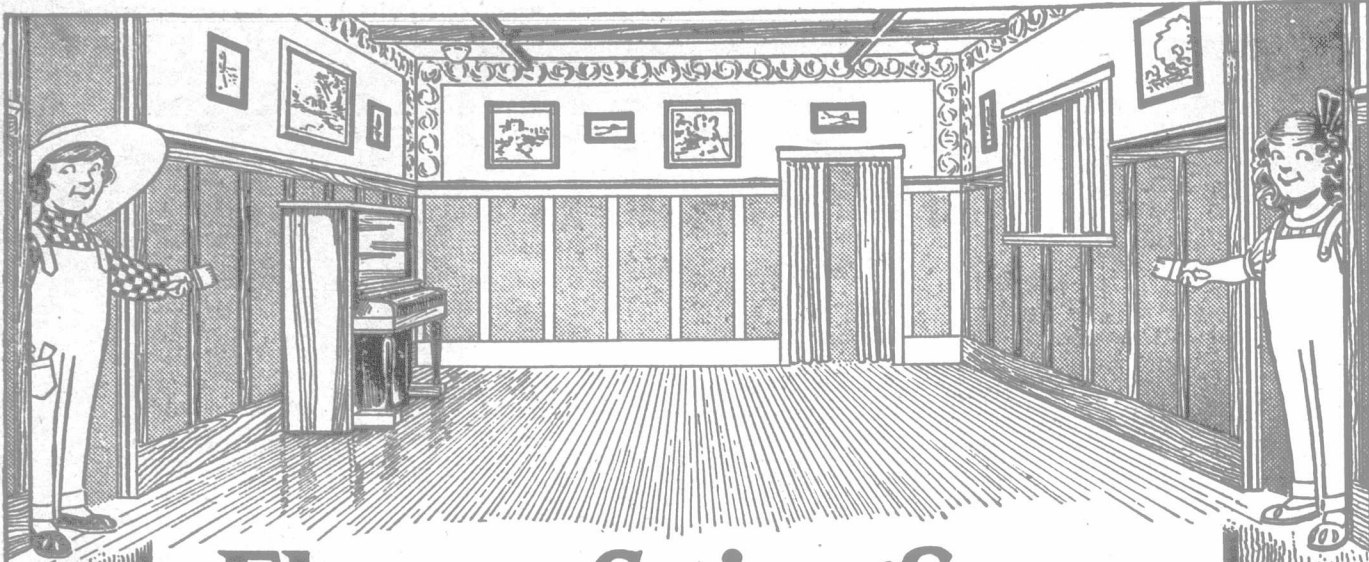
Free Book Tells All Facts

Send Coupon for our Free Stall Book No. 21, that tells all the facts about BT Galvanized Steel Stalls and other Steel Stable Equipment. Also ask for valuable book "How to Build a Dairy Barn," that tells how to frame barn and how to lay cement floors and walls. Address

Beatty Bros. Limited
 1291 Hill Street
 Fergus, Ont.

FREE COUPON

BEATTY BROS. LIMITED
 Dept. B., 1291 Hill St., Fergus, Ont.
 Please send me, free, your book No. 21 about BT Galvanized Stable Equipment; also book "How to Build a Dairy Barn," I expect to build or remodel my barn in 1914, for _____ cows
 Name _____
 P.O. _____ Prov. _____



Floors Spic and Span

A WELL painted or well varnished floor is a sanitary floor—easy to keep clean and bright.

Floor Paint, or Floor Varnish has to stand the scuff and wear—and stay fresh and bright under all kinds of kicks and rough usage. The best Floor Paint for all-round satisfaction is

The Old Reliable SENOUR'S FLOOR PAINT

It's the "daddy" of them all. "Way back in your grandfather's time", SENOUR'S FLOOR PAINT was standing the wear and tear of pioneer days—today, it is giving lasting beauty and protection to thousands and thousands of floors.

If a Varnished floor is desired, there is nothing that stands the scuff like

"MARBLE-ITE" FLOOR FINISH

Bump it—push furniture over it—stamp on it—spill water on it—wash it, and "MARBLE-ITE" will stand the wear and tear and retain its original newness and lustre.

Write for "Floors—Spic and Span", a book that tells the best ways of finishing various kinds of floors—free for the asking. 31



The Martin-Senour Co.
Limited
MONTREAL.

LONDON - PARIS

Via LIVERPOOL on the palatial steamships:

"TEUTONIO" May 2, May 30

"MEGANTIO" May 9, June 6

"CANADA" May 16, June 13

"LAURENTIO" May 23, June 20

TOURS: 4 & 6 weeks from \$190

H. G. THORLEY,
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41 King Street, East, Toronto

WHITE STAR DOMINION LINE
★ CANADA AND EUROPE ★

BIGGER Better Beets

We can tell you how to raise larger, more profitable beet and root crops with DAVIES Special Mixed FERTILIZERS. Actual results prove our methods to be right. Send for free booklet.

The Davies Company
Wm. DAVIES Limited
WEST TORONTO, ONT.

We've an Agent near you

PEERLESS - PERFECTION



THE FENCE THAT'S STRONG--YET SPRINGY AS A BED SPRING!

Animals can't break through it no matter how hard their attacks. It simply can't be broken. Just springs back in shape like a bed spring. It's made of heavy Open Hearth steel galvanized wire with all the impurities taken out and all the strength and toughness left in. Will not corrode or rust. Top and bottom wires are extra heavy. Will not sag. Requires less posts than ordinary fence. Absolutely guaranteed.

Here's Proof of Our Statements Read These Letters

Gentlemen—I have handled your fence for four years and had it a good, strong, durable fence, and that the galvanizing is first-class. In referring to this I have a fence that I put on four years ago across a gully and the water is as high as the second wire and it is not rusted nor broken yet. I had a team of heavy horses that ran into your fence last summer and did not break or damage it in the least, and I am glad to say that in the four years I have handled your wire I have had no complaints about it. I remain,
Yours truly,
DAVID CUMMINGS
Bowesville, Ont.

Gentlemen—About four years ago a fence was put up of your make on one side of a road and I may say today it is just as good as ever it was. Now on the other side of the road is a fence put up at the same time, but not yours; it looked nice at the first, but today you would not know that fence or think it the same. It is both breaking down and rusted. This is just to show that your fence is the best and will wear and I think credit should be placed where it is due.
Yours truly,
W. MADDER
Madford, Man.

These are but a few of the strong testimonial letters we have received from our thousands of satisfied customers. Maybe we have some from your vicinity. Ask us for them. We also make poultry fence, farm gates and ornamental gates. Remember our products are all absolutely guaranteed.

Send for catalog today. Agencies nearly everywhere. Agents wanted in open territory.

BANWELL-HOXIE WIRE FENCE CO., Ltd.,
Winnipeg, Man., Hamilton, Ont.



The General says:-

Accept no "test" of roofing—for toughness, pliability, tensile strength, etc. There is no test—by which you can judge how long a roof will last. The only proof is on the roof. This label on

Certain-teed ROOFING

represents the responsibility of the three biggest mills in the roofing industry—when it guarantees you fifteen years of service on the roof in *Certain-teed*. Look for this guarantee label on every roll or crate.

Your dealer can furnish *Certain-teed* Roofing in rolls and shingles—made by the General Roofing Mfg. Co., world's largest roofing manufacturers, East St. Louis, Ill., Marseilles, Ill., York, Pa.

We are sole Agents in Ontario for

Certain-teed

RED RING ROOFING

See your dealer—if he does not handle RED RING *Certain-teed* Roofing, and Standard Wall Board, write us for samples and prices.

"Standard" Wall Board

is damp proof, will not warp, is sanitary and is cheaper than lath and plaster.

The Standard Paper Co., Ltd.
109-111 George Street,
TORONTO, ONT

PEASE "ECONOMY" FURNACE

Summer Temperature in Zero Weather

This is what happens when you have a Pease furnace in your home. This is an actual fact that was proved over and over again by the users of Pease furnaces in the winter just gone by, when we had the coldest February on record.

The Pease furnace not only gives more warmth throughout the whole house, but burns less Coal and is far less trouble to handle.

"Pays for itself by the Coal it saves"

PEASE FOUNDRY COMPANY
LIMITED
TORONTO 1234

New Easier Better Spraying

Write For Free Book
How to save money, labor,
time. Banish blight, dis-
ease and insects from or-
chards, etc. Use

Brown's Auto Spray
Style shown has 4 gal. ca-
pacity—non-clogging Auto
Pop Nozzle. 40 other styles
and sizes—hand and power outfits.

L. C. Brown Co., 67 Jay St., Rochester, N.Y.



STEEL CORNER GRAIN FEED BOX

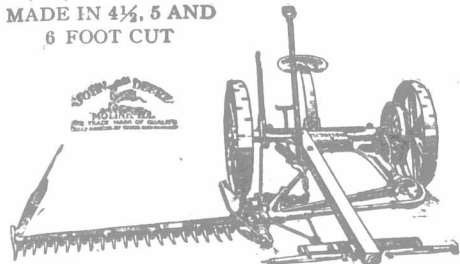
of heavy steel, well-riveted and braced. Clean, sanitary and very durable. Well finished. Price \$1.25 each F.O.B. Tweed. Write for catalog. The Steel Trough and Machine Co., Ltd. Tweed, Ont.

JOHN DEERE FARM IMPLEMENTS

John Deere reputation has been built up through the policy of putting high-class material, honest workmanship and improved design into John Deere Implements. The idea of making out of every purchaser a satisfied customer has paid. John Deere Implements have a reputation all over the world for honest value and high-grade service. When you buy a John Deere Implement you may be assured you are getting that which you want above everything else—SATISFACTION.

CUT YOUR HAY CLEAN WITH A DAIN VERTICAL LIFT MOWER

MADE IN 4½, 5 AND 6 FOOT CUT



IT CUTS THE HAY

Has the power to do high-grade work—and does it. Practically every bit of horse-power is transmitted from ground wheels to knife without waste from friction.

Keen cutting obtained by the use of compensating gears, which are arranged in pairs, each pair keeping the other in mesh so that no power is lost in transmission.

A BOY CAN OPERATE IT

The vertical lift enables the machine to be operated easily. Steel lever with spade-handle grip conveniently located.

Large lifting spring with coils of liberal size, combining strength and flexibility. Convenient foot lever gives best service with least difficulty.

LIGHT DRAFT

Has adjustable hitch—power of team is applied to the drag bar by draft links.

Almost entire weight of cutter bar supported by main axle by means of a large spring, eliminating ground friction.

GREAT DURABILITY

One-piece frame—solid iron. Hard-pressed bearings. Especially shaped and tempered knife sections. Long pitman shaft does away with vibration.

THE SPEIGHT WAGON

Careful attention is given to the construction of the Speight Wagon. Only well seasoned, carefully selected materials are used.

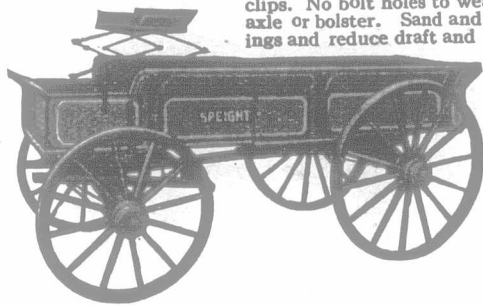
Hubs are barrel-shaped—that is, instead of being trimmed down as on other wagons, they are of large diameter. This eliminates pores for moisture to work in and rot the hub. Hubs are well ironed and boxed in accurately set. Wide spokes add to the strength of the wheels and give a greater bearing. This prevents spokes from sinking into the felloes.

Barrel-shaped hub permits using larger boxing, which increases the diameter of the bearing surface. This makes the wagon pull with minimum draft.

Deep oak rims, slightly oval, keep wheels from loading up when used on muddy roads.

CLIPPED GEARS AND DUST-PROOF SKEINS

The Speight front gear is equipped with angle steel hounds. Well re-inforced rear axle and bolster are held together with clips. No bolt holes to weaken the axle or bolster. Sand and dust-proof skeins keep dirt out of the bearings and reduce draft and wear.



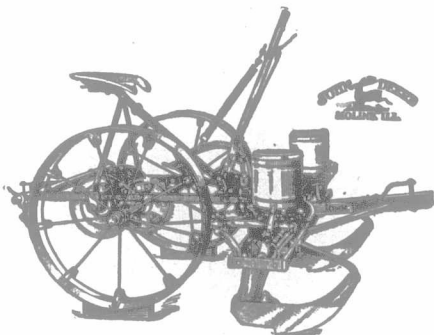
SPECIAL GEAR

We have also a special gear, made with either 2½ or 3-inch tires. Hard wood is used throughout in the construction of this gear. Has hard wood hubs, spokes and felloes. A farm gear that will give satisfaction.

THE SPEIGHT WAGON IS KNOWN IN CANADA

YOUR JOHN DEERE DEALER WILL BE PLEASED TO SHOW YOU THESE IMPLEMENTS.

JOHN DEERE No. 999 CORN PLANTER



Good seed is not the only requisite of a good stand. Accuracy in your corn planter is also necessary. The more accurate your corn planter, the larger will be the yield at harvest. A planter that is not accurate is not a good planter—you can't afford to use it. In getting a corn planter insist on accuracy.

SOMETHING ABOUT THE ACCURACY OF THE JOHN DEERE No. 999 CORN PLANTER

The "oblique-selection" drop used on the No. 999 Planter is accurate because the seed plate has a sloping wall which terminates in the cells.

The seeds lie in the bottom of the hopper in exactly the right position to enter rapidly and fill the cells.

Corn does not bridge. Cells are so shaped that seeds are easily carried along to the cut-off.

THE REAL VARIABLE DROP PLANTER

You can plant two, three, four, five or six kernels per hill as desired, by shifting foot lever. Drilling distances are easily varied as well.

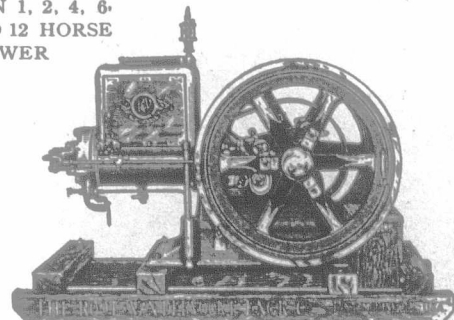
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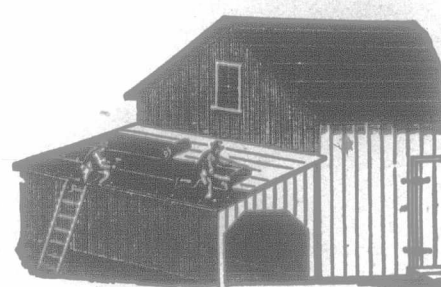


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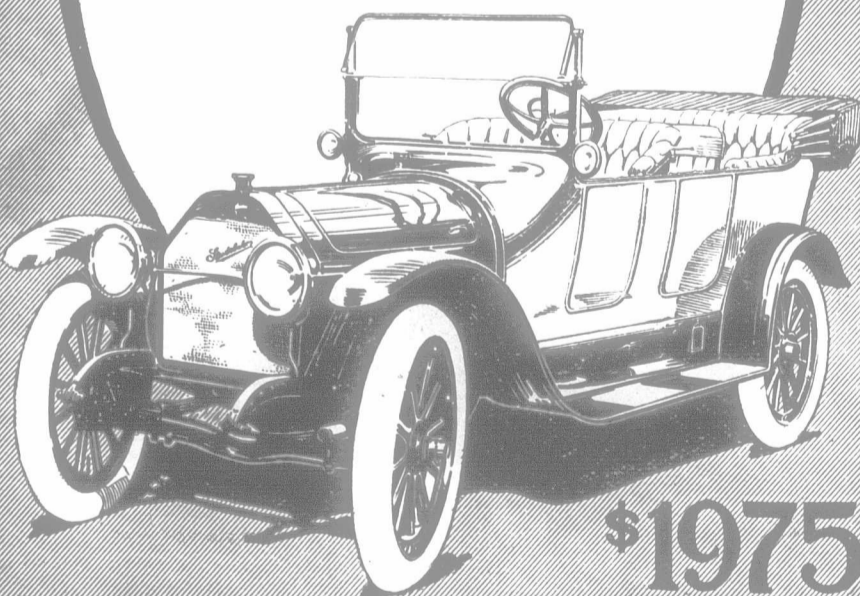
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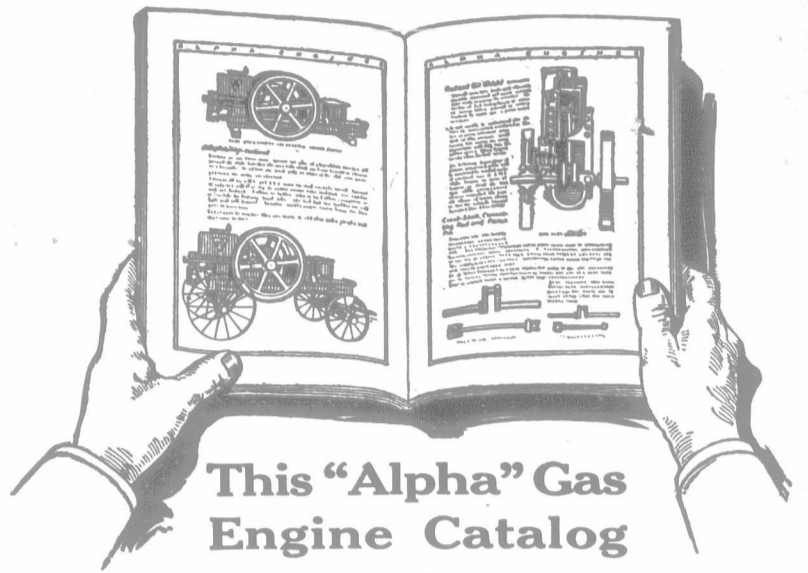


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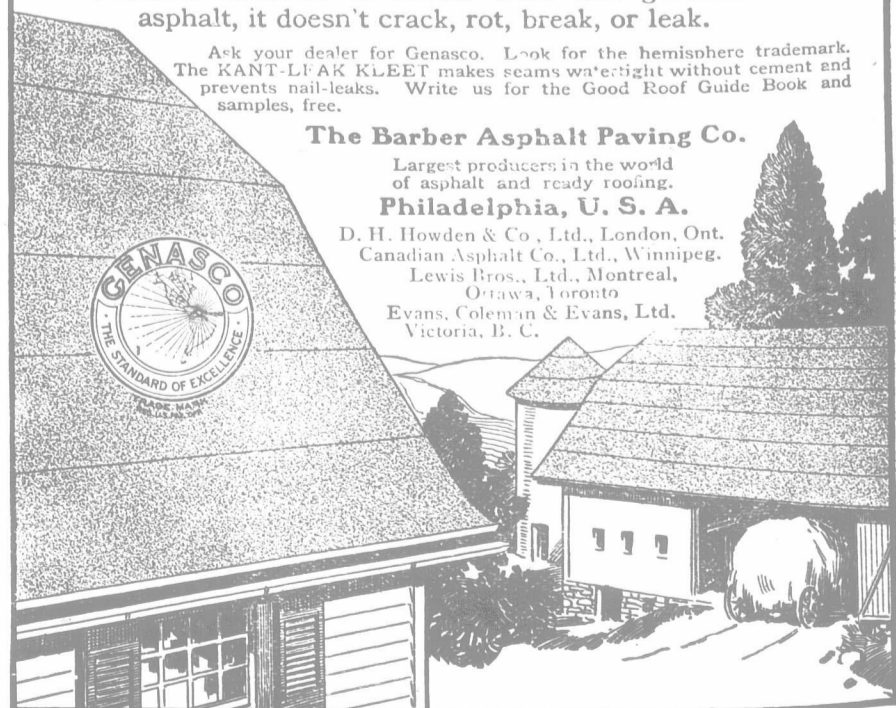
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EDITORIAL

Keep the stock off the grass.

Clean up the lawn and the back yard.

In the spring rush do not forget the farm garden.

Plant a few trees for windbreaks and shade. Now is the time.

Put up the gaps which have been down over winter, and close the gates.

Feed a little extra on grain just now if you would keep the stock up in flesh.

Keep the cultivator down in the ground. It doesn't profit to "skim" over the land.

Hard frosts up to the middle of April caused people to say, "late spring," but many were not even ready then.

If you give the weeds a start they are long-winded enough to keep ahead of you, and will beat you at the finish of the race.

Do not slight the last field to be sown. It needs even better treatment than the earlier-sown land to keep up a maximum yield.

If you happen upon any new methods of cultivation which give good results, give others the benefit of your experience through "The Farmer's Advocate."

Too many people are more anxious to sport a motor car than own a home, and like the looks of a dress suit better than a savings-bank account.

Cultivate the strip of mangel ground early, and let it remain a week or so before final preparation for sowing. It will save time with the hoe later on.

It was a poor year for sap in many localities, and when the new bills, now before parliament, become law it will be a poor year for imitation maple and dairy products in Canada.

If you are using wide implements put on plenty of horse power. It is unfair to the horses to expect two to do the work of three or three to draw the four-horse cultivator. Sore shoulders and poor horses usually result.

The silo by its worth has grown in numbers rapidly. Thirteen states in the American Union have 130,000 silos between them, and Wisconsin alone has over 41,535. If you are a live-stock breeder or feeder you can scarcely afford to be without this valuable asset.

If the program for better roads in Ontario is carried out according to the recommendations of the committee of investigation our thoroughfares should be greatly improved. Let us hope there is action on this report, and that it is not shelved as some other reports have been in the past.

Lessons from Mexico.

The frightful condition of affairs continuing over three years in Mexico, exterminating the people by thousands, destroying wealth in all forms and disturbing the world, has been the product of the thirty-five years military despotism of President (General) Porfirio Diaz. At the outset he inaugurated many successful plans for the speedy economic development of the country, such as building public roads, establishing railways, selling franchises and granting concessions for the development of natural resources. But the Diaz government, distrusted, neglected and deliberately opposed public education for the masses. One of the state governors who instituted measures for the advancement of sound, popular education "died mysteriously," and another found it desirable to "retire." A remarkable article on the causes of the Mexican trouble by Andres Osuna, a native of Mexico who has given his life to educational work there officially and otherwise, appears in the March issue of the Methodist Review, a brilliant southern states quarterly periodical edited by Dr. Gross Alexander. The writer makes it clear that the publication of educational reports was presented and nothing done for the improvement and enlightenment of the people. What practically amounted to slavery and child labor were encouraged. Labor unionism was dealt with by the soldiers shooting strike leaders publicly on the city squares.

Mexico was rich in public land, but this was given away in blocks of millions of acres to army and personal friends of General Diaz, and Mr. Osuna asserts that more than fourteen out of the fifteen million people in Mexico do not own a square inch of land, and three-fourths of the whole of it belongs to less than 1,000 persons. Little or nothing was done to improve farming, and the tillers of the soil were mere serfs to the landlords who virtually held a mortgage on the crops, and in many cases paid the laborers in groceries and other supplies at prices fixed by the landlords two or three times higher than those current in trade. Tenants usually died hundreds of dollars in debt to the landlords, and the children inherited the burdens that kept them in turn held down. Money-lending sharks had the free run of the country.

The people are also oppressed by the capitalists, especially Mexicans and Spaniards, through monopolies granted by General Diaz. One Englishman owns half the oil wells in Mexico, worth millions which cost him a trifling sum. He has the contracts to supply fuel to the Mexican railways, pays no taxes, declares Mr. Osuna, and the people are charged about 47 cents per gallon for their coal oil. Other monopolies, permitted for the enrichment of the rich, are said to be quite as bad. The people had no say in granting these concessions, and the despot who dispensed them was soon surrounded by a solid ring of the grafters. In comparison with Mexico, Mr. Osuna says, people of the United States do not know what trusts mean.

The press of the country was controlled by General Diaz absolutely for the benefit of his government; one paper in the city of Mexico being cited as receiving as much as \$100,000 a year. No articles or news were permitted to be published in any of them except what was favorable to the Diaz government. The army, too, was utterly corrupt, and run for graft. The banks representing \$700,000,000 capital are said to have been exempt from all taxation, as were many of the big capitalists. When Madero suc-

ceeded in becoming president he stopped the press hush money, and began to institute reforms and make the capitalist class contribute their share of taxes to the country, the press, army, big grafters and other powerful influences united against him and he was soon "put out of the way" in order that a new military dictatorship under General Huerta might be established, and the old order of corruption restored. Assuming the correctness of these statements, President Wilson, of the United States, was evidently well advised in refusing to recognize the Huerta government, and the sympathy of the world should go out to a people who are struggling amid a legacy of internecine strife and despotic corruption to grope their way to some form, let us hope, of peaceful and enlightened democracy concurrent with the inauguration of the great Panama waterway of trade so near their own doors.

Good Roads Must Come.

Rural and urban Ontario waited almost impatiently for the report of the Commission which was detailed to investigate road conditions in this country as well as in many States in the Union with a view to working out a plan whereby Ontario highways might be greatly improved thus facilitating travel, and especially that part of it which deals with the marketing of farm produce. As stated in an article in last week's issue, the recommendations of the Commission in brief were brought before the Ontario Legislature recently. It looks like a big undertaking to plan the expenditure of \$30,000,000 on the roads of this Province, but when this is spread over a period of fifteen years, and when we consider that Ontario has a total of 54,000 miles of roads of which only 2,748 miles are improved stone roads, and 18,150 miles improved gravel roads, it would seem that \$30,000,000 was none too much. This only means \$2,000,000 annually, and when it is considered that a large portion of this must be applied to maintenance the amount does not seem an exorbitant sum. One commendable feature in the report was that it was recommended to provide proper maintenance for every mile of permanent road work done, the funds for this to be obtained from current revenues. In the past too little attention has been given to the maintenance end of the work, people seeming to think that all that was necessary was to build the road, and then leave it to be gradually destroyed by the various agencies of weather and traffic, while they grumbled because it did not longer resist these agencies.

It was also good advice on the part of the Commission to commit the actual control and management of roads, so far as possible to local bodies, but in the working out of the plan it is necessary that these local bodies get competent men to see that the roads are properly built and properly cared for after being constructed, and some difficulty may be experienced in developing and working out a permanent system.

Allotment of the necessary expenditure seems to be quite fair. The Province is to duplicate the \$12,000,000 which the counties will be called upon to put up during the fifteen years in which the plan is being worked out, and the cities must do their share, being \$6,000,000. Special attention is to be given to the improvement of township roads, and this is one of the biggest considerations in the work. We do not believe in spending all the money on one or two roads in a section, and leaving all other roads in such

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JOHN WELD, MANAGER.

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a condition that at certain seasons of the year they are in an almost impassable state.

Automobile owners are to pay a share towards the revenue, as stated in our last week's article, and this will produce about \$400,000 annually. This is a big item, and taxing automobiles according to horse-power has been advocated through these columns time and again. It is right and just, a necessary and advisable move, and the Commission are to be congratulated upon so ably handling the matter.

The developing of a special highways department under a Minister of the Crown should put the work on a permanent basis. The roads of the Province have been carefully classified, as indicated in last week's issue, and as previously stated the bringing of 42,500 miles up to a fair standing, and fitting 7,500 miles of country roads to bear the severe demands made upon them is no small task. Special attention is to be given to main township roads, and it is proposed that the aid should not be given to townships until the county has assumed the system of market roads, the reason given being that alternate plans might seriously interfere with the installation of a proper system of country roads.

The report showed that the capital investment in agriculture in Ontario alone was, at the time of the last census, \$1,283,000,000, whereas the capital invested in manufactures and industries of the Dominion was \$1,247,500,000, or \$35,508,000 less. Think what a good system of roads means to an industry with such gigantic proportions as the agricultural industry of this country. Think also of the magnitude of the

undertaking of bringing all the roads in the country up to a high standard. Good roads are of immense economic importance to the farmers of Ontario.

It is interesting to note also in this connection the radius of the area from which the various cities of any size in the Province draw the main portion of their food supply. Toronto being the largest city draws from a radius of 35 miles, Ottawa 16, Hamilton 11, London 8, Brantford 5½, Kingston a little over 7½, and so on down to a little less than four for such cities as Woodstock and Chatham. This would seem to indicate that the best market roads must run for this distance in all directions from the cities named.

The Commission went into the matter very fully and their investigation has been complete and the report is a lengthy one, containing the most valuable available information. The people of Ontario have been agitating for some time for better roads, and they expect action. It will not do to delay this very much longer. Of course, as the report points out nothing very definite can be done before the season of 1915, but the Legislature must get to work, and whether they stick closely to the details in the report or not something must be done. It is not enough to investigate and report. The people want and need better roads. The report from the best findings tells how to get them. It should not be placed back on the shelf, but kept right to the fore until the scheme is in actual operation, the good roads are made, and a thorough system inaugurated to maintain them in the very best condition. We feel sure that a start has been made in the right direction, and that the legislators believe the matter of sufficient importance to warrant their pushing it to a successful conclusion. The investigation has been thorough, let the action be just as thorough. It means many millions to the Province. The outlay is small compared to the value of good roads.



The Poor Child.

Nature's Diary.

The major of the marshes has returned; the blackbird with the red epaulets is in his reedy home once again. The red-winged blackbird is certainly the presiding spirit of the marsh; in fact he seems to own the marsh, so vigorously does he protest against any human intrusion upon his domain. The male of this species is a conspicuous bird, and very easy to recognize. With the female it is quite another matter, for she is an obscure brownish-streaked bird.

The red-wing differs from most of our birds in its marriage customs, as it practices polygamy, and a colony of these birds in a marsh may consist of but one male with his three or four mates. The males arrive from the south in ad-

vance of the females, sometimes even three weeks in advance.

The nest of this species is usually placed over the water, supported on the stems and leaves of cat-tails. It is constructed of reeds and grasses, and is lined with fine grass. The eggs are pale blue, streaked and spotted with black.

The diet of the red-wing consists of seventy-three per cent. vegetable food, and twenty-seven per cent. animal food. The animal food amounts to only a little over one per cent. in January, but gradually rises to over eighty-eight per cent. in June, after which it decreases again to less than one per cent. in November. In the spring and early summer most of the animal food consists of caterpillars and beetles; in July and August it is made up mainly of grasshoppers. In certain localities this species has been reported to feed largely upon grain, but throughout the country at large its vegetable food consists mostly of weed seed, so that by its preference for this latter article of diet and its consumption of injurious insects it should gain the farmer's approval. The red-wing breeds in Canada from Nova Scotia to Saskatchewan, and winters from Virginia and Illinois southwards.

In our spring woods there appears a little flower of such a dainty and fragile appearance that one would be inclined to think it would hardly dare venture above the soil so early in the season. It is called the bloodroot, because of the red fluid which issues from the root-stock if it is injured. This red juice shows through the transparent stems of the leaves and stalks of the flowers, giving them a clear orange appearance. This juice was used by the Indians as war paint. The bloodroot plays, to a certain extent, the part played by the snowdrop in the Old Country—it is a white blossom which appears early in the spring.

When this plant appears above the ground the leaf is wrapped in a cylinder about the bud. As the flower opens the leaf expands, and is strikingly handsome in form. Later in the season the leaf becomes large, often measuring six inches across, and has a petiole ten inches in length. On the outside of the bud are two sepals, which fall away as the flower opens. There are usually eight petals, though there may be twelve. As a rule every other petal is longer than its neighbors, which makes the flower more square than circular in outline. There are numerous stamens, often twenty-four. The two-lobed stigma opens to receive pollen before the pollen of its own flower is ripe, thus ensuring cross-pollination. The blossoms open wide on sunny mornings, in the afternoon the petals rise up and the flower closes at night. It also remains closed on dark days. The root-stock is large and fleshy, and in it is stored the food which enables the flower to blossom early, before any food has been made by the new leaves. The root-stock is fringed with numerous stout and rather short roots. The bloodroot is one of the flowers which must be admired in its native haunts, for the petals fall so readily that the flower will not stand transportation from the woods to the house.

The alders are now hanging out their "lamb-tails." These attractive objects are the staminate catkins, and as they elongate they become yellow, and the pollen falls from them at the slightest jar. The pistillate flowers of the alders are small, ovoid and red. The alders are adapted to pollination by the wind, as the pollen is blown from the hanging staminate catkins on the stigmas of the pistillate flowers. After fertilization the pistillate flowers develop into little woody cones.

THE HORSE.

The Brood Mare.

Femininity is as necessary in the brood mare as masculinity is in the stallion. The hard, dignified, determined expression of the sire should be changed to one of maternal mildness and softness in the dam. The lofty crest and muscular development so desirable in the male are altogether uncalled for in the female where we look for a conformation indicative of refinement of character. In the draft breeds particularly, the owner delights in a short, strong-coupled back but a successful brood mare may carry this conformation to the extremes. She is nature's receptacle intended to receive and develop the creation of the male of her race and in so doing it is necessary that she have a greater length of loin and deeper extension of rib, in order to maintain the foetus, and more successfully bring it into the world. The hard, brazen, masculine expression of the mare is evidence of undeveloped maternal organs so necessary in a good foal producer. Observation will substantiate the remark that barren mares are more masculine than feminine, for a lack of sex characteristics indicates a lack of procreative power. Castrating foals while young causes them to assume more of the appearance of the female while unsexing mares by removing the ovaries causes a development of the coarser traits. In selecting a brood mare it is of paramount importance

to choose one str. ed. The large mare of extreme size n. e feminine and refined than others of so the proportions alone are no upon which to base a judgment of mal qualities.

There are ditions and circumstances entering into lts of a season's foal crop which may overcome the best breeding proclivities of the female. Among these governing factors may be mentioned food, labor and care.

Feeding has much to do with successful breeding. Not only is a balanced ration required but the constituents entering into that ration must be chosen according to their respective merits. Corn may be added to until it forms a part of a balanced ration, yet the results are not so satisfactory as a ration of similar percentages composed of hay, oats and bran. Oats are better than corn for breeding mares; oats and bran are better than oats alone and in some trials, mares fed grass and hay with no grain produced more foals than when fed grain of any kind. The following table is the result of experimental work conducted by G. L. Carlson.

No. of Mares Bred	Feeds	Average Age	No. of Foals	Per Cent.
468	Range Feed	10.1	425	91
183	Grass in Summer; alfalfa winter...	9.9	161	81
208	Hay, oats, bran ..	9.2	147	71
398	Hay and corn	8.7	195	49
231	Corn, bran, hay...	8.9	117	52
306	Corn, alfalfa or clover	8.8	177	58
418	Hay and oats	9.	284	68

The results of this experiment are at variance with breeders' ideas, but the difference in fodders grown in different districts and the Provinces will always prevent a unanimity of opinion. There is one object to be kept in view and that is to keep the brood mare in normal health, and as near natural conditions as possible. Grass, of course, is nature's food for the horse, and we are not surprised to learn that the brood mare under these conditions was most successful in performing her natural functions.

Saddle horses are subjected to violent efforts at times, and in addition to this the weight of the rider makes the retention of the foetus until the time of normal delivery difficult in that class of mares. Those mares producing the greatest number of foals are found engaged in farm work, especially those which are never obliged to leave the place. Freedom from over-exertion and protection from colds are the conditions which added to the proper type of mare will ensure a successful breeding season.

LIVE STOCK.

Our Scottish Letter.

The weather is a baffling theme these days. We had a magnificent winter—indeed we had scarcely any real winter weather from the beginning of November until the end of February. Rural work was proceeded with without intermission and everything promised well for an early seed time. March opened well, but after the first week rain fell incessantly in the west of Scotland and at present it is simply impossible to go on the land. Nearly all the advantage gained by the open winter has been lost, and so far as this part of the country is concerned, unless there be an immediate improvement Spring will be late and the seed will be sown in anything but a dry bed. A curious feature is that this is by no means the universal experience. In the east and north-east of Scotland, there has been a long spell of dry weather, and so late as the month of February farmers in some parts were carting water from long distances for their stock. As I write, something like half a gale is blowing and it is a wet, dirty night. The week end was beautiful. Friday and Saturday were ideal Spring days, but since Saturday night it has been raining heavily at times, and seldom has it been altogether dry. The outlook is not cheerful, and unless the weather improves, 1914 will be a late season.

Death has been busy among prominent men in the agricultural world. The veteran, James Hope, of Eastbains, Dunbar, the greatest potato grower in Scotland, perhaps in Great Britain has passed away, having almost reached the patriarchal age of ninety. He was a wonderful man; farming the most famous of the famous red soil farms of Dunbar in East Lothian his methods and success were the last words in arable farming. His holding was like a colony, the workers of all grades, male and female, constituting a small army, and the weekly wages bill must have been enormous. The rent paid was somewhere about £5 per imperial acre, and the capital involved, must have reached a very high figure. The system of cultivation was intensive to a degree, and no visitor to Scotland could be said to have

exhausted the country until he had seen Eastbains. The fields are much more like great garden plots than agricultural enclosures, and the system of cultivation led to the land being kept absolutely free of weeds. Mr. Hope in his time was a keen sportsman. He kept a pack of hounds, was for many years M. F. H. and colonel of a regiment of volunteers. Altogether as an organizer of farm labor, he was a captain of the first rank and no finer specimen of the Scottish tenant farmer ever lived. Two of his sons are in the House of Commons. John D. Hope is member for the home county of East Lothian, while Harry Hope who is his father's successor in his farming operations, is member for Bute, Arran and Cumbrae in the Firth of Clyde. A unique honor was paid to Harry Hope last week. He was presented with his portrait in oils, the result of a one-shilling subscription from his constituents. Altogether we Scottish agriculturists are rather proud of the Hopes.

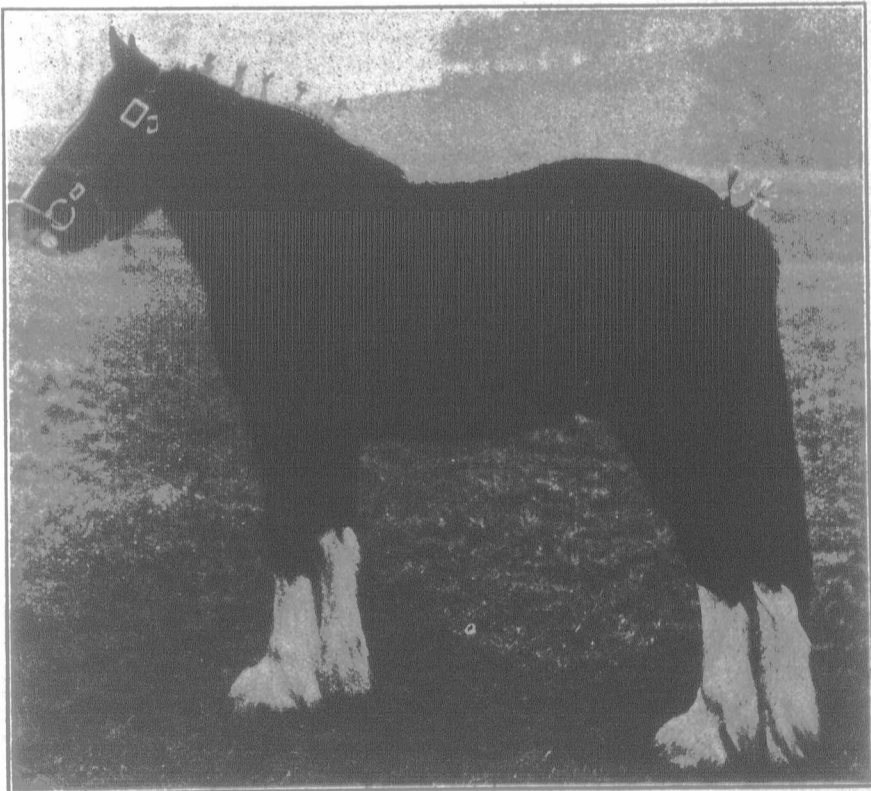
Colin M. Cameron, one of the best-known and most successful breeders of Shorthorns in Rosshire also passed away last week. He was not an old man, having scarcely reached his sixtieth year, but for some time his health has not been good. He was a close friend of the famous Argentine exporter, Dan MacLennan, who like himself was a native of Beach Isle, and he took an active part in promoting the testimonial to Mr. MacLennan from Shorthorn breeders. Mr. Cameron bred many high-class Shorthorns and was an excellent judge. He was factor on several properties in the north of Scotland and a trusted witness in cases connected with land and stock. As one of the leading men in the northern counties he will be greatly missed.

Ulster at present bulks large in the world's eye. Recently we had an opportunity of seeing Ulster agriculture at its best. The town of Bal-

garded as a crop that pays very well. In one creamery visited the money paid out for milk in 1913 amounted to £95,000, the average price to the farmers, taking the milk season throughout, was about five pence per gallon. Winter dairying is nowhere practiced, the feeling of the farmers being that the cost of feeding stuffs would exceed any profits that might be looked for. As an illustration of the success of small tenancies where there is security of tenure, the experience of Ulster is worth much. The charter of agricultural liberty and progress in Ireland was Gladstone's Land Act of 1881. It gave security of tenure, and this encouraged the farmers to improve their houses and homesteads. But it also gave freedom of cropping, and free sale of the tenants' improvements, and this last created a dual ownership, the difficulties of which could only be extricated by a scheme of Land Purchase which at last came during the administration of the late Mr. Wyndham. Under this scheme the tenant becomes proprietor at the end of 68½ years, and the State meanwhile finances the transaction as between the owner and the occupier. It is a great scheme, and it has worked an agrarian revolution in Ireland. Emigration has been checked, tillage has been revived, and the Irish farmer is relatively a much more prosperous individual to-day than either his English or Scotch neighbor. He enjoys advantages in tenure of which they are wholly ignorant, and security for his capital, the absence of which has often been a disaster for the British farmer.

The later bull sales maintained the high range of prices set at the earlier. The existence of foot and mouth disease alike in England and Ireland no doubt operated to the success of the sales in Scotland. The top price paid for a Galloway bull stirk was £52-10s (50 gu.), the seller being William Donaldson of Dunkyan, Kilmearn, the head of the famous shipping firm of Donaldson Bros., Glasgow and Montreal. The top price of an Ayrshire bull stirk was £170, a record figure at an auction sale in Scotland for an animal of that kind. The fortunate exposor was Thomas Scott, Netherhall, Sandilands, Lanark, whose stock has long enjoyed a first-rate reputation. Mr. Scott was late in recognizing the merits of a Milk Record, but he had the cows that made good records, and when the public tester gave his results what was generally suspected was found to be true of the Netherhall herd. At Lanark, 250 Ayrshire bull stirks were sold at an average price of £16.3.6, a very fine return, due almost wholly to the public milk records.

We have had a good deal of discussion lately about the modern Clydesdale, his weight and utility. As a result, the facts have been somewhat narrowly surveyed, and on the whole it appears



Dunure Refiner.

First-prize two-year-old Clydesdale stallion, and winner of the Cawdor Cup at Glasgow Stallion Show, the property of Wm. Dunlop.

lymney is situated in North Antrim, and the farmers around are an exceptionally go-ahead race. It would be hard to match them in enterprise, and they have the keen commercial instinct of the Scot developed to an almost uncanny degree. Farms in the neighborhood named are not large. One of 70 acres is regarded as above the average, and most of them are not more than 50 acres in extent. The people are a phenomenally thrifty race, driving a hard bargain, but industrious and honorable to a degree. The Ulster Scot is perhaps the toughest piece of humanity on earth, and his thrift and industry have transformed the least promising part of Ireland into the most prosperous. Co-operative methods of handling all kinds of agricultural produce have been adopted, and the system of collecting, assorting and marketing eggs is an eye-opener to the visitor, so also is the creamery system of handling milk and its products. In Ireland a creamery is strictly what its name declares it to be. Only the cream is handled there: the separated milk is returned to the farmer to feed his calves. The cream is manufactured into butter or it is shipped to the Scots or English markets fresh, and used on the following day. A great trade is done in pigs and bacon, and flax is still a crop to be reckoned with in Ulster. It is an expensive and exhausting crop to raise, but in spite of all it is re-

evident that the modern Clydesdale is quite as heavy while he is a much better wearing animal than his ancestors. Six of the stallions owned by the Northern Steed Co., Elgin, were recently weighed and measured. They all stood over 17 hands, and their average weight was 2006 lbs each. It was our good fortune last week to view a parade of almost all of the 47 stallions owned by Messrs. A. & W. Montgomery for 1914. The great majority of these were over 17 hands, and among them not one of the short-ribbed long-legged type could be found. Some of them were fully 17.2 hands and we should say that only one of them would be under 17 hands. What chiefly impressed us was their solid weight and draft horse type on the best of feet and legs. Not all of them were to be classed as show-horses, but in respect of cart-horse type and character, there can be little doubt that the average merit was far higher than could have been found in a like number of draft stallions 25 years ago. The best and most powerful looking horse in the bunch was the celebrated Everlasting 11331: the best balanced and most beautiful show horse was the Gold Cup winner of last year, the young horse Baron's Seal. Nothing more uniformly level and true has been seen in the Clydesdale world for a long time. He is a very heavy thick horse standing on limbs of matchless quality with first-class

open feet. In one sense the Clydesdale breed suffers from the modern system of hiring horses privately and for a head. The result is that we never have won a really representative share of Clydesdale stallions. In old days at the Glasgow Spring Stallion Show, as many as 132 aged horses have been seen in one class, now we have less than one-half of that number in our show altogether. The result of the system of private hiring is that owners may show three or four horses, one in each age class, who in earlier days, would have exhibited 20 or 30 horses. In the issue men do not find material out of which to form an adequate judgment as to the merits of the breed. In respect of wearing qualities we believe the Clydesdale was never more valuable than it is to-day.

Another breed of horses which has lately been attracting a deal of attention is the Highland pony. This is a sure-footed, thick, hardy breed, reared in Perthshire and the Western Isles, and admirably adapted for use on small farms, and on the narrow paths frequented by the deer-stalker. A section of breeders favor a lighter, than what is known as the garron type of pony. They claim that the Highland pony can be reared for riding purposes, and that it is profitable to rear him as such. Certainly a very big trade can be done in 13.2 hand ponies for pit work, but there are those who maintain that this type of pony is not a true Highland pony, and that he can only be obtained by crossing the Highland pony with an Arab stallion. The useful size of garron so-called is a horse standing from 14.2 to 15 hands, an extremely useful animal. There is however, no reason why both types should not be bred, and both will be bred if there is a market for them. Meantime there is a threatened schism among the breeders, the chief bone of contention being, whether the Highland and Agricultural Society is warranted in encouraging a dual classification at its shows.

SCOTLAND YET.

English Live Stock News.

His Majesty the King will visit the Royal Agricultural Show at Shrewsbury on Friday, July 3rd. The exhibition this year is being held in that very part of England where Shropshire sheep, Hereford cattle, Shire horses and Welsh ponies, chiefly compose the live stock, to be found most used and bred by the farmers. Hence any Canadian visitors in England at that time should make a big effort to go and view the very best of breeds exhibited in the best quality.

The Hackney Horse Society is going to hold its 1915 show at Olympia, the venue of the International Horse Show. A sum of £5,000 has been easily raised among Hackney enthusiasts to make the future of the Hackney exhibition a success—which it certainly has not been of late years.

The horse which won the Liverpool Grand National was Sunloch, a farmer's help used by him in feeding sheep and bullocks. He has also won 14 prizes in the show-ring as a Hunter.

The American Shire Horse Association has written a letter to the English Society stating that it is pleased with the developing enthusiasm for the Shire, as the outcome of the distribution of gold medals by the parent society at the leading shows and fairs of U. S. A. Canada must ask for more medals.

W. S. MacWilliam, the King's land steward at Windsor, is going to judge the championship fat stock classes at Chicago next November. He is a young man with a lot of valuable experience behind his years.

The Argentine has taken 169 pedigree Short-horn cattle quite recently. Canada should take Professor Shaw's advice and sail in and secure the British dual-purpose cow ere the home breeder puts the bar up by opening his mouth too wide.

An International Dairy Congress is being held at Berne from June 8th to 10th.

Henry T. Tory, of Damory Court, Blandford, one of the most prominent breeders of Short-horns and Hampshire Down sheep in Western England, died recently. He sold Shorthorns to the Argentine which went into the 6,000-dollar mark.

H. O. Peacock, Stanford Hall, England, has a ewe which has given birth to five lambs and survived it.

A Wicklow mountain ewe, belonging to Miles Lawler, of Ballymore Eustace, has also given birth to five lambs. The same ewe had three lambs each year for the past six years, so that she has dropped 23 lambs in seven years.

The International Horse Show, at Olympia, London, will be held from Thursday, June 4th to Tuesday, June 16th, and entries closed at ordinary fees on April 20th, but at double fees on April 27th. The prize list is valued at £11,000, and to the jumping alone (18 classes) £4,510 worth of prizes are allocated. Trotters are catered for to the extent of £80, and costers'

donkeys at £90, which proves the spectacular idea is being borne out well at this show. A lot of new jumps and army officers' contests are announced. What the color scheme is yet, deponent knoweth not.

Sir H. Montague Allan, Hon. Adam Beck, Col. Lawrence Jones, Mr. G. W. Beardmore, Walter Winans, A. G. Vanderbilt, and Judge W. H. Moore are among the donors of special prizes. London, Eng. G. T. BURROWS.

Cows in Demand.

At a recent meeting of our local Institute a lecturer on stock made a striking statement, and upon investigation it seems pretty nearly right. What he said was this, "you people here to-night will never again see cheap beef in the West." Two years ago I was at a stock rancher's place within a few miles of us, and noticed that he had many horses and but few cows. I asked him why he did not raise more cows. "Well," he said, "I can raise a horse at just the same cost that I can a cow, and get \$300 for a draft horse at three years and \$75 is all that I can get for a cow." To-day the horses are down in price, owing to the market stringency which throws team work out of demand, but it is only temporary. Cattle prices have gradually been soaring, and are still at it. To contrast the difference in two years: last week I went to a stockman here and asked him his price on some milk cows. He had just sold half a carload and had another carload just in. Two aged scrub cows he had up at \$80, small milkers at their best; a grade Ayrshire well up in years \$100, and a Holstein very thin \$100.

It is impossible to get better stock here or better prices than these, and the reason is found at the base of supplies—the prairies. In the early days on the prairies we heard great tales of the frequent fortunes made in wheat. That day is practically gone. Mixed farming is gradually taking its place, and cattle are in demand. Cows are scarce and any kind will bring a big price. All cows are wanted for breeders, and if they prove to be unprofitable as dairy animals their calves may, if the cows are well mated, prove profitable. If not they are certain to bring a good price for beef.

A neighbor was telling of the conditions he found this winter on a trip to the prairies. One instance will serve to illustrate—we spent an evening discussing it. A farmer fifteen years ago bought a cow which each year for fifteen years has raised him a calf, and last fall he turned her off for beef for almost twice what he had originally paid for her.

Here at the present time we are having it forced upon us that alfalfa is almost indispensable in our orchards, and that it is just as profitable to feed stock on it as not; also that with so many green houses in use and small fruit growing receiving such attention we must have more manure, and to get it we are going in for a small stock of pigs, cows and horses. Most of the orchardists are trying to keep two mares, two cows and some sows, feeding largely on alfalfa and the corn stalks of the sweet corn crop, and it looks like a wise move. Consequently it seems that with the situation as it now is the speaker at the Institute was not far out when he said that those present at the meeting would never again see cheap beef in the West, and for a long time it will probably be the same in the East. There is also much of the high price of beef due, no doubt, to the 8 per cent. interest rate charged to farmers on stock raising and farm work generally, and until that is lowered and cows become more plentiful little easing of the price of beef can be hoped for.

B. C.

WALTER M. WRIGHT.

The Dipping Season.

The agitation for more restrictions on dogs throughout the country has been long and loud, but if one could estimate the annual loss incurred by sheep raisers through the prevalence of ticks, lice and scab, the total loss through dogs would fade into insignificance. We are not champions of the useless curs running at will through field and pasture, and we can easily understand why the shot gun hangs loaded on the wall, but to be consistent, we are just as anxious to see the insects and diseases that prey constantly upon the flock stamped out of existence. Ticks are as common on sheep as fleas on dogs, but their depredations may be reduced to a minimum by a little effort in the spring and fall.

No farm where sheep are kept should be without some form of dipping vat. It need not be elaborate or expensive as a more modest one will answer the purpose. A vat in which to dip the lambs and where the sheep may be stood and the liquid poured on them will suffice in the small flock. A tank of the following dimensions has done good service: 4 feet long; 12 inches wide at the bottom and 26 inches wide at the top; 2½ feet high for lambs and shorn sheep.

The material should be 2-inch plank, tongued and grooved and either with white lead or it may be lined with zinc or galvanized iron. The lambs may be dipped in a vat of these proportions but it is necessary to pour the material on the back of the sheep and work it in with the hands. A dipping board should be arranged at one end of the tank in order that the liquid squeezed from the wool of the lambs may be conveyed back into the tank. A vat of sufficient size to allow the full-grown sheep to be dipped would be large and require much more material. On the whole it would be extravagant for the small flock when the small vat does just as well.

About one week after the sheep are shorn the ticks will have migrated to the lambs where they may find wool in which to harbor. Dipping the lambs at this time will destroy the pests that would otherwise prey upon them all through the season and by applying the same treatment to the sheep, one is doubly sure of exterminating the vermin which curtail the growth and development of both sheep and lambs. A similar operation before the flock goes into winter quarters will make a vast difference in their health and vigor, and when this system is adhered to, for a couple of years, there will be no hesitancy on the part of the shepherd to continue this little operation which adds to the health and comfort of the flock. There are now many reliable proprietary dips on the market and the preparation of the dip is so simple that the operation does not become a burden.

An Unnatural Sow.

A correspondent, J. C. Inman, of Elgin Co., writes that one of his neighbors recently had some difficulty in getting one of his sows to own her pigs. All ordinary methods were employed until at last the man lost all patience and tried a new scheme all his own. He took the pigs out of the pen and gave the sow a thorough licking with a good whip with lash. He then, with the help of an assistant, tied her legs with ropes, and after she had tired herself out from fighting the pigs were again placed with her, and she mothered them thereafter. Rather strenuous treatment, which, no doubt, would not work in all cases.

A few years ago it was with difficulty that anything like the top price was obtained for heifer beef. At the present time several of the markets in the United States pay the highest prices for this class of cattle.

During the first three months of 1914 cattle receipts at six of the large markets of the Western and Middle Western States decreased 131,914 head compared with the same period last year.

The Royal Dublin Show, which was to have been held May 5th, has been abandoned, owing to foot-and-mouth disease.

THE FARM.

Farm Engineering.

ELECTRICITY ON THE FARM.

Nearly everyone believes that after a storage battery is charged it will give out as great a quantity of electricity as was put into it in the first place. That is not so. The use of a storage battery is always a losing venture. Sometimes, of course, the loss in this way is not so great as it would be if the battery was not used, but this is not the case on the farm. An oil engine connected directly through a counter-shaft to an electric generator will mean a far less costly installation in the first place, the cost of operation will be much less, and the cost due to interest, depreciation and repair will be very much less.

The ordinary lead plate storage battery is, when new, about eighty per cent. efficient, but its efficiency drops off somewhat after use. The Edison nickel-iron storage battery, so famous of late years in automobile work, is only sixty-five per cent. efficient when new, and its efficiency seems to rise slightly after continued use. That is, the quantity of electricity used to charge the battery is one hundred per cent., but that given off in discharging is only eighty per cent. for the lead cell and sixty-five per cent. for the Edison cell. The advantage of the Edison cell over the lead cell is not in cheaper cast of operation, but is in the lighter weight and the strength of the parts. The lead cell has to have a glass container, and the plates are continually disintegrating. The Edison cell, on the other hand, is enclosed in a welded steel box, and the active material of the plates is enclosed in steel tubes and boxes. The Edison plates can be kicked around on the floor without much harm being done, but

the lead plates must be handled with great care. Both batteries have about the same bulk or size.

Nor is it possible, as so many think, to simply purchase a storage battery and operate it as you would a dry battery, renewing the parts when the storage cells cease to operate. A storage cell requires an electric generator, and an engine of some kind to run the generator. That is, the battery must be charged by the electric current not by new parts. It must be direct current not alternating, the alternating current being used largely for lighting and power. If there is an alternating current which you can use it is cheaper to buy a "rectifier" to change the alternating current into direct current, than to buy an engine and generator. The rectifier, however, like the storage battery, costs money to operate it like any other machine or apparatus. The mercury-vapor converter, which is most commonly used, has an efficiency of about eighty per cent. This means that if you wish to charge a storage battery and for some reason use the alternating current the quantity charged into the battery is only eighty per cent. of what you pay for and the quantity discharged is only eighty per cent. of that charged, if a lead cell is used. That is, if you pay a bill for alternating current of ten dollars a year, you get the benefit of about \$6.50 worth of electricity. If it is an Edison battery you get the benefit of about \$5.20 worth of electricity.

If you light your house with electricity from a storage battery charged by means of a gasoline engine running a generator, and it costs you ten dollars a year for the oil used, the cost would be only about eight dollars if the lights were directly connected to the generator instead of to the battery. The cost of the lighting plant in place of being \$350.00 without engine would be only \$125.00 to \$150.00 with engine included. The repairs and renewals with the storage battery amount to surely ten per cent. a year. Without the storage battery the renewals are negligible, and the repairs not over two per cent. per year.

There is the inconvenience of having to start the gasoline engine whenever lights are needed, and the inconvenience of having to stop it afterwards. This is not by any means as bad as it would seem, however, for the stopping may be accomplished from a distance by any controlling device which will turn off the fuel.

Nova Scotia. R. P. CLARKSON.

On the Fertilizer Question.

Editor "The Farmer's Advocate":

With the information furnished in the fertilizer advertisement, mentioned in the article "Believes in Home-mixed Fertilizers" in your issue of April 9th, it is not surprising that Jas. Hunter felt prompted to write a protest against such, or to express surprise that anyone who had studied fertilizers at the O. A. C. should let his name go as sponsor for such sweeping statements. I wish to make it clear to your readers, however, that my name was used in connection with this advertisement entirely without my consent.

I altogether agree with Mr. Hunter that the advertisement is quite misleading, since the conditions under which these results were obtained are not taken into account. Those seeking information on fertilizers are asked to believe that the larger yield obtained by the man using the factory-mixed fertilizers is due to the brand of goods. Such important considerations as soil conditions, previous cropping, spraying, etc., are not even hinted at as being factors largely responsible for differences in yields.

The following conditions under which the results were obtained by these two young men will be of interest to your readers, and must necessarily be taken into consideration in accounting for the results secured:

The experiment was with potatoes, each growing Delawares. Roy McKenzie Barron, of Font-hill, Ont., used as fertilizer 100 lbs. nitrate soda, 300 lbs. basic slag and 200 lbs. of potash. In addition to this eight loads of manure were applied. The soil was sandy loam, the surface soil being fully 10 inches deep. The previous year a crop of timothy hay had been grown on the field. The seed was not treated for scab, nor sprayed during the growing season to prevent blight. Between June 6th, planting time, and October 1st, when the potatoes were dug he cultivated five times, and on the latter date harvested 135 bushels. Valuing the marketable potatoes at 60 cents per bushel these would bring in \$77.40. Labor, fertilizers, seed, etc., cost him \$44.25, so that he had a margin of profit of \$33.15.

Will Chrysler, of Allanburg, the other competitor, used 500 lbs. of a factory-mixed fertilizer, and six loads of barnyard manure. This field was clay loam with five inches of surface soil in good condition. This field had been down in alfalfa for several years previous to being broken for this crop. The seed was treated with formalin to prevent scab and planted on June 3rd. Two sprayings of Bordeaux Mixture were given to prevent blight, and three cultivations. When they were harvested on October 20th there was a yield of 296 bushels, worth \$177.50. The cost of producing this crop including tillage, fertilizers, etc., was \$42.25, leaving a margin of \$135.25.

A consideration of the above conditions will enable your readers to see that there were many factors responsible for the results in these experiments, and that the larger profit in the one could not honestly be credited to the special brand of mixed fertilizer used.

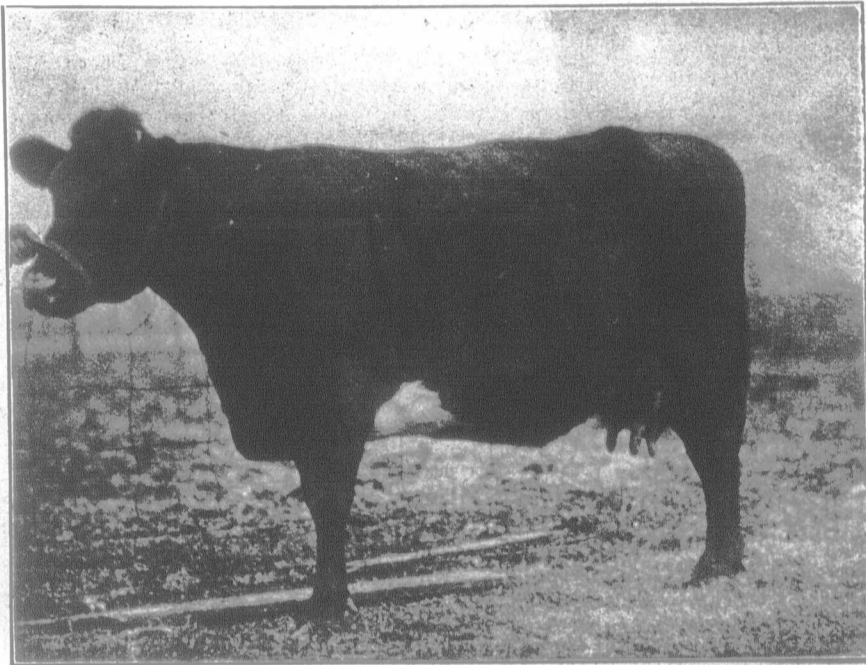
Welland Co., Ont.

R. AUSTIN.

Cementing a Silo Roof.

Editor "The Farmer's Advocate":

In reply to the enquiry concerning method of building cement roof on silo, I will try and give a concise explanation. In finishing top of cement silo wall I embedded a hoop of one-half inch round iron (old guy rod) firmly looped together, placing about ten or twelve inches from top. I



Gipsy Lady 2nd.

This dual-purpose Shorthorn was second at Guelph in December, with 168.9 points. She freshened October 4, 1913, and in March gave 1,082½ lbs. of milk testing 4.3. Miss Smith, Maple Lodge, is the owner.

also set in on end eight blocks 2 inches by 2 inches by 5 inches, an equal distance apart on inside top and flush with finish of wall. I also ran a groove 1 inch by 1 inch around the top of inside. After removing my inside forms I pulled out blocks, which should be tapered somewhat, to draw easily; I left the outside ring on, as I used it for tacking on my segments of board to support the ten-inch projection. But the principal reason was for resistance against the pressure of the green unbonded roof. For a face strip on the outer edge I used thin basswood five inches wide by less than one-quarter inch thick, butting ends together with block cleats on outside. I made a circle for center about thirty inches in diameter and eight inches deep for the ventilator. We then set up our rafters, dropping

1st year.—Hay, (new seeding).
2nd year.—Hay or pasture.
3rd year.—Hoed crop.
4th year.—Cereal, seeded down to clover and timothy.
(C)—Five year rotation:
1st year.—Hay, (new seeding).
2nd year.—Hay or pasture, (plough in August, cultivate and cross-plough, or preferably ridge up in late autumn).
3rd year.—Cereal.
4th year.—Hoed crop (particularly suitable for potatoes or roots).
5th year.—Cereal, seeded down to clover and timothy.

Any one of the above rotations may be expected to give satisfactory results in the increasing of cereal crop returns, and in the improving of the soil.

After determining the rotation that is to be followed the next most important consideration making for a good grain crop is the preparation of the soil immediately before seeding. Cereal crops require a loose surface with a moderately deep-worked soil, but with a solidly-packed lower seed bed. Conditions for grain production are almost ideal after a satisfactory crop of roots, say sugar beets or mangels, has been harvested. Corn land, if properly treated after

harvested in the fall, is also likely to give good returns. Where the soil is rather light or of a quality that might be called sandy loam, the best treatment after growing corn, to insure a good stand of grass and a good crop of grain, is to run over the field, lengthwise and crosswise, with a double disc harrow which tears up the corn stubble and leaves the surface in good condition for the next spring seeding, which should be done after the land has been again double-disked but not ploughed.

Potato land or root land had better be lightly ploughed after their respective harvests to insure evenness of surface, and the burying of any refuse matter that may have been left lying about. Where sod has been ploughed in August, rotted and ridged up in the fall, the ridges should be broken down with a disc harrow or



Some Nice Leicester Lambs.

heel in gain in wall, spiking top to circle four inches below top edge. I collared the rafters midway up for a center support for sheeting. Cutting my sheetingboards on suitable taper I dropped the bottom in the groove on wall and tacked lightly the center and top. Everything was now ready for the concrete, which we pulled up with horse, using a swinging 9-inch pole attached to windmill mast. (See cut, page 591, issue of March 26th.) We put on two coats similar to what we might use on a stable floor. We put in another half inch cable near outer edge, also scrap iron set like spokes around the outer edge with hoops of wire every foot up the roof. Provision was also made for entrance of blower pipe.

The cupola form I made in my workshop, confining outside with a sheet of galvanized iron. Perth Co., Ont. J. H. ARMSTRONG.

Growing Crops in Rotation.

Editor "The Farmer's Advocate":

Cereal crop production is of major importance at all times, even though forage crop production is attracting increased attention as the necessity for the economical feeding of live stock becomes apparent to more and more of our farmers throughout Canada. But profitable cereal crop production practically always follows satisfactory forage crop production, the two usually, in fact, almost invariably go well together, and entirely satisfactory results from the one are almost impossible unless the land has just previously been properly handled under the other. To secure the most highly profitable returns from a cereal crop necessitates its being grown after certain other crops or, at least, after certain preparatory cultural operations have been properly performed.

The places in the cropping system where cereals may be expected to give profitable returns are:

- 1.—Immediately after a hoed crop, as potatoes, corn or roots.
- 2.—After a leguminous crop, as peas, beans, clover, etc. Or,
- 3.—After a partial summer-fallow, as where a meadow or old pasture has been broken up in August, cultivated and so handled as to cause the sod to rot and later cross-ploughed or ridged up for the winter.

That is to say, the best cereal crop may be expected where a rotation similar to one of the following is put into practice:

- (A)—Three year rotation:
1st year.—Hay or pasture.
2nd year.—Hoed crop.
3rd year.—Cereal, seeded down with clover and timothy.

- (B)—Four year rotation:
1st year.—Hay, (new seeding).
2nd year.—Hay or pasture.
3rd year.—Hoed crop.
4th year.—Cereal, seeded down to clover and timothy.

- (C)—Five year rotation:
1st year.—Hay, (new seeding).
2nd year.—Hay or pasture, (plough in August, cultivate and cross-plough, or preferably ridge up in late autumn).
3rd year.—Cereal.
4th year.—Hoed crop (particularly suitable for potatoes or roots).
5th year.—Cereal, seeded down to clover and timothy.

cultivator in the spring and the grain sown immediately thereafter.

It is not usually advisable to disturb the soil with a harrow after the seeder has gone over the field in the spring, especially is this true if grass or clover seed has been sown with the grain, as should almost always be the case in Eastern Canada. If the soil is very dry, rolling immediately after seeding is advisable, and even more satisfactory results may be anticipated if, after rolling, the ground is scratched with a light, slant-toothed harrow. If, however, the weather is rather uncertain or if the land is of a character somewhat heavier than what might be called light loam, it is usually advisable to delay rolling until the grain and grass seed have made a fairly good start, when the rolling may be done. This should be done when the surface is hard or when no rain has fallen for a week or ten days. Passing over with a roller breaks the crust, makes a mulch on the surface, and very materially benefits the crop both at the time of doing and for some time thereafter. This, of course, is the last cultural operation that can be performed on the grain crop where grass seeding is followed regularly with every cereal crop as it should be.

Ottawa, Ont.

J. H. GRISDALE.

Making over Machinery.

Editor "The Farmer's Advocate":

There are plenty of farmers who could save themselves many dollars and many hours' hard work, if they would turn old machinery into something useful. For instance take an old seed-drill which has not been worn too much. It is mostly the gear of a seed-drill that wears out first, the cultivating part is generally in fair condition. Take off the grain box, and all the parts that do not interfere with the cultivator parts. Fasten an old seat on it, take off two hoes and divide the rest up for cultivating two rows of corn. Buy two points for the teeth, six-inch ones for the two centre ones and three-inch ones for the outside. By using the narrow ones on the outside you will not be so apt to cover the corn. Take the teeth to your blacksmith and get him to drill the holes to suit the points. When your corn gets up high, raise the double trees up to the tongue and make a neck-yoke with the ring for the tongue on the top side, instead of on the bottom, as they generally are, so as to tilt your machine up high in front and it will allow you to go through your corn a few times longer. The common ten-hoed drill can be made to cultivate two rows of corn planted from 30 to 32 inches apart, which is the width we plant our corn. I don't mean to say that this cultivator will be as good as the regular corn cultivator. But it can be made do for a while.

When the cultivator is ready, make a marker for planting corn in hills to suit your cultivator and attach it at the back of the cultivator, so that the old seed-drill may be used as a corn cultivator and marker. It will be much easier riding doing the marking than walking. Help is so scarce, one has to scheme all he can to save all the steps possible, and with all his scheming, if he runs a farm to make it pay as all farms should he will find he has plenty to do.

I give this experience for those who desire to get started in the corn business, and haven't the money to buy all necessary implements at the start. In my opinion if corn growing is started rightly, it will not be long until the grower will have the money to equip his farm with all necessary machinery.

Dufferin Co., Ont.

C. M. HAND.

Spreading Manure.

A correspondent advises those who do not own a manure spreader to dump the manure from the wagon in very small piles, and spread it by means of a very heavy set of drag harrows. We have seen this done many times, sometimes with success and others with failure. The piles must be very small, close together and many strokes of the harrows are often necessary, and it is generally required to use the fork to some extent. However, harrowing does good where practiced on manure spread from the wagon or from the heap with the fork, and, of course, the harrow may be used to some advantage in spreading from small heaps.

The Dual Purpose M.P.

By Peter McArthur.

The parliamentary discussion of Mr. Burrell's "Dairy Industry Act" has offered a surprise as well as new light. I was surprised that one of the great arguments against free wheat was not used against the proposal to permit the manufacture of oleomargarine. It was urged that if Canadian wheat went across the border, we would be short of bran and the thought of cows without their bran mashes almost brought some legislators to tears. But if we allow oleomargarine to take the place of butter what shall we do for butter-milk? As an exhilarating beverage butter-milk is both moral and nutritious and "In the cold grey dawn of the morning after" many prefer it to the insidious John Collins. I am surprised that no statesman urged the claims of buttermilk when supporting the bill. But the most interesting thing about this excellent measure was the light it cast on the dual-purpose member of Parliament. The character of the opposition to it demonstrated clearly that although the dual-purpose cow may be a possibility the dual-purpose member of parliament is a flat failure. After he has been elected he goes to Ottawa feeling proud of the fact that he knows every farmer in his constituency by his first name and it is his honest intention to represent them vigorously as far as is consistent with a broad and statesman-like view of the affairs of the country at large. But presently some promoter comes along with a scheme that is rich in campaign fund butter-fat and he promptly hustles around to the cream spout of the government separator and as Wordsworth so beautifully sang in the old Second Reader:

"He takes his little porringer
And eats his supper there."

Observant farmers are about convinced that the dual-purpose member of parliament is of no use to them.

* * * *

It is beginning to look as if Mackenzie & Mann had stolen a march on the people of Canada. They have placed the nation in a position where the government must give financial assistance or the people will suffer losses and all kinds of calamities. There are many instances in American finance where shrewd promoters managed to involve banks or financiers so deeply in their schemes that they had to support them to the end or lose all they had already advanced. But I have never heard of a case where the scheme was worked on a government. But that is what appears to have happened to Canada. The country is so deeply involved that it must help to carry through the Canadian Northern. And neither political party can take a "holier-than-thou" attitude in the matter. Provincial governments of both political complexions have guaranteed the bonds of the railroad and in Ottawa both parties when in power have given assistance. And neither party when in opposition has made an effective protest. Both parties are to blame for the present situation, and the best thing they can do is to get together and find some way out. They will both have to do some ingenious explaining when the next general election comes around. Our dual-purpose members of Parliament have been trying to serve both the people and the corporations and the result is far from satisfactory.

* * * *

One suggestion that is being made by papers on both sides should be stamped out at once. It is suggested that the true solution of the difficulty is public ownership of the C.N.R. I am a believer in public ownership and for that reason I do not want to see a start made with a railway that is in difficulties. If we are going to take over a railroad let us take over the C.P.R. which produces both dividends and melons. In its present state the C.N.R. would be an intolerable burden to the country—especially since the Railway Commission has ruled that freight rates must be governed by the service rendered rather than by the amount invested in the railway. It would be many years before the C.N.R. could be made to pay and it is just possible that the papers that are advising public ownership are unconsciously playing into the hands of Mackenzie & Mann. Having taken their profits from the work of construction they may be quite willing to unload the railroad on the public. But the difficulty that the city of Toronto is having with this firm in trying to arrive at a purchase agreement for the street railway,

shows what we might expect if the government tried to take over the C.N.R. The "intangible assets" would be placed at a fancy figure and a true valuation of the property would be almost impossible. No matter how you look at it, the C.N.R. situation seems to have many sides to it—all bad.

* * * *

Perhaps the most amazing statement ever made by a Canadian member of Parliament is that which Levi Thomson, M.P. for Q'Appelle, Saskatchewan made in a recent number of a Western publication. Speaking of campaign funds "used for legitimate purposes" he said:

"I fancy the public generally do not understand what a large amount is required for that purpose. I would estimate the amount at \$10,000 for each ordinary rural constituency in a Dominion election, that is \$5,000 for each candidate. The question now comes up, by whom is this amount to be paid—by the candidates, by the electors, or by outsiders? I am afraid that a very large percentage of the electors expect the greater part of that amount to be paid by outsiders, and I fancy that the general public expects that the amount so contributed will be made up by those who have axes to grind."

You will notice that he speaks only of "legitimate expenses." What would the amount be if the illegitimate expenses were added? I own that Mr. Thomson's statement gives me a shock of surprise. I had heard the expenses of a candidate estimated at \$3,000 and although I was convinced that the amount was well within the mark I refrained from mentioning it for fear that no one would believe me. But here is a member of the present parliament, who has been through the mill, who places the figure at \$5,000. If that "legitimate" money is contributed by outsiders do you wonder that we have dual-purpose members of parliament? They would not be human if they did not show gratitude to those who made their election possible. And as that gratitude usually takes the form of legislation granting special privileges of some kind it is easy to trace all our ills to the swollen secret campaign funds of the political parties.

* * * *

But I am unable to see how the "legitimate" expenses of any candidate can amount to so much. If they do something must be done to simplify our electoral system. As matters stand no laboring man or farmer can afford to represent a constituency in parliament. It would cost a farmer candidate the price of his farm if he wished to pay his own expenses, and if he did not pay them he should not be in parliament. Most people imagine that a few hundred dollars cover all expenses of a candidate, but Mr. Thomson's statement to the contrary is very explicit. If these expenses are legitimate they should be paid out of the public funds for our government is a farce unless every man of ability has an equal opportunity to serve his country. It is beginning to look as if campaign funds and the management of campaigns should be investigated thoroughly. If we were rid of this means of securing secret influence we would soon be rid of the whole incubus of special privilege. And we would be rid of the unsatisfactory dual-purpose member of parliament.

Avoid Mixing Malting Barley.

Most of the barley which is grown in this country at the present time is used for feeding purposes, and we believe this is as it should be. The more grain fed on the farm the greater the chances for profits at the end of the year, but for those who still grow barley for malting purposes a few short rules as laid down by the United States Master Brewers' Association might be of value.

For malting purposes mixing and blending of two or more distinctly different types of barley for improving the color, increasing the weight, or any other purpose should not be practiced, nor should the mixing of the same types of barley from different localities where, due to different climatic and soil conditions, changes have been created which are often responsible for an uneven growth during malting. Brewers also object to the mixing of light-weight, immature barley with a heavy, well-matured barley of the same or different type to improve the color of the latter, or to get a better price for the former. They also object to the mixing of all barleys in any stage of unsoundness with the sound barley in order to cover up the deficiencies of the former. It is also bad practice to mix barleys grown in different seasons, and never should the mixing of seeds, screenings, skimmings or other foreign substance be practiced with malting barley for any purpose whatever. Malting barley should be mature, sound, of good color, should germinate 92% or more, should not contain more than 6% screenings, and not more than 13% moisture.

THE DAIRY.

Milk Standards.

Editor "The Farmer's Advocate":

Definition:—A milk standard is a legal limit as regards chemical composition below which milk must not be sold or offered for sale. This minimum standard is usually expressed in terms of milk-fat (incorrectly called butter-fat), and solids not fat, or total solids.

What strikes the student of this question as being, to say the least very peculiar, is the great variety of standards. For instance in the United States we have a variation of fat percentage from 3.0 in the States of California, Colorado, Illinois, Michigan, Nebraska, New Jersey, New York, North Dakota, Ohio, Oklahoma, and Wisconsin, (the little State of Rhode Island has a 2.5 per cent. fat standard) to 3.5 per cent. fat in the District of Columbia and the States of Louisiana and Maryland. The solids not fat standards vary from 8 to 9.75 per cent., and the total solids from 11.5 to 12.5 per cent. (Circular 218, U. S. Dept. Agr., Apr. 1, 1913.)

The Department of Inland Revenue, Ottawa, has fixed a standard of 3.25 per cent. milk-fat and 8.5 per cent. of milk solids other than fat.

An Act to prevent fraud in the manufacture of cheese and butter, R.S.O., 1897, Chap. 251, reads in the first section: "All milk containing less than thirteen per cent. of total solids of which three and three-quarters per cent. must be chemically dry butter-fat, shall be deemed below the standard required in creameries for butter manufacture."

The Ontario Milk Act of 1911, section 5, (1) reads: "The Council of every Municipality is hereby authorized to enact by-laws fixing the standard for butter-fat and total solids of milk sold in such municipality, but no milk shall be sold for human consumption which contains less than twelve per cent. of solids, of which three per cent shall be butter fat."

In the same Bill, section 11, clause G, we read under standard for certified milk: "It shall contain twelve to thirteen per cent. of milk solids, of which at least three and one-half per cent. is butter-fat."

It is unnecessary to give further instances of the great variation in legal standards for milk. Nearly every legislator who has tackled the problem arrives at a different conclusion as to what milk should test for fat and total solids. The reason for this is that no one can say what are the limits of variation in milk composition. We have in our office hundreds of cases, sworn to by two or three persons, furnishing evidence that would be accepted in any court of law, that it is practically impossible to set limits to the variation in fat content of normal milk, or milk as given by the cow. We have in these cases another illustration of the law, "Nature Loves Variety."

To pass legislation making it a crime to sell milk which comes below a certain percentage of fat and total solids, and branding such persons as dishonest who sell milk as it comes from the healthy, clean cow, is as absurd, as it would be to pass legislation that all babies born, weighing less than ten pounds, shall be thrown into the sewer, and their mothers fattened and sold to the Cannibal Islanders.

The International Dairy Congress, which met in Stockholm, Sweden, 1911 passed the following: "Whole milk is the well-mixed, unaltered milk obtained from one or more healthy cows by a careful and exhaustive milking. The fixing of a certain minimum percentage of butter-fat in milk offered for sale is unreasonable and purposeless." The foregoing represents the consensus of opinion of the most noted dairymen of Europe, yet in the face of this we have legislation making standards for milk in nearly all civilized countries where cow's milk is used for human consumption.

There must be some reason for such almost universal legislation. The reason is probably to be found in the fact that milk is so easily adulterated by the addition of water, or skim-milk, or the removal of cream, or the withholding of what is known as "strippings" which is rich in fat. We have not a particle of sympathy for a man who adulterates milk, but we have a good deal for the man who sells milk as he receives it from a cow with nothing added to, and nothing taken from, except animal heat, yet is accused and sometimes convicted of adulterating his milk. Such a man deserves consideration and is entitled to be considered innocent until proven guilty of adulteration. We have known cases where the accused party has quietly paid the fine imposed, rather than suffer from the publicity necessary in order to defend the case. The whole question is fraught with dangers and diffi-

culties. If the matter is left too open, then the dishonest person takes advantage and perpetrates a fraud on the dealer or consumer; whereas, standards tend to incriminate the honest man, and open a way whereby the crafty person may lower good milk to the legal standard and thereby reap a double profit. We heard a prominent American Agricultural College Professor say some years ago, that the milk standard law of his State had made more rogues than any other law on their statute books.

Taking everything into consideration, we believe that the definition of pure milk as laid down by the International Dairy Congress is the safest and best.

WHAT ABOUT THE CONSUMER?

I fancy some of the milk consumers are ready to ask the question, has the consumer no rights? Is he not to be guaranteed milk of a standard composition? These are fair questions which we shall endeavor to answer.

We should like to observe at the outset that taking it on the whole, it is our judgment that consumers would receive milk of higher chemical composition if they insisted on getting it as it comes from the cow, with nothing added and nothing removed. But, if they (consumers) desire milk of high chemical composition, then they should be willing to pay for it. The Director of the New York Experiment Station in his report for 1913 says: "No real progress will be made, unless the consuming public recognizes the fact that it must pay enough for milk of high quality to justify its profitable production."

The Editor of "Hoard's Dairyman" writes: "There is no question but that a city has a right to make a milk standard, but we have thought for some time that it would be better to do away with all standards for milk and demand that any firm or person selling milk be compelled to state upon the package or in writing, approximately the amount of butter fat contained in the milk. For instance, if a milkman were producing milk that tested only 2.5 per cent. to 3 per cent. fat, let there be placed upon the bottles, 'This contains between 2.5 per cent. and 3 per cent. fat'. This would let the consumer know the quality of milk he was receiving and at the same time permit a man to sell milk that tested lower than any of the legal standards without becoming a criminal. It would also give the man whose cows produce rich milk a better opportunity to get the price that such milk warrants, and give the man whose cows produced a low per cent. of fat a right to sell his products."

We would agree with the statement that a city has a right to make a milk standard, but we do not agree that a city has a right to say all milk below its standard is adulterated. This is the crucial point. We have a good deal of sympathy for the Medical Health Department of any city which is trying to improve the character and quality of the milk supplied to citizens, especially for children; but at the same time it is our judgment that if more attention were paid to the health of the animals producing the milk, cleanliness of the stables and surroundings, including pails, cans, etc., greater care observed in the immediate cooling of the milk; clean waggons and cars for hauling milk to the city, refrigerator cars to be insisted on where the distance is over 25 miles, pasteurization of all milk sold for human consumption; mono-service milk bottles, clean and sanitary city milk plants—the quality of milk would be improved faster than where too much time is spent on testing for suspected adulterations.

O. A. C.

H. H. DEAN.

Watered Butter.

We often hear of watered milk, but watered butter goes it one better. An item in the Census and Statistics Monthly is deserving of some attention. It appears that a good deal of adulterated butter, that is butter containing more than 16% of moisture, has been lately manufactured in Montreal, and this is strictly against the law. It is brought out in this item that butter properly made should not contain more than 16% of water, and in most countries this is the legal limit, the same as in Canada. As a rule butter made in Canada does not contain more than this percentage of water, but within the last year or two, according to this report, a fraudulent practice has been developed by unscrupulous dealers, principally in Montreal, of adding as much as 30 or 40% of water to butter, the adulterated product being sold as ordinary butter. The fraud is practiced and the poor people are the sufferers, as it is in the poorer quarters of the city that this fake butter is sold. The Dairy and Cold Storage Division of the Dominion Department of Agriculture is putting forth a determined effort to stamp out the evil. Several manufacturers have been convicted, and at the time the report was sent to the publication in question many other actions were pending.

Building up a Holstein Herd.

Before beginning this discussion on Building up a Holstein Herd, I wish to call attention to a few qualifications that a man must possess in order to make a success in breeding Holsteins, and if he does not possess these qualifications he better not start in the business. A prominent educator has said, that there are two classes of people that should never go to college. One was the man lacking in moral backbone, and the other was the man lacking in mental ability. As it is true that there are certain people who should not seek higher education, so it is just as true that there are men who should not invest in higher bred cattle, in fact the scrub, to say nothing of the good grade, is too good for them. They are scrub men with scrub methods, and the scrub cow is the only animal that will stand their scrub treatment. Do not misunderstand me and think because you have not been doing things as they ought to have been done that you belong to this class, but look about you and see where your errors are and then set about to remedy them, and you may find to your surprise that you possess qualifications that will eminently fit you for a successful breeder of Holstein cattle.

First of all, a man should be in love with the business and the cattle, for a man cannot do his best work in a business that he does not like. Another essential is, that a man will be willing to sacrifice his own pleasure and comfort for the good of his cattle, and this he will do if he is really in love with his business. He must be a man that can succeed with grades before he can expect to succeed with pure-breds. The first thing to do after a man is satisfied that he is fitted for the business is the getting together the females he expects to use for his foundation herd, and right here depends largely his future success.

The reputation of one great herd is largely due to the choosing of Lillian Walker, Prilly, Mary R. Pietertje and Daisy Pietertje Hartog, as foundation animals. The combining the blood of Lillian Walker and Prilly has produced the great Prilly family, one of the three families of the breed that has a mother, daughter and granddaughter, that have each made over 80 lbs. of butter in 7 days, and the only family of the breed that has six generations of cows that have records that average over 28 lbs.

Daisy Pietertje Hartog, bred to Clothilde Goudgeld Hugo, produced Buttercup Clothilde Pietertje, whose record is 32.91 lbs. butter for 7 days, and 129.17 lbs. for 30 days. The breeding of a son of Lillian Walker upon Mary R. Pietertje, produced Admiral Walker Pietertje and breeding him to Buttercup Clothilde Pietertje produced Mary Walker Pietertje, record 31.81 lbs. butter for 7 days, and 130.87 lbs. for 30 days. Beauty Pietertje Butter King was also sired by Clothilde Goudgeld Hugo, and was a son of Beauty Pietertje, a daughter of Prilly, sired by a son of Lillian Walker and breeding Beauty Pietertje Butter King to Mary Walker Pietertje, produced Marion Walker Pietertje, record 31.63 lbs. for 7 days, and 121 lbs. for 30 days, or in other words, the combining of the blood of the four cows mentioned and the bull, Clothilde Goudgeld Hugo, has produced the only family of cows of three generations that have each made over 31½ lbs., and also the only family whose 30-day records average over 126 lbs. In considering these foregoing results, it is very evident that the proper selection of the foundation animals was absolutely necessary for their accomplishment, although there are many other factors entering in, before they can be accomplished.

The care, handling, feeding, growing and developing the animals are very important factors entering into the bringing about desired results. I fear, however, many place too much emphasis upon the latter, as I have heard men say, "Your success is due to the care you give your cattle." But I will give you an illustration which will prove to you that the breeding of the animal is of even more importance than the care. I will take for example, Joe Geische De Kol Burke, the son of Prilly, a bull, that I bred and sold to my brother, when a calf, and none of his daughters have ever been developed in my barn, and my brother sold them and they were tested by disinterested parties. One being tested by an inexperienced man this past winter, made, as a senior four-year-old, 32.88 lbs. of butter in 7 days and over 126 lbs. for 30 days, and two others, as three-year-olds, made over 30 lbs. each in the same barns, where the daughters of the great King of the Pontiacs are being developed. One of these was for some time the youngest 30-lb. cow of the breed, and the other this past winter made a world's record in her class for 30 days.

The bull now has fifteen or sixteen tested daughters, and I think the average for them all is higher than any bull of the breed with that number of daughters.

Another striking illustration is that of Artis De Kol Walker, a bull bred about the same as

the one just mentioned. He being sired by the same sire, and from a daughter of Prilly. Five of this bull's daughters were sold to a man in Idaho, who had never had any experience in official testing, and this past winter two of them made over 30 lbs. each, and one of them was under four years old and the other a little past four. These facts that I have just mentioned show the importance of the careful selection of our foundation stock.

Notwithstanding the importance of the proper selection of the female members of the herd, yet still more important is the selection of the male to head that herd. Before a choice is made, a careful study should be made of the individuality and the characteristics of the females, and if there are any defects that are general in the herd a careful selection of a sire should be made, whose own individual characteristics would have a strong tendency to correct those faults. A careful study should also be made of the ancestors of the bull, back for at least four or five generations, as he is fully as apt and I sometimes think more apt to transmit the qualities of his grandsires and grandams and even his great grandsires and great grandams, than of his own sire and dam. This is the reason so many people are disappointed in the bull they purchase, as they buy a bull from some high-record cow without considering carefully the breeding back of her. People are learning this, as many of the inquiries we are receiving indicate, as many of them are now asking for a bull having a high-record dam, grandam, and great grandam. As this holds true in regard to production, so it does in connection with individual characteristics. After the selection of the foundation animals, then comes the caring for them and the growing and developing of the young ones, or in other words, it is up to the owner to work with those animals and accomplish the results desired. A careful study of the likes and dislikes and requirements of the animals and using judgment in supplying them is necessary for the accomplishment of the best results. Our agricultural colleges teach us about balanced rations and many facts necessary to know, but no institution of learning can put into a man's head the good, sound judgment that it is necessary to have in the application of knowledge to the every-day duties in order to succeed. To be able to answer questions and pass an examination on a subject is one thing, but to make the practical applications of that knowledge is quite another thing, and it is more important that a man should make the proper use of what knowledge he has than it is that he should know a great many facts and misapply them.

A man, in order to grow into a herd of large producers, as I have already shown, must first breed them, and then comes the raising of the calf and the development of the young animal. The calf should never be allowed to stop growing from the time it is dropped until it is fully developed. It should be fed food that will form bone and muscle, but never fattened until a short time before the heifer drops her first calf, and then a moderate amount of fat should be stored away in the system in order that she may have it to draw upon to supply the necessary fat for the large flow of milk we expect her to give the first season. For it will be impossible for her to give as large a flow as she ought to, if she is forced to manufacture all the fat contained in the milk as she is producing it.

For some time after calving the heifer should be milked three times a day and even four times is better in order to develop her. She should be fed so as to produce a large flow of milk the year through, until about two months before she drops her next calf, when she should be dried off and again be fed so as to be built up ready for another season of hard work. If this process is continued until the heifer is fully developed it will only take a few such cows to produce as much milk as some large herds are now producing.

Do not judge a cow from one or two good qualities and perhaps those of minor importance at that, but pass your judgment after taking into consideration every part of the animal. If you place certain emphasis on certain qualifications, be sure that emphasis is in the right place and not do as many are doing, discard a great cow because she has not a long, slim tail, or a bull because he has not good rudimentaries or something similar, things which really are of minor importance.

There is another thing that even our best judges are placing great stress upon, that I do not wish to criticize, yet I fear there is too much stress being placed upon it, for it is only a mark of beauty and not a mark of productiveness, but a lack, if either, in that direction, and that is the straight level back. Now, the idea that a cow should carry well out to roots of tail is a good one, but many of our best producers have the high pelvic arch, and this gives the animal the appearance of having a sloping rump. The mammary nerves center in this region, and if there is a great preponderance of those nerves the tendency is to cause an elevation of that point, and consequently the animal has the ap-

pearance of having a sloping rump. Of course, the animal with a good level back is more pleasing to the eye, and I would not discourage the effort of trying to breed them that way, providing we can do so and not injure the producing ability of our animals. What I have to say applies not alone to the breeders of Holsteins, but to the breeders of all dairy cattle. Let us ever keep in mind that the primary object of our efforts is the breeding of an animal that will be pre-eminently useful as a producer of dairy products, and if we fail to do this we are an utter failure as a breeder, no matter how pleasing the animal may appear to the eye. The Holstein cow, as we see her to-day, is the result of centuries of earnest thought and careful development on the part of those who have been breeding her, and she has become such a great producer that those of us who are now breeding Holsteins have a difficult task to perform if we expect to continue this improvement, and if we do not breed wisely our breed will become less rather than more valuable as dairy animals. We owe much to those who have been developing this breed for many generations, in that they have been able to hand down to us such a wonderful breed of cattle, and it is our duty to hand down to our children a still better breed than we have to-day.

(An address by A. A. Hartshorn, President of the American Holstein-Friesian Association, during Farmer's Week at the Massachusetts Agricultural College, Amherst, Mass.)

Some Experience With Jerseys.

I fell in love with the dairy cow thirty-five years ago, I have never regretted the courtship. She has been my hope, my anchor; she has led me out of deep waters. Her products contain the only natural food for man, all the food nutrients, and properly balanced necessary for the physical development of young childhood. Milk enters into combinations of more foods than any other half dozen productions of the soil, the sea, the air. It is the most palatable of all foods, and the most economical in present market prices. The mentality of any nation or people increases as the consumption of milk increases, is essential to the best health and physical development. It has been chemically demonstrated that if one pound of porterhouse steak is worth thirty cents, a quart of milk contains twenty cents worth of food nutrients. If one pound of round steak is worth twenty cents, one quart of milk is worth 16½ cents, and one pound of ham at 25 cents, one quart of milk is worth 16½ cents. Milk taken with other foods adds five per cent. to the digestibility of all.

Again the cow giving 6,000 pounds of milk in one year adds to the food supply of man more than 720 pounds of dry solid matter, all digestible, and the cow left to repeat the operation for many years, and a calf each year to grow into another cow or steer. The gain on a beef steer in one year will be less than 100 pounds solid dry matter, not all digestible.

The above is the foundation for the hope of the future for the dairy farmer. I know of nothing in agriculture offering equal possibilities to that of dairying. My plea is for the special dairy cow. The functions of the dairy cow and the beef are as clearly defined as those of the race horse and the draft horse. We have four distinct breeds of dairy cattle, i. e., Jerseys, Holsteins, Guernseys, Ayrshires, all developed along dairy lines for many hundred years, so now we have this accumulated experience and development to select from. So it seems to me a waste of energy and capital to go outside, those four breeds for dairy stock, better to take up the work where others have advanced it high into the harvest.

I was not reared in a dairy section, and knew nothing or very little of dairying until I was nearly thirty years old. The farmers' wives all kept a few cows, none exceeding five or six. The prevailing feeling in that community among men and boys was that milking cows and making butter belonged exclusively to women. In fact we thought it beneath the dignity of men and boys to milk cows. I imagined it cramped my hands to milk, and did not get this tired feeling out of my system until I realized that my wife was making more money from her cows than I was from all the balance of the farm, and I really had to go to her to borrow money for my personal expenses and to buy little equipments for the farm. She would only make the loan on condition that I would help her feed and milk the cows, and buy more dairy stock for her to make more money to loan me or rather give to me as she knew I could never pay it back. In fact she never required any obligations from me. She was very kind to me and I soon became interested, a partnership was formed, and it no longer cramped my hands to milk cows. From 1874 to 1880 my wife had among others two especially good cows, of no known breeding. There was no pure-bred dairy stock in that community. Since then I have owned thousands of pure-bred dairy cows, but among all very few better butter producers than those two mongrel-

bred cows. The other farmers' wives in that community thought that if they had as good cows as Mrs. Bailey's they could make as much butter, and, of course, just as good. We bred those cows to the best dairy-formed bull we could find. The offspring we could sell for three or four times as much as we could get for those from our other cows or our neighbors could get. We needed the money so awfully bad the temptation was too great for us, so we sold them. We thought at the time we were doing our neighbors a favor and ourselves an injustice. We watched the development of those calves into cows—all disappointing—not one of the heifer calves ever developed into a cow equal to the dam. Those cows were "sports," having nothing back of them to fix their qualities in their offspring.

In 1878 I became the owner of a registered Jersey bull, cow and heifer calf. They proved to be good ones, true to their ancestry—the offspring always equal to or superior to the dams. Our interests in the dairy cow increased, and we bought as many high grades as we could find and our means would permit. The reputation we had gained with our two "sport" cows aided us very much in new and advanced efforts with real dairy cattle. In 1880 we moved onto a rented farm of 250 acres, about one-third timber, land poor and very poor fences and buildings, with no stabling for cows. We rented this farm for five years at \$400 per year cash rent, with permission to go to the woods to cut all the timber we wanted for buildings for the farm. With two yoke of oxen and a team of horses we went to the timber, cut logs and hauled to a nearby sawmill for lumber for a cow stable, which we built by planting four rows of poles ten feet apart, spiking on two-by-four scantling for stringers and boarding up and down for outside weather-boarding, we put in rigid stanchions, a platform for the cows to stand on, and a loft overhead for hay and grain. A clapboard roof was provided from the best splitting oak we could find. This stable was 25 by 50 feet, holding twenty-eight cows. There was a good spring, and a partly fallen down spring-house which we patched up the best we could. We needed ice so we went to the sawmill, got slabs, made a slab ice house 12 by 14 feet, by packing about one foot of sawdust around the inside of the walls and against the ice, by giving it careful attention we kept ice all the summer. This was our equipment on the rented farm. We started the dairy business in this way. Since then we have had much better buildings and equipments, but never have we attained greater success than we did on that rented farm. What we lacked in buildings and equipment we tried to make up by close attention to our work. During those first five years we showed some cattle at West Virginia State Fair. Some time after this we shipped in two-pound fiber boxes some butter to special customers in Pittsburg. Nothing was said about prices, but returns came every month and very much better than we were getting in our local market. After we had been shipping about four months I got on the train and went to see them. I told them what we were trying to do, and that we thought we could keep up the quality and supply in winter as in summer. I emphasized that we were anxious to make a product that would please their trade and would do our very best, and in return we wanted their very best encouragement in the way of price, thirty-five cents a pound for all we could make, the year round, and I did not have the heart to ask them any more but thanked them, showing my appreciation. On my return home there was a regular old-fashioned love feast in our home. We were buying wheat bran at \$8.00 to \$12.00 per ton, and corn at 25 to 30 cents per bushel. Butter at 35 cents per pound was a pretty good proposition. This success took ten years off my life, and made my wife fifteen years younger. Remaining on this farm for six years, we rented another farm, on which we spent about \$150.00 in arranging stabling. We had no spring house so we made a dugout or cave for our spring house, in the bank below the house low enough so that we siphoned water from a well above. We put in this a butter worker and barrel churn. Butter made in this little dugout on the hillside shown at the First National Dairy Show, in 1887 in Madison Square Garden, New York, won third prize in competition with over 200 entries of private dairy butter of the best makes of the East. This again took ten years more off my life, and returned the bloom of youth to my wife's cheeks.

Twenty-three years ago there was a young man working in a stone quarry in Highland Co., Ohio. After accumulating \$75.00 he bought a couple of cows, and started to peddle milk in a small town. For seven years he never missed a day in delivering that milk himself, attending strictly to his business, and catering to the demand of his customers. The demand for his milk rapidly increased. He bought grade cows at first, but replaced them later as his means would permit with registered Jerseys. He built modern barns, now owns 225 acres as good farming land perhaps as any in Ohio, and milks 135 cows, having altogether over 200 head registered

Jersey cattle, all his own breeding except two. I am told that he is now out of debt.

The economical way to improve the herd is through the sire. Many sires are sacrificed before their value as breeders is known. Stake Pogis 3rd was sold for beef for \$25.00 before any of his get came into milk. He only got 27 females, and all made great records. The blood of this bull, now twenty-five years after his death adds to the value of every Jersey tracing to him. I would prefer a bull to improve my herd from a line of ancestry of dams of good dairy conformation and with modern records of 500 to 600 lbs. butter per year, made under conditions that all dairymen can apply, than a bull from a phenomenal cow with a record of 1,000 lbs. butter in one year, made under impractical methods of feeding. No family or strain of any of the breeds has a monopoly of the best animals. The great producers are not springing from the phenomenal animals. There is no way yet known to tell the quality of the get of a bull until they come into milk. Hence it is unwise to pay extravagant prices for an untried bull. All have a common ancestry, and in many instances merit is shown in the get of a bull where least expected, and disappointment many times where most is expected.

[From an address by L. P. Bailey, Tacoma, Ohio, during Farmers' Week at the Massachusetts Agricultural College.]

Would let Oleo in.

Editor "The Farmer's Advocate":

As a dairy farmer, I should like to raise my voice against the new Dairy Bill which you discuss on the first page of your April 2nd issue. Why should not the imitation butter or butter substitute be put on the Canadian market, so long as it is a wholesome article of diet and on account of its cheapness can take the place of the dairy product in many homes where otherwise butter or dripping would be prohibitive?

The only point in my judgment the government have any right to legislate upon is its nomenclature. The word "butter" should not be allowed connected with any of its substitutes. But dairyman as I am, I maintain that no government has a right to prohibit the sale of a wholesome article of food for the sake of the dairy or any other interest, so long as that article does not assume to be what it is not.

Annapolis Co., N. S. A. OWEN PRICE.

HORTICULTURE.

Making Bordeaux Mixture.

Editor "The Farmer's Advocate":

This is the time of the year when the experiment stations are sending out their bulletins relating to sprays and spraying. There does not appear to be any new fungicide or insecticide claiming special attention, but there is noticeable emphasis on the care with which the old standbys are to be made up and used, particularly Bordeaux Mixture.

Makers are cautioned that the potassium-ferrocyanide test only shows whether or not there remains any uncombined copper sulphate. It does not show weak combinations that may break up and permit the copper salt to burn the foliage, especially in wet, cloudy weather. One experimenter advises reliance on careful weighing and careful mixing rather than on chemical tests. Wise sprayers will do both, the careful making and the testing. An advised method of dissolving the copper sulphate is to put 50 pounds in a sack and suspend it in 25 gallons of water until it dissolves; one and a half gallons of this strength is sufficient for 50 gallons of Bordeaux of the 3-4-50 formula.

So simple a matter as the slaking of the lime is not unimportant. Air-slaked or low-grade lime should not be used. The best stone lime should be obtained and slaked with the minimum quantity of water that will complete the process without burning; then it should be watered and stirred to bring it to the consistency of milk when it may be poured into the half-volume of water that is to be made up. Possibly still more important is the manner of mixing, say, the 25 gallons of copper sulphate solution and the 25 gallons of lime solution. The best way is to run them simultaneously into the spray tank in two small, equal streams.

According to D. E. Lewis the best satisfaction has been obtained with Bordeaux as a foliage spray when made up on the 3-4-50 formula—that is in the proportion of 3 lbs. copper sulphate, 4 lbs. lime, and 50 gallons of water, and applied as a mist. The extra pound of lime in this formula is to guard against the burning of the foliage by any free copper. If an insecticide is needed, 2 lbs. of arsenate of lead may be added

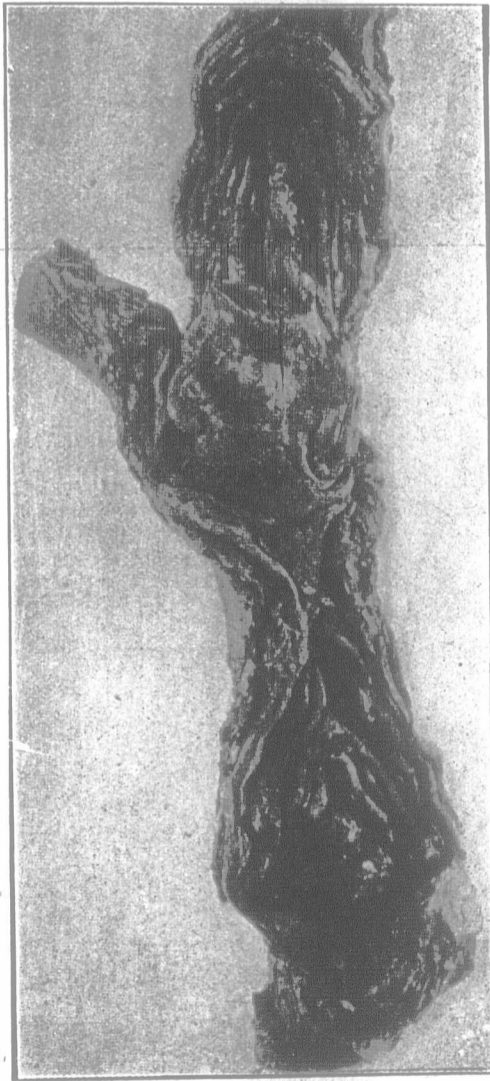
to the 50 gallons of Bordeaux, the addition increasing the adhesiveness.

J. DEARNESS.

[Note.—Full directions for making Bordeaux mixture were included in the spray calendar in our issue of April 2nd. The old formula 4, 4, and 40 is generally relied upon in this country, but care must be taken to get in plenty of lime. The 3-4-50 formula is an American formula, and in our measure would read about 3, 4, 40, as the American gallon is smaller than the imperial.—Editor.]

Apple Canker.

In the well-kept orchard the many forms of apple canker do not give constant trouble, but where they have once gained a foothold it is sometimes difficult to clean the trees thoroughly of them, as the sources of infestation have become established in the orchard and in the immediate vicinity. Cankers themselves exist in many different forms, and the beginner might mistake many of them for a simple form of winter injury. In the latter case, however, the bark does not usually have the same ruffled and black appearance as where canker exists, and in the early stages white pithy substance may often be found under the bark. Cankers themselves arise from small spores which are emitted from the diseased areas on the limbs, leaves or apples. These gain entrance through wounds and abrasions of the bark, and develop sometimes to a considerable size. Cankers may follow winter



European Apple Canker.

From Bulletin 223, Maine Station.

injury, as is often seen in the crotches of limbs and on twigs. The accompanying illustration shows one particular kind, known as the European Apple Canker. This was not discovered in America until 1899, when it was mentioned by Paddock as appearing in Nova Scotia and the State of New York. This particular illustration represents canker in the extreme form, but it is not generally so easily distinguished, nor does it always appear in this form.

In the control of such diseases the preventive measures should be emphasized. Wounds caused by ladders, harness or implements form a receptive place for the spores of the disease and should be avoided. The remedial treatments exist in cutting out the diseased areas back to the healthy wood, disinfecting the wounds and painting them with paints containing white lead and oil.

A Guide to Fruit Varieties.

Those who are turning their attention as specialists to fruit growing, and farmers who, in all directions, are improving their orchards and fruit gardens by new plantings and better care of the old, will welcome the appearance of a new edition of "Fruits of Ontario" first published in 1906. The Provincial Department of Agriculture is to be congratulated upon the work which has been under expert revision by the Fruit Branch for about a year, though it represents new data that has been accumulating for a much longer period. The report will be more valuable and highly prized even than when first issued, because of the keener demand there exists now for specific information regarding varieties and cultural methods, which is a conspicuous and useful feature of the volume. The former issue covered some 275 pages; the new one extends to 320 pages, and deals with a great many more varieties. Critical readers may discover that some varieties, perhaps not generally attested, are not yet listed, although highly prized by those who have fruited them under favorable conditions. Great care has been taken in the verification and description of varieties, and the illustrations are superb. Four groups of fruits are covered, (1) tree fruits, apple, cherry, peach, pear, plum and quince; (2) grapes; (3) bush fruits, blackberry, currant, dewberry, gooseberry, and raspberry; (4) strawberries. Four ideas have been kept in view, viz., (a) the selection of varieties most desirable in given localities of Ontario for home use or market; (b) a reference for the identification of varieties now grown; (c) reliable information as to size, color, etc., and the real value of the fruits, and lastly (d) sufficient cultural directions to make fruit growing a success. The omission of the appendix on spraying, which was a feature of the old volume, will be missed, but whether this is due to the changing details in the materials used and process of spraying or because the subject is more fully covered in other departmental publications is not indicated in the volume, but within the general scope indicated by its title the new work is a wonderful storehouse of up-to-date facts about fruits in Ontario that deserves the widest possible circulation in the field for which it is designed.

About Bridge Grafting.

Editor "The Farmer's Advocate":

On page 682 in the issue of April 2nd J. M. B. states that he has an orchard girdled, and asks for a remedy. As I have had considerable experience in bridge grafting I will endeavor to explain my method, hoping to benefit readers of "The Farmer's Advocate."

Trim the ragged bark from the upper end and lower end of the girdle. Then run the blade of a knife up under the bark and down under the bark about an inch. Take a scion, such as you would use for top-grafting and cut it long enough to fit snugly under the bark both top and bottom of the girdle. In trimming ends of scions make them wedge shaped at both ends, making a little longer slant on the side that is to be placed next to the trunk of the tree. I place the scions about half an inch apart all around the tree, where they soon form a solid bark again. Next take a soft string and tie it carefully and snugly around to hold the bark of the tree firmly down on the ends of the scions. If the tree is girdled higher on one side than the other cut the scions to suit the length of the girdle, and use more than two strings if necessary. Next take some grafting wax and put a band of wax around the tree at the top end and lower end of the scions, sufficient to cover all splits in the bark of the tree and lap it down over the ends of the scions.

I prefer to bank the tree with earth about three inches above the top end of the scions. This holds the moisture until the tree gets nicely growing again. Banking should be carefully removed in July. I might add that I have treated a great number of trees in this way, and only lost two and they were not banked with earth, and the summer following the operation was extremely dry.

Huron Co., Ont. THOMAS SHOBBROOK.

A Mixture Which Stuck.

A few interesting paragraphs recently appeared in a London (England) daily paper, and these have been reproduced in the Weekly Report of the Department of Trade and Commerce for Canada. It seems that someone in the Old Land found a greenish deposit in the stem of some apples. Some of these apples were taken to an analytical chemist, who found that the deposit was copper sulphate, also some mixture of lime. The apples carrying this deposit were imported from America. Spraying must have been very thoroughly done in the orchards from which these apples came to get the Bordeaux mixture to stick so long.

The apples were reported to be of excellent quality and flavor. The article went on to say that the presence of an appreciable quantity of rank poison, and this of a partially cumulative character on fruit largely eaten by children, is so grave a public danger that the analyst sought the help of the press in calling attention to it. He stated that apples having any sign of green deposit in the stalk cavity should not be eaten unless peeled, and that surely some steps should be taken to stop the importation of fruit thus dangerously contaminated. After an exhaustive examination of the apples on the English market at the time, the fact was revealed that the only variety affected was the Albemarle Newtown Pippin. It was further pointed out that all that need be done where such a deposit was found on the apples was to carefully wash them and peel them. In any case a peeled apple is quite safe.

We hope that the publishing of this information will not deter any of our orchardists from giving their trees a thorough drenching with either lime sulphur or Bordeaux mixture in proper season. There is little danger from poison on the apples when spraying is properly done in season, and there is generally more trouble in getting the material to stick than must have been the case with the apples mentioned by the British analyst.

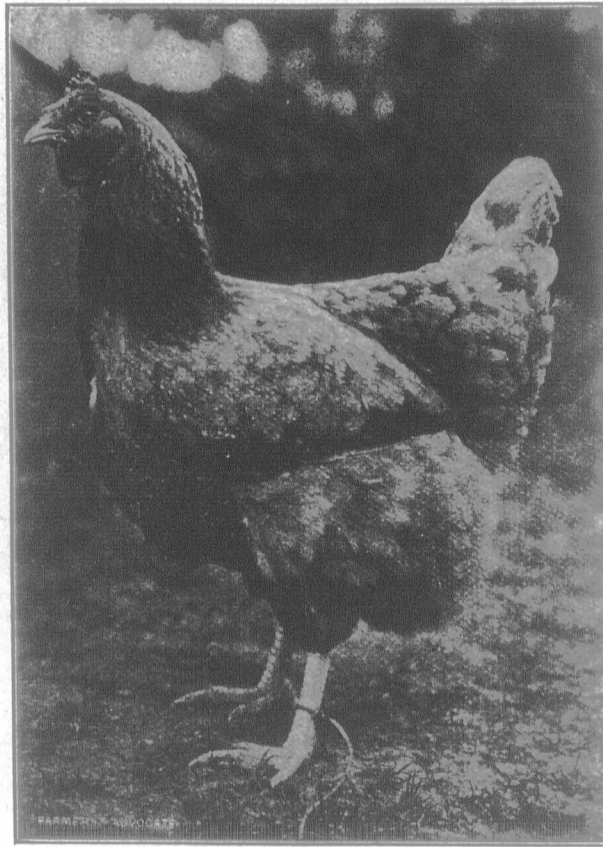
POULTRY.

How the Competition Stands.

The report for the twenty-second week of the Third Philadelphia North American International Egg-Laying competition has a different aspect than did that of the nineteenth week. In the nineteenth week only one pen had a record of thirty eggs. Readers will remember that five hens constitute a pen. In the twenty-second week seven pens gave thirty eggs per week, while four pens produced thirty-one eggs during the week. Those breeds with the thirty-egg record are Columbian Plymouth Rock, Single-Comb Rhode Island Reds, White Leghorns, White Wyandottes and Buff Leghorns. The two breeds producing thirty-one eggs per week were White Leghorns and White Wyandottes.

The total for the twenty-second week in the winning pen is 493 eggs, making an average of

22.4 eggs per week during the competition. The White Wyandottes hold premier place, and are followed respectively by pens of Single-Comb Rhode Island Reds and Single-Comb White Leghorns. The advent of spring has placed a different aspect on the competition. The heavier breeds which excelled themselves during the winter months are now being surpassed in their weekly records by the lighter and egg-laying breeds. Whether or not the Leghorns can, during the summer, overtake and surpass the heavier breeds still remains to be seen, but the lead gained during the winter months will be hard to overtake if an average good egg record be maintained.



A Dual-purpose Hen.

She lays in winter as well as in summer, and raises some choice young birds for the table.

Foreign Egg Products.

The steamship Empress of Asia, unloaded at Vancouver, during the early part of March, 12,000 cases of eggs, shipped from the Orient, 6,000 cases of which were consigned to San Francisco, and 6,000 were for the Vancouver market. They are being sold at a profit for 20 cents per dozen, having cost 10 cents per dozen originally. The removal of the United

States tariff allows the incoming of Oriental eggs, which exportation from China amounts to about \$1,000,000 annually. The industry there, however, labors under the disadvantage that the eggs are usually smaller than those produced in America, and if the demand for their product increased, an immediate rise in price would be encountered.

The Governor of Hong Kong, in a recent report, briefly outlines a system of curing eggs which is being used by about twenty egg-product factories in that country. America, as yet, gets only a small percentage of the output, but the possibilities are that the product might be utilized here in the place of some of our cheaper grades of eggs. In the finished form it is very much condensed by being submitted to the following treatment:

The eggs are broken by native women, who separate the albumen from the yolk, the albumen being placed in one receptacle and the yolk in another. The accumulated albumen is then placed in a barrel and slightly beaten, so as to open the many small skins which surround the albumen and to mix it thoroughly. It is then poured into another barrel through a strainer, which separates parts of the albumen. The albumen is then allowed to stand for from one to four days (according to the season), until the foam and small skins have come to the surface. This period of clarification varies with the temperature of the weather. It is then withdrawn from the barrel through a spigot at the bottom and poured into zinc pans, about 12 inches square, which previously have been rubbed with tea oil, olive oil, or vaseline. The pans are then put into a hot room, in a temperature of about 180 degrees, and remain there for about 30 hours, when the albumen is completely dried. The albumen is then allowed to cool in the dry air, after which it is packed in paper-lined tin boxes placed in wooden cases, when it is ready for shipment. The egg-yolk has in the past usually been shipped in liquid form, the yolk after being separated from the albumen being well beaten and placed in a cement-lined tank for about three days, 2 per cent. boric acid being added. It is then placed in casks and is ready for export. The egg-yolk is now, however, being dried in much the same fashion as the albumen, and similar treatment of the whole egg is being introduced.

Spring Chickens and Their Care.

Those interested in early chickens on the farm will soon have many young charges to take care of. The early part of the chicken's life is ordinarily the time when greatest care is necessary. Young chickens must have plenty of ground range and if green feed is convenient so much the better. This is what makes the rearing of poultry amongst fruit trees or in a corn field so productive of good results. With this insects go a long way to supply necessary rations. The poultry raiser must avoid overcrowding during the cold, damp nights of spring. Very often too many chickens are huddled into very small quarters and disease soon develops and cuts a big hole in the flock. If the birds are housed at night they must have plenty of fresh air and in laying out their runs over which they will forage during the day avoid as much as possible old runs, that is those which have been used for several years for the purpose of raising chickens and by all means allow plenty of space for the youngsters.

Where only a few chickens are hatched and the brooding is done with hens not too many being allowed to each hen, after the chickens are a few weeks old it is generally advisable to let the hen have free range with the young birds. Where large numbers of hens are kept with young birds it is often more advisable to keep them confined until the young chickens are taken away from them altogether. Where artificial incubation has been brought into use and brooders are being used to cover the chickens during the cold, damp nights some attention must be paid to these in order that the temperature is kept up to a sufficient degree. About 95 degrees should be warm enough. As soon as the chickens are taken from the incubator or from the nest in which they are hatched they should be placed on clean ground, upon which no chickens have been ranged during that season. For three or four weeks the range need not be large but it is of utmost importance that it be clean and fresh. A cultivated piece of ground is the best place for them; especially is this so after some time late in May. It is also advisable to provide a little green food near the runs, as lettuce, rape or some such material. Avoid placing the chickens, especially later on in the season, on an old tough sod and under no conditions place late-hatched chickens on the same soil or in the same runs as have housed the earlier-hatched broods.

Many people make the mistake of crowding too much feed into the chickens at too early an age. A chicken should get nothing whatever in the way of feed until it is thirty-six hours old. Too early feeding is responsible for much of the



A Good Promise.

A cherry orchard in full bloom, situated in the Niagara District, Ontario.

bowel trouble and diarrhoea which carries off or weakens so many of the brood, especially those lacking in vitality when leaving the shell.

If the chicks are kept in a brooder 'which is started at 95 degrees it is safe to lower the temperature about one degree a day beginning after the first week. It is estimated that every fifteen chickens placed in a brooder raise the temperature of that brooder about one degree so care is needed that the temperature does not soar too high.

Prof. Graham of the Ontario Agricultural College reports the best success on starting chickens on hard-boiled eggs finely chopped with the shell included with bread crumbs about four parts by weight of bread to one of eggs. This mixture is fed dry. After the first two days they feed a mixture of cracked wheat 35 parts, granulated oat meal 30 parts, small cracked corn 30 parts and grit (chicken size) 5 parts. A ration composed of these materials is suitable for the first 8 or 10 weeks. At first the chickens are fed five times a day. After a few days, however, it is not necessary to feed more than three feeds a day of the chick food, it being advisable to also allow one feed of bread and milk. In this feed the bread is squeezed out dry and crumbled and it is also a good practice to give in addition a feed of whole wheat or perhaps a mash made of equal parts of bran, shorts and corn meal to which has been added about ten per cent. of animal or blood meal. Green food, of course, must be supplied and for this there have been recommended through these columns several times such substances as lettuce, sprouted oats, cabbage, rape, etc. After the chickens reach the age of eight weeks nothing is to be gained by feeding more than three times a day. A mash food can be given in the morning, whole wheat and cracked corn at noon and night. The earlier the chickens are hatched the more care in feeding necessary as the range is usually limited to some extent early in the season.

In order to save labor it is advised to use the hopper plan on farms. Place the hopper or trough in the open with the chickens and if they have free range they will do very well running to the hopper and feeding themselves. A hopper with two sloping sides generally feeds better than one with a slopping on one side only.

Do not forget that much of your success depends on a good supply of fresh water. Keep all drinking vessels thoroughly cleaned and supplied daily with good clean pure water. As the chickens grow if you have a corn field or a cultivated orchard or some such place it will facilitate matters greatly, if you move them out to one of these fields in a colony house and allow them free range throughout the summer feeding them by the hopper plan.

FARM BULLETIN.

Horse Shoers Want Better Shoeing.

The Master Horse Shoers' Association of Ontario met in annual convention at London, on April 13th to discuss the various phases of their business, and bring about measures that will raise the standard of the profession, and the proficiency of those engaged therein. The function of the convention is to raise the standard of horse shoeing rather than to discuss details of the practical operation of shoeing. One important measure fathered by the Association is now before the Minister of Agriculture, which aims at increasing the proficiency of horse shoers throughout the Province by training them in the knowledge of the foot and limb of the horse. It is advised that they take a course in the Ontario Veterinary College before they enter into active work. In some States of the Union and in the Old Country a horse shoer must have a certificate and training before he can advertise himself as such. This measure now in consideration if passed will put Ontario horse shoers on an equal standing, and ensure more uniformly good work being done.

It is proposed that all those wishing to learn the business of horse shoeing should spend at least two and one-half years with a licensed horse shoer, and at the end of that time he should take a three months' course of lectures in the Ontario Veterinary College, upon the anatomy of the legs, hoof and foot of the horse. Practical work in turning and fitting shoes to the horses' feet should also be taken in conjunction with the lectures. It is proposed also that all practicing horse shoers shall be licensed with a fee of \$2.00 annually, and no unlicensed horse shoer should be allowed to take as an apprentice any person wishing to learn the trade. An examiner should be appointed by the Executive Committee of the Association to conduct practical examinations in each town in the Province. Each person now carrying on business as a horse shoer must, if the bill becomes law, pass this practical examination, but every horse shoer holding a certificate in the Master Horse Shoers' Association of On-

tario or who applies to the Master Horse Shoers' Association upon furnishing evidence of having sufficient experience may escape the examination and be qualified to practice horse shoeing upon payment of the prescribed fee.

Horse owners throughout the country have recognized for some time the fact that some of the men upon whom they must rely to get their horse shoeing done know very little about the anatomy of the animal. Many horses are ruined by improper shoeing, due to a lack of knowledge on the part of the shoer. If the regulations, as proposed by the Horse Shoers' Association, become law and they work as they should towards a better class of shoers and shoeing, they are deserving of support. So often, however, when added proficiency is obtained prices for the work go up sometimes almost out of reason. We hope that the Horse Shoers' Association has the good of the horses and their owners at heart in asking such legislation, and that they do not hope to be able, if they should get their proposed bill to become law, to set an almost prohibitive price on the work they do. Better shoeing should result.

The following are officers of the Association for the ensuing year:

President, T. R. Degler, Toronto; Vice-President, F. D. King, Aylmer; Second Vice-President, M. S. Doneghue, Peterborough; Third Vice-President, Frank Westlake, St. Thomas; Secretary, Walter Roberts, Hamilton; Treasurer, John Gardner, Brantford; Organizer, George Church, Hamilton; Board Managers, Pat. Wherry, Hamilton; John Brothwick, Brockville; G. P. Hicks, Paris. Next year's convention will be held at Peterborough.

Peace or War?

Editor "The Farmer's Advocate":

If the world is to have peace why build armaments? If it is to have war, what is to be the limit of armament building?

These are momentous questions, the full magnitude of which it would be futile to attempt to measure. These are questions which vitally concern every individual, and which every sane man and woman must consider. War, more, is it not the duty and the privilege of the citizen no less than the statesman to assist in solving the problems involved? Here are problems for the nation—for the world. The largest and brightest minds have pondered them, the tongue of eloquence and the pen of power have brought the vast outlines of these problems somewhat into relief, but they are not solved. Solved, however, they must be sooner or later, and for the debasement or ennoblement of the race. The demon of war confronts the angel of peace. The one has strewn the path of man with wrecks, misery and desolation,—has made him despoiler or despoiled, or held him enthralled; the other proposes an open pathway to the best the world can afford—to reward for peaceful work, untaxed, unmenaced by armaments. Where shall the tax and menace end if the war spirit prevails?

War, always paralyzing to peaceful art and peaceful life, is becoming more and more paralyzing and appalling in the ratio of the unspeakably more colossal power of modern equipment. If the forces of Wellington and Napoleon at Waterloo could, in the words of Victor Hugo, mean "a change of front of the universe," what may not yet mean the coming together of contending dreadnoughts and airships? The ponderous guns and shells can well be conceived to so shock and shatter the order of things as to throw industry into confusion and wreck the commercial world. Not much effort of imagination is needed to predicate possible serious perturbation of the physical world due to dynamic effects. Think, also, of the greatest engineering skill, the most ingenious mechanical and mathematical powers of man destructively employed!—the better man subservient to the demon of malice or of low ambition.

As the lower and higher nature of man, so, war and peace are opposite and repellent poles.

The interval between them is as that between heaven and earth; the antithesis as degradation and exaltation. Would not men be better employed beating their swords into ploughshares or other instruments of the arts of peace than building dreadnoughts? Has not man yet reached a stage of his evolution when all questions and claims could be adjusted by quiet deliberation and in terms of peace? What about the feasibility of a great international or world conference with a view to a permanent basis of peace settlement? Is such a conference possible before more dreadnoughts are built? Sound logic should reach truer and better results than shot and shell, and by a better method. Moral and intellectual force should be effective in subduing the savage design in man's nature for supremacy and aggrandizement through paths of blood. Has the era not arrived for the inauguration of universal empire of peace? Potential, assuredly is a world congress on this question of vast human interest, and actual, it will become when a concurrence of desire makes it so. May the powers that be consider and press peace overtures with the promptitude and magnanimity demanded by the greatness of the crisis. May the devastating power lurking in the dreadnought and its ominous shadow pass from our world. Kent Co., Ont. W. J. WAY.

An Open Letter From "The Friends".

(An open letter addressed by the Society of Friends, at Coldstream, Ontario, to the Dominion Government, Colonel, the Hon. Sam. Hughes, Minister of Militia, and the People of Canada.)

The Dominion Government proposes to give \$25,000 towards a celebration of the "Century of Peace" between Canada and the United States of America—a petty trifle, compared with the vast sums spent to foster the war spirit. However, we are not complaining about the amount. How is it to be expended? We hear rumors of a great military display. We hope rumor is false for that would be a mockery indeed. We strongly denounce such a proposition as glaringly unfitting. It is proper that the hundred years of good-will should be celebrated by things that stand for good-will, and not by the things that stand for war. If we want peace we must foster the peace spirit among our own people, among the various nations, for history has abundantly proven false the statement that to insure peace we must prepare for war.

It is also disastrously true that the vast preparation for war, as witnessed by all the armed nations of Europe, makes the taxes a grievous burden, and keeps the common people in eternal poverty and slavery.

The building of an international bridge between the two countries, and by the two countries, has been proposed as a fitting function for such a celebration. That certainly commends itself as more appropriate. We favor the idea. And when completed, let the chief Executives of each nation meet in the centre with the warm hand-clasp of friendship. That would be an object lesson worth while. It would be a permanent monument reaching down through the years, and would go far towards insuring a second century of peace and good-will.

If a bridge is not needed, a compact might be amicably perfected to open up an international waterway, sufficient to carry the largest ocean vessels from the Atlantic to the heads of our great inland lakes. An international bridge, or an international ocean vessel waterway, would be an exceedingly fitting peace memorial, being symbolical of trade and traffic, which have played so large a part towards eliminating war between nations the world over.

We beg to say a word in regard to militarism in our Dominion. We would look upon its encroachment with alarm if we thought the wild and sinister apprehensions of the visionary pro-



Doing Two Men's Work.

The wide implement is the friend of the farmer in all seasons, but especially in spring.

motors would ever be, in the least part, realized. As it is we deplore the spending of so much of our money uselessly and foolishly, money which we need for our country's development along natural lines that make for a truer national greatness and permanency.

We also protest against military training in our schools and colleges, on the grounds that it tends to take our boys from the farms, where they are so greatly needed, draws them away from the pursuits of peace, initiates them into the ways of vice, and instills into their minds a sham glory and a false patriotism.

It is encouraging to note, on the other hand, the forces that are making for peace. Every agricultural paper published in our land is dead against war, and the preparations for war, or rather alive against it. Labor unions denounce it. The laborer and the farmer, who generally have done the fighting in the past, have struck, not for a higher wage, but for a holier calling; struck, never to go back to the infamous slaughter; struck, under a higher Leader than any earthly potentate.

The young men of our Society, the Society of Friends, would sooner go to prison, (they did of old—they are doing it in Australia to-day) than shoulder a gun and march out to shoot down a fellow being. By our Society all men are brothers, with a common Father, whose love flows equally to all. We take the Sermon on the Mount, and ask what its Divine Author meant when he said "Love your enemies."

This militiamania epidemic will pass, like many another plague and pestilence. Those beautiful and substantial armouries in a few years, will be turned into fire-balls and school houses, for in this Canada of ours, right must prevail, the Prince of Peace shall rule.

May all good people work and pray to hasten on that glorious day.

Signed on behalf of the Friends at Coldstream, Ontario.

EDGAR M. ZAVITZ
SAMUEL P. ZAVITZ
SAMUEL P. BROWN

The Science of Political Corruption.

[At the present stage of the fight, which "The Farmer's Advocate" and its able correspondent, Peter McArthur, have been waging in the interests of the people, the following article, by Peter McArthur (with the necessary alterations to apply to Canada), and which appeared some little time ago in "The Forum," is of interest and value.]

For some years past the magazines and newspapers have been publishing scathing exposures of political corruption, and yet the public does not seem to be convinced. If the decent people of the country really believed the stories that are told, with such a wealth of damning evidence, they would "Ere this . . . have fatted all the region's kites" with those who are corrupting the electorate and subverting the will of the voters. The trouble seems to be that the significance of the exposures does not get home to them. It does not occur to the honest voter in Toronto that he may be in any way responsible for the political conditions in Montreal, or to the voter in Vancouver that he is to blame for corruption in Quebec.

The trouble has been that the exposures have all been local and the principles involved obscured by accounts of personal graft, deals, and the pernicious activities of rapacious corporations. For this reason it may not be unprofitable to attempt a broad review of the principles of political corruption as they are at present applied. Students of pathology tell us that even the most loathsome diseases have an orderly development that is just as interesting to the student as the normal functions of the body. A study of political corruption reveals the fact that however much local conditions may vary a few simple principles are involved, and perhaps if these were properly understood it would be easier to find and apply remedies. These principles are almost axiomatic in their simplicity, and for that reason they are seldom considered worth dwelling on by writers who are excited by the specific cases to which they are giving attention. All who are engaged in practical politics understand them and apply them in their work; but it is surprising to find how ignorant the average voter is of the means by which his political activities are rendered absurd or made to have the opposite effect from that intended. One does not need to probe very deeply to find that the vast majority of the voters of the country are honest; they also know that the vast majority of their neighbors are honest and are consequently bewildered to find how helpless they are in trying to effect reforms. They know they are cheated and defeated at every election, and yet they do not see that the responsibility rests at their own doors. It never seems to dawn on them that the honest partisan is the greatest asset of the political corruptionist. It is because the majority can be handled without being bought that it is so easy to swing an election. The greater the number

of honest partisans the easier it is for the corruptionist to attain his ends.

The great danger of making sweeping statements about buying elections is that they defeat themselves by their vagueness. They suggest a wholesale corruption of the electorate which even the most superficial observer knows to be untrue. The trouble is not that the privileged classes buy so many votes, but that we make it necessary for them to buy so few. By our faith in parties either old or new we make it ridiculously easy for those who wish to control the legislative machinery of the country to attain their ends. I doubt if there has been an honest election of any importance in either the United States or Canada in the past twenty-five years, and yet I have been assured by skilled and experienced politicians that, taking the country over,—

First: not one voter in fifty sells his vote in a general election;

Second: not one voter in twenty is approached by bribers, or sees any real evidence that money is being wrongly used.

The vast majority are justified in believing that every election is decided on its merits, and are justified in resenting the suggestion that the party to which they give their allegiance is corrupt. As a matter of fact there are very few really bad men in public life, though there are altogether too many bad methods and deluded men. It is nonsense to charge wholesale corruption in an election whose result does not please us. The day of wholesale corruption is past. Leaving out the honest voters, I doubt if more than a small percentage of those who are eager to sell their votes in a general election ever get the chance. Their votes are not needed. The work of swinging an election where all the people are engaged is too expertly done for any money or wickedness to be wasted. Thanks to the straight party man who can always be relied upon to vote the party ticket, political corruption has been reduced to an exact science. Every dollar is placed where it will count, and the wonderful thing is how few dollars are needed. In local elections the case is somewhat different and corruption may be more rampant, but the principles involved are the same.

Without referring in any way to specific elections, let us examine briefly how our election machinery works. We have two great parties, the Liberal and the Conservative. These parties differ radically on several important points of public policy. Because of this each can claim the honest support of a great number of thinking men. Add this to the number of those who are either Liberals or Conservatives "by birth" and think it is a disgrace to go back on the party to which their fathers belonged, and we have the great mass of voters normally divided into two hostile camps that can be depended upon to vote in the same way in any election.

But besides these party voters we have a small class of voters who are either independent or indifferent or corrupt. Although the number of voters in this class is small, it is usually enough to swing the election. If its support can be secured for the Liberals, the Liberals will win. If it can be secured by the Conservatives, the Conservatives will win. The result is that those who wish to control the elections pay no attention to the straight party men. So long as they vote the straight party tickets, they are useful only inasmuch as they reduce the number of those whose votes must be secured by the campaign managers. Every campaign really centres around the class of voters who do not belong to any party. The honest independents must be won by eloquence and sound arguments, and the indifferent and venal by influence or money.

But all the independents or independents or bribe-takers are not needed to swing an election. Our partisan politics works out so beautifully that only a small portion is needed. A majority of those who are hunting bribes cannot get them, and are not to be blamed if they join the honest voters in saying that no money was used. Their corrupt votes are not required. In order to understand how this is possible we must take a closer glance at the working of our electoral machinery. Under present conditions our constituencies are marked off without any reference, except for gerrymandering purposes, to the number of Liberals or Conservatives there may be in a given constituency. The only thing considered is the needful population. The result is that we have many constituencies where the Liberals are in a vast majority and others where the Conservatives are similarly placed.

Now let us proceed with the work of eliminating unnecessary votes. Where either party has a normal majority of, say, a thousand, it would be useless to try to swing this election, for no normal constituency has that number of corrupt voters. Where there is an overwhelming Conservative or Liberal majority it is useless to try to do any swinging. To get control in Parliament it is only necessary to put a majority of one party in power. The consequence is that in a general election all the Liberal and Conservative strongholds are crossed off, and the work of swinging the election confined to widely

scattered constituencies. In these the straight Liberal and Conservative voters are crossed off and the campaign confined to the class that may be influenced. In each of these close constituencies the capture of a hundred votes will usually suffice to swing an election. No money is wasted in the party strongholds on illegitimate practices, but in the close constituencies it is possible to pay fancy prices for votes if there is a sufficient campaign fund. If only one party is provided with funds the amount required would be merely a trifle to a giant corporation or combination of corporations that wishes to secure special privileges for raiding the resources of the country. With a grateful party in power they can quickly get back their expenditures many times over. And they do not need to make the necessary arrangements with the individual members of the party in power. All they need to do is to make the proper deal with the "practical men" of the party, and the majority of the members of Parliament can be depended upon to vote along straight party lines. The little "jokers" that are slipped into the laws to pay political debts usually look very harmless until they have been interpreted by the courts. No man need go back on his party because of them. This unwavering fidelity gives the corruptionist who has secured control of the party machinery a chance to do further effective and clean work. He is never afraid to see men of tried honesty and high principles nominated for office. Instead he is apt to seek such men for his ticket, and while they are denouncing all kinds of political crookedness on the platform he and his silent cohorts go about buying the necessary votes to elect them, secure in the knowledge that they will always vote with their party when elected. Much of the grim humor one hears among practical politicians has to do with these incorruptibles who owe their positions to corruption. A case in point is that of a member of the Supreme Court of a western Province who began his career by running for Parliament. The story was told to me by one of the workers who secured his election.

"One day the candidate met me," said my informant, to whom I had been introduced by a practical politician, as he took me into his confidence and began to talk as one briber might to another, "and asked me how things were going in a certain district.

"Fine," I replied. "You will have a good majority there."

"I am not surprised," he said enthusiastically. "When I was speaking there I made the best speech that I made in the whole campaign."

The worker nudged me as he said: "It cost us just seven thousand dollars to win that particular district for him, and he thought his speech did it."

No matter how amazing may be the corruption which is revealed by the muckraker or a court of investigation, it will be found that it all springs from the ease with which the balance of power can be secured when two parties contend. Careful investigations and practical politicians agree in placing the corruptible vote of the country at two per cent. of the whole. But as things have developed it would be better to say that under normal conditions of party warfare it would be necessary to corrupt only two per cent. to swing a general election. Of course in the constituencies on the firing line the percentage would be much greater, but the percentage is lowered at once when we add the many constituencies that are party strongholds and where corruption is unnecessary.

Of course the natural result of this extraordinary value of the corrupt vote to those who wish to control elections was to induce the venal voters to be organized so that they could secure the full advantage of their strategic position. In the cities political organizations that could secure favors for the floating, corruptible voters became inevitable. In almost every case they take on the form of an amazing and hideous charitable organization. The charitable side of these organizations wherever they exist is the very breath of their being, even though it takes the form of furnishing free whisky to the fallen souls of society who have lost all except their votes or their power to personate a voter. By a bitter irony of fate our free institutions can be controlled by the outcasts of society and those who prey on it. By banding together, or rather by following some leader who can dole out to them the means of debauchery and protection for misdeeds, they can subvert the will of the ninety-eight per cent. of decent citizens who put forth party platforms, expound fundamental principles of government and discuss abstract justice. Their leaders are quickly able to entrench themselves and increase their misbegotten charities by getting their own creatures appointed to office, and in that way securing control of the police and the administration of justice in the courts. The conditions that prevail in organizations of this kind are inconceivable to normal minds. The leaders of political gangs who can deliver votes are true philanthropists to their wretched followers, who cannot be blamed for being loyal to

the only persons who stand between them and the world with which they are at war.

No one who studies these conditions can help coming to the conclusion that the organizations that subvert elections are in their nature a just punishment to society for the harshness with which it has treated those unfortunates who are unfit for the struggle of life.

"I know not whether laws be right Or whether laws be wrong, All that we know who lie in gaol Is that the walls are strong."

And they know from bitter experience that the only person who can break down the walls for them or open the doors of their prison house is the political boss at whose bidding they are willing to vote, to repay him for his Christian charity.

With the rise of the great corporations that need special legislation to secure for them the privileges they desire, the corrupt leaders with their wretched following were able to command greater prices for their influence than they could extort from the ordinary campaign managers who were willing, for the benefit of their high-minded party organizations, to stoop to deal with such people.

With all voters honest, or in a position to be honest, the party system of government would be admirable, for it would at all times have the Government checked and criticised by an honest and decent Opposition; but as matters have developed it has become nothing short of a crime for a man to be a partisan.

Must Confine Bulls or Pay the Penalty.

At the various breeders' meetings held in Toronto early in February one of the main subjects for discussion was the need of more stringent regulations governing the roaming at large of scrub bulls.

The new bill received its first reading last week and there is no doubt it will pass through the Legislature in due time.

is got in calf by a bull running at large, the owner of the cow shall be entitled to damages from the person responsible for said bull, being at large to the full extent of same.

This Act applies to all Ontario with the exception of the Provisional Judicial Districts and the Provisional County of Haliburton.

The Meadowbrook Dispersion Sale.

An ideal spring day and the roads in perfect condition coupled with the attractive quality of the Shorthorn and Holstein cattle to be sold was the combination that drew a large crowd to the big dispersion sale of the Shorthorn and Holstein herds of Meadowbrook Farm at Whitby Ontario, on Tuesday, April 14th.

The following is a list of those selling for \$100.00 and over with their purchasers:-

Table listing cattle sales with names of sellers and buyers, and prices. Includes entries like Beauty De Witt; C. Grimsley, Eglington, \$190.00 and others.

The Stallion Act Amendment Makes Inspection Compulsory.

During the past winter there has been a great deal of talk among horsemen of the Province re the Ontario Stallion Act.

The Minister of Agriculture had the matter laid before him by the horsemen, and last week brought in a bill to amend the Act as it now stands.

Board such evidence of the breeding and ownership of the stallion as may be required and make a report of the inspection to the Board.

The first inspection after a stallion is eight years of age, according to the Act as it now stands, is the last inspection necessary.

In the discussion of the Act it was brought out that Ontario horsemen desired the elimination of the scrub, grade horse.

The fees to be paid the Board for inspection have been lowered from \$5.00 to \$3.00, and for transfer certificates from \$1.00 to 50 cents.

No doubt there will be considerable discussion on the new amendment, but it now looks as though the Government meant to enforce measures to drive the inferior, scrub horse off the road entirely.

Conditions Fairly Favorable in Middlesex.

Editor "The Farmer's Advocate":

Farmers in Middlesex County, Ontario, have been anxiously waiting to get on the land, but at the time of writing, April, 17th, some of them in the lighter sections of the country have commenced cultivating and sowing.

In the sections where the land is heavier, of course, not very much of this is done.

The latter part of the winter was very steady but feeders had plenty of feed, and for the time of year there is more rough feed around the barns than one usually sees.

There is a considerable area of Middlesex county which is devoted quite extensively to the finishing of cattle off the grass, and also a large acreage used for grazing purposes.

not the same shortage of milk and milk products as in the winter.

Fall wheat came through the winter extra well, and up to a short time ago had every appearance of being uninjured by spring frosts. The cold weather during the first two weeks of April seems to have given it a set back. It is alive, however, and unless more of the cold, backward

weather, accompanied by frosts occurs it should get a very good start. Grass and clover seems to have wintered well. A little heaving is noticeable in the clover fields, but it has not, so far, injured the crop to any great extent. If the present warm weather continues the week of the 20th should see a good portion of the land sown. A fairly large acreage is ready for the

cultivator, and everything at present points to a good year for this section of the country. A nice warm rain would work wonders just now.

The annual meeting of the National Record Board will be held in the Prince George Hotel, Toronto, Monday April 27th, at 3 o'clock

National Conference on Marketing and Farm Credits.

Community organization is, without doubt, the foundation of true co-operation, but the movement would lose its stimulus for growth and profane the name if it did not provide for the fellowship and communion of kindred bodies, and an exchange of ideas based upon actual experience and observations. This is the function of the National Conference on Marketing and Farm Credits, which met in Chicago for the second time on April 14th to 17th, 1914. This assembly included co-operators from all points of the compass in the United States and representatives from Canada. Men who have had actual experience, and faced the always present obstacles. Students of the movement, as it presents itself on both sides of the ocean, were there to express their views, not from the producers' end alone but from the consumers' as well, and to consider the various mediums through which the producers and consumers may be cemented into a mutual protective league. In this great body of men and women were those representing factions who, no doubt, are sincere in their beliefs, but evidence different degrees in the conception of co-operation. One would go so far, another one step farther, but this condition is ever present in the development or evolution of any principle. It matters not what the modus operandi of the minor bodies may be, ere the movement is placed upon the plane of universal union and stability the executors must understand the word as representing a league of producers and consumers who are willing to exchange with each other and money is to be a symbol of value, but after the deal is done and the costs defrayed any surplus must be divided proportionately among those who created it and put it there.

In one sense of the word this movement is not a direct onslaught on the middleman. They have existed since time immemorial, and middlemen ever shall be. It is their multiplicity and antiquated, wasteful system that people are warring against. It is the system of excess and duplication of accommodation, clerks, insurance, rental, delivery service, interest on investment, telephones, and such that the consumer would have relegated to the world's garret, while the producer realizes that the lack of standardization of products, individual buying and selling, the control of products by traders for ulterior motives, and the whole unfavorable manipulation of the channels of trade are second-hand and antiquated methods of commerce. A sheep rancher once constructed a large fence around his domain to protect his flock from the coyotes, but when it was concluded he found that he had fenced some coyotes in. This often occurs in a co-operative association. Men will creep in who are merely dollar-hunters or office-seekers, and assume the cloak of co-operation for their own aggrandizement. If this condition does exist, never before have so many men and women been willing to labor in the ranks for the common good. This is the spirit of co-operation, and though it may not cure every social and commercial ill it will, in the words of one of its advocates, sweeten the waters of human life and pluck many a thorn from the pathway of mankind.

PRINCIPLES OF CO-OPERATION IN MARKETING.

Co-operators and socialists alike have a more modest view than formerly regarding the possibilities of their respective ideals. This was emphasized by John Graham Brooks, of Harvard University, who said that early co-operators believed their scheme was to sweep everything before it. Competition was to disappear; conflicting interests were to be replaced by identities of economic welfare, which had only to be realized and a universal brotherhood was at hand. The recovery from this intoxication is now pretty well assured. Competition will not pass away; interests, as before between producer and consumer, will continue to stand over against each other in any movement of time and place. Every effective co-operative center instantly reacts upon local retail prices. This has been emphasized in Europe where the purchasers of fertilizers, seeds and instruments were being mulcted to the extent of 40 per cent. besides the thefts of adulteration. As in the successful store movement, co-operation brings these prices at once to fairly reasonable limits, and often puts out of business inefficient retailers who could exist only by these crude exploitations. Again and again, as these prices are dropped to meet the invading

co-operators, one sees the tug of war begin and a Canadian store reports, "We had a magnificent showing the first year. We made prices tumble all about us, but since then we have not had much to show." It is, of course, one of the glories of co-operation that it does bring down the prices and keeps them down—a result for which co-operation often gets scant credit; but when this margin of unfair prices has been brought down the real limits within which co-operators have to act is reached, and they are fairly pitted against opponents ready to try wits and efficiencies against the so-called "democratic business." There are thousands of these vigorous individualists, even in Danish bacon, butter and eggs, and in the English store movement, who do not fear co-operators in the least. The one success of co-operation tends to bring these men to the front, where they are quite ready to measure themselves against the new comers.

PRODUCERS' CO-OPERATIVE ORGANIZATIONS.

It will be possible to review only a few of the many points brought out in connection with these associations, but the operations of the Minnesota Co-operative Dairy Association is a beacon for co-operators in the dairy industry. A. O. Nelson, of Svea, Minn., told the conference how the society organized about seven years ago with the aim of affiliating the minor associations of the state into a strong selling agency—so strong that they might establish and maintain their own wholesale houses in the various large cities of the Union, and sell direct to retailers or consumers' organizations. This society organized on a share-capital basis, with one association, one vote. During the initial stages of development progress did not come on rapid wheels, but in later years the capital has accumulated and the business has grown, and in 1913 amounted to over the one and one-quarter millions of dollars. Although the goal has not been attained, that of establishing their own wholesale houses, yet they have been able to obtain concessions from wholesale dealers that have been of considerable pecuniary advantage to the members. There are now over 100 minor associations connected with the central body.

One of the obstacles to be confronted, in this particular instance, was that of procuring funds. The president of a local association would not deem it within his province to subscribe for stock on behalf of his society. The board preferred to have the consent of the entire association before it ventured to enlist, and that deferred the matter until the annual meetings. All would be unanimous in the approval of the scheme, but the engineering of such operations demanded field men and organizers, which the funds would not permit. However, finances are now in such shape that field work may be executed, which promises a more speedy development and attainment of their object. Another powerful factor to be confronted in the co-operative movement is this: so long as the campaign is educational, just so long are the interests and dealers with the movement, heart and soul, but when an attempt is made to enter the ring of trade and commerce, to buy and sell for the members, and to commercialize the movement for mutual benefit, then clouds appear on the horizon which develop factions with vastly different purposes.

Co-operation has apparently found a home in Minnesota, for in the Svea community alone they have a creamery, telephone system, consumers' and producers' store, live stock association and grain elevator, situated at Willmar, all run on the co-operative system. The spirit is abroad and reveals itself in church and school. A rural school, equipped with all modern appliances and conveniences, provided for the children and the pupils, outside the two mile limit, are conveyed to school at public expense.

Placing himself, for the time, in the position of an independent grower of fruit, H. C. Sampson, Sec.-Treas. of the North Pacific Fruit Distributors, demonstrated how he would be absolutely helpless in the disposal of his fruit when he came face to face with conditions as they exist. The increasing output, transportation inadequacy, and ill-construction of the machine as operated by the buyer and consignment system, legislation, advertising, the recovery of claims, standardization of products, distribution, financing and many other phases of the industry can only be handled effectually by united and co-operative effort. In proof of this Mr. Sampson

cited what their distributing agency had done in that regard, and explained the circumstances as they are in Oregon, Washington, Idaho and Montana, where the association operates.

These four States at present have 505,000 acres of apples already planted, to say nothing of approximately 75,000 of other fruits. The cause of poor selection of orchard sites, soils and varieties, poor judgment of growers and effects of pests and diseases were to eliminate 255,000 acres of apples as being non-commercial, they still have 250,000 acres confronting them some few years in the future. If one acre of orchard produces the conservative amount of one-half carload, in the near future they will be confronted with 125,000 carloads of apples instead of 8,000 carloads, as in 1913, or 15,000 as in 1912. However, from knowledge gained through eighteen months of study of the situation and 17,000 miles of travel and observation, Mr. Sampson is assured that there was no over production in 1912, and that through the application of the principles of fruit growing on the part of the producer, and assisted by the right sort of marketing and distributing machinery, the Northwestern apple grower will obtain a reasonable price for his labor, and a reasonable interest return on his investment.

Every trade or sale is a contest between the minds, personality knowledge of conditions, as well as the experience of the two men making the trade. If it be the sale of apples each man brings to the selling or buying, his knowledge of marketing and crop conditions, and his experience in the selling or buying of fruit together with his personality and business capacity; and just as he commands a larger experience, larger knowledge of market and crop conditions, larger business personality and capacity, to that degree will he drive a better bargain for himself or for those whom he may represent. This was evidenced in the operations of the North Pacific Distributing Agency when a New York buyer, desiring a large quantity of prunes, approached the subject to the sales agent and sales manager. He used three arguments to prove that the price he offered was all the market would warrant. In the first place, he claimed that the price in New York was low and would probably go lower; second, the production in the Northwestern States was unusually large, and, therefore, they must expect low prices. In the third place he suggested that through other prune-growing sections they were producing an abundant crop, and that it would reflect upon the price the Northwestern States would be able to obtain. As each argument was brought up it was undeniably refuted by telegrams and other information which the executive of the association had to hand. So successfully was the buyer balked in all directions that ultimately he paid the association \$1,100 more for the order than he could pay. This is where the association excels in the knowledge of marketing and crop conditions, which they are able to obtain through their salaried employees.

A wise distribution requires that no market have too much or too little at the same time. If one knew where every grower or organizer was going to ship he could perhaps distribute his stuff more easily, but this is never known to the individual grower; only through a co-operative body or large organization are they able to supply the market in an equitable manner.

Large associations, to a certain extent, have a controlling power over the railroads. In one particular instance the Northwestern growers were being held up to the extent of \$16.00 per carload, over a spur line, in one of the fruit-growing valleys. The condition was remedied by the Central Association pointing out to the railroad, where in another instance in the state they would divert five carloads of produce per week, which rightfully belonged to that road, over another line. This amount would total to the road \$1,575.00. This argument on the part of the Northwest growers was weighty enough to persuade the company that it would be to the interests of the road to comply with the request of the association, and give them an honest rate.

The organization has endeavored to create a larger demand and increase consumption. By setting a reasonable price early in the season, a consumption of apples is started at once and continues throughout the season to the benefit of the producer and consumer alike. In this reciprocal manner the Northwestern Distributors gave

points to a try. A nice now.

National since George at 3 o'clock

bits.

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the users of their fruit a decided advantage in the season just past, which in turn reflected itself upon the producer. All this together with conservative, broadminded, intelligent advertising, successful effort for legislation, and the favorable manipulation of the machinery that must, in the future, dispose of an enormously increased production, can only be brought about by the abolition of individualism and the establishment of co-operative union.

The business side of fruit distribution was exhaustively discussed by Charles W. Holman, secretary of the second National Conference on Marketing and Farm Credits. Mr. Holman spoke from the information gained through a personal state to state survey. He explained the reason of failure in many instances, as due to some of the following causes: 1. A wrong type of organization for farmers. 2. The failure to pay good salaries and expect efficient service. 3. A half-hearted feeling among the producers, which led them to follow false gods of antagonistic interests that were combining for the purpose of disrupting the local organization. 4. Failure on the part of the local associations to federate with each other to obtain strong selling power and to develop strong purchasing power. 5. Failure to provide for proper inspectional and auditing services. 6. Failure to guarantee the product and protect the guarantee by the credit of the organization. And, 7. The spread of tenancy through some 26 states of the union.

The inevitable trend in the world of distribution is the concentration of selling power which has been developed into a wonderful system by the California Fruit Growers' Exchange. That organization controls about 62 per cent. of the entire citrus product of the United States. It annually markets from 25 to 33 thousand car lots of citrus fruit. It has sales agents employed upon salary in about 80 of the principal cities of the United States. The business of these agents is to watch the markets in their districts and to prevent any of the Exchange's cars from arriving upon markets that are already over-stocked. It is a problem of diversion in transit. It can only be handled by a clearing house with an expert traffic manager.

Buying, too, presents its difficulties but in union there is power to overcome the obstacles that might be unsurmountable to the individual grower. Alluding to this phase, Mr. Holman referred again to the California Fruit Exchange.

A few years ago the California Fruit Exchange suddenly had the price of box shooks raised on them from 12 1-2 cents to 22 1-2 cents by what they call out there the box shook trust. That meant several hundred thousand dollars loss. What did they do? The law of California allows the growers to manufacture, buy and sell, utilizing the power of the non-profit making corporation, which is the greatest instrument in the hands of the grower that can be conceived of. They formed a subsidiary purchasing corporation, which is against the law in most of the states of the Union. They found a sawmill up in the northern part of California that needed money. There were 30,000 acres of timber land. They made a 50 year lease. On that proposition they took over that sawmill. They made some cost tests and they found that they could produce box shooks at 13 1/2 cents at a fair profit. And the price of box shooks to-day is about 13 1-2 cents.

CO-OPERATION AMONG CONSUMERS.

The connecting link between producer and consumer was discussed with altruistic sentiment by E. M. Tousley, Secretary of the Right Relationship League, Minnesota. Mr. Tousley, of all men, has the broad and true conception of the term "co-operation," and in its spread and development throughout the country he claims that the word "profit" is a misnomer in connection with the movement. There may be earnings or there may be surplus, but in the end when the transactions are done all must be proportionately divided among those who created it and put it there. From the producer's standpoint there must be a standardization of products in order

that the consumers, who are many thousands of miles away, may know what they are buying without being obliged to look at it. One hotel keeper in the city of New York explained to a representative of a firm selling apples that the reason why he did not buy New York State apples was that he did not buy a product that he was obliged to look at and examine. In buying the product of the Northwestern States he was assured that every apple in the box would be up to grade, whereas in Eastern products there was a possibility of waste and loss.

From the consumer's end Mr. Tousley showed by figures what was being done by co-operative stores in the State of Minnesota. Twenty-nine out of over one hundred stores in the States of Minnesota, Wisconsin and the North and South Dakotas, in one year, totalled in sales \$1,391,311.68, and the net earnings from these transactions amounted to \$81,716.15. The gross profit on sales per store amounted to 15 8-10%. The operating expenses were 10 2-10%, which brought the net earnings down to 5 6-10% on all the sales. This exposure of the net earnings, which are usually supposed to be very much higher, rather refutes the arguments that retailers should be getting rich. However, this percentage of net earnings amounts to 27 1/2% on the capital invested. One particular store, situated at Willmar in the State of Minnesota, has a more favorable report from the standpoint of profits. In this particular case the net earnings amounted to \$17,576.80, and the percentage of gross earnings amounted to 19 9-10%. The operating expenses were 9%, leaving net earnings 10 9-10% on sales. The capital invested was turned over eight and one-half times during the year.

Mr. Tousley dwelt on the fact that the people have the consuming power. No trusts or combine can hold them up in this direction when they cease to buy and divert their wants into other channels. When this occurs there pooling or combined bodies are injured at once, and favorable concessions are quickly considered. The city people are beginning to own and operate their own stores, and in the opinion of the speaker the local and distributing stores, where they do not duplicate themselves throughout the city, are thousands of miles ahead of the large municipal market.

A paper on the Co-operative Union of Canada was contributed to the conference by Geo. Keen, of Brantford, Ont. To Canadian readers a slight review of this work may be interesting. The Union was only born in the month of March, 1909, but since that time it has gathered around it twenty-four affiliating associations; nine in Ontario, five in Nova Scotia, three in British Columbia, four in Alberta, two in Quebec, and one in Manitoba.

No funds have been available for organization purposes, but where societies have been formed it has been purely voluntary on the part of those concerned. However, the growth of this institution has been wholesome and strong. Starting in 1909 with 1,595 members the total has now reached 5,000. The trade done also in 1912 totalled \$1,194,064.89, whereas in 1909 the total trade done was only \$347,064.84.

There is now invested in this movement, in the form of share capital, about \$134,872.03, but in addition to this share capital some societies have a "Loan Capital" aggregating over \$43,000, bringing the grand total investment up to a little over \$178,000.

On July last as an offspring of the Co-operative Union of Canada the Canadian Co-operative Wholesale Ltd. was organized, and it is hoped and expected that wholesale houses will be established in every province of the Dominion. Every retail society will own shares in the wholesale in proportion to membership, and will be entitled to participation in profits based upon their respective purchases therefrom. The wholesale is federated with the Co-operative Wholesale Society of England, and has access to the factories, mills, warehouses and plantations of that institution for its requirements.

In the city of Chicago much is being done by the consumers to reduce the cost of living to the ordinary wage-earning people. The Rochdale

system of consumers' stores was explained by Walter Huggins, of the United States Co-operative Co., which is operating in divers parts of the city. The main function and the strong working system of this movement is based upon club meetings or social gatherings of the co-operators where the store movement is discussed, and its advantages explained to each other. They are taught to take an interest in the store, and to remember that it is their own store. One practice which necessitates high prices of food materials is the multiplicity of brands of different kinds of food. One customer requires one brand, one another, and an immense stock must be kept on hand, which implies waste and expense. The time is ripe, declared Mr. Huggins, for a wholesale store which will distribute to the local agencies which are situated in different parts of the city.

A large municipal market has been recommended for the city of Chicago. It will be owned by the city, but it will be operated by private dealers. Mr. Huggins agrees that the city should own and control the municipal market, but first and foremost, all the people, not a handful—or one or two—must own and control the city.

DIRECT MARKETING.

The matter of direct marketing between producer and consumer was discussed from two different aspects; one by D. G. Mellor, New York city, relating to the service of the Express Companies, and the other standpoint was championed by Leroy P. Stewart, Post Office Department, Chicago. Mr. Stewart emphasized and explained the parcel post system with relation to distribution. Mr. Mellor explained how, in the city of New York, that many of the employees of their company and other institutions had organized themselves into small consumers' clubs, and purchased directly from the farmers throughout the country. Orders were sent out for cases of eggs; butter in 10-50- to 100-pound lots, and other produce on the same scale.

One difficulty that presents itself in connection with city markets is the restricted storage facilities in city flats. This deficiency forces the city dweller to buy many articles of food in very small quantities at frequent intervals. It suggests the question of organization of consumers, and forces them to a realization of the fact that to obtain the best results it is necessary for them to work together. Prices, through this system of marketing, have been lowered to the consumer, and maintained at a reasonably high average to the producer. The reason for this is that the trading is for cash, and there are no accounts, nor delivery service. Each man carries his portion home. He is doing something himself to reduce the cost of living. The question of whether this saving is worth the trouble is a purely personal one, but it means increasing the efficiency of the earned dollar from 15 to 25 per cent.

LEGISLATION AND CREDIT.

United States citizens are active in the acquisition of legislation that will make possible a system of agricultural credit that will be beneficial to the agricultural communities throughout the country. This movement differs somewhat from the principles applying in Canada, as matters are either state or of federal jurisdiction, but in the State of Wisconsin they already have legislation that provides for the incorporation of co-operative companies, which, at the same time, prohibits the operations of any company under the name of co-operation unless they be strictly co-operative in the true sense of the word.

There are other states also that have this in certain degrees of perfection, but where they are now in vogue it is worthy of note that co-operation is more effective and more instrumental in the disposal of monies, and the marketing of farm produce.

Legislation is now pending under the name of the Fletcher Bill, which has its advocates and its critics. It is not yet passed, but most of the interested parties agree that if it is not at present in a form of perfection that it will be instrumental in bringing money to the disposal of the agricultural interests.

Markets

Toronto.

Receipts at the Union Stock-yards, West Toronto, on Monday, April 20, were 111 carloads, comprising 2,301 cattle, 777 hogs, 30 sheep, and 152 calves. At the opening of the market, trade in cattle was dull and slow. Prices declined from 15c. to 25c. all round. Choice butchers' steers, \$8 to \$8.25; good, \$7.25 to \$7.50; common, \$6.75 to \$7; choice heifers, \$7.50 to \$7.75; common, \$7.25 to \$7.50; cows, \$3.50 to \$7.25; bulls, \$6 to \$7.25; feeders, \$6.75 to \$7.40; stockers, \$6 to \$6.50; milkers and springers were scarce, and sold at \$60 to \$100 each;

veal calves sold from \$6 to \$10 per cwt. Sheep, \$4.50 to \$7.50; yearling lambs, \$8 to \$9.50; spring lambs, \$5 to \$9 each.

REVIEW OF LAST WEEK'S MARKETS

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

Table with 3 columns: City, Union, Total. Rows for Cars, Cattle, Hogs, Sheep, Calves, Horses.

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

Table with 3 columns: City, Union, Total. Rows for Cars, Cattle, Hogs, Sheep, Calves, Horses.

The combined receipts of live stock at the two markets for the past week show a decrease of 45 cars, 805 cattle, 441 hogs, and 390 calves; but an increase of 451 sheep and 180 horses, compared with the corresponding week of 1913.

Receipts of live stock have been moderate for the past week. The cattle trade was lower than for the previous week. Packers and wholesale butchers state that the dressed-beef market was lower, consequently they had to buy ac-

ordingly. A few odd, extra choice steers, sold up to \$8.50, but the best price for one load of choice steers was \$8.45, and about three loads brought \$8.40 during the week. Fat cows were 25c. per cwt. lower than for previous week. There were too many coarse, heavy, unfinished steers. What the trade requires is well-finished cattle weighing from 900 up to 1,200 lbs. All such are readily taken, and the big fellows would sell if farmers would finish them; but, the drovers as a rule won't let them, as they are foolish enough to pay the price of finished cattle. Sheep and lambs sold at firm prices, but calves and hogs were a little lower.

Butchers'.—Choice butchers' steers sold at \$8 to \$8.25, and about four loads during the week sold at \$8.40, and one



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Surplus - - - - - \$11,000,000
Total Resources - - - - - \$17,000,000

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in every Canadian Province, and
in Newfoundland, West Indies,
Boston, Chicago and New York

load at \$8.50; choice steers and heifers mixed, \$7.75 to \$8; good, \$7.50 to \$7.75; medium, \$7.25 to \$7.50; common, \$7 to \$7.25; choice cows, \$6.75 to \$7, with a few extra choice at \$7.25; canners and cutters, \$3.50 to \$4.50; bulls, \$6 to \$7.50, and in a few instances \$7.75 was paid.

Stockers and Feeders.—Choice steers, 800 to 900 lbs., sold at \$7.10 to \$7.40; good steers, \$6.75 to \$7; stockers, \$6 to \$6.60. There were several American buyers last week.

Milkers and Springers.—Receipts of milkers and springers were not as liberal as usual. Prices ruled steady to strong, from \$60 to \$90, but there were a few choice Holstein springers sold at \$100, and two at \$115. The bulk of sales were from \$70 to \$85.

Veal Calves.—Choice new-milk-fed calves are worth \$10 to \$11, but there are few of that class brought forward, the bulk being of the medium to good classes that sell from \$8.50 to \$9.50; common calves sold at \$6 to \$7.50; inferior, \$5 to \$5.75.

Sheep and Lambs.—As a rule, receipts of sheep and lambs were light, and this caused prices to be very firm. Sheep, ewes sold at \$6.50 to \$7.50; rams, \$5.50 to \$6.50; yearling lambs, \$8 to \$9.75.

Hogs.—Receipts of Northwest hogs being liberal, prices became easier. Selects, fed and watered, sold at \$9.10; \$8.75 f. o. b. cars, and \$9.25 to \$9.35 weighed off cars.

TORONTO HORSE MARKET.

There was more activity on the horse market for the past week than for some time past at all the different sale stables. At the Union Horse Exchange, Union Stock-yards, over 200 fresh horses were on sale. There were several buyers from Nova Scotia and Quebec who bought a couple of cars of work horses. There was also a fairly good demand from local and nearby sources. Prices were reported as being about steady: Drafters, \$175 to \$225; general-purpose horses, \$150 to \$200; expressers, \$165 to \$225; drivers, \$100 to \$160; serviceably sound sold from \$45 to \$70 each.

BREADSTUFFS.

Wheat.—Ontario, No. 2 red, white or mixed, 97c. to 98c., outside; \$1, track, Toronto; Manitoba, No. 1 northern, 96c., track, bay points; No. 2 northern, 94c.; more at Goderich.

Oats.—Ontario, new, white, No. 2, 37c. to 38c., outside; 40c. to 40c., track, Toronto; Manitoba, No. 2, 41c.; No. 3, 40c., lake ports.

Rye.—Outside, 63c. to 64c.

Peas.—No. 2, 98c. to \$1, outside.

Buckwheat.—No. 2, 73c. to 75c., outside.

Corn.—American, No. 3 yellow, 74c., all rail, track, Toronto.

Barley.—For malting, 37c. to 58c.; for feed, 43c. to 45c., outside.

Flour.—Ontario, 90-per-cent. winter-wheat patents, \$3.80 to \$3.85, bulk, seaboard. Manitoba flour—Prices at Toronto are: First patents, \$5.60; second patents, \$5.10; in cotton, 10c. more; strong bakers', \$4.60, in jute.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, \$14 to \$14.50; No. 2, \$13 to \$13.50.

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

Bran.—Manitoba, \$25, in bags, track, Toronto; shorts, \$26; Ontario bran, \$24, in bags; shorts, \$25; middlings, \$28.25.

COUNTRY PRODUCE.

Butter.—Receipts continue to be large, and prices steady. Creamery pound rolls, 31c. to 32c.; creamery solids, 27c. to 28c.; separator dairy, 27c. to 29c.; store lots, 24c. to 25c.

Eggs.—Receipts continue to be heavy, and prices steady, at 21c. to 22c., the bulk selling at the latter price.

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

Beans.—Imported, hand-picked, \$2.25; Canadians, hand-picked, \$2.25; primes, \$2.10 per bushel.

Poultry.—Receipts principally cold-storage, which were quoted as follows: Turkeys, 21c. to 25c.; geese, 18c. to 20c.; ducks, 20c. to 22c.; chickens, 18c. to 20c.; hens, 14c. to 16c.

Potatoes.—Car lots of New Brunswick Delawares, 90c. per bag; car lots of Ontarios, 80c. per bag, track, Toronto.

Honey.—Extracted, 9c. per lb.; combs, per dozen, \$2.50 to \$3.

TORONTO SEED MARKET.

The following are the prices wholesale seed merchants are quoting to the trade: Red clover, No. 1, \$19 to \$21 per cwt.; red clover, No. 2, \$17.50 to \$18.50 per cwt.; alsike, No. 1, \$21 per cwt.; alsike, No. 2, \$17 to \$18.50; timothy, No. 1, \$8.50 to \$9.50 per cwt.; timothy, No. 2, \$7.25 to \$7.50 per cwt.; alfalfa, No. 1, \$14 to \$15 per cwt.; alfalfa, No. 2, \$13 to \$13.50 per cwt.

HIDES AND SKINS.

No. 1 inspected steers and cows, 13c.; No. 2 inspected steers and cows, 12c.; city hides, flat 13c.; country hides, cured, 13c.; calf skins, per lb., 16c.; lamb skins and pelts, \$1 to \$1.50; horse hair, 38c. to 40c.; horse hides, No. 1, \$2.50 to \$4.50; tallow, No. 1, per lb., 5c. to 7c.

FRUITS AND VEGETABLES.

Apples were not as plentiful, and prices are much firmer. No. 2 Spies are worth \$4.50 to \$5; and No. 1 Spies are very scarce, being worth \$6 to \$8 per barrel; apples by the basket sold from 40c. to 50c.; Canadian radishes, 50c. per dozen bunches; leaf lettuce, 25c. to 30c. per dozen bunches; Canadian green onions, 20c. to 25c. per dozen bunches; Canadian mushrooms, 75c. per lb.; carrots, \$1.50 to \$1.75 per bag; beets, \$1.50 to \$1.75 per bag; turnips, 50c. per bag; parsnips, \$1.50 per bag.

Montreal.

Live Stock.—Supplies of cattle offered on the local markets last week were somewhat limited, as is quite frequently the case during the week following Easter, it being generally assumed that dealers purchased more than their requirements during Easter week, and as a consequence a considerable proportion of these was left over. Prices held fairly firm. Choice stock sold at 8c. to 8c. per lb.; fine at 7c. to 8c.; good at 7c. to 7c.; medium at 6c. to 7c., and common ranging down to about 5c., with 1/2c. less for bulls and cows. Milch cows were still selling at about \$80 to \$90 for the top grades, and down to \$50 for the poorest. There was a very good demand for sheep and lambs, the former being quoted at 6c. to 7c., and the latter at 8c. to 9c. per lb. for yearlings. The supply of spring lambs increased, and prices ranged from \$3 to \$6 each. Calves sold at \$3 to \$5 each, according to size and quality. Hogs were in good demand, as usual, and Ontario selected stock brought 10c. per lb., weighed off cars.

Horses.—The market has been fairly active of late, and there has been no change in price. Horses weighing from

1,500 to 1,700 lbs. sold at \$275 to \$300 each; light draft, weighing from 1,400 to 1,500 lbs., \$225 to \$275 each; broken-down, old animals, \$75 to \$125, and choicest saddle and carriage animals, \$350 to \$400 each.

Poultry.—The market showed no change, quotations being as follows: Turkeys, 22c. to 24c. per lb.; ducks, 16c. to 18c.; chickens, 19c. to 21c.; fowl, 16c. to 18c., and geese, 14c. to 16c.

Dressed Hogs.—There has been considerable activity in the market of late. Prices held steady, at 13c. to 13c. per lb. for fresh-killed, abattoir-dressed stock.

Potatoes.—The market was rather firmer last week, and prices showed an advance of about 5c. per bag. Green Mountains were 85c. to 90c. per bag, ex track, in car lots, while Quebec varieties were 80c. In a jobbing way, prices were 20c. to 25c. higher, ex store. Bags weigh 90 lbs.

Honey and Syrup.—New syrup was offered freely. The make has been heavy, weather having been favorable. The price was about 7c. per lb. in wood, and 7c. to 8c. in tins, making prices of tins 65c. to 70c. each for small, and \$1 for large. White-clover comb honey was 15c. to 16c. per lb.; extracted, 10c. to 11c.; dark comb, 13c. to 14c., and strained, 7c. to 8c. per lb.

Eggs.—Prices of eggs declined in a marked manner, Easter being over. Prices were 22c. in round lots, and somewhat more for smaller lots and single cases.

Butter.—The market for butter was on the easy side. Offerings were larger, and new-milk creamery was available at 27c. to 27c. per lb., in a wholesale way. Held creamery could be had at 24c. to 25c. for choicest, and inferior quality at considerably less.

Grain.—Oats were steady in price. No. 2 Western Canada oats quoted at 43c. to 44c. per bushel, ex store, in car lots; No. 3, at 43c. to 43c., and No. 2 feed, at 42c. to 42c. No. 3 American yellow corn was 79c. to 79c., in car lots.

Flour.—Prices showed steadiness. Manitoba first-patent flour was quoted at \$5.60 per barrel, in bags; seconds being \$5.10, and strong bakers at \$4.90. Ontario winter-wheat flour was firmer, at \$5.25 to \$5.50 for patents, and \$4.70 to \$4.90 per barrel for straight rollers, in wood.

Millfeed.—The market for millfeed was steady. Bran sold at \$23 per ton, and shorts at \$25, in bags, while middlings were \$28, including bags. Mouille was \$30 to \$32 per ton for pure, and \$28 to \$29 for mixed.

Hay.—Prices for hay were a shade on the easy side. No. 1 pressed hay, car lots, Montreal, track, was \$14.50 to \$15 per ton; No. 2 extra good was \$13.50 to \$14, and No. 2, \$12.50 to \$13.

Seeds.—Demand for seed was good. Prices were: Timothy, \$10 to \$11.50 per 100 lbs., Montreal; red clover, \$22 to \$24 per 100 lbs., and alsike, \$20 to \$24 per 100 lbs.

Hides.—The market for hides was unchanged. Beef hides were 13c., 14c. and 15c. for Nos. 3, 2 and 1, respectively. Calf skins were 18c. and 20c. for Nos. 2 and 1, and lamb skins were \$1.20 to \$1.25 each, with horse hides ranging from \$1.75 for No. 2, to \$2.50 each for No. 1. Tallow sold at 1c. to 3c. for rough, and 5c. to 6c. for rendered.

Buffalo.

Cattle.—Light receipts the past week, regardless of the liberal supply at Chicago, had the effect of advancing values on shipping steers generally 15c. to 25c. An extreme top of \$9.40 was had on a load of black Ohio steers averaging a little better than 1,500 lbs. Other heavyweight steers ranged from \$9 to \$9.10. Two loads of Canadians sold at \$8.85. The forty cars or more were taken readily. The supply of yearlings and light, well-finished steers, has not met the demands of late of the local packers, and in some instances they have had to go to the country to get them. They would prefer, at all times, however, to get these on the market. As a local buyer for a Buffalo packing-house expressed it the past week, "If the weight and finish is right, the price does not stop us." The packer who thus expressed himself, is one of the owners of one of Buffalo's large packinghouses, and

who bought a couple of weeks ago, forty head of light heifers that came from Canada as stockers, and which showed a remarkable gain, after a short feed, and sold at \$8.05, and he expressed himself as being especially pleased at the result of the killing, and would take more like them at any time at good prices. Demand is strong for stock and feeding cattle. Twenty cars or more of these could be sold readily here each week. Canadians are preferred, for the reason that they show splendid gains, and besides, in most cases, have good breeding. Dehorns are sold to better advantage than those with horns; they handle better, and bring more on the market when sold as fat cattle. This is the season of the year when the extremely heavy bulls are discriminated against in price, killers preferring the handier ones. Outlook is somewhat more favorable for milkers and springers. In the winter, when it becomes necessary to feed these, buyers are discriminating, and show marked partiality for the good, heavy, strong, milk-producing ones. Heavy milkers are preferable, for the reason that when they get too old for milk, they are cashed in at beef prices, and a good heavy cow, brings quite a lot more money than the light ones. All kinds of butchering cattle were 15c. to 25c. higher, and were snappy sale. Receipts for the past week were 3,500 head, as against 4,775 for the previous week, and 4,050 a year ago. There were ten to fifteen loads of Canadians, including shipping steers and butchering grades. Quotations follow:

Best 1,350- to 1,450-lb. steers, natives, \$9 to \$9.40; best 1,200- to 1,300-lb. steers, natives, \$8.60 to \$8.85; best 1,100- to 1,200-lb. steers, natives, \$8 to \$8.50; coarse and plain, weighty steers, natives, \$7.75 to \$8; fancy yearlings, baby beef, \$8.25 to \$8.75; medium to good, \$7.75 to \$8; best Canada steers, 1,350 to 1,450 lbs., \$8.50 to \$8.85; best Canada steers, 1,150 to 1,250 lbs., \$7.85 to \$8.25; choice, handy steers, 900 to 1,100 lbs., \$8 to \$8.60; fair to good steers, 1,000 to 1,100 lbs., \$7.75 to \$8.10; extra good cows, \$6.75 to \$7.25; butcher cows, \$5 to \$5.50; cutters, \$4.85 to \$4.50; best heifers, \$7.75 to \$8; medium butcher heifers, \$6.50 to \$7; light butcher heifers, \$6 to \$6.25; stock heifers, \$6 to \$6.25; best feeding steers, de-horns, \$7.25 to \$7.50; fair to good feeding steers, de-horns, \$6.50 to \$7; best stock steers, \$7.25 to \$7.50; common, light, stock steers, \$6.50 to \$7; stock heifers, \$6.50 to \$6.75; extra good bulls, \$7.25 to \$7.50; bologna bulls, \$6.25 to \$6.50; stock bulls, common to good, \$5 to \$6; best milkers and springers, \$75 to \$90; medium to good, \$50 to \$60; common, \$30 to \$40.

Hogs.—The supply the past week totaled 32,640 head; previous week, 27,680, and a year ago, 32,000. Monday's run alone was 110 cars, and general price for best grades was \$9.25, pigs selling mostly at \$8.90. Trade reacted after Monday, and was followed by a decline on Friday. Wednesday, top was \$9.35 for packers' grades, and Friday, all grades sold down to \$9.20, being the low day of the week. Roughts, \$8.15 to \$8.35; stags, \$7 to \$7.50. No Canadians offered.

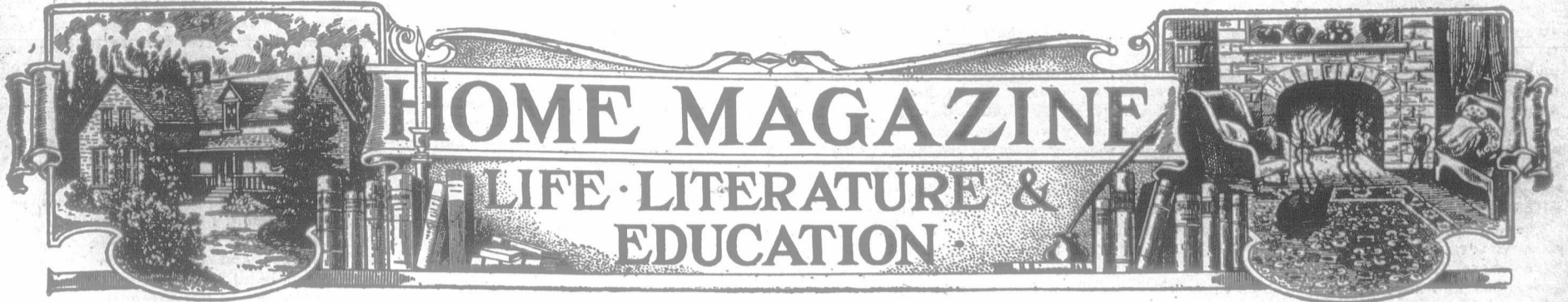
Sheep and Lambs.—Moderate receipts fore part of week resulted in jump in prices, wool lambs reaching \$8.85, while tops for clips was \$7.65. Lower prices prevailed for the next two or three days, buyers getting some wool lambs down to \$8.50 on Thursday, while clipped lambs sold down to around \$7.25 to \$7.35. Friday's trade showed a reaction, range on lambs being about the same as Monday. No wool sheep offered during the week. Best clipped wethers sold up to \$5.90 to \$6; shorn ewes \$5.50 down, and top yearling wethers around \$6.50 to \$6.75. Receipts for the past week were 27,800; previous week, 26,400; year ago, 28,600.

Chicago.

Cattle.—Beeves, \$7.15 to \$9.55; Texas steers, \$7.30 to \$8.30; stockers and feeders, \$5.60 to \$8.15; cows and heifers, \$3.75 to \$8.70; calves, \$6 to \$8.75.

Hogs.—Light, \$8.45 to \$8.75; mixed, \$8.45 to \$8.72; heavy, \$8.20 to \$8.75; rough, \$8.20 to \$8.35; pigs, \$7.25 to \$8.40; bulk of sales, \$8.60 to \$8.70.

Sheep and Lambs.—Sheep, native, \$5.40 to \$7; yearlings, \$5.80 to \$7.60. Lambs, native, \$6.30 to \$8.85.



Earth and Infinity.

There's part o' the sun in an apple;
There's part o' the moon in a rose;
There's part of the flaming Pleiades
In every leaf that grows.
Out of the vast comes nearness;
For the God whose love we sing
Lends a little of His heaven
To every living thing.
—Augustus Wight Bomberger, in the Outlook.

The Passing of the Seasons.

(By Hyacinth.)
The March winds blew with a southing
sound, and the leafless trees all stirred,
and lifted their heads to catch aright
the message they thought they heard;
and they listened, and nodded in silent
glee when the message was told again,
and stretched aloft their naked arms to
the kiss of the falling rain.

The brook leaped up from its prison of
ice, and gleefully hurried away, babbling
of days when the sun's soft beams would
call out the fishes to play; and down in
the garden a pansy face, with dusky,
velvety eyes, peeped out, and smiled at
the wooing sun, with a tender, shy sur-
prise.

And I thought, as I watched the snow
fade away and the grass grow green
again, of the fair young life that had
just begun, without thought or shadow
of pain; and I wondered how long ere
the frosts of grief would mar with their
blackening breath, or the drooping petals
be folded, quiet, in the snows of the
winter of death.

The days went by, and the wind's soft
breath grew warmer upon my cheek, as
it tossed the curtains to and fro, as if
playing hide-and-seek; and the roses
blushed a deeper red, when its breath
shook their petals down, and the honey-
suckle clung, and twined round the
arbor's mossy gown.

The busy bee hummed in sweet content
as he carried his honey home; and the
sweet-voiced birds from morning till night
proclaimed that the summer had come;
and the brook's loud voice grew gentle
and soft as if fearing to break the spell;
and the grass grew greener under the kiss
of the dew it loved so well.

And I thought of the life that was
growing up in youthful beauty and grace,
with the promise of spring being all ful-
filled in the innocent, laughing face, with
the sorrows as light as the summer
showers that fell while the sun still
shone, leaving rainbow tints of purple
and gold, when the flurry of cloud was
gone.

The autumn came, with its mellow
skies, and the sheaves were gathered in;
and the trees were laden with ripened
fruit, where in spring the blossom had
been; and the leaves, all tinted with red
and gold, were cast down one by one;
and the birds stopped singing, and flew
away to a warmer Southern home.

And I thought of the life to full man-
hood grown, with its yield of ripening
grain; of the face, where as well as the
light of hope, there were lines of worry
and pain. But I knew, that as well as
the summer's sun, there was need of the
summer's rain, to bring to perfection the
golden fruit, ere the frosts of winter
came.

I stood at the window and watched the
snow as it floated silently down, hiding
beneath its mantle of white, the marks

of the black frost's frown, fringing with
ermine the dusky rails where in summer
the moss used to rest, hushing the flut-
tering leaves to sleep, as a mother, the
babe at her breast.

And I thought of the head where life's
snowflakes fell, and would not be brushed
away; of the life where the sapphire of
summer had changed to the dusk of the
winter's gray; and I wondered how often
the sunshine of joy had been drowned in
the sadness of night, ere the Angel of
Peace dropped her mantle of snow, and
hid the sorrows from sight.

And, as I was musing, the setting sun
broke out from its prison of black, and
smiled on the snow till it glistened like
pearl, and reflected the radiance back;
and I thought of the gates that would
soon swing back to let Heaven's Sun
shine through, to turn into diamonds
each snowflake that lay on the head of
the Faithful and True.

Little Trips Among the Eminent.

Canadian History Series.

DE LA BARRE AND DE DENONVILLE.

An appointment as Governor-General of
Canada was, in those early days, no
sinecure, as M. de la Barre, who suc-
ceeded Frontenac in 1682, was speedily
to find out. True, the Iroquois were
not formidably active against the French
at the time of his coming. Frontenac
had held them in check, but even during
his regime they had been restless, and
had given trouble at times by robbing
traders of canoe-loads of furs; now they
were soon to prove themselves the most
difficult problem which the French had
so far had to meet. Nor was De la
Barre altogether happy even in his deal-
ings with the Indians who were disposed
to be friendly with the French. Frontenac
had liked the red men, and they had re-
sponded to him. "They admired the
prompt and fiery soldier who played with
their children and gave beads and trink-
ets to their wives; who read their secret
thoughts and never feared them, but
smiled on them when their hearts were
true, or frowned upon and threatened
them when they did amiss."—(Parkman.)
De la Barre, on the other hand, always
regarded these strange folk of the new
world with repugnance, and they met his
attitude in kind.

Another misstep was his complete sub-
servience to the trading factions which
had been opposed to Frontenac, and were
even now more concerned with jealousies
of La Salle than with the advancement
of the country. Through them he was
suspicious of La Salle's fort on the
Illinois, which Frontenac would have
strengthened as a political necessity. By
them also he was induced to seize not
only the Illinois fort, but also Fort
Frontenac itself.

One of his earliest acts was to call a
conference to meet in the new parish
church in Montreal, which was as yet
unconsecrated. The Indians came, he
gave them gifts, and induced them to
consent to peace and to refrain from
pillaging French traders. But he had not
reckoned upon the vagaries of his dusky
visitors, their shrewdness where personal
gain was concerned, their variability,
their readiness to find excuse to break
such promises.

The Council was held in 1683. In
1684 the Iroquois fell on the fort on
the Illinois and destroyed it, and hence-
forth their depredations were a matter
of any week or moment. Anxious to ex-
tend their hunting-grounds, as the bea-
vers, whose skins afforded them so brisk
a trade with the English became scarce,
they turned covetous eyes on the lands

occupied by the Indian tribes of the West
and North, for the most part allies of
the French. In the meantime, also, they
were being steadily supplied with arms
and ammunition by the Dutch and Eng-
lish of New York, to whose interest it
was that this desultory warfare be con-
tinued, hence there was nowhere in New
France rest or security, nor was De la
Barre strong enough to meet the situa-
tion.

Intent most of all in reaping a rich
harvest for themselves, he and his con-
ferees let affairs drift into a sorry muddle,
and even when he did make an at-
tempt to bring order his motives were
questioned. In 1684 he determined upon
an expedition against the Iroquois. "I
will finish this letter, Monseigneur,"
wrote the intendant, De Meulles, to
Seignelay, "by telling you that he set
out yesterday, July 10, with a detach-
ment of 200 men. All Quebec was filled
with grief to see him embark on an ex-
pedition of war tete-a-tete with the man
named La Chesnaye. Everybody says
that the war is a sham; that these two
will arrange everything between them,
and, in a word, do whatever will help
their trade. The whole country is in
despair to see how matters are man-
aged."

The prognostications of De Meulles were
justified. The great flotilla of canoes
and flat-boats making way up the St.
Lawrence, dawdled away precious time at
Montreal and Fort Frontenac, food sup-
plies ran short, malarial fever broke out
among the men so that scores died, and
finally De la Barre condescended to meet
the Indians on their own side of the
river, at La Famine. Here he tried to
deceive the dusky envoys, who saw
through his ruse, and the council con-
cluded by an arrangement that the
councils should be held henceforth at La
Famine instead of at Fort Frontenac,
and that the peace then and there con-
cluded should not include the Illinois.
"There is scarcely an event in Canadian
history more discreditable than this ex-
pedition," exclaims Kingsford, nor, it
may be added, was ever a peace more
uncalled for or more ominous. Even as
the troops were returning, shivering with
ague, to Montreal, a fleet of canoes,
"numerous as a flock of blackbirds in
autumn," was making its way down the
great lakes. It was the contingent of
coureurs de bois and Indians from
Michillimackinac, which, under Perrot and
La Durantaye, were hastening to the ren-
dezvous, a ready band of hardy fighters,
with the French, for the most part,
painted and feathered like Indians.

Down Lake Erie the canoes sped, then
a white sail appeared on the blue water,
approaching. It delivered the news that
peace had been concluded, and the con-
tingent turned back "in disgust and
scorn of the Governor of the French."
In the meantime the Iroquois, too, were
returning to their country, but in high
glee. They had discovered the weakness
of the French.

The result was that La Barre was re-
called by the King and De Denonville
sent out to take his place. With him
embarked 500 soldiers, of whom 150 died
of fever and scurvy on the long trip over
the Atlantic.

De Denonville was a good man, but
quite incompetent to deal with the diffi-
cult situation that confronted him,—the
Senecas (most warlike of the Iroquois)
still attacking the Illinois, the English
of New York still in angry mood and
intriguing with the Iroquois, the Hurons
of Michillimackinac anxious to ally with
the English, from whom they got cheaper
goods, and the fur trade drifting more
and more through the channels opened
by New York. The liquor problem, too,

was causing trouble. "The *coureurs de
bois*," wrote De Denonville, "have carried
a hundred barrels of brandy to Michill-
mackinac in a single year."

Denonville tried hard to cope with the
situation, and after much bickering with
the English, under their Governor, Don-
gan, and much treating with the Indians,
resolved also on an expedition against
the Iroquois.

Once more a host of flat-boats and
canoes made way up the St. Lawrence to
Fort Frontenac, but this time an as-
tounding sight met the eyes of the troops
as they landed. No fewer than fifty-one
Iroquois were ranged in a line, tied to
posts, tormented by mosquitoes and sing-
ing their death songs. Their death,
however, had not been decreed. They
had been invited by the new intendant,
Champigny, to a feast, seized, to prevent
them from reporting on Denonville's
movements, and were to be sent to
France, in reply to a request from the
king, to serve as galley-slaves. . . .
Later, this perfidious action was to be
remembered by the Iroquois.

After a halt here, De Denonville learned
that La Durantaye and Tonti, with a
large party, were at Niagara, and had
succeeded in capturing two parties of
encroaching English, one under one Rose-
boom in the very vicinity of Michill-
mackinac, and the other under McGreg-
ory, on Lake Erie. He sent word to
them to meet him at Irondequoit Bay,
on the south shore of Lake Ontario. On
reaching there the two parties met, and
soon afterwards a party of Ottawas who
had refused to follow La Durantaye, also
arrived. They had changed their minds,
paddled across the Georgian Bay, por-
taged to Toronto (its site), and thence
crossed to Niagara.

Denonville now had in all about 8,000
men; for the vacillating Indians, im-
pressed once more, were now solidly with
him, so a speedy march into the heart
of the country of the Iroquois was in
order.

A PICTURESQUE ADVANCE.

A strange medley was the little army
now collected on the southern shore of
Lake Ontario. There were the regulars
from France, still trim and gay in their
uniforms; there were the officers; there
were the wild *coureurs de bois* from
Michillimackinac, and last of all a swarm
of Indians of every nation. "Most of
them," says Saint-Vallier, "wore nothing
but horns on their heads and the tails
of beasts behind their backs. Their faces
were painted red or green, with black or
white spots; their ears and noses were
hung with ornaments of iron; and their
naked bodies were daubed with figures of
various sorts of animals."

The day was intensely hot, and the air
of the forest through which the army
made way, close and wearying. La
Durantaye, with Tonti and Du Lhut (the
famous leader of *coureurs de bois*), led
the advance. "On the right were the
pagan Indians from the West. The woods
were full of these painted spectres, gro-
tesquely horrible in horns and tail; and
among them flitted the black robe of
Father Engelran, the Jesuit of Michill-
mackinac" (Parkman). These were under
Perrot and Callieres, Governor of Mont-
real. Next came De Denonville, with
the regulars, the Governor-General him-
self marching in his shirt-sleeves, with
the Chevalier de Vaudreuil. Last of all
came the rear guard of rangers and
Indians.

The advance of the French deceived the
Indians. The van guard, hurrying for-
ward, presently ran into an ambush, and
the Indians closed in upon all sides.
They had not reckoned upon the second
division, which now arrived with much
beating of drums, so that the Indians,

struck with terror, speedily made off. De Denonville did not follow, but in the morning pushed on to the chief town of the Senecas. It was in ashes, the Indians having again saved themselves by retreat. The same tactics had been resorted to in all of the neighboring villages, hence, after spending ten days destroying the growing cornfields, the French withdrew.

The expedition was reported to France as a victory, but, in truth, the Iroquois were more enraged than hurt. Their provisions had been destroyed, but these were made up by the English. "De Denonville had left the wasps alive."

On the way back he put up a stockade on the site of La Salle's fort at Niagara, which had been burned.

FROM BAD TO WORSE.

Governor Dongan, of New York, was enraged over the expedition, and incited the Iroquois to make persistent war on the French, who were in no position to meet the attacks. The long Iroquois irritation had prevented the sowing and harvesting of crops. Everywhere there were poverty, famine, and sickness. At Niagara, during the winter of 1688, the garrison of 100 men dwindled to twelve, so that at last De Denonville destroyed it. He asked for 4,000 soldiers from France to strike a decisive blow at the Iroquois; only 300 were sent. Meanwhile the Iroquois were demanding that the braves sent to work on the galleys be returned, whereas many of them, succumbing to unnatural conditions, had died.

There were conferences upon conferences, but no peace, and nowhere could the French settlers work or sleep in peace; indeed, the very crops were sown with soldiers on guard. It was impossible for the country to progress under such circumstances.

Then came the terrible massacre at Lachine.

THE MASSACRE AT LACHINE.

The calamity occurred on the 4th and 5th of August, 1689, and began with a hailstorm which covered the advance of the Iroquois, 1,500 in number, who advanced thus, at the very threshold of Montreal, all unnoticed, until their blood-curdling war-whoops warned the unhappy victims of their fate. In the darkness and storm, the people were dragged out of their homes and slaughtered without mercy; many were tied to stakes in their own yards, tortured, and burned, while the houses were burned up to the very gateways of Montreal.

Troops under Subercase were sent out to follow up the marauders, and set off in hot haste. Had they been permitted to do their will, the Iroquois party might have been almost exterminated, for it was found afterwards that the majority

of them lay in the forest drunk, with the liquor taken from Lachine. Their advance, however, was checked by a peremptory order from De Denonville, brought by De Vaudreuil, and so the last opportunity was lost. Next day, 80 men who were attempting to join Subercase were cut to pieces by the now revived Iroquois; and presently the victors were seen paddling off in their canoes. They gave ninety yells as they went, to announce the number of prisoners taken; in reality they had carried off 120 and killed 200. As they passed the forts they shouted, "Onontio you deceived us, and now we have deceived you!"

That night, across the lake could be seen the fires at which the invaders were burning some of their hapless prisoners. Five suffered thus; the rest were distributed among the tribes for further torture or adoption.

A little later in the autumn De Denonville was recalled and Frontenac was again sent out to bring order out of chaos.

(To be continued.)

Hope's Quiet Hour.

Jesus in the Midst.

They crucified Him, and two other with Him, on either side one, and JESUS in the midst.—S. John xix : 18.

Who walketh in the midst of the seven golden candlesticks.—Rev. ii : 1.

His disciples were within . . . then came JESUS, the doors being shut, and stood in the midst.—S. John xx : 19, 26.

In the midst of the throne . . . stood a Lamb as it had been slain.—Rev. v : 6.

Will you look carefully at these texts? The first shows the Saviour in the midst of sinful, suffering men.

The second shows the King in the midst of His visible kingdom—the Church. The third shows the Master in the midst of His true and loyal disciples. The fourth opens the door of heaven, where—in the midst of God's Throne on high—is One Who liveth and was dead. Wherever we go, on earth or in heaven, we always find "JESUS in the midst." He claims all men as His comrades, yet He alone of all men can take the exalted position spoken of by the prophet Zechariah: "The Man that is My Fellow, saith the LORD of Hosts." He was sold for the price of a slave, yet He sitteth on the right hand of the Father—the place of highest honor in all the universe.

It is not without reason that our Lord was declared to be "Emmanuel—God with

us." We see him hanging between two thieves, criminals who were suffering the just punishment for their crimes. Above His head is His title of "King," written in three languages for all to read. His kingly character is written as plainly in His face and voice—even the callous Roman officer and the hardened thief can recognize His royal beauty of soul. What an added shame and disgrace to force such a shining character into the midst of blackened criminals! Does He shrink away in horror, feeling that their presence is a defilement? Is He thankful to know that death will free Him from such low company?

Oh, no! Listen to His eager invitation to one of those criminals to be His comrade still, after death. He has no desire to avoid him. Quite the contrary: "To-day shalt thou be with Me in Paradise," He says.

Christ came to call sinners to repentance, and He was taunted with being the "Friend of publicans and sinners." Has He changed to-day?

This Man can seek the society of sinners, yet remain absolutely unstained. All men agree with the verdict of Pilate: "I find in Him no fault at all." A white daisy was growing near a coal-mine. Trees, grass, and buildings around it were soiled and grimy. An observer said: "What care the owner must take of this little flower to keep it so free from dust and dirt." Another man threw a handful of coal-dust over the daisy, which remained as stainless as before. "It has an enamel," he said, "which prevents dirt from sticking to it." So Christ, in the midst of sinners, remain uncorrupted and incorruptible.

Think of the difference it made to the penitent thief that he was not left to the companionship of a man like himself! He found the way to Paradise because Christ was crucified beside him. We don't know the fate of the other thief. Perhaps his hard heart was touched also.

We are part of sinful and suffering humanity. JESUS is still—though invisibly—in our midst. He is listening to our words—are they harsh and uncharitable in His ears? He knows our thoughts—do they ever hurt His pure soul? He notes all our deeds—does our unkind neglect of His brethren ever cut Him to the heart?

The King walks in the midst of the seven-branched lamp-stand—the Church He has lighted to give light to the world. The other day a man said to me: "I believe in following Christ, but I would never join myself to the Church—it is too corrupt."

Yet it is Christ's visible kingdom on earth. It is His own field—bought with His life-blood. Of course, tares are growing amongst the wheat, as He has

warned us will be the case until the Judgment Day. How can we be subjects of the King if we refuse to belong to His kingdom? He is in the midst of the Church—do we feel ourselves too righteous to belong to that Church? It is a daring and presumptuous thing to stand apart from one of our fellows, saying: "I am holier than thou."

Browning, in "Christmas-Eve," describes a man who found himself one rainy night in a Zion Chapel Meeting. He despised the company, and disliked the sermon, and was thankful to escape into the outer air. While he was congratulating himself on the superior quality of his own chosen way of worshipping God, he looked up and saw Christ.

"He was there.

He himself with his human air, On the narrow pathway, just before. I saw the back of him, no mere— He had left the chapel, then, as I. I forgot all about the sky. No face: only the sight Of a sweepy garment, vast and white, With a hem that I could recognize. I felt terror, no surprise . . .

I remember, he did say Doubtless that, to this world's end, Where two or three should meet and pray, He would be in the midst, their friend; Certainly He was there with them!"

Then the man was filled with fear at the thought that Christ was turning away and leaving him, because he had despised His friends. So he held to the hem of His garment and was carried across the world to Rome. There was a great gathering of men under the Mighty Dome, and Christ went in to be in the midst of them, while the man who held His garment was left outside, wondering at his Master's action:

"Left till He return, alone Save for the garment's extreme fold Abandoned still to bless my hold."

Then Christ entered a lecture-hall where a Professor was urging his hearers to follow the example of the Carpenter of Nazareth—though he called the Gospel a "myth." Again Christ was "in the midst," while His disciple stayed outside, wondering. Was he more particular than his Master?

We are very apt to shrink away from those who do not see God as we see Him. Perhaps He is finding more of His own spirit—the spirit of love and self-sacrifice—in them than in us. To despise others is to be conceited and self-righteous.

Let us look now at our third text. The disciples were gathered together in the Name of their loved Master—then He suddenly revealed Himself in the midst of them. He had been there all the time, but they had not known it. His Presence is our joy and peace, and where two or three are gathered together in love to their Lord, He is always—though invisibly—in their midst. Can we afford to lose this blessing of being near Him? Are we already so strong and brave that we can do without His fellowship? If we neglect the invitations of our King to meet Him in His own House—the invitation of a king is always a command to one of his subjects—how can we expect Him to meet us when we desire Him to be our Guest?

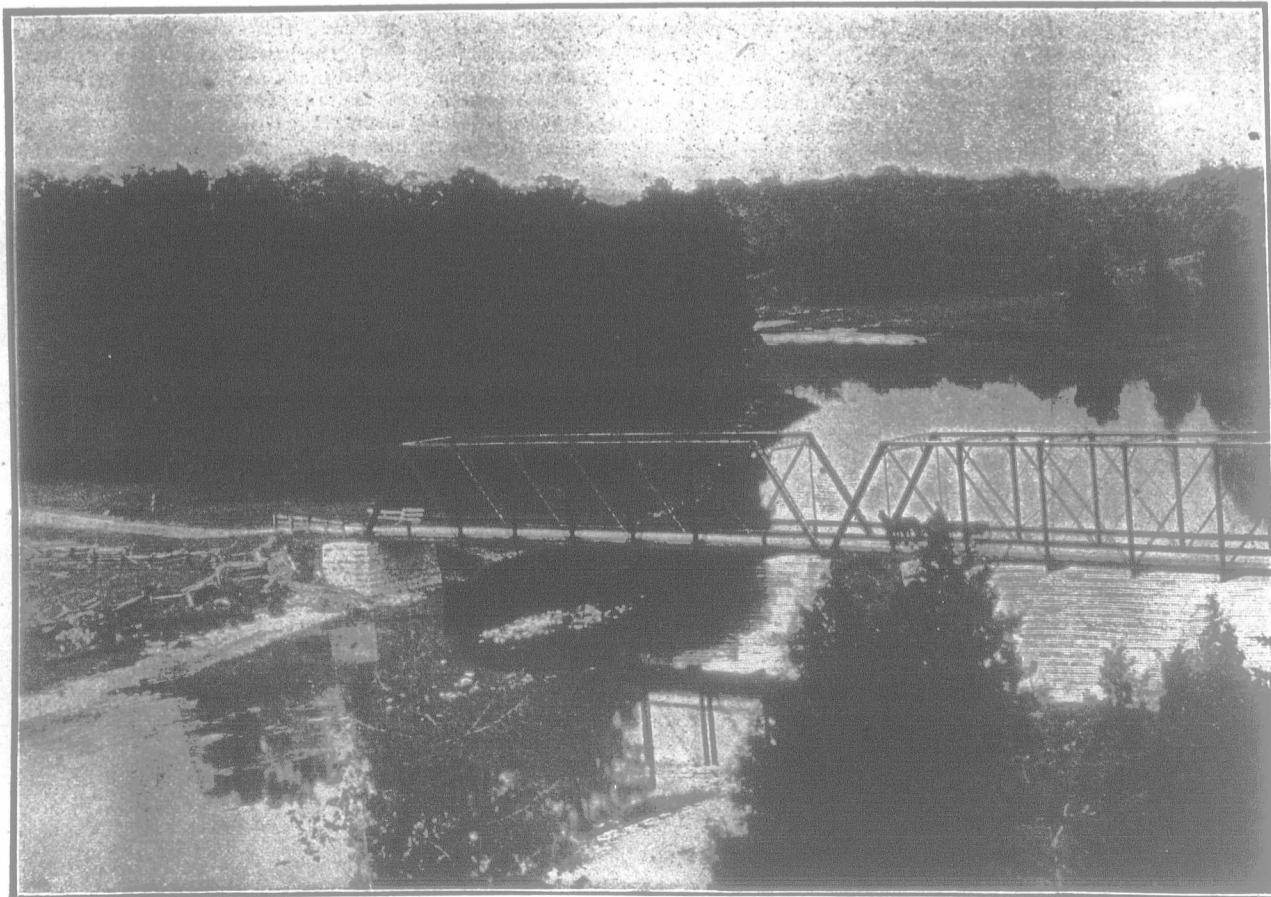
Now glance at the fourth text. Man with God is on the Throne. One with us in tenderest human sympathy and fellowship, one with God in power. Look at the seventh chapter of Revelation and you will see the white-robed throng gather round the Lamb in the midst of the Throne. This is no company of angels. The robes have been stained, but now are washed and spotless, the troubles of earth have been endured bravely and patiently by these saints, and "God shall wipe away all tears from their eyes."

Wherever we go, the Lord is always in the midst of us. He loves us too dearly to stand aloof.

"Hush! for the Master speaketh, Tender and sweet His tone: 'I, even I, am at thy side, Thou art not left alone. Let not your heart be troubled, 'Tis but a little while, Onward and upward and homeward press, Journeying 'neath My smile.'"
DORA FARNCOMB.

From a Friend.

While writing this "Quiet Hour" the postman dropped in my box a gift of \$5



Beauty Spots in Canada—Scene on the Maitland River, 12 Miles East of Goderich.

from an "Advocate" reader, to be spent for some of our Lord's needy friends. My poor-fund is like the widow's crust—there is always enough in it for each day's demands. The demand usually follows swiftly after the supply comes. Thanks are due to many of you.

HOPE.

The Ingle Nook.

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

A day or so ago my faultless friend dropped into my den for a little chat. For ten years I have called her that,— "my faultless friend"—and I have yet to change the name.

She is always as cheery as a sunflower, yet sympathetic when you need sympathy. Above all, she is gifted with the great gift of common sense, and a broad charity towards the shortcomings of others. Invariably she "makes allowance," and holds that whereas we may not approve of results, we must not too severely judge, seeing that it is quite impossible for us to know anything of motives, or temptations, or limitations.

She is perfectly natural in manner and simple in life, is this my friend. She simply could not pose. And she is progressive. "The older I grow," she said one day, "the more impossible I find it to be sure of anything. Another door may open at any time and give one an entirely different point of view. That's why life is so interesting."

It may be necessary to say that this dear, advancing soul, was not very highly educated to begin with, so far as schooling goes. She had only an ordinary school-teacher's certificate,—but she has never ceased to move ahead mentally, and now, with two little children to care for, she is more anxious to make progress than ever. She needs to do so, she thinks, for the sake of the children.

Yes, she is truly my "faultless" friend. Sometimes, it is true, "faultless" folk rub the wrong way. One resents their very faultlessness; one wishes they would have just one little endearing weakness or so to make them human, "not too bright nor good for human nature's daily food." But where such a rub comes, there is always at back of it some little touch of Phariseism, some little "I-am-hollower-than-thou" attitude on the part of the faultless one. In my friend there is no such taint, and so she escapes the

fault of being faultless. No one is "afraid of" her. As she goes quietly and unassumingly through life, she radiates a great circle of influence about her,—solely by reason of what she is. You can't come within its circumference without feeling her benign touch, nor without being glad and rested to be there.

She will not see this account of herself. If she did, I think she would cry.

To return,—she came into the office, and after talking for a bit until the sunshine seemed to have entered with her, she picked up a magazine. As she opened it, the heading of an article, "Modern Theology," appeared. "Well!" she exclaimed, and settled down to read the article.

Concluding it she said: "Don't you think people are ever so much more interested in real religion than ever before in your life? . . . DO you think so?" (as though scarcely sure of her ground), "or is it just that the clique of people we are thrown with seem to be all aroused over such things?"

I smiled, as sometimes I do when I want her to keep right on, and she took the cue.

"Why," she continued, "even ten years ago the people I knew never spoke of theology or religion, and if they did it was in a shame-faced way. Now our crowd at least" (you see she can be colloquial, too,) "never seem to be so interested as when talking on such subjects."

For a moment she meditated, then went on again, reassured.—"But I do think there must be an awakening everywhere. Why, nearly every magazine I pick up has something on the subject,—but the articles are different somehow, from what they used to be, and the best of the preachers are preaching differently. I do believe there is a great wave of religious thought going about the world, and it will leave us higher than it found us."

After she had gone, I picked up a book that had been left for me to read a week or so before by a young man of perhaps twenty-two years of age, a University graduate and medical student. There seemed something in the fact of his youth and his education that seemed to stand out in the light of what my friend had been saying. I thought of the very atheistic young students I had known some years ago.

Opening the book, I read, "Science that destroyed the idea of immortality is the very thing that is now proving it." And passing on down the page (here I hit only the high lights) I fol-

lowed up the writer's argument: It is now known that matter is never destroyed and cannot be; it merely changes its form. Nothing can be reduced to nothingness. The investigations of Maupas and Weismann show that even the lowest organisms are practically immortal. Weismann, indeed, maintains that under favorable conditions the germ-plasm seems capable of surrounding itself with a new body. We are only at the beginning of these studies, but the perspective is immense. They show us that life, instead of being lorded over by death, presses it into its service to help build up its structures and complete its developments. Instead of being the dread tyrant, death is shown to be life's day-laborer.

Nothing material perishes; and so it is not far-fetched to conclude that it may be the same with spirit, which is so much greater and more important than matter. Indeed, the highest thinkers of today everywhere recognize the spirit world as the most real and most mighty. Spirit everywhere pervades matter, and everywhere rules it.

And so Brierley concludes the book which he began with the assertion that "The world exists in order to grow souls." . . . "We can each grow a soul," he points out, "if we are willing to pay the price. Assuredly it is worth it, for this is really the one and the only victorious life. Failure is, in the long run, written on every other, and by whatever standard a man judges. One could cite a thousand facts in proof, but this one should be enough—the growth of the soul is the one pursuit which makes life, to its very last day, full of interest. . . . The Universe knocks at our door and enters in proportion as we open it. . . . Spiritual power is simply the capacity to receive. Limitless force lies at each soul's threshold waiting to make it mighty."

This is one of the books of which I told you last time, dear Ingle Nook friends. Its name is "Studies of the Soul," the author, J. Brierley, and the publisher, Clarke's Publishing House, James Clarke & Co., 13 and 14 Fleet street, London, Eng. I do not know the price, but if you are interested you can find that out by writing to the publishers.

If you buy it, you may not agree with absolutely all that is in it, although I found that I could myself; but I don't much care whether you do or not. The main consideration is that we be made to think, isn't it? And surely we can be broad-minded enough to read any book that aims high without becoming cross and ruffled because of a few passages with which we may not at present agree.

Perhaps, one day, another door will open, and then we may see with new eyes. If not, no harm done; we shall have had the mental exercise of thinking at all events.

I hope I have not encroached on "Hope's" domain, in this little chat today. If I have, she is generous, and will not mind. I did so want to tell you about Brierley.

JUNIA.

CROCHET PATTERNS—APPLE DUMPLINGS.

Dear Junia,—The Farmer's Advocate is a welcome visitor to our home, and I receive many useful recipes and household hints from the Nook columns, but I have been wishing for some crochet patterns to be published. I would like a pattern for the top to an underwaist, or a nice center-piece with a linen center and crochet border. I have seen such pretty ones, but could never get a pattern. I made a very pretty and comfortable cap for driving from a pattern given last season. I am a farmer's wife, but find some spare moments for to do a little fancywork in the winter season, so if convenient for you to publish those patterns, I will be very much pleased.

I feel I cannot come for help without contributing a little, so will send a recipe for apple dumplings, which are easily made and very nice.

Make a syrup of 1 cup of sugar, 1 tablespoon of butter, and 2 cups of hot water; add 2 heaping cups of sliced apples. Let boil. For the dumplings, use 1 cup of flour, 2 teaspoons of baking powder, a pinch of salt, ¼ cup of cream or milk. Mix and drop 8 spoonfuls into the boiling syrup. Cover tightly, and boil 20 minutes without lifting the lid. Serve hot with cream.

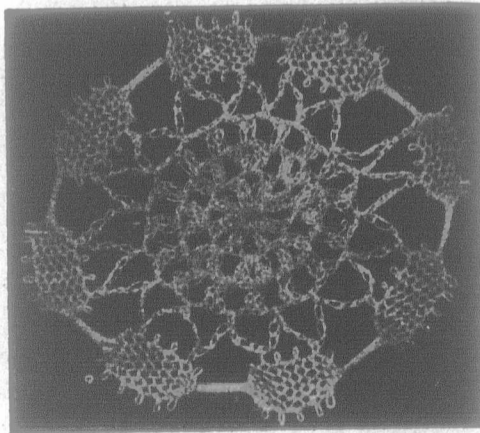
MAPLE LEAF.

Elgin Co., Ont.

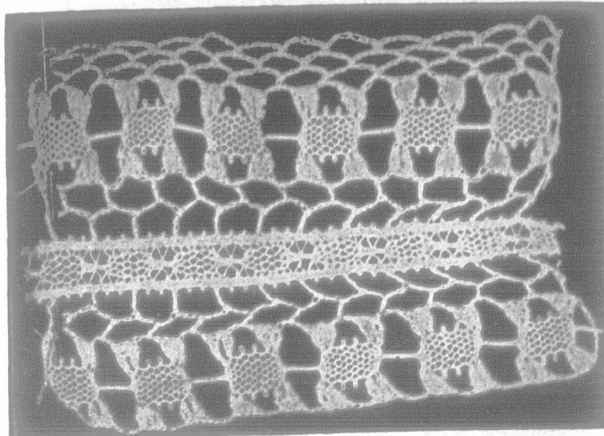
I am giving you the best patterns we have on hand, all of which are so easy that anyone can copy them off without further instruction. The little wheel, No. 2, is suitable for underwaist tops, table-cover edgings, etc. Simply make the wheels, then join together in two, three or more rows as required, to form the necessary shape. You will notice that the outside is formed by a row of novelty braid. Pattern No. 3 is also made of novelty braid in three rows, crocheted together. Pattern No. 4 is suitable for a towel insertion if made of very heavy cotton, or for an underwaist top if made with fine cotton. As I am not taking fancywork lessons now, it is utterly impossible for me to make patterns and give them on demand. Indeed, I nearly ruined my eyes when I tried that before, but I am glad to inform our readers who may be interested



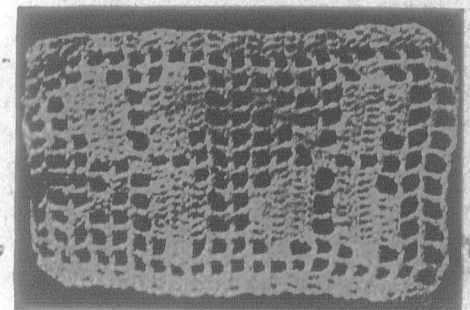
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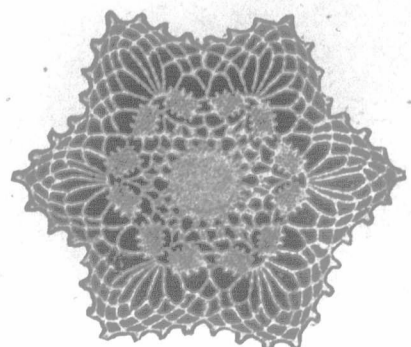
No. 2.



No. 3.



No. 4.

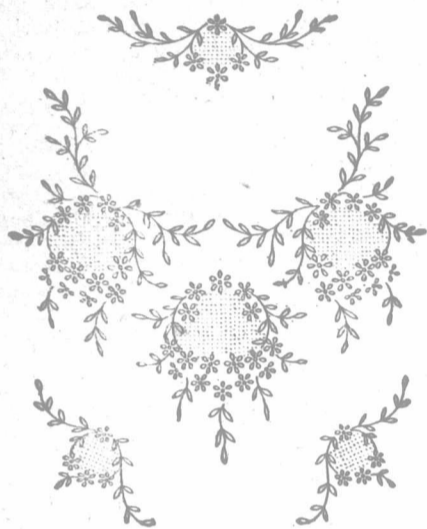


No. 5.—Crochet with one row of novelty braid.

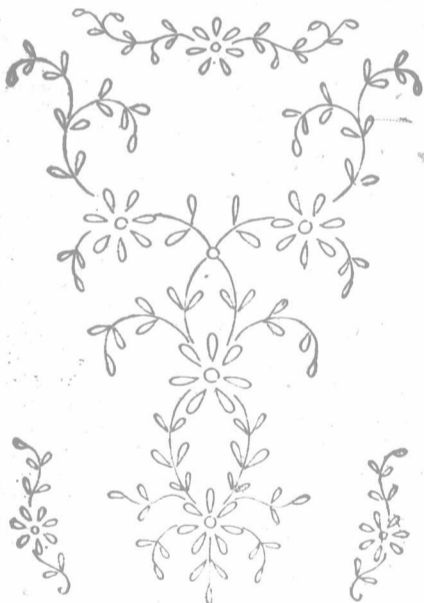
In fancywork, that excellent books on crocheting are issued by the D. M. C. Company. This company will not sell the right to publish any of the patterns, but the books may be procured from the Fancy Goods Department of Eaton's or Simpson's, or from any progressive fancy goods store. They are not expensive either; prices may be had by applying at the places where they are sold.

FANCYWORK PATTERNS.

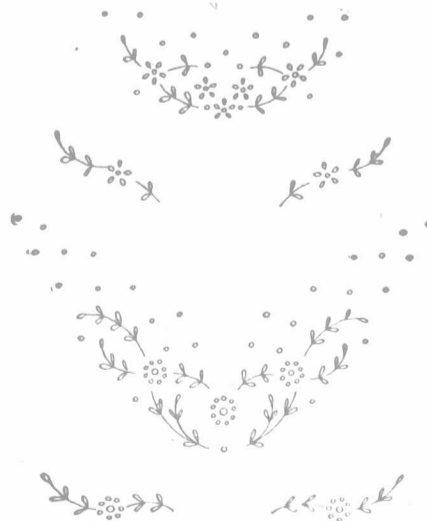
The price of each of the Transfer Patterns given below is ten cents. When ordering, be sure to write plainly your name and address. Allow at least ten days to receive pattern. Address The Pattern Dept., "The Farmer's Advocate," London, Ont.



No. 672.—A design suitable for the front of a waist. To be worked in embroidery and punched work, or French knots.



No. 494 is a floral design suitable for embroidering a waist or a blouse with a closed front. Patterns for stamping the collar, frontpiece, and two sprays for the sleeves, are included.

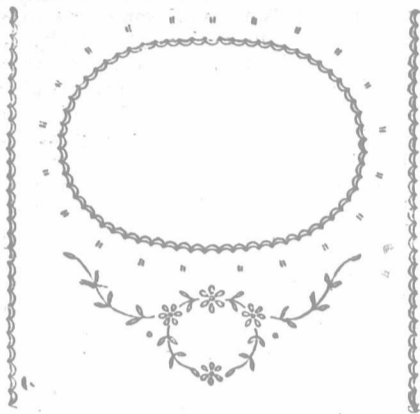


No. 653.—Design for embroidering the yokes of infant's and children's dresses. Two yokes with sprays for sleeves or cuffs are given. The flowers and leaves can be worked solidly or as eyelets. The stems are to be outlined.

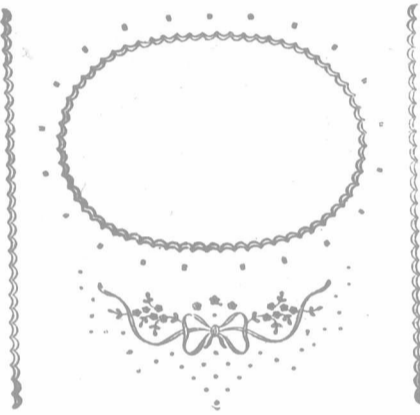


No. 486 is a conventionalized vine design suitable for embroidering spaces between

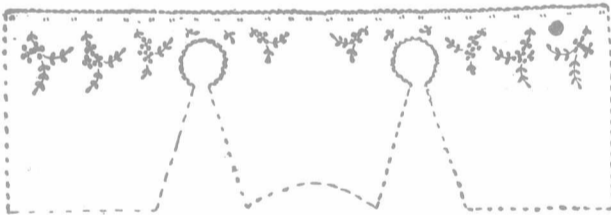
tween groups of tucks on waists or in skirts, for the box plaits of children's dresses, and can also be used as a border for skirts or blouses, or for any object for which the design is suited.



No. 730.—A design for embroidering a girl's night-gown with round neck. The scallops are designed to be padded and button-holed; the embroidered flowers, leaves and dots, to be worked in solid embroidery or as eyelets, or in a combination of the two, and the stems to be outlined.



No. 680.—A design for embroidering a girl's low-neck night-gown with short sleeves. The scalloped edges are to be padded and button-holed. The flowers are to be worked solidly with the leaves either solidly or as eyelets, and the stems outlined. The ribbon can be worked solidly or in outline stitch, and the dots solidly or as eyelets.



No. 720 is a design for embroidering a corset cover, especially adapted to May Manton Pattern No. 7612. Patterns for stamping the two front pieces, the back and the arm-holes, are given.



No. 499 is a design for embroidering a pillow case, towel or scarf ends, or for a scalloped border, suitable for any object for which such a border is appropriate.

A SPRINGTIME LETTER.

Dear Junia,—Your words in April 9th issue revealed my sentiments so clearly that I have just seized my pen to thank you for them, and for your helpfulness in many ways.

Ah! and another springtime is with us. No season to me is quite so interesting. Nature bestirs herself, and at present is announcing in many ways the return of all her glory and beauty. Do we ever pause to think of the wonder of her recuperative power? How marvellous this constant resurrection! Everything seems to be answering the call of sunshine and shower. The trees, the grass, and the flowers, have been resting only to lend shelter and beauty again, and the little birds have returned with "sweeter songs to sing."

What a great part Nature has in the moulding of our lives! With such lessons (if we will but observe) the "spiritual unbidden must grow up through the common."

How many lessons Wordsworth gave us

from Nature! He gives us, in his "Tables Turned," these words:

"One impulse from a vernal wood
May teach you more of man,
Of moral evil and of good,
Than all the sages can.

"She has a world of ready wealth,
Our minds and hearts to bless—
Spontaneous wisdom breathed by health,
Truth breathed by cheerfulness.

"Enough of science and of art!
Close up those barren leaves,
Come forth and bring with you a heart
That watches and receives."

Little wonder all this unrest. The spring feeling is upon us, and our spirits yearn for—we know not what.

But do you not think our spirits, too, have heard the call and are awakening? Our "ideals" loom up before us. The life worth while must be considered, and the possibilities seem to be demanding a way of escape. In each life are so many talents nestling, and as we recognize these and use them, so shall we do our part in shaping the universe.

Each individual has his or her "standard," and without it life would be almost dormant. In our awakening may we be so touched afresh by this constant resurrection spirit as to shed forth the best that we possess, and "press on" to a "higher mark," which means ceaseless effort.

And as we gather in the golden grain, and in the autumn thank our Great Provider, may our lives have something worth while to present.

"Something attempted,
Something done!"

VIOLET RUTHERFORD.

Peel Co., Ont.

PAPERING AND PAINTING.

Dear Junia,—Will you kindly advise me, through your paper, about papering and painting a dining-room? Would you have the woodwork grained? If not, what color would it look best painted? We were thinking of painting the ceiling a deep cream, flat tone, with drop ceiling, and light-brown oatmeal paper for the walls. What color moulding would you use? Please tell me if this would be all right. Our dining-room is large, and has two windows.

FARMER'S DAUGHTER.

Ontario Co., Ont.

I think your color-scheme idea charming; cream ceiling and brown oatmeal paper for the walls, would be a happy combination, provided you chance upon the very right shade of brown, a tobacco or golden-brown, with no trace of red in it.

Personally, I dislike graining very much, and prefer the plain wood, simply stained. Graining is only an imitation at best, and all imitations are to be treated warily. Walnut stain would do very well for moulding, etc.

BUFFALO BUGS.

Dear Junia,—Have been a silent reader of the Ingle Nook for some time, and always enjoyed it. Noticed that someone was inquiring for a remedy for buffalo bugs.

We have tried the following with success. Sometimes the wallpaper has to be torn off the wall. Scald the floor and wall with boiling salt water. Do not think there will be any more trouble. Wishing you success, I remain,
Waterloo Co., Ont.

BERYL.

DYEING—RUG-MAKING—WASHING HINT, ETC.

Dear Junia,—Another interested reader has come to you for help. Can you tell me whether satin can be successfully dyed, and if so, how must I go about it to secure best results?

As rag carpet is not woven any more around here, and I have a large supply of nice, bright balls, I would like you to tell me, if you can, where I could send them to have them made up into rugs, such as I saw at London Fair a few years ago. They resembled tapestry carpet, and one would never guess they were made from common carpet rags.

Here is a recipe for cleansing water to be used in place of soft water. Take a medium-sized iron pot; fill two-thirds full of hardwood ashes and boil on the stove for an hour or two. Fill a barrel with hard water and pour off the white lye from the pot of ashes and let stand over night. The lime by that time will be settled to the bottom, and no lime will collect on inside of pipes, if the cleansed water is used for heating purposes.

To use up old bread or homemade biscuits which have become stale, make a pudding sauce as follows:

One tablespoon butter, 1 tablespoon brown sugar, 2 tablespoons flour. Melt butter and sugar together in a saucepan and rub in flour, then pour in milk to make the required amount, and boil all together until thickened. Season with nutmeg. Next cut bread in four pieces to a slice, and dip in cold milk; place in a deep dish and pour pudding sauce over a little before sitting down to dinner. You will find this makes a very tasty dessert, and remarkably cheap.

Thanking you in advance, I remain yours in need.
MRS. W. F. B.
Wellington Co., Ont.

If you are clever at dyeing, and very careful, you can dye the satin either with Maypole soap or with Diamond Dye for silk. Be careful to follow directions exactly. If you can, secure one of the booklets on dyeing, issued by these dye firms.

Write to Mr. Murray, Hamilton Rug Works, 171 York street, Hamilton, Ont., in regard to your rugs; or to the Canada Carpet and Rug Works, 66 Latour street, Montreal.

The Scrap-Bag.

CARE OF BREAD PAN.

Give the bread pan a very thorough washing with a brush, followed by a scalding after each using. Keep it covered, and wipe it out with a dry cloth every day. Only so will it be kept in a fit condition to make bread.

TO KEEP SHOES FROM SLIPPING.

Pumps for summer wear often give trouble by slipping. To remedy the fault, stitch a piece of ribbon elastic tightly across inside the top of the heel. This will prevent the continual wear of the heel of the stocking.

SAGGING CANE CHAIRS.

When the seat of a cane chair sags, turn the chair upside down and scour the under side of the seat with hot soda-suds, rinse in boiling water, and let dry in an inverted position.

TO KEEP THE HANDS SOFT.

To keep the hands soft, even through the rigors of housecleaning-time, apply the following lotion before the hands are dried each time they are washed: Dissolve a lump of gum camphor the size of a hazelnut in half a pint of alcohol; add one tablespoonful each of glycerine and of lemon juice. If the skin is naturally very dry, use less alcohol.

TO SPRINKLE CLOTHES QUICKLY.

To sprinkle clothes quickly, use a cheap whisk broom and clean, warm water. The whisk should be kept exclusively for the purpose, as otherwise there is danger of its holding dust and thus spotting the clothes.

USE FOR OLD SHIRTS.

Men's shirts wear out usually around the neck-bands and cuffs, while the rest of the garment is good. The worn parts may be trimmed off, and the remainder made into a short kimono, with low neck and elbow sleeves. Little aprons for afternoon or straight aprons for a child, with straps across the shoulder, are other uses to which the shirt may be put.

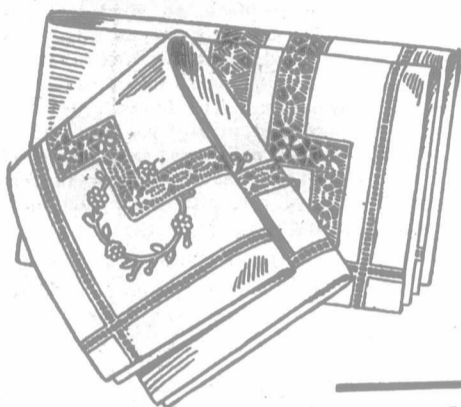
GOODS SATISFACTORY TO YOU OR MONEY REFUNDED, INCLUDING SHIPPING CHARGES. NO EXCEPTIONS

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FREE DELIVERY WE PREPAY SHIPPING CHARGES ON 10.00 ORDERS AND OVER

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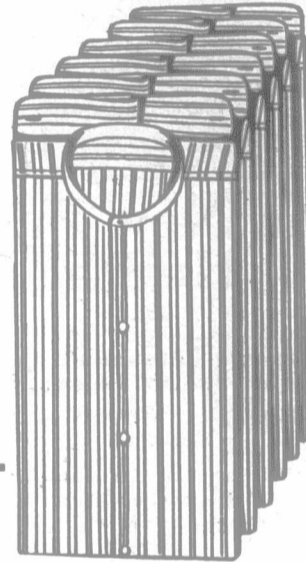
Stand Covers, Pillow Shams and Dresser Covers. 75 dozen of these beautiful Covers and Scarfs that were sold at exactly double price asked for. They are beautifully hemstitched, with neat drawn-work. Some have embroidery. At this price they should be bought up quickly. Place your order at once, as the quantity is limited.
48-A32. Covers, half price, each..... **43c**
48-A33. Shams, half price, each..... **43c**

WONDERFUL GLOVE OFFER

20-A25. Women's Lambkin Gloves, made from fine quality of skins, with gusset fingers, oversewn seams, cord points and two neat dome fasteners. Colors Tan, Brown, Navy, Grey. Every 1/4 and 1/2 size from 5 3/4 to 2. Never before have we offered such a bargain.
To clear, per pair..... **49c**



SEE OUR SPRING AND SUMMER CATALOGUE FOR OTHER BIG VALUES



MEN! HERE'S YOUR OPPORTUNITY NEGLIGE SHIRTS

AT MANUFACTURER'S PRICE

40-A92. A big rush sale of Men's Neglige Shirts selling at what it cost to make them. Do not overlook them. You save money on every shirt you buy. They are made of the popular cord shirting material in ordinary style, laundered cuffs attached, cushion neckband, in a large assortment of neat Blue or Black stripes on White ground. Order now, men, and get your supply at this saving price while they last.
Sizes 14 to 17 1/2. Each... **50c**

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WOMEN'S ALL-WOOL BLACK VOILE SKIRT

3.95

EXTRAORDINARY BIG VALUE

82-A194. This Beautiful Skirt of fine All-wool Black Voile of purest dye, cut in six gores, and with plenty of fullness, is a rare bargain, a few of them being found on hand after recent selling, and now offered much below half the original price, to clear at once. Waist measures 22 to 29 inches. Front lengths 37 to 42 inches.
The price, to clear, each... **3.95**

CHILDREN'S WHITE LAWN DRESSES

98c

AT A SACRIFICE PRICE

58-A76. Your Daughters, between the ages of 6 and 14 years, may have, if you will, this, one of the choicest of Richly Embroidered and Valenciennes Lace-trimmed White Lawn Dresses, at a fraction of the regular price, owing to our having a couple of hundred of them over from a recent sensational price sale. The lengths are from 26 to 42 inches.
The price to clear, each..... **98c**

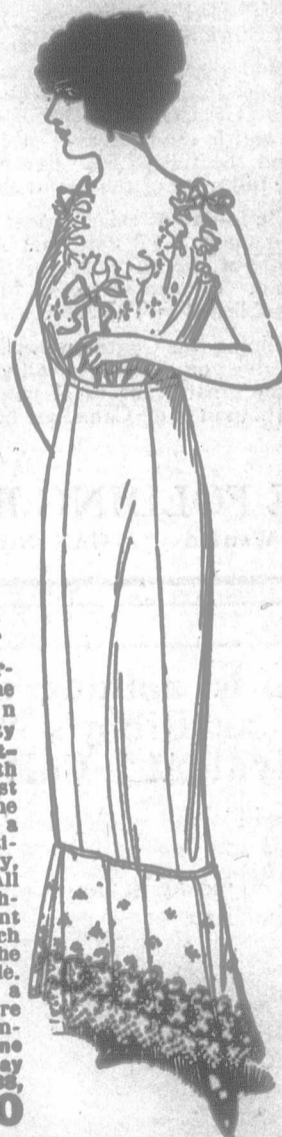


THIS BEAUTIFUL EMBROIDERED WHITE PETTICOAT

1.00

ORDER QUICK

74-A12. An extraordinary bargain for the well-dressed woman who desires a Dainty Serviceable White Petticoat to wear beneath the season's sheerest dresses, made of fine White Cotton, with a deep flounce of beautiful Swiss embroidery, ruffled dust frill. All seams are neatly finished, and the garment throughout is of such quality as to give the utmost service possible. This is distinctly a great bargain, and there are but a limited number on hand. Order one to-day-to-morrow may be too late. Lengths 36, 40 and 42.
Price..... **1.00**



T. EATON CO LIMITED
TORONTO CANADA

TO CLEAN A COAT COLLAR.

A tablespoonful of powdered ammonia in half a teacupful of water is a safe cleaning mixture. Dip into it a piece of cloth and rub the soiled coat collar until it is clean. Alcohol or benzine will do the work, but should be applied out of doors, away from fire or lights, to prevent accident.

SHRINKING WASH GOODS.

Wash goods may be easily shrunken as follows: Leave the goods in folds as it comes from the store, lay it flat in a tub and cover with water. Let it lie for an hour or more, then take it out

by the upper edges of the folds and hang it up to the line, dripping wet, pinning the top firmly along so as to keep it as straight as possible. As the outside folds dry, throw them up over the line to let the inner ones dry.

Recipes.

Eggs with Sauce.—Boil 6 eggs hard. Press the yolks through a colander, and cut the whites into dice. Make a cup of thick white sauce with milk, flour and butter, and the beaten yolk of one egg. Put this in a shallow baking-dish, cover with the egg, and heat in the oven.

Serve in the dish in which it was heated.

Three-minute Pudding Sauce.—Put into a saucepan 1 cup of thin sweet cream, 1 teaspoon vanilla or other flavoring, and 1/2 cup light-brown sugar. Put over the fire and stir until boiling hot, but do not let boil. To change it into a very good chocolate sauce, add a heaping tablespoonful of cocoa.

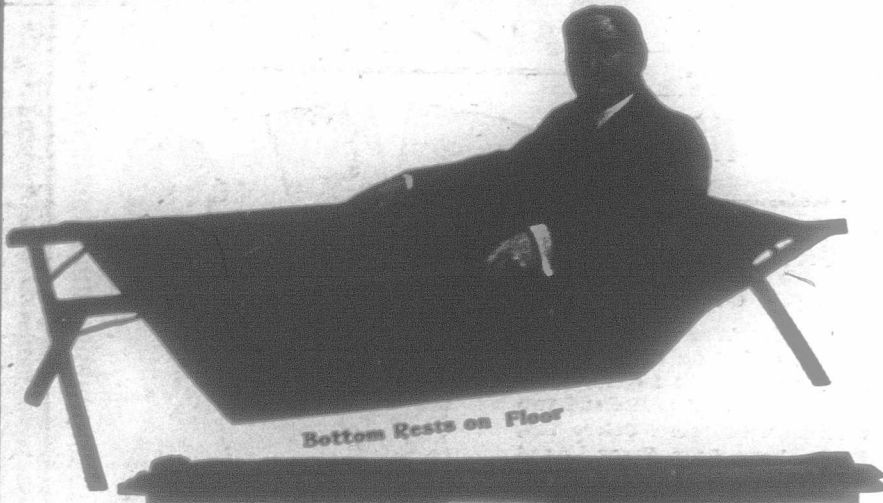
Scalloped Potatoes.—Pare and slice very thin as many potatoes as needed. Wash thoroughly, cover with salted, boiling water, and heat quickly to the boiling point. Let boil 2 minutes, drain, rinse in cold water, and drain again. This

will remove the strong taste. Turn the potatoes into a baking-dish, sprinkle with a little salt, add a few bits of butter, and enough hot milk just to cover. Let cook in a moderate oven about an hour and a half, or until the potato is tender. Add milk from time to time if needed as the potatoes bake. Fifteen minutes before serving, spread 1/2 cup cracker crumbs mixed with 1/2 cup melted butter over the top, and set in the top of the oven to brown the crumbs. Grated onion or finely-chopped parsley may be mixed through the potatoes before the milk is added.

Indian Tapioca Pudding.—Soak 5 table-

Contest No. 3

We have been requested by many readers of The Farmer's Advocate to run another of our Contests, and we are going to make this the biggest prize winner of any, and give you perhaps your last chance to install one of our bath tubs in your home free of charge but with an additional prize of \$2.50 in CASH.



HERE ARE THE CONDITIONS

Send us \$7.50 and we will immediately ship you one of our regular Adult Folding Bath Tubs, which affords all the advantages of the stationary equipment, is the same size as the standard enamel bath and carries a guarantee for FIVE YEARS; every sixth letter which we receive will entitle the writer of that letter to one of our regular Adult Bath Tubs, and we will not only send back the \$7.50 remitted us, but will also send the winners additional Cash Prizes of \$2.50, so that you are not only entitled to a chance of getting the bath tub free, but your \$7.50 will be returned to you together with an additional \$2.50 in cash, making ten dollars in all.

Should there be any cheques outstanding in connection with our previous Contest they will still be accepted in part payment of a bath tub UNDER THE CONDITIONS GOVERNING THAT CONTEST, but they will not entitle the holders of said cheques to compete in this Contest unless they send the full \$7.50. Everyone competing in this Contest No. 3 must send the full price of the bath tub in CASH, namely, \$7.50.

Write to-day as this Contest will only appear in two issues of The Advocate, namely, April 23rd and April 30th. Mark all letters Contest No. 3 on outside of the envelope, so that we can keep them separate from our other mail. Contest will close May 9th, 1914, and names of prize winners will be published in The Advocate May 21st, 1914.

In joining this Contest we wish you to keep in mind the fact that we guarantee to give you the fullest value for your money by installing in your home one of the greatest needs of modern times, and a bath tub which is being used in thousands of Canadian homes to-day with the utmost satisfaction.

ADDRESS:

THE FOLDING BATH TUB CO., LTD.
Agents Wanted GANANOQUE, ONTARIO Agents Wanted

There is nothing quite so good as Bibby's "Cream Equivalent" Calf Meal.

A pint will make sufficient rich nourishing gruel for one calf for a whole day.

"MADE IN ENGLAND"



SOLD BY LEADING MERCHANTS, OR DIRECT BY
W^M RENNIE CO. Limited TORONTO

Also at Montreal, Winnipeg and Vancouver

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spoons of pearl tapioca in cold water for 2 hours. Pour 4 cups of scalded milk over 4 tablespoonfuls of corn meal, and cook in the double-boiler for 20 minutes, stirring occasionally. Add the tapioca, drained from the water, $\frac{1}{2}$ cup molasses, 3 tablespoonfuls of butter, and $\frac{1}{2}$ teaspoon of salt. Turn into a buttered pudding-dish and pour over one cupful of cold milk. Do not stir. Bake $1\frac{1}{2}$ hours.

Feather Muffins.—One cup milk, 1 tablespoonful melted butter and lard, 1 salt-spoon salt, 1 tablespoonful sugar, 2 teaspoons baking powder, flour to make a batter about as stiff as ordinary cake. Sift the baking powder with a little of the flour. Bake in hot, buttered muffin-rings, or deep patty-pans.

Graham Popovers.—One cup Graham flour, 1 cup white flour, 1 cup milk, 1 cup water, 1 teaspoon sugar, pinch salt. Beat the Graham flour, white flour, and milk, together; add water, sugar and salt, and beat very vigorously with a Dover egg-beater. Pour into very hot gem pans, and bake in a hot oven.

Oatmeal Cookies.—One cup fine oatmeal, 1 cup flour, $\frac{1}{2}$ cup sugar, $\frac{1}{2}$ cup butter and lard mixed, $\frac{1}{2}$ cup milk with $\frac{1}{2}$ teaspoon soda dissolved in it. Add a little nutmeg and grated orange or lemon peel, and flour enough to roll. Roll thin.

Gingersnaps.—Boil together 1 cup molasses, $\frac{1}{2}$ cup sugar, $\frac{1}{2}$ cup melted shortening. When they boil up, remove from the fire, and when cool add 1 tablespoonful ginger, 1 teaspoon soda, and flour to roll. Roll thin, crease with a ridged roller or the tines of a silver fork; cut in fancy shapes, and bake in a moderate oven.

"feel" in the mouth, are all needed "to touch the spot."

"FEEL" OF FOODS.

Imagine eating the best of good coffee in solid form, instead of drinking it! Imagine a beefsteak in liquid form! Imagine an apple pie made up as a jelly! How would you like so togethery a meal? Fancy how one might crispness in certain cakes or biscuits; and how would one hate crispness in a boiled egg! We dislike crispness in a slice of bread, although we want it in toast. As for temperature, just remember the difference between lukewarm water and cold water; or between coffee piping hot and stone cold.

We are creatures of habit and association of ideas, so much so that most of us would be quite as miserable living on a steady diet of Mexican cooking as a native Mexican would be living on our cooking. The food value is there, both here and in Mexico, but the things that make Canadians and Mexicans individually and racially happy in their feed, as things are, would be lacking in the exchange.

MEN, WOMEN AND FOOD.

Women, according to Woods Hutchinson, have not, contrary to general belief, as delicate perceptions of color, smell, and taste as men have, averaging up both sexes. Perhaps this is the reason that, although women do the most cooking, men do the most eating, and think far more highly of good cooks and good cooking than do women. Food is a bigger item in a man's life than in a woman's—not, it is true, in the buying of it, preparing it, fussing over it, but in the eating of it, and after all, that is what food is for! Women want things to look nice, but men want it to be nice—in their insides, not on the table! So cooking, condiments, consistency, and correct temperatures, are all very vital items in "good food and plenty of it"—almost as important as fuel value itself.

VITAMINS.

So far so good; everyone will accept the foregoing. But here is something quite new in the last few years.

There are certain things in certain foods that are not fuel, not flavors, not "feel," not temperature. Yet their absence undoes all the good of food, and results sometimes in definite diseases.

To understand how they act, the history of their discovery must be briefly outlined.

A mysterious disease called beri-beri haunts the East, especially the natives of China, and some other countries of similar diet. It was attributed at one time to infection, then to "low diet," and to other things. At last it was noted that it occurred amongst those, and those only, whose diet was confined to rice, but not amongst all rice-eaters; only amongst those rice-eaters who ate polished rice, and polished rice only.

Polished rice is rice milled to remove the natural brown skin of the rice grain, leaving the clear, pearly-white grain we generally demand. Evidently something was removed in the process that was extremely valuable to the body, for patients with beri-beri could be cured by feeding with unpolished rice; or by collecting and feeding the dry, dusty powder, consisting of this skin, after it was removed from the rice grain; or finally by treating the patients with a substance which could be obtained by chemical processes from the powder. This substance was present in such minute quantities, that a ton of the "polishing," representing hundreds of tons of rice, yielded only a few grains!

SCURVY.

Scurvy is a well-known disease, generally brought on by an exclusive diet of preserved meat. It is curable, as has long been known, by the use of fresh vegetables. But the reason why was not understood until the discovery of vitamins. It is merely the lack of these vitamins, not any active poisons in the preserved meat that produces the trouble. It is their presence in fresh vegetables that makes fresh vegetables a cure. In beri-beri, it was not the use of polished rice that did harm; but the absence of the vitamins. Polished rice is all right, provided the vitamins are supplied from some other source. As an exclusive diet, however, polished rice is a failure. The white people living in beri-beri neighborhoods escaped beri-beri;

The New Public Health.

"The Farmer's Advocate" Bureau of Public Health Information.

QUESTIONS, ANSWERS, AND COMMENTS.

Conducted by the Institute of Public Health.—The Public Health Faculty of Western University, London, Ontario.)

Established and maintained by the Ontario Provincial Government.

[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 or diagnosis for individual cases cannot be prescribed.]

More about Foods.

(Continued.)

FOOD THAT DOES NOT FEED.

Although food is really fuel, yet the animal body, especially the sensitive, psychic, human body, is very particular about certain characteristics of food which are quite distinct from fuel value. Even an ordinary furnace, burning coal, is somewhat responsive to the kind of coal thrown into it, how it is piled in, how often it is shaken down. Everyone knows that one person may keep a beautiful, steady glow going, and another person, handling the same furnace, using even the same coal, will have perpetual trouble, fire too hot, or not hot enough, or smoking terribly, or going out at the critical moment. Our bodies are sensitive in the same way, and, like furnaces, each different body has its own little peculiarities. We can't, after all, measure and weigh out just so much food, having just so much fuel value, shovel it into any human mouth, and expect to get back just so much return in heat or energy. Many things besides fuel value have a bearing on successful feeding. Some of these are, smell, taste, temperature, and "feel." Everyone knows how different the same essential elements, lard, sugar, flour, water, eggs, and apples, may affect you if merely thrown together by a rough-and-ready roustabout cook, or if made into a really artistic apple pie. Salt, of no fuel value; spices, of no fuel value; and a certain knack in putting them all together to create a proper consistency or

they used polished rice, just as the natives did; but they did not use it exclusively. Because they had a liberal mixed diet, their vitamins came along in some other form.

HOW DO VITAMINS ACT?

Vitamins, it is thought, act in some way to "hook up" the food with the body cells, and may perhaps be compared with coupling-pins on a railroad. The train may be loaded, and the passengers clamoring to start; the locomotive may have steam up and full power to draw the train. But nothing happens until the little coupling-pin, not one-one-thousandth of the weight or apparent importance of either train or locomotive, is found and dropped into its place.

PRACTICAL APPLICATIONS.

An exclusive diet of superheated or over-cooked foods, such as canned goods, much-cooked milk, preserved meats, etc., is likely to result in disaster from lack of vitamins, which, it seems, may be destroyed on prolonged heating, or perhaps by chemical treatment.

The fuel value, flavors, feel, etc., essential to foods may be present, but the vitamins are needed, too. So far, it would seem to be a pretty good rule always to have some raw fruit or vegetables as part of the diet. Milk, fresh, unheated milk contains vitamins, as do many other foods, vegetable, and probably animal. So we will conclude this series by repeating the old advice: "Good food and plenty of it," and expand this to meet the latest discoveries by adding: "some of it raw."

H. W. HILL.

Re An English Water Supply.

Ques.—I was very much interested in an article entitled "Water-supply" in "The Farmer's Advocate," March 5, page 422. I should like to know what effect on human health water coming from limestone rock which contains lead ore would have.

FARMER.

Aigden Wigglesworth, Long Preston, England.

Ans.—Certain types of water may attack lead and dissolve a sufficient quantity to render the use of such water for drinking purposes dangerous. As waters of these types may be included the very soft waters, acid or peaty waters, and waters which contain large amounts of organic matter in an active state of decomposition, such as bog water.

In general, it has been found that waters having the greatest amount of dissolved solids and hardness, dissolve the least amount of lead. Water which comes through a limestone formation may be classed as a hard water, and will contain a relatively large amount of dissolved solids. It seems probable, therefore, that the water which you describe would not contain a sufficient amount of lead to make its use dangerous.

We are not able to make a definite statement in regard to the potability of this water without first subjecting it to chemical analysis. Your problem is an interesting one, and we will be glad to make an analysis and give you a definite report upon its quality, if you will send us, prepaid, a large sample (half a gallon or a gallon) of the water. The analysis will be made free of charge, the only charge being that of shipping the water to us, provided a sample of the lead ore, say half a pound, is sent also.

A. J. SLACK.

The Wife's Allowance.

(By a "Mere Man.")

Editor "The Farmer's Advocate":

I have heard that it has been said recently by one of our prominent semi-suffragettes that no young woman should marry before the question of an allowance had been settled and the matter thoroughly threshed out. She goes on to say that probably a large percentage of divorces to-day are a result of a failure to take this precaution.

Now, I don't think that this is altogether probable. If a man consents to divorce rather than give his wife a share of the cash income of his business, it is hardly likely that he would have married in the first place were this division one of the conditions of the contract.

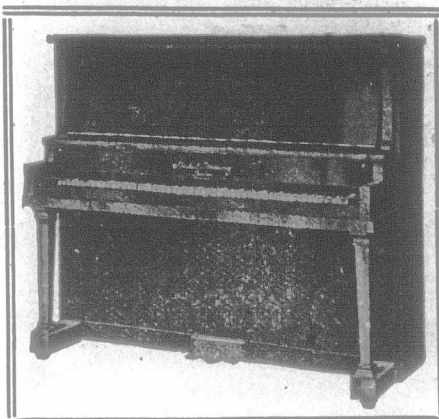
But putting that phase of the question aside, the advisability of a regular

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allowance to the wife is a subject for argument that has not, up to the present, been brought to a very satisfactory conclusion. There are difficulties connected with the working out of the plan that vary in the case of almost every individual. For one thing a share of the profits on the working of a farm, for instance, cannot be figured out until the end of the year; so that the monthly or weekly allowance would practically have to be guessed at. Then extra expenses such as building, or unusual losses as by unfavorable weather, might work a good deal of hardship in the case of the farmer who agrees to give his wife a stated sum regularly for her own use. It's not a workable scheme on the average farm, I would say. The yearly income is too variable, and in the majority of cases the expenditure has to be regulated according to the revenue.

Furthermore, no good business man will allow his partner to spend the firm's money without giving a detailed account of the transaction. Money mutually earned should be expended by consent of all parties interested. This is not practicable where the wife has her private purse and a stated allowance from her husband. The way out of this difficulty is very easy, it seems to me. It is a fairly common practice for farmers to hand over to their wives any money they receive, and then when they want it to go to her for it. The reason for its expenditure is usually given and her consent obtained. Now, why could not this method be made universal, among farmers at least? The fact that money is now generally placed in the bank when not required for immediate use need not stand in the way. The point is that a spirit of partnership between a man and his wife, causing them to consult one another in all matters concerning the financial side of the business, would go a long way towards solving the "allowance" question. Some say that it is humiliating for a woman to have to ask her husband for money. Is it not much more humiliating to be given the standing of a servant or house-keeper and receive one's wages, as it were, weekly or monthly? There is just one word that describes the ideal conditions for husband and wife where financial matters are concerned, and that word is partnership. It puts them on a basis of equality, where all men and their wives should be. It creates mutual respect and gives the wife an interest in the business, and an opportunity for helpfulness that she could not otherwise have. "Two heads are better than one," especially if one of them belongs to a woman; if I may be

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

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allowed to bring the old proverb to its logical conclusion. Anyway, this seems to me to be the reasonable solution of what sometimes becomes a difficult problem, and if married men, and especially farmers, will give the method a trial I don't think they will be disappointed by the results. A "square deal" brings out the best qualities that a man has been endowed with, and it is none the less effective in the case of a woman. Take her into the firm, give her a share in its management, and don't let her think you want to pay her off with a share of the income or a weekly salary. It's her business as well as yours, yours as well as hers, and if there's a profit over living expenses, showing at the end of the year, it should go into the improvement of that business, not into the pocket or private bank account of either partner. As they say over in our neighboring republic at election time, "Let us have progress, prosperity and peace." These desirable conditions can, I think, be brought about by means of what I have tried to outline, that is, a co-operative partnership on the farm and in the home.

J. E. MAE.

The Beaver Circle

Our Senior Beavers.

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

Fairy Music.

Oh, you shall play a seaweed harp,
And you, a beechnut violin,
Till your thin music silver-sharp
Invites the vagrant fireflies in.

And you shall play a moonbeam flute,
And you, a mullein-stalk bassoon,
Till all the crickets gather mute
To criticize beneath the moon.

And you shall play the shepherd horn
That calls white fancies home like sheep:
And you, the oboe all forlorn
That Oberon gave you to keep.

For you will both be fairies then:
And one shall sound a coiled shell
To pilot fairy sailormen,
And one shall ring a crystal bell.

And you with yellow hair will need
A willow whistle cut at dawn:
But you shall play a river-reed
Like any little nut-brown faun.

And Syrinx will forget to flee,
And Pan, what mischief he had planned:
And she with you will dance while he
Pipes up the moon of Fairyland.

—By Grace Hazard Conkling, in The Craftsman.

Kettle Talk.

"I don't feel well," the kettle sighed. The pot responded. "Eh? Then doubtless that's the reason, ma'am. You do not sing to-day, but what's amiss?" The kettle sobbed. "Why, sir, you're surely blind. Or you'd have noticed that the cook is shockingly unkind. I watched her make a cake just now—If I'd a pair of legs I'd run away! Oh, dear! Oh, dear! How she did beat the eggs, Nor was that all, remember, please, 'Tis truth I tell to you—For with my own eyes I saw Her stone the raisins, too! And afterwards—a dreadful sight! I felt inclined to scream! The cruel creature took a fork And soundly whipped the cream! How can you wonder that my nerves Have rather given way? Although I'm at the boiling point, I cannot sing to-day."

—The Child's Hour.

Funnies.

The teacher was instructing the youngsters in natural history. "Can any little boy or girl," said she, "tell me what an oyster is?" The small hand of Jimmy Jones shot into the air. "I know, Miss Mary! I know! An oyster," triumphantly announced Jimmy, "is a fish built like a nut."—Christian Register.

"Mother," said little Mabel, "do missionaries go to heaven?"

"Why, of course, dear," her mother replied. "Do cannibals?"

"No, I am afraid they don't."

"But, mother," the little girl insisted, "if a cannibal eats a missionary, he'll have to go, won't he?"

Little Alice was to speak in public for the first time at a Sunday-school concert. When it came her turn, she arose and walked across the platform very bravely, but being seized with a sudden attack of stage fright, she could not find her voice. Something came up in her throat, making her gulp and swallow, but no little poem was forthcoming. Finally, turning a frightened face to her teacher, she gasped, "I've swallowed my piece."—Nettie Rand Miller.

A little boy of five was invited to a children's party. The next day he was giving an account of the fun, and said that each of the little visitors had contributed either a song, a recitation or music for the pleasure of the rest.

"Oh, poor little Jack!" said his mother. "How very unfortunate you could do nothing!"

"Yes, I could, mother," replied the young hopeful. "I stood up and said my prayers."

"What became of that little kitten you had?" asked a visitor of the small boy.

"Why, haven't you heard?"

"No; was it drowned?"

"No."

"Lost?"

"No."

"Poisoned?"

"No."

"Then whatever did become of it?"

said the visitor.

"It grew up into a cat," was the reply.—Crescent.

Chickadee.

(Written for Beaver Circle by Mrs. E. A. Winter.)

The ground was all covered with snow one day
When two little sisters were busy at play,
And a snowbird was sitting close by one
And merrily singing his "Chick-a-dee-dee!"

He had not been singing that tune very long

Till little Emily heard him, so loud was his song,

"Oh, sister, look out of the window," said she

"Here's a dear, little bird singing 'Chick-a-dee-dee.'"

"If I were a bare-footed snowbird I know,

I would not stay out in the cold and the snow.

I wonder what makes him so full of glee.

He is all the time singing his Chick-a-dee-dee.

"Oh, mother, do get him some stockings and shoes,

And a nice little hat and a frock if he choose

I wish he would come into the parlor and see

How warm we would make him, poor Chick-a-dee-dee."

The bird had flown down for some pieces of bread

And he heard every word little Emily said.

"How queer I would look in that dress," thought he,

And he laughed as he warbled his Chick-a-dee-dee.

"I thank you dear child for the wish you express,

But I have no occasion for such a fine dress;

I should rather remain with my limbs all free

Than to hobble about singing 'Chick-a-dee-dee.'"

"There is one, my dear child, though I cannot tell who,

That has clothed me already and warm-enough, too,

Good morning; oh who are as happy as we?"

And away he went singing Chick-a-dee-dee.

Senior Beavers' Letter Box.

My dear Puck and Beavers,—Spring is here again, though it does not look so very much like it at present. With it comes maple-syrup making, and sugaring off. I am just going to tell you how I used to amuse myself about this time, after the snow was all gone, and it had begun to get warm. I have not always lived here, but at a place near Watford with my father and mother, on a farm adjoining my grandfather's home. There was a large currant bush behind the house, nearly grown into a tree. Under it were old cans, and sometimes dishes, which, though useless, might not be broken. There was a creek running not far from the house, and just between it and the house was a garden with a trench running through it. In the spring it would be filled with clear water. As there were currant and berry bushes right around it, we played that it was our sugar bush. We would take whole packs of cans and fill them up, then bring them to the boards by the cellar windows, where we poured the make-believe syrup into smaller cans and dishes. So absorbed was I one day, I did not hear anything behind me. But all at once I heard the low "chirk, chirk," of my one enemy, the gobbler. Hastily jumping up, I dodged him, ran past him, and ran screaming into the house. Of course, when I dodged him, he had to turn around before coming after me. But how my uncles and aunts did tease me! There were four or five of them there at that time.

One of my uncles I seemed to like especially well. He was never too tired to play with me, draw pictures for me, or read or tell me stories. Now it is all different. The two old homes are both sold; we have moved to this place; three of my uncles have gone to Saskatchewan, one of them being the above-mentioned favorite. He has two little daughters now. Then, two of my aunts have gone to Alberta, one near the Rockies, another in Calgary. Two others are trained nurses in Toledo, and one still stays with grandfather in Watford. So you see how times change.

We have a rural-mail delivery. It is so handy. Before, one of our neighbors who owned a farm near the station, though he lives just across the road, always brought our mail, and we had to call for it.

As I was looking over "The Farmer's Advocate," I saw a letter from Vera St. Clair. I am glad she has joined the Circle, and congratulate her on her interesting letter.

Well, Puck, this is my fourth letter, and you have published every one. Thank you for it. I remain your loving little curly-headed Beaver.

LUCILE GLASS.
(Age 12, Class Sr. IV.)
R. R. No. 3, Thorndale, Ont.

Dear Puck and Beavers,—I thought I would write and let you know I received my prize, which I like very much. Many thanks for it, Puck. Well, Beavers, spring will soon be here, and we will have to think about our seeds and garden. I should like to join the Garden Competition again this year. May I, Puck? I think Alice Sexsmith made a mistake when she said I was a smart girl, for I am not, but I hope to do better this year.

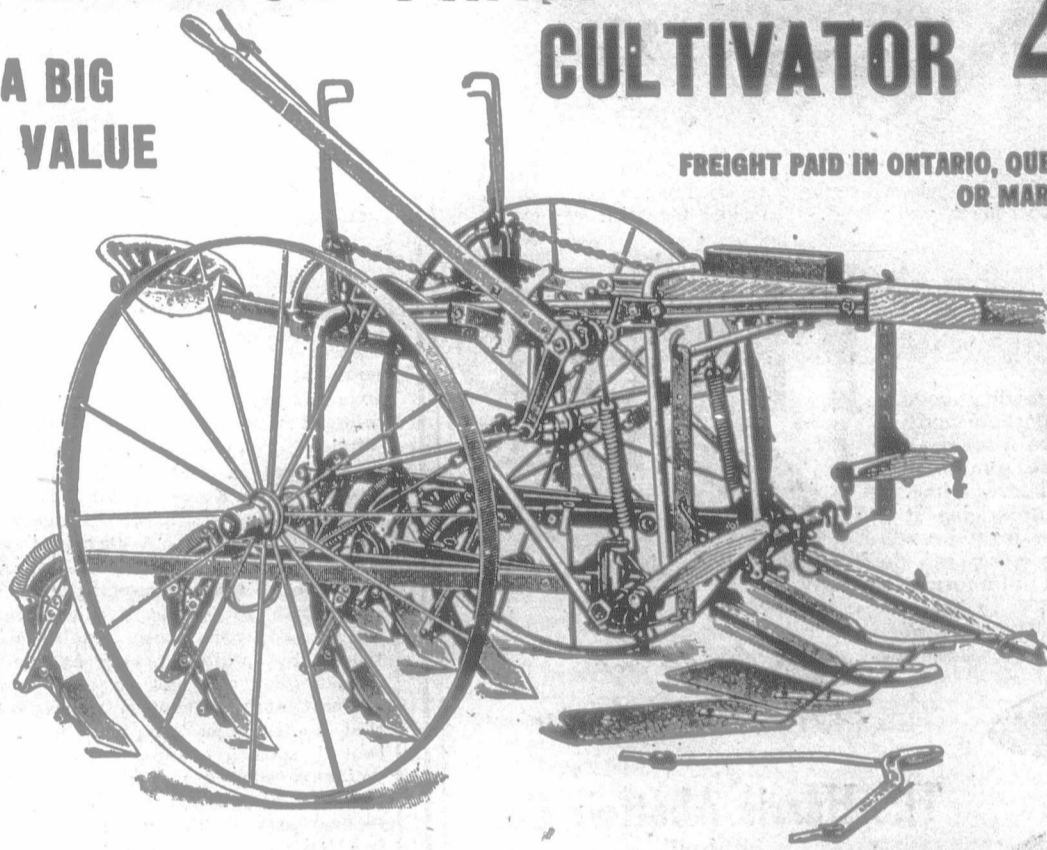
Well, I must be going, and make room for someone else. With best wishes to the Beavers.
RUBY BREADNER (age 13).
Fort Erie, Ont., Box 33.

Certainly you may join in the Garden Competition again, Ruby. Will all Beavers who intend to take part in it, kindly send in their applications not later than May 24th. Send application on a slip of paper by itself, not embodied in a letter.
Dear Puck and Beavers,—I have just been reading over some of the Beavers' letters, and thought I would like to see my own in print. Will you be kind enough to publish it, Puck? I wish you did not have a w.p. b., Puck, as my former letter did not escape it. I live on a 225-acre farm. We have ten horses. My favorite one is "Jummye." She is about eighteen years old, but can trot very fast. I had a school garden last year which consisted of potatoes, mangels, corn, and sweet peas. On September

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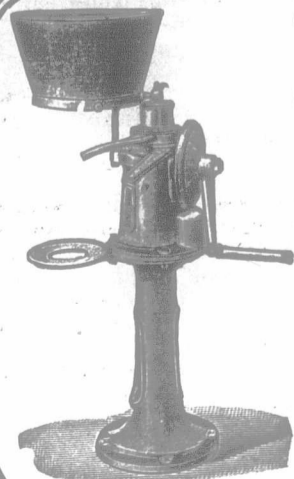
Illustration shows the cultivator in all details except one change, and that is, we have equipped them with an improved and simple break pin instead of spring shovel trip. They are a thoroughly serviceable implement, well painted and finished, and a real money saving value. We ship promptly from Toronto.

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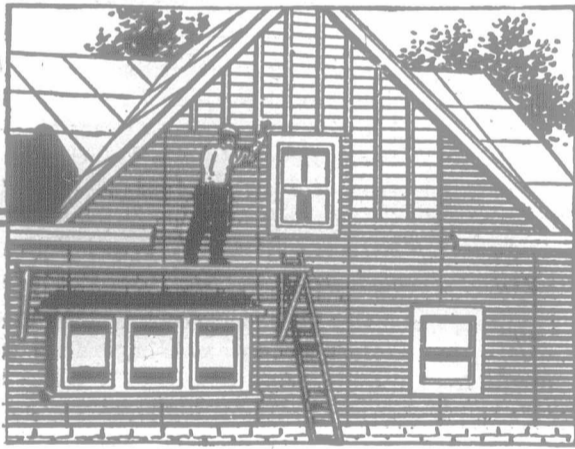
I tell you it's mighty good business to live up those acres of yours, and make you bank balance look like something worth while after harvest-time. Harab Fertilizers are doing it season after season for others. I know by experience they can do it for you! Time is money these days—order, or get full information NOW.

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*Yours for bumper crops,
Progressive Jones*

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Limited
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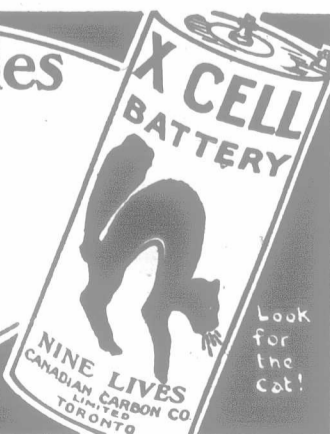
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TORONTO



19th the school had a fair, held at Brinston. I won several prizes. First prize on weed seeds; second prize on candy; second on an apron, and second on an embroidered handkerchief, which amounted to two dollars. I noticed Ruby Breadner and Hazel Yelland's pictures in "The Farmer's Advocate," which I much admired. I am very much interested in the Beavers' gardens, as well as my own. As my letter is lengthening, I will close, wishing the Beaver Circle every success.

G. H. MADELEINE DRISCOLL.
Brinston, Ont., R. R. No. 2.

Dear Puck,—You certainly have made me a very proud and happy girl by presenting me with that copy of "Lives of Great Men." I cannot express how I feel about it, or how I can express my thanks for your goodness while I was a member of the Beaver Circle. You have encouraged me so much that I feel better prepared to "tackle" the series of long essays just ahead of me in school. I am working at one now called "A Day in Canada," to be handed in May 1, and, thanks to you, I have that "I'm-going-to-win" feeling, which makes me spend more time on it and take more care of my sentences, but while working at the style, I take good care not to read how the different authors express themselves, for that makes mine seem so meaningless that I soon give up in despair. But you have showed me that I can beat a few, and encouraged me so that I want to beat more. The result is more practice for me, which is perhaps the most essential thing.

Now, though I have been obliged to withdraw from the Beaver Circle on account of my age, I hope that if I could be of any use, you will not hesitate to tell me. I would be only too pleased to do it if I could do so. With the best of wishes for the success of the Beaver Circle and its members.

WINIFRED COLWELL (age 16).

Try to learn for the sake of "knowing," not of "beating," Winifred. You mean that, don't you? Good speed, little girl.

Dear Circle,—This is my second letter to the Beavers. Since my last letter, my brother Ernest has been very ill with typhoid fever, and I have been ill for two weeks with tonsillitis. Poor mama is nearly tired out, as she did all the waiting on us. My brother is able to be sitting up now. My other brother that is home is 19 years old; he works the farm. I have a mile and a quarter to go to school. My teacher's name is Miss Harrison, and I like her very much. She is very kind to me. She is going to see my sister next Saturday. I have had so many nice letters from the Beavers.

My little dog comes down the lane to meet me when I come home from school. He likes to get my bits of dinner that I have left. My brother likes to read "The Farmer's Advocate" as well as I do. When he was in bed he loved to get it at nights when I came home from school. Our mail man comes at four o'clock. I have a dear little colt called Bubbie. Our work horses are Clydesdales, and one of them killed our driver by kicking her in the head. I will close my letter, as it is getting rather long. Thanking all the little Beavers for their kind letters to me, I remain your loving friend.

GLADYS DUNN.
St. Thomas, Ont.

Dear Puck and Beavers,—I will write you a few lines. I live six miles from our post office and three miles from the lake. I am a boy of thirteen, and I go to school every day. For pets, I have a dog; his name is Watch; a kitten; a horse, and one cow.

I live on a farm of one hundred acres. I like the country very much. I am very fond of riding horse-back and driving horses.

We have fourteen head of cattle on our farm, and four horses. I can ride horse-back on two of them. I like doing chores in the winter-time. There was a little sleighing. There were a lot of temperance meetings in the winter; there was a hard fight.

I got a lot of things for Christmas. We went away on Christmas. We had chicken and plum pudding for dinner. I

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OUR GUARANTEE

You are given 10 days after arrival at your station in which to test any corn purchased from us; if you find it unsatisfactory return it to us within the above limit and we will refund purchase price—the reason for this guarantee is that we know specifically that the corn will germinate 85% or better—we have tested it.

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ORDER PROMPTLY!

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A QUICK HAIR RESTORER

The Princess Hair Rejuvenator does its work quickly and satisfactorily. It has no odor, is as clear as water, contains no injurious ingredients, neither greasy nor sticky, and restores hair less than half grey or faded hair to its original color in ten days. Price \$1 delivered.

Superfluous Hair, Moles, etc., removed permanently by Electrolysis. Satisfaction assured always. Send stamp for booklet "F" and sample of Hair Rejuvenator.

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61 College Street, Toronto. Estab. 1892

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everywhere ride and exhibit our 1914 Royal Bicycles with coaster brakes and all latest improvements.

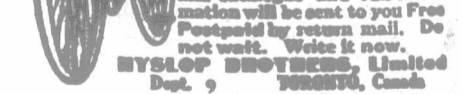
We ship on approval to any address in Canada, without any deposit, and allow 10 DAYS TIME

DO NOT BUY a bicycle, set of tires, lamp, or sundries at any price until you receive our latest 1914 illustrated catalogue and have learned our special prices and attractive proposition.

ONE CENT credit will cost you ten times as much. Send for our catalogue and full information will be sent to you Free Postpaid by return mail. Do not wait. Write it now.

ROYAL BICYCLES, Limited
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Agents wanted, wholesale and retail, in all unutilized territory. Splendid proposition for farmers, farmers' sons or other live men who can sell goods. Write quickly for terms and territory.



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Will hold any sized bag or sack at any height—can easily be carried about—will stand anywhere—made of steel, lasts a lifetime—Satisfaction guaranteed or money refunded—\$3.00 each. Send to-day, or ask your dealer.

IMPERIAL BAG HOLDER CO.
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BEST FOR ALL STOCK

More flesh building, fattening value is found in "MAPLE LEAF" Oil Cake Meal

Write for sample and prices.
Canada Linseed Oil Mills, Limited,
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Peach's Curtains—Actual makers' prices—Nets, Casement Fabrics, Muslins, Linens, Underwear, Shoes, Clothing. Write for free book, "Ideal House Decorations," about 1000 illustrations, interesting, charming ideas and suggestions. Saml. Peach & Sons, Box 671, The Looms, Nottingham, England.

Please mention "The Farmer's Advocate."

THE KARAKUL SHEEP IN AMERICA
A BOOK OF 48 PAGES WITH 15 ILLUSTRATIONS BY

Professor J. Walter Jones, B.A., B.S.A.
Author of "Fur Farming in Canada"
Price 60 cents postpaid

This book gives a thoroughgoing account of the efforts made to introduce the Karakul Sheep into America in order to secure the domestic production of Persian Lamb and Baby Lamb furs and save \$10,000,000.00 to America yearly. By means of tables, it demonstrates clearly the present location of the valuable sheep imported in 1913, as well as of the few good ones imported in 1908. The possibilities in this kind of fur farming can be imagined when it is known that a lamb from a Karakul sire and an ordinary Lincoln or Cotswold ewe is worth several times as much for fur as the usual lamb is worth for meat when six months of age. It would be well for fur farmers to read up on the possibility of fur production with animals already domesticated. More Persian Lamb Fur is sold yearly than of Silver Foxes, Mink, Skunk and Otter combined.

Send 60 cents for this book of concise information to

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PRO-FAT makes your cows produce a larger quantity and better quality milk. PRO-FAT is a scientifically prepared food, made of dried brewers' grains, rich and nourishing. As a milk producer it is giving wonderful results. Leading dairymen, men who have experimented and tested various feeds, stand by and recommend PRO-FAT as the most wholesome body-building and milk-producing food.

Write for sample and booklet, which will give you still more information and show you how to increase your dairy profits.

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Cream Wanted

We pay express charges on cream from any express office within 200 miles from Ottawa. We also supply cans. Sweet or sour cream accepted. Write for particulars to

Valley Creamery of Ottawa, Limited, Ottawa, Ontario

CREAM

Toronto consumes the milk and cream from over 14,000 cows and the butter production of over 70,000 cows, we need your cream and expect to pay well for it, drop a card.

FOR SALE—Registered Tamworth pigs from choice stock, pairs on skin. W. L. DUNCAN, Ontario

• A. C. 21 Barley for seed—A good sample Price 75c. per bush.; bags extra Write ROY MAUS, R.R. No. 2, Paris, Ont.

had a great time in the afternoon. For supper, we had a lot of cakes. Then we came home, and on New Year's day we had someone here for dinner. Yours truly, CLARENCE TOUGH, Bayfield, Ont.

Dear Puck and Beavers.—This is my first letter to your Circle. I hope you will let me join. I like reading the letters of the boys' and girls' very much. I have read many books. Some of them are: "The Tale of Two Stowaways, and Other Stories," "The Basket of Flowers," "Little Men and Little Women," "The Hoosier Schoolboy," "My Little Indian Cousin," "The Red Umbrella and Other Stories," "Winnie's White Frock," and I am now reading "The Girl of the Limberlost."

For pets I have a kitten called Toby, and a dog whose name is Collie. He will shake hands and roll over, and speak when you tell him to.

We have a mile and a half to go to school. In summer we walk; in winter our father drives us, for the snow is too deep to walk. Along with my other work I take music lessons. I have passed the elementary exam. in music.

My letter is getting long, so I will close. Your Beaver.

KATIE SHIELDS, Lansdowne, Ont., R./M. R. No. 3.

Dear Puck and Beavers.—This is my first letter to you. I hope it will make me a member of your Circle. My father has taken "The Farmer's Advocate" for over eight years. It is a welcome paper to our home. I like very much reading the Beavers' letters. I go to school every day; I like it very much. Our school teacher is Miss Arsenault; we like her fine.

In the summer I like very much to go in the fields when they are making hay.

We have an egg circle of over 200 members, of which my father is secretary. We will soon have a car ferry between P. E. Island and New Brunswick. This will be a great advantage.

LUCY ARSENAULT, (Age 13, Sr. III Class.) Urbenville, P. E. Island.

Dear Puck and Beavers.—I have been an interested reader of your circle for a long time. My father has taken "The Farmer's Advocate" since 1886. I was amused when I read the compositions by the boys on the "Girls." It seems to me they thought girls were queer creatures. I live on a farm of about 400 acres near the city of Fredericton on the opposite side of the river. This is my second year at the Fredericton High School. I have about two miles to go to school. In the summer I ride on my bicycle, which I got when I started to High School.

We have had great fun skating and sliding this winter; one afternoon we were out five hours skating and playing on the ice; that was the last time I was out.

The young girls around here have a Sewing Circle every Friday evening. We meet at each others' homes and spend an enjoyable evening.

My younger sister has a pet lamb, only about two weeks old. It will follow one about everywhere.

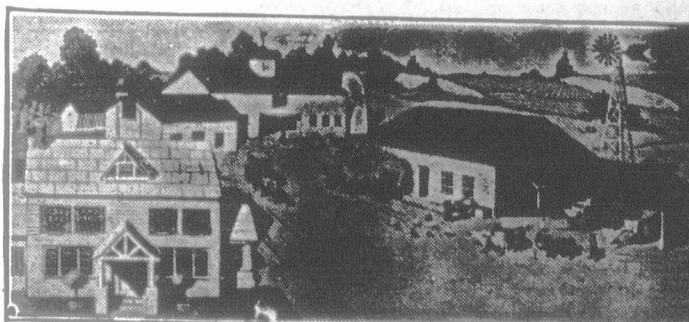
My youngest brother is taking lessons on the violin; my sister, on the piano. She has taken over three quarters. I have taken four quarters on the piano myself, but I have not taken any for two or three years.

I wonder what the next competition will be on? I think I shall try my luck if the subject is not too hard.

I love to read books. If I have a good book I am never lonesome. We have a library at school, and every Friday we may have a book. Our Sunday School has another library, so I have a good chance to get books. I have read the "Elsie Books," some of the "Mildred Books," some "Alger" and a number of the "L. T. Meade Books." Among my favorites is "The Girl of the Limberlost." I have also read "Freckles," and quite a number of others.

I am afraid my letter is getting too

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J-M REGAL ROOFING
"The Roofing with Life"

THIS material was perfected to supply a demand for a rubber type wool felt roofing, lower in price than J-M ASBESTOS, but containing the Johns-Manville standard of quality and service.

J-M REGAL ROOFING does not dry out in the hottest climate and will not freeze or crack in the coldest weather. Does not melt, harden, rot or crumble with time; remains pliable and retains its water-and-fire-resisting properties indefinitely.

Made of the highest grade wool felt, thoroughly saturated and heavily coated on both sides with genuine Trinidad Lake Asphalt, the most durable water-proofing substance known to roofing science.

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McClary's Sunshine Furnace
Gives steady, even heat on least fuel.
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Dirk's Red Mite Killer

One application KILLS all Mites and prevents their re-appearance during the season. Keeps fowls free from body lice. Makes scaly legs bright and clean. Keeps lard, pastry and sweets free from ants. Bedbugs will give no trouble where used. Write to-day for special trial price. Booklet free.

Marshall & Marshall, Niagara Falls, Ontario

long, and will occupy too much room in your Circle.
Wishing your Circle every success, I remain,
LOIS A. FUSE,
Nashwaaksis, N. B. (page 14.)
P. S.—I wish some of the Beavers would write to me.

Dear Beavers,—This is the second time I have written to your Circle. I saw the first letter in print so I will try again. We all like the "Advocate".

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.

AMERICA'S greatest laying strain of White Wyandottes. Winners at the principal International egg-laying competitions. Hens in our breeding pens with over 200-egg records. Hatching eggs, two, three and four dollars per setting. McLeod Bros., Beulah Farm, Stoney Creek.

A DOLLAR for fifteen Barred Rock eggs; Ontario Agricultural College laying strain. Mrs. Berry, Route 6, Guelph.

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AM selling White Wyandotte and White Leghorn eggs at \$1 per 15, \$4 per 100. Day-old chicks \$8 per 50, \$10 per 100. Safe delivery guaranteed. W. R. Kaiser, Lansdowne, Ont.

BUFF ORPINGTONS.—Eggs from Canada's best; \$3 for 15; nine chicks guaranteed; extra heavy layers. Hugh A. Scott, Caledonia, Ont.

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BUFF ORPINGTONS, Prize winners, Eggs for hatching \$1.25 for 15, Donald F. Turner, R. No. 2, Glanworth.

BRED-TO-LAY Barred Rocks mated to fine male from high-record layer. Grand pen 15 eggs \$1. M. Walton, Bright, Ont.

BARRED Rocks, White Wyandotte Eggs from prize hens, two dollars, fifteen, utility, one E. Hayes, Cannington, Ont.

BUFF Leghorns, Buff Orpington eggs. Circular free. J. E. Griffin, Dunnville, Ont.

BARRED Rock eggs from well-bred hocky, heavy-laying, prize-winning birds. Dollar for fifteen; two fifty for forty-five. Chas. Hilliker, Norwich, Ont.

BARRED Rocks—Winter egg machines—Eggs from special mating of my choicest purebred birds \$1.50 per fifteen. Earl Bedal, Box C, Brighton, Ont.

BARRED Rock and White Leghorn—All imported stock; bred for heavy winter layers; eggs \$1 a setting and \$5 a 100. Write for photo of finest plant in Canada. A. C. Baeker, owner, Huron Specialty Farm, Brussels, Ont.

BARRED Rocks, R. I. Reds, White Wyandottes, S. C. Brown and White Leghorns. Eggs \$1 per 15. Wm. Bunn, Denfield, Ont.

CARLUKE Poultry Yards Exhibition and laying strain Barred Plymouth Rocks. Have won the Championship and Medal, Canadian National, Toronto, 1909-1910-1911-1912-1913; which stamps their superiority in the most decisive manner, winning from amongst the principal breeders of Canada. We breed our winners and can sell you eggs that will enable you to do the same. If you want eggs write for prices. G. Morton & Son, R. 4, Box 130, Hamilton, Ont.

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EXHIBITION Barred Rock eggs \$1.50 setting; heavy laying strain. Hy. Hulse, Newmarket, Ont.

EGGS from the famous Red Feather strain (bred to lay) Reds \$2.00 for fifteen. Catalogue free. Red Feather Yards, London, Canada, "Canada's Greatest Red Producers."

EGGS—Purebred Barred Rock, McDonald College, bred-to-lay, \$1 per fifteen; Mammoth Pekin duck eggs, \$1 per thirteen. Also Barred Rock cockerels, Mammoth Pekin drakes. Ralph M. Wallace, Box 5, R. No. 4, Spencerville, Ont.

EGGS from my exhibition Barred Rocks should improve your flock. Only \$3 per setting. A few choice cockerels \$3 each. J. A. Betzner, Aldershot, Ont.

EGGS from choicest matings of an extra heavy laying strain of S. C. Black Minorcas, an exhibition mating of S. C. Black Minorcas, all prize-winners; also choice White Wyandottes. We can satisfy you with quality and price. Write: Peterson Bros., North York, Ont.

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EGGS for sale from prize winning Rouen, Pekin and Buff Orpington ducks, \$2.50 per setting. S. J. Cox, Coborne, Ont.

EGGS—Choice Exhibition, Barred Rocks, fine barred, two dollars per fifteen. Bred to lay strain, one dollar per fifteen. Miss Z. Barbour, Erin, Ontario.

EGGS from 170-egg White Wyandotte hens, mated to Beulah Farm males, \$1.00 per 15. Dr. Nicolle, Maynooth, Ont.

FOR SALE—Golden Laced Wyandotte Cocks; Golden and Silver Laced Wyandotte Cockerels, eggs from both varieties. Peter Daley, Box 12, Seaford, Ont.

HATCHING eggs from purebred, dark mottled, single-comb Anconas; grand utility stock; two dollars per thirty, five dollars per hundred. Karl Snyder, Wales, Ont.

HATCHING eggs—Barred Rocks, Campines, Anconas, "egg machines." Catalogue free. John A. Nash, London, Ont.

If you want winter eggs, buy King's bred-to-lay Single Comb Brown Leghorns. Large layers of large eggs, averaged seventy-one eggs in ninety winter days, January, February, March. Choice eggs, \$1 per fifteen, \$5 hundred. Harshbarger's world-famous-wonder laying strain, Indian Runner Ducks with records of 280 eggs per year. Pure white eggs \$2 thirteen, \$10 hundred. High class Silver and Golden Wyandottes, winners at Canada's greatest show. T. A. King, Milton, Ont.

HIGH-CLASS Barred Rocks.—Barred to the skin; great laying strain; very large fowl; a hen two years old weighed 13 pounds; cockerels eight months old weigh nine pounds. Eggs for hatching \$1 per 15. R. A. Cowan, Lisgar, Ont.

My Barred Rocks won first at Toronto, London and Hamilton. Cockerels and hatching eggs for sale. Leslie Kerns, Freeman, Ont.

PEACHGROVE FARM.—Grand laying Indian Runner ducks. Eggs \$1.50 per fifteen. Frank Baimard, Glanworth, Ont.

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ROSE-COMB Buff Leghorns—\$2 setting; prize-winning stock. Chas. Kingsbury, Pt. Credit.

SINGLE Comb Brown Leghorns and Buff Orpington Eggs for Hatching, prizewinners and good layers, one dollar per 15. Harry Marritt, Keswick, Ont.

SINGLE-COMB White Leghorn eggs that hatch: dollar setting; five dollars hundred. E. W. Burt, Paris, Ont.

UNFERTILE Eggs replaced free and safe delivery guaranteed. Eggs from high standard bred-to-lay Barred Rocks, White Wyandottes, Buff Leghorns, \$1.25 fifteen; large vigorous stock; extra heavy layers; pullets laying at 5 months old. Write for free catalogue which gives full particulars. Satisfaction or money refunded. Charles Watson, Londesboro, Ont.

WHITE Wyandotte eggs for hatching from good, vigorous stock. Special matings, \$3 per fifteen; utility matings, \$2 per fifteen. W. T. Ellis, Walkerton, Ont.

WHITE Wyandottes—Champions eight years at New York State Fair. Big, vigorous cockerels, \$2, \$3 and \$5 each. Pullets, \$2 and \$3. Eggs, \$3 per setting. Send for free catalogue. John S. Martin, Drawer R., Port Dover, Ont.

WHITE Wyandotte eggs from my Championship male and other matings; heavy laying strain. H. Rundle, Brighton, Ont.

WHITE Wyandottes exclusively—Eggs \$1 per 15. Good hatch guaranteed. Thos. F. Pirie, R. R. No. 3, Ingersoll, Ont.

WHITE Wyandotte eggs from specially selected vigorous stock. Laying strain \$2.00 per setting. Weldwood Farm, Farmer's Advocate, London, Ont.

Locharbar POULTRY YARDS is prepared to fill orders for eggs from selected birds of the following varieties: Barred P. Rock eggs, \$1 per 15; M. Bronze turkey eggs, 40c each, \$3.50 per nine. D. A. GRAHAM, R. R. No. 3, Wyoming, Ont.

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Single-Comb Brown Leghorns The kind that lay; \$1.25 for fifteen. WILLIAM BARNET & SONS, Fergus, Ontario

WANTED FOR SALE

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

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

FOR sale, or would exchange for Ontario land, half section near Wilkie, Saskatchewan; half mile from railway station, post office; finest land; hundred acres in crop; gasoline outfit and good horses and cattle if wanted; house, stable, etc. Apply Box M, Farmer's Advocate, Toronto.

FOR Sale—Registered Scotch Collie dog, two years; also extra fine female puppy. B. Armstrong, Codrington, Ont.

FOR SALE—Near Melita, in Southwestern Manitoba, a first-class farm of 640 acres; 480 acres under cultivation; buildings worth \$6,000.00; good frame house, large barn, sheds, granaries, etc. Plenty of good water. Pine Grove of trees around the buildings. School on the farm. Will take a small farm (25 or 50 acres) in Southwestern Ontario on the deal. \$32.00 per acre. Address M. L. C., Box 184, Melita, Manitoba.

I HAVE a large number of housekeepers and good domestics requiring advanced passage to Canada. I personally guarantee each person remaining in situation until fare repaid. Hughes, 3 New Street, Birmingham, England.

PURE BRED Scotch Collie pups, \$10 each with full pedigree for registration. S. J. Cox, Colborne, Ont.

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

WANTED—Persons to grow mushrooms for us at home. From \$15 per week upwards can be made by using waste space in yards of gardens. Illustrated booklet sent free. Address Montreal Supply Company, Montreal

WANTED—Young man to start as shepherd. Experience not necessary, but must be fond of good stock. Canadian preferred. Robt. McEwen, Byron, Ont.

Two First-Class Milkers Wanted Wages \$28.00 Per Month and Board, Steady Employment. Apply, Erindale Farms Limited, 18 Miles West of Toronto, Erindale, Ontario.

Get Free Cyphers Book. Shows poultry equipment that makes poultry raising more success. (Canadian Ontario) Price \$1.00 per copy. Illustrated—pictures—describes. CYPHERS INCUBATORS AND BROODERS. World's Standard. Leads to Success. Company's Free Book. Get Book Today. CYPHERS INCUBATOR CO. Dept. 184 Buffalo, N. Y.

and I look forward to Friday, when it comes.

I am eleven years old and in the fourth book. I like reading and have quite a few books. My favorite ones are "Little Women," "Little Women Wounded," "Beautiful Joe," "Little Lord Fontleroy," and "Black Beauty."

I like animals very much and have quite a few pets. My cat "Tortie" has a queer name but looks about as funny, because she is about all the colors a cat can be. We have a dog "Rex." He is not quite a year old yet and is lots of fun. I have an old dog harness that I sometimes put on him, but he does not go very well yet. If he has done something wrong he will put his paw to "shake hands" with you. I "make friends" with all the horses too. Well, I guess that will be all for this time. I hope the w.p. b. will not be any hungrier than it was before. Good-bye.

Your friend, Camlachie, Ont. HELEN JARDINE. (Class IV.) P. S.—Will some of the Beaver girls about my own age please write to me.

Dear Puck and Beavers.—I have only sent two letters to your Circle; so this is my third. I am going to write the very best letter that I can. I live in a beautiful part of the country; it is all beautiful hills and valleys. My home is near the Montreal road. Montreal is one hundred miles from our place. The Ottawa river flows past one end of my father's farm. Just across the river from us is Duck Island. I guess a good many Beavers have read of this in the geography of Ontario. In the river about ten feet there is a ledge of rock. A great many people don't know about this and there are sad accidents sometimes. Nearly every summer somebody gets drowned. I live on a pretty big farm; there are about three hundred acres in it. My sisters and I have a little Shetland pony; its name is Strawberry. I am going to join your garden competition again this year Puck. Mine was a failure last year because of an abscess on my hand. I had to go to the doctor every day, and the chickens ruined my garden while I was away. I hope the Beavers will not think this is too dull altogether.

One of your hard-working Beavers, MARIA HOPKINS. R. R. No. 1, Ottawa, Ont. (Continuation Class.)

Honor Roll. Hope Cochran, Jean Anderson, Rae Coultis, Gladys Clark, Annie Cameron, Edward Shales, Aggie Casselman, Vera Eidt.

Beaver Circle Notes. Jean Anderson wishes to know where she can get a seed catalogue. Write to any of the seedsmen who advertise in this paper, Jean. Hilda Johnson, Greenwich, Nova Scotia, wishes some of the Beavers to write to her.

News of the Week

Mr. Rowell's bill to abolish the bar was rejected in the Ontario Legislature by a straight party majority.

Upwards of one thousand delegates waited on the Government at Ottawa, on April 15, to urge the early construction of the Georgian Bay Canal.

Fernand Forest, inventor of the explosion motor engine, which rendered possible the motor-car and aeroplane, died because of excitement, due to an accident to his motor-boat, at Monaco, on April 12. He was 71 years of age.

At a meeting of a sub-committee of the American Centenary organization which met in New York on April 15, memorials to aggregate a cost of \$1,000,000, were approved, to mark the coming centennial of peace between the United States and Great Britain. These will include a statue of Lincoln in London, one of Parkman, the historian, in Ottawa, and one of Queen Victoria in Washington. It was suggested that, in

order to promote a better understanding among the nations, a portion of the funds be used to give free educational trips abroad to newspapermen of all nations.

At time of going to press, the fleet of 46 American warships, carrying 21,000 men, despatched by the United States to Mexico, in order that proper recognition be given the American flag, are still en route, President Wilson having flatly refused to consider Huerta's demand that the Mexican and American salutes be fired simultaneously, while Huerta will agree to no other condition. Hostilities are expected at any moment.

The Ivory Snuff Box.

By Arnold Fredericks. (Copyrighted.) Chapter XII.

DUVALL'S DANGEROUS DELAY.

Richard Duvall looked at the tense figure, the agitated face of his companion, and once again a feeling of surprise swept over him as he observed the little Frenchman's joy at the recovery of M. de Grissac's snuff-box.

Throughout the exciting events of the morning and of the night before, the detective had lost sight of the apparent insignificance of the object of their search, now that he for the first time saw it before him, his curiosity was once more aroused.

Surely there must be something of vast interest about this apparently worthless bit of ivory to make its theft the reason for a brutal murder, its recovery a matter of such extreme importance that Monsieur Lefevre should consider the honor of his country at stake.

He took the box from Duffrenne's trembling fingers and examined it carefully. It was about two and a half inches in circumference and quite shallow, not over half an inch in depth in all.

The ivory was old and yellow from use and time, and very thin and smooth. The lightness of the box surprised him—it seemed to weigh almost nothing as he balanced it on the palm of his hand.

The circular top of the box was curiously ornamented with a circle of small colorless pearls of trifling value, set at regular intervals about the edge of the cover. Within this row of pearls was an inscription in Latin, carved in tiny letters in the ivory.

From its first words, "Pater Noster," Duvall saw that it was the Lord's Prayer. The letters extended around the circumference of the box in several concentric lines, or rings, inside of the ring of pearls. In the center of the box was a cross of ivory, carved so as to be slightly raised above its general surface. Beyond this, the box contained no other ornamentation.

Along the front edge of the box Duvall noticed a small spring. He pressed it in considerable excitement. Evidently the reason for the box's value must be within—some papers, no doubt, of extreme importance. He saw the cover of the box fly upward and glanced hastily inside. The box contained nothing but a few pinches of snuff.

Duvall was almost tempted to laugh. The whole thing seemed so ridiculous—so utterly absurd. Absent-mindedly he tried a pinch of the snuff, inhaling it into his nostrils. It produced nothing more startling than a violent fit of sneezing. Undoubtedly M. de Grissac had told the truth. He did use snuff.

Closing the box, Duvall regarded it for a moment in silence, then, looking at Duffrenne, he said: "It isn't worth a hundred francs." "The box?" answered the curio dealer, as he followed Duvall's glances. "No, monsieur; what you say is indeed true, yet I would not sell it for a hundred million."

"But why? What is there about it that makes it so valuable? Surely you can tell me that, now that we have safely recovered it." "Alas, monsieur. I could not tell you, even if I knew, which I assure you I do not. I can only say that M. Lefevre has told me that it holds within it the honor of my beloved country, and therefore I would not sell it for all the money in the world."

Duvall was clearly puzzled. "Well," he said at length, as he thrust the box into his pocket. "There's evi-

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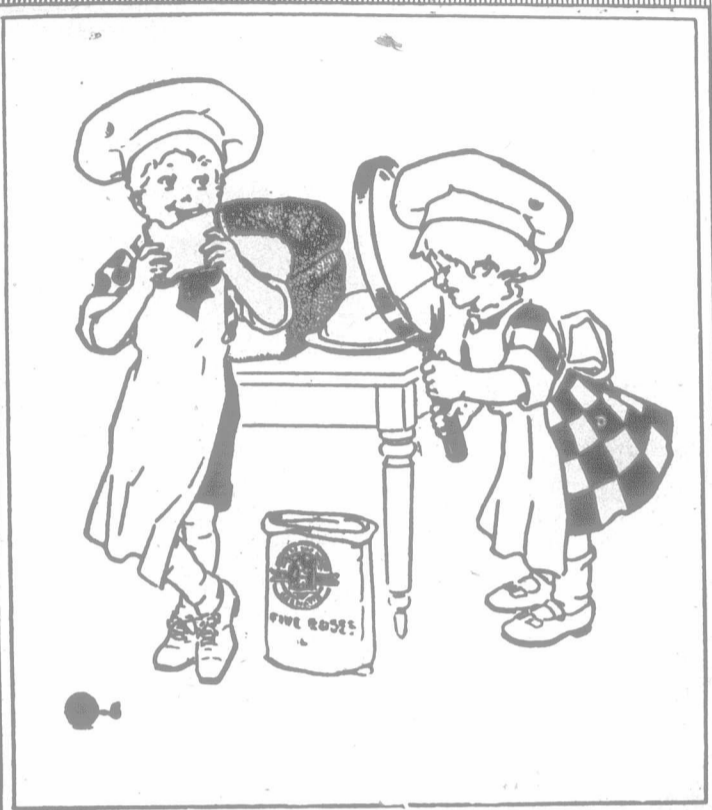
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Delicately creamy is FIVE ROSES flour.
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Clear—Immaculate—Desirable.
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dently some mystery about the thing that I do not understand, but I suppose I shall, some day. Just at present our first duty is to return the box to M. de Grissac."

"You are right, monsieur, and at once. There is a train for Antwerp in half an hour. From there we can take the night boat to Harwich. Let us set out without further delay."

"And that fellow in there?" remarked the detective with a grim laugh. "We've got to take him with us, you know. He'll be wanted in London for the murder of the man Noel."

"Yes. That also is important."

Dufrenne went into the adjoining room and stood looking at the sleeping barber.

"But not so important as the return of the snuff-box to M. de Grissac."

Duvall followed him, and lifting one of Seltz's arms, let it drop suddenly. It fell to his side lifeless.

"He's sleeping like a log. The doctor must have given him a pretty stiff dose. I don't see how we are going to travel with him in this condition."

"Then we must leave him in the care of M. Lefevre's other agents here in Brussels. We cannot delay an instant on any account."

"I do not agree with you, monsieur. There is one thing which is as important to me as the recovery of the snuff-box could possibly be to M. de Grissac, and that is the safety of my wife."

"Your wife?" Dufrenne stared at him in surprise.

"Yes, monsieur. My wife. She is at present in Dr. Hartmann's house. How she came there, I do not know, but I imagine that our friend, the prefect, sent her there to assist, if occasion offered, in our work. In that he was wise; but for her presence I fear my plan would have failed. Had Seltz rung the door bell and been admitted by any of the doctor's servants, I doubt if I

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should have been able to get the box from him before the latter had seen him. I should then have been obliged to use force, and the results might have been disastrous."

"Yes, monsieur. I see that. The young lady at Dr. Hartmann's was sent by M. Lefevre. His agents have already informed me of that. But that she is your wife I did not know."

He pondered for a moment, glancing at his watch.

"It is a great pity. Delay may be most dangerous. Why do you not send her word to join you in Paris?"

Duvall frowned and began to walk about the room nervously.

"A few hours' delay can make no difference," he presently said. "The box is perfectly safe in our hands. I am not, however, at all convinced that my wife is perfectly safe in the hands of Dr. Hartmann."

"But he knows nothing!"

"That I cannot say. So far he does not, I think, suspect that Seltz was the man he expected from London. If he had, he would never have let me leave his office. Luckily for us Seltz was a stranger to him, and, with the murder of Noel on his conscience, he feared to say anything to the doctor about the snuff-box while I was present. I imagine he suspected a trap of some sort. But the doctor will discover, probably before the day is out, how he has been tricked. Then he will begin to investigate, and if he finds out that it was my wife who admitted the man, he may in his rage decide to retaliate upon her. I cannot think of leaving Brussels without her. She must go with me. Upon that I am determined."

Dufrenne looked grave, and a glint of anger came into his eyes.

"The service of France, monsieur, is more important than your private affairs. I beg of you that you leave here at once."

"But why, my friend? We can leave just as well in the morning. The box is safe." He felt his waistcoat pocket.

"Safe, monsieur! Let me tell you that neither the box or you yourself are safe for a moment, as long as you remain in Brussels. You would be in no greater danger if you were carrying about a package of dynamite."

"You are unduly nervous, monsieur," laughed Duvall, as he observed the

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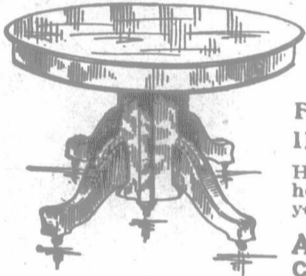
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Frenchman's look of terror. "I have every confidence in my ability to take care of myself. I must notify my wife to join me here as soon as possible."

"How do you propose to do so?" inquired Dufrenne.

For a moment Duvall was puzzled.

"You could not safely call her up by telephone," the Frenchman continued.

"For her to leave the sanatorium now, in response to such a call, would attract the doctor's suspicion at once. He is probably quite well aware of the fact that she knows no one in Brussels. If he should have her followed here and see her meet you, he would at once conclude that there was something wrong about the whole affair. He is very well known here in Brussels, and very powerful. Undoubtedly he would have you both arrested on some pretext. Once you are searched and the snuff-box taken from you, all our work is lost."

His earnest face, his frightened tones, disturbed the detective greatly. He saw the force of Dufrenne's arguments, yet the thought of leaving Grace to bear the brunt of Dr. Hartmann's anger was intolerable.

He looked out of the window in silence for a long time, trying to think out some plan that would insure Grace's safety. A gentle tapping at the door caused him to turn. He nodded to Dufrenne, who at once went to the door and opened it.

The newcomer proved to be Lablanche, of the prefect's office, whom Dufrenne had met earlier in the day. He bowed to Duvall, who knew him slightly, then glanced at the sleeping figure on the bed.

"You have been successful, monsieur?" he inquired eagerly.

Duvall nodded.

"This fellow"—he indicated Seltz—"must be taken to London as soon as he is in condition to travel. We will leave the matter to you."

"Excellent, monsieur. He shall be well taken care of. I presume that you and M. Dufrenne will start at once."

"I desire first, M. Lablanche, to get my wife from the house of Dr. Hartmann."

Lablanche gave a low whistle. "I should not advise you to attempt to communicate with her, monsieur."

"You think her sudden departure would make Hartmann suspicious?"

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"Undoubtedly."
"Then we must arrange for her to come to Brussels this afternoon on some pretext. If she only had some friends in the city—"
"The American minister, monsieur!" exclaimed Lablanche suddenly. "He recommended her to Dr. Hartmann. It appears that he was at one time acquainted with your wife's people. Perhaps he would undertake to telephone to her. That would be entirely safe. But I beg of you, monsieur, do not let the minister know what your wife's object in going to Dr. Hartmann's was. He knows her only as Miss Ellicott. He vouched for her to Hartmann. If he knew that he had been used, it would make him extremely angry."
For a few moments Duvall stood in silent thought, then picking up his hat, went toward the door.
"I will see the American minister at once," he said as he went out. "Wait for me here, gentlemen. I will be back within an hour."
Mr. Phelps, the United States minister, was busy in his cabinet when Duvall was announced. He took the card from his secretary and glanced at it carelessly. The detective's name caused him to start.
"Richard Duvall," he said aloud to his secretary. "Surely it can't be the well-known detective? Yet the name"—he regarded the card, his forehead wrinkled with thought. Duvall's distinguished position as the author of several works on the science of criminology was well known to him.
"Show him in," he said at length, and began to relight his cigar.
Duvall was ushered in, and in a few moments had explained the object of his visit.
A young lady—a Miss Ellicott—he told the minister, had come to Brussels the night before, and had gone to Dr. Hartmann's as a patient. Mr. Phelps nodded, and added that he had met Miss Ellicott, and had used his influence to enable her to obtain Dr. Hartmann's services.
"The doctor is a great friend of mine," the minister remarked. "I regard him as one of the leading scientists of Europe."
"Undoubtedly," the detective assented gravely. "I am not acquainted with him myself. My business is with Miss Ellicott."
"Then why have you come here?" asked Mr. Phelps with some asperity. "The doctor's house is but a few moments' drive."
"I know that. But, unfortunately, I am not acquainted with Miss Ellicott. She might resent my calling on her so unceremoniously. I had hoped that you might ask her to come here, so that I might be properly introduced to her."
The minister considered the matter carefully. Evidently he did not altogether like it.
"You forget, Mr. Duvall," he said finally, "that I myself do not know you. Furthermore, I certainly have no desire to involve Miss Ellicott in any difficulties. I trust," he concluded uneasily, "that she is not already so involved."
"No." The detective shook his head. "Not yet. But unless I can have a few words with her in private she soon may be. I am working in her interests. I am here to protect her from a grave danger."
He went toward the minister, and, taking a package of papers from his pocket, placed them in the latter's hand.
"Here are my credentials. From them you will see that I am what I represent myself to be. I cannot undertake to explain to you the reasons which prevent me from going to Miss Ellicott where she is. The mere fact that I am unknown to her will, I trust, prove sufficient. I wish to say but a few words to her. She will be very glad to hear them, I know."
The minister returned the papers to Duvall and glanced at the clock upon his desk. "We are having a few friends for dinner to-night, Mr. Duvall. I shall ask Miss Ellicott to join us."
"If you care to be one of the party—" he paused, looking at the other questioningly.
"I shall be very glad indeed to accept, Mr. Phelps. I assure you that I would under no circumstances force myself upon you in this way were it not for Miss Ellicott's good. And, in order

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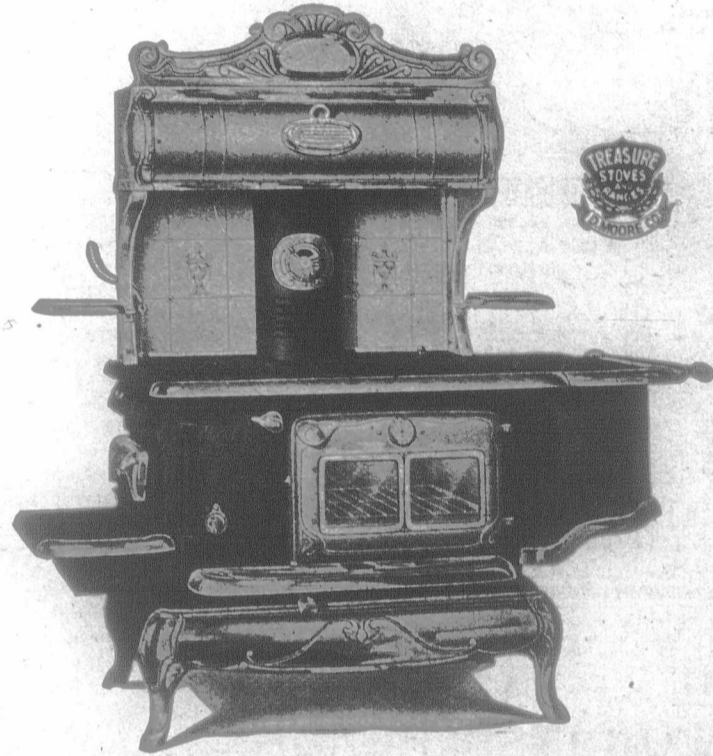


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So I told him I wanted to try the horse for a month. He said "All right, but pay me first, and I'll give you back your money if the horse isn't alright."

Well, I didn't like that. I was afraid the horse wasn't "alright" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now this set me thinking. You see I make Washing Machines—the "1900 Gravity" Washer.

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

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

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

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

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

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

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

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

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

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

Address me personally,
J. B. MORRIS, Manager 1900 Washer Co.,
357 Yonge St., Toronto, Ont.

FOR SALE—Choice Registered Berkshire Sows, bred, dam 1st prize Western Fair; also a 5-year-old Percheron suitable for brood mare. **JOHN W. COULTER,**
No. 7, St. Thomas, Ont. Traction Station 33

that your other guests may not by any chance identify me, may I ask that you will introduce me as Mr. Brooks?"

The minister nodded.

"Very well, if you wish it, Mr. Duvall. The whole affair strikes me as extremely unusual, and did I not know you to be a man of your word I should have nothing to do with it. Under the circumstances I will consent. At least, I feel sure that no harm can come to Miss Ellicott while she is under my roof."

The detective murmured his thanks. "You will be doing Miss Ellicott a great service, my dear sir," he said. "And one thing more. When you telephone to her, asking her to come, kindly do not mention the fact that I have called."

He took the minister's hand and pressed it warmly.

"Some day you will realize the dangers with which Miss Ellicott is being threatened."

On his return to the Hotel Metropole, Duvall found everything as he had left it. Seltz was still sleeping soundly. Lablanche was reading a newspaper.

Dufrenne was superintending the placing of Duvall's portmanteau, which had arrived from Paris in response to a hasty wire from him that morning. He had been without a change of linen since the day before, and the arrival of his baggage was gratifying.

He informed Lablanche of his plans.

"I shall dine at the United States minister's," he informed them, "as Mr. Brooks. After dinner I shall ask Miss Ellicott's permission to escort her home. We will take a cab and drive to the railway station in time for the midnight train for Paris. On my arrival there I shall give the snuff-box to M. Lefevre, who will see that it is safely returned to the ambassador in London."

"You, Lablanche, can go to London with Seltz as soon as the latter is sufficiently recovered to travel—in the morning, let me say. You, Dufrenne, will no doubt prefer to return with me to Paris. In that event, kindly settle with the hotel people for these rooms, and join me at the railway station."

He paused, opened his travelling-case, and drew out a suit of evening clothes. Lablanche and Dufrenne withdrew into the adjoining room, where Seltz lay sleeping. The latter paused in the door as he went out.

"Take care of the snuff-box," he said pointedly. "Remember—the honor of France."

(To be continued.)

Social Service Report.

Our readers will be glad to know that a full report of the proceedings, including the addresses and papers given at the great Social Service Congress at Ottawa, is to be published almost immediately by the Social Service Council of Canada.

It will be a large volume bound in cloth.

The price will be \$1.00, postage prepaid, providing it is ordered not later than 20th April.

This volume will be of unusual value to ministers and Christian workers generally, in view of the fact that it is the first volume of the kind published in Canada.

Orders, including the money, may be sent to Dr. J. G. Shearer, 626 Confederation Life Building, Toronto.

Remarkable Challenge.

ENGLISH CLOTHING FIRM OFFERS MAN'S SUIT FOR \$1.50

A well-known English Clothing company, H. Thomas & Co., 142 Grays Inn Road, London, W. C., Eng., seems bound to become as highly popular in the Dominion as they are in Great Britain. Everybody knows H. Thomas & Co. in England for the remarkable prices they quote in Gents' wear. On page 833 readers should note the firm's advertisement, "Gents' Suit (Jacket, Vest and Trousers), \$1.50 delivered free to you; no more to pay." Look up the advertisement on page 833 and write for free patterns and fashions to their Toronto branch.

A BREAKFAST IN CEYLON

would not bring you a more delicious cup of tea than you may have at your own table-by using

"SALADA"

It is the world's choicest tea, at its best—the finest hill-grown Ceylon—in sealed lead packets.

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That comes to one when an Investment turns out better than expected is the daily experience of our Policyholders.

ACTUAL RESULTS under present rates EXCEED ESTIMATES by one-third.

Remarkable isn't it? Investigate!

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GOOD AS GOLD



He's Big All Over And Good All Through

Big Ben is built for endless service. He has no "off-days," no shut-downs. His four years of existence have been one long record of on-the-dot accuracy. 7,000 Canadian dealers say that he does more efficient work for less pay than any other clock alive.

A Big Ben battalion, over 3,000 strong, leaves La Salle, Illinois, every day. Their sparkling triple nickel-plated coats of implement steel; their dominating seven-inch height; their big, bold, black, easy-to-read figures and hands; their big, easy-to-wind keys—all make Big Ben the world's master clock.

In return for one little drop of oil, he'll work for you a full year. From "Boots on" to "Lights out"—365 times—he'll guarantee to tell you the

time o'day with on-the-dot accuracy.

He'll guarantee to get you up either of TWO WAYS—with one long, steady, five-minute ring if you need a good big call, or on the installment plan, with short rings one half-minute apart for ten minutes, so you'll wake up gradually, and he'll stop short in the middle of a tap during either call if you want to shut him off.

Big Ben is a mighty pleasant-looking fellow. His big, open honest face and his gentle tick-tick have earned him a place in thousands of parlors.

The next time you go to town call at your dealer's and ask to see Big Ben. If your dealer hasn't him, send a money order for \$3.00 to his makers—Westclox, La Salle, Illinois—and he'll come to you prepaid.

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Are quickly secured at a minimum cost when they are covered with our high-grade

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Rain water is kept clear and clean, which ensures healthy drinking for your stock. Preston Safe Lock Shingles and Acorn Quality Corrugated Iron are sanitary weather-resisting, storm and lightning proof and will last a lifetime. They reduce insurance premiums and are the best building insurance known. Steel fireproofing is the only way to build. Let us send you our new illustrated catalogue showing some of the buildings covered this past year.

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Round trip tickets to points in Manitoba, Alberta and Saskatchewan via Chicago, St. Paul or Duluth, on sale each TUESDAY until October 27, inclusive, at low fares.

Through Pullman Tourist Sleepers to WINNIPEG on above dates, leaving Toronto 11 p.m. No change of cars. Return Limit, Two Months

SETTLERS' FARES

(One-way second-class)

From stations in Ontario, Kingston, Renfrew and west to points in Alberta and Saskatchewan, each TUESDAY during April.

The Grand Trunk Pacific Railway is the shortest and quickest route between Winnipeg, Saskatoon and Edmonton, with excellent through service to Regina. Trains now running into Calgary.

Berth reservations and particulars at all Grand Trunk ticket offices write C. E. HORNING, D.P.A., Toronto, Ont.

CANADIAN PACIFIC RY

HOMESEEEKERS' EXCURSIONS

TO

MANITOBA, ALBERTA SASKATCHEWAN

Each Tuesday until October 27th, inclusive. Winnipeg and Return - \$35.00
Edmonton and Return - \$43.00

From Toronto, and Stations West and North of Toronto. Proportionate fares from Stations East of Toronto.

Return Limit two months.

Particulars regarding RAIL or OCEAN tickets from Canadian Pacific Ticket Agents or write M. G. MURPHY, D. P. A., C. P. Ry. Toronto.

Regenerated Banner Oats grown in first prize stanching crop the last two years. Per bus. 60c., bags 30c. Geo. D. Fletcher R. R. No. 2, Frin. P. Hon.

O.A.C. No. 21 Barley 80c. Bush.

Beautiful sample grown after roots and corn. We fill orders for same parties year after year. Good bags 30c. John Elder & Sons, Hensall, Ont.

The Banner Oat Club of Prince Edward Island.

On Thursday, April 9th, Professor Davidson, Instructor in Field Husbandry in Prince Edward Island, completed the inspection of the oats of the Banner Oat Club. This Club was organized in the autumn of 1912, for the purpose of encouraging the growing of Banner oats. There is no fee for membership, and anyone may become a member who grows and markets oats according to its rules, but no one may become a member who grows any variety of oats other than Banner. This precaution is taken to prevent the mixing of varieties after the grain is harvested, as it is impossible for an inspector to detect different varieties in the bag.

The Club undertakes to market for its members, oats that in the Fields of Standing Grain Competitions scored not less than 97½ per cent. for freedom from other varieties and other kinds of grain, and that has a germination test of not less than 95 per cent. It must also be free from weed seeds, of good color, and must not contain a large percentage of pin or bosom oats. Every bag is inspected before it is shipped, and the Inspector is instructed to put the stamp of the Club only on those bags, the oats in which is seed of the first quality in every respect.

This year about 20,000 bushels have been marketed, and during the winter many farmers wished to join the Club, but their oats had not been inspected in the field. The likelihood is that there will be a great number of entries in this competition this year, as Banner Oat Club oats are in good demand, at a handsome premium.

Gossip.

Attention is directed to the advertisement elsewhere in this issue of an auction sale of fifty registered, choicely-bred Shorthorn cattle, at Broad Lawn Stock Farm, Coaticook, Que. Look up this advertisement, and write E. V. Norton for catalogue and pedigrees. This is a big sale, and some extra good cows and calves, heifers, and young bulls, will go to the highest bidder.

At the annual spring show and auction sale at Darlington, England, in March, a roan heifer, property of T. B. Earle, Darlington, was sold at 300 guineas, about \$1,500, to W. M. Gazalet, Kent. The roan bull calf, Baron Bridekirk 49th, belonging to J. Barnes, of Wigton, was sold to Mr. Mackintosh for 145 guineas. The roan heifer, Aldbro' Princess Royal 5th, property of T. B. Earle, Darlington, was sold at 300 guineas, to W. M. Gazalet. Twenty-five heifers made an average of £36, and 67 bulls an average of £30 18s.

HIGH PRICES FOR SHORTHORNS.

At Anoka Farm, Waukesha, Wisconsin, April 1st, F. W. Harding, proprietor, at his 12th annual sale, disposed of 45 head of Shorthorns, which brought \$21,550, an average of \$466, made on an offering composed chiefly of young bulls and heifer calves. The highest price reached was \$1,610, for the white yearling bull, Royal Silver. The white yearling, Premier Victor, brought \$1,000, and the white yearling, Sultan Mayflower, \$1,300. Two other young bulls sold for \$1,000 each. The highest for a female was \$925, for the white two-year-old, Village Flower 2nd. Five other females brought prices ranging from \$500 to \$825. Carpenter & Ross, Mansfield, Ohio, on April 2nd, sold at Chicago 13 bulls averaging \$500, and 35 females averaging \$385.

MASSEY-HARRIS CREAM SEPARATOR

This Catalogue Will Interest You

In addition to full description of the many points of Superiority of the Massey-Harris Separator, it gives many valuable Hints on Dairying.

It is profusely illustrated and beautifully printed in colors.

Get one from the Massey-Harris Agent or write nearest Branch.

Massey-Harris Co., Limited.
Head Offices—Toronto, Canada.

Branches at—
Montreal, Moncton, Winnipeg, Regina, Saskatoon,
Swift Current, Calgary, Yorkton, Edmonton.

Agencies Everywhere—

Wonderful Cloth — Won't Tear—Won't Wear Out— Absolutely Holeproof.

A sensational discovery that should prove a boon to all readers has been made by a well-known English clothing company. They have discovered a really remarkable cloth that will not tear, will not wear out, in fact is absolutely holeproof, and yet looks exactly as the very finest tweeds and serges. It is made in all the most up-to-date designs, and is most suitable for farm or rough wear or office and best wear.

Just to introduce this remarkable cloth to the notice of our readers, the offer is made of a pair of well-fitting, smartly-cut Gents' trousers for the rock bottom price of \$1.50; walking, riding or cycling Breeches for \$2.00, or a well-cut Gents' Suit, right-up-to-the-minute in fashion for \$5.50; and with every garment the firm will send a printed guarantee plainly stating that if the smallest hole appears within six months, another will be given absolutely free of cost. The prices quoted include both Postage and Duty, so that customers have nothing more to pay on delivery. See advertisement below and write for patterns. They cost nothing.

WONT WEAR OUT SUITS \$5.50

MARVELLOUS DISCOVERY WILL SAVE YOU DOLLARS!

IF YOU WEAR SMALLEST HOLE (AS OUR GUARANTEE) WE REPLACE FREE!

A Sensational Discovery! Save you Dollars! A really remarkable cloth, that will not tear, or wear out, absolutely Holeproof, looks exactly as finest tweeds and serges, made in all the most up-to-date designs and suitable for farm and rough wear or office and best wear.

TROUSERS, \$1.50. BREECHES, \$2.
(3 PAIRS, \$4.50) DUTY & POST PAID (3 PAIRS, \$5.50)

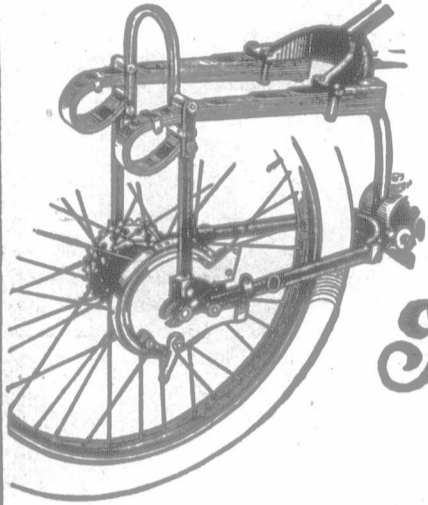
Just to introduce this remarkable cloth we offer a pair of well-fitting, smartly cut Gents' Trousers for only \$1.50; breeches \$2.00 or well-cut suit right-up-to-the-minute in fashion for \$5.50 all Duty and Post Paid. With every garment we send a printed guarantee plainly stating that if the smallest hole appears in 6 months (NO MATTER HOW HARD YOU WEAR IT) another given absolutely free. We pay all charges. Post and Duty. You have no more to pay.

FREE SAMPLES: Send merely 2 Cent stamp for grand free patterns, measure chart and fashions, to our Toronto office. THE HOLEPROOF CLOTHING CO. (Dept. 1), 113 HURON STREET, TORONTO, ONT., or send \$1.00 for sample pair of Trousers (3 pairs \$4.50), with waist and leg measure and colour, direct to England. Don't send money to Toronto.

THE HOLEPROOF CLOTHING COY 54, THEOBALDS ROAD, LONDON, W.C., ENG.

When writing advertisers, please mention "The Farmer's Advocate"

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In 1913 we brought out the Cradle Spring Frame as the crowning feature for that year of the

Indian Motorcycle

But it was not only a 1913 improvement. It is a 1914 one as well. It will be a 1915—a 1916—a 1917 improvement because it is a basic achievement.

Not an attachment, but a truly great piece of constructive engineering, the Cradle Spring Frame is a working out of absolute shock-absorbing and vibration-eliminating principles.

It is the superlative comfort feature of a world of motorcycles. It cannot be imitated.

35,000 Cradle Spring Frames on the road—all making good riding better.

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Main Office and Factory, Springfield, Mass., U. S. A.
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Double The Yield of The Garden

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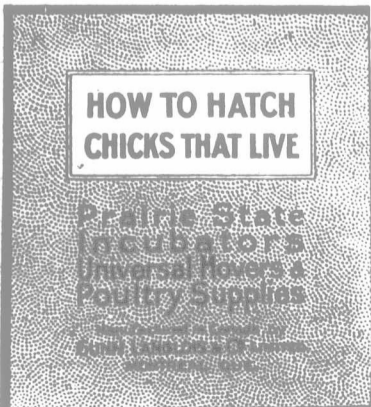
50 Cents Postpaid.

This Collection is made up Specially for those Desiring an Early Supply of Vegetables.

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| 1 pkt. Beet, Extra Early Blood. | 1 pkt. Onion, Large, Boiling. |
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| 1 pkt. Carrot, Early Scarlet. | 1 pkt. Parsnip, Long, White. |
| 1 pkt. Cauliflower, Snowball. | 1 pkt. Radish, Early Round Red. |
| 1 pkt. Celery, White Plume. | 1 pkt. Squash, Marrow. |
| 1 pkt. Cucumber, Slicing. | 1 pkt. Tomato, Earliest Scarlet. |
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| 1 pkt. Onion, Early Slicing. | |

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It will save you money by telling you how to obtain the experiences and methods of others who have made a success of poultry-raising. It shows the best kind of incubator and how. Tells how to build your own brooders. Gives the kind of feed to use at the different ages of a chick, and "Reasons Why" the Famous

Prairie State Incubators

Hatch the greatest number of strong, healthy "Chicks that Live." Write for it to-day. We offer the best cash market in Canada for eggs and poultry. Ask for quotations.

Gunn, Langlois & Co., Limited
62 St. Vincent St., Montreal

Questions and Answers

- 1st—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.
- 2nd—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.
- 3rd—In veterinary questions; the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.
- 4th—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Miscellaneous.

Water for Scalding Pigs.

What is the proper temperature for water when slaughtering hogs? H.
Ans.—In cold weather, it is better to have the water boiling, because it will be cool enough by the time it is transferred to the scalding barrel or vat. The correct temperature in the vat is 185 degrees F.

Measuring for Weight.

Will you, if possible, advise me how and where to measure a cow and horse to arrive at or about its correct weight? A SUBSCRIBER.

Ans.—No method of measuring cattle and horses can be used with a reasonable degree of accuracy to estimate their weight. It is far better to put them on the scale. However, we give the following for a cow: Multiply the length around the animal just back of the shoulders by itself, and multiply this by two and divide by seven. We cannot say that this is correct, but it is a method of calculation which is sometimes given.

Cow Unthrifty—Building.

1. What can I do for a cow in a run-down condition? She eats well, and gives a fair quantity of milk, but is mopeish. She calved last November, but has not showed any signs of heat since.
2. What sized building would you advise for about 125 hens?
3. I intend putting a hip on a barn 36 x 56. Would it be advisable to splice the purlin posts? I am told they would be all right. R. N.

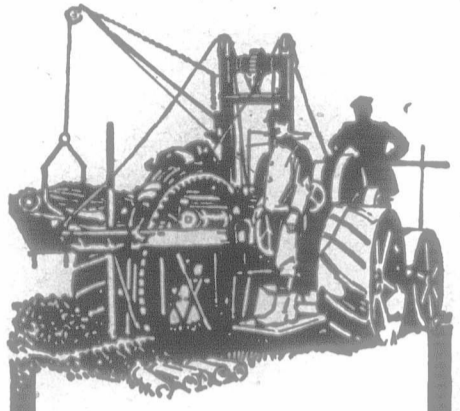
Preparing for Wheat—Butter from Milk.

1. I broke a field of sod last fall that had been down twelve years, and I double-disked across the plowing. I thought of sowing to oats this spring, and I would like to sow it with fall wheat next fall. Would it do to disk after harvest, instead of plowing, in case there was wireworms in it? Do you think I did a wise act by disking it last fall?
2. About what per cent. will milk test? We churned 44 lbs. of butter from 85 lbs. of milk. About how many lbs. of butter-fat would there be in the cream from that milk, the cream to test about 3.5 per cent.? J. E. C.

Ans.—1. The disking last fall would do no harm, provided it did not produce a fine surface which caused the land to run together. As to the advisability of disking the stubble to sow wheat, we do not see what would be gained by not plowing, and unless the land is very clean and rich it would be difficult to get it in the proper tilth for wheat.

PROLIFIC SHEEP.

A correspondent of the Farmer and Stockbreeder, England, writes: "Early last month, March, a two-year-old ewe, property of Griffith Owen, Llanrug, dropped four lambs, and last year produced two. Further, the ewe herself is one of four lambs. In the same paper it is reported that two half-bred ewes belonging to John Duncan, near St. Andrews, have each given birth to four lambs."



Tile Drainage makes Worthless Acres pay

MANY an acre that is now worth nothing can be made as productive as any land in its neighborhood, by a judicious investment in tile drainage.

Tile Drainage makes land more fertile, it lengthens the tillage season and it is a protection against drouth.

BUCKEYE TRACTION DITCHER

A perfect trench at one out This remarkable machine is in use all over the country and has been for years. With it one man can dig up to 150 rods of ditch a day and every foot of it will be of proper grade.

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Figure out where you can use tile drainage and size up your neighbors' farms. Then write for the Buckeye Book of Facts. No. T

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Builders also of Buckeye Open Ditchers and Buckeye Gasoline Engines for farm use

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Projects a 14 candle power light 150 feet. Burns Acetylene Gas. Weight 6 oz. Height 8 1/2 in. Can be carried in hand or worn on cap or belt, leaving both hands free. No oil, soot or glass. Absolutely safe and simple. Fifty hours bright light costs 5c. Useful as well during automobile repairing. Catalogue free and instructive booklet, "Knots and How to Tie Them" mailed on request.

At all dealers or by JOHN SIMMONS CO. 147 Bury Street, Montreal, Canada. mail prepaid - \$1.00

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

THE ARNOTT INSTITUTE Berlin Ontario, Canada

Farmers of Ontario!

Are you requiring help this Spring? Parties of young men and boys are now coming forward. For full particulars apply

BOYS' FARMER LEAGUE, DRAWER 126. WINONA, ONTARIO

Silos! Silos! Silos!

FACTORY TO FARMER A better silo for less money. Send for price list and cuts.

FARMERS' SILO MANUFACTURERS, Markham, Ontario

Bargain on Clydesdale Stallion

For quick sale. Grandview Baron, No. 11011; four years old; took 1st prize at Guelph when a colt and a number of other shows; enrolled, 2842, form 1; inspected; bay, white face and legs. The owners have sold their farm and he must be sold. Liberal terms to good customer. Weighs about 1,900 lbs. MAIR BROTHERS, Aurora, Ont.

Maple Grove Holsteins

There is still a bull fit for service left, of the Maple Grove quality and type, which will be sold below his value; he is from R. O. M. stock on both sides; also a couple of rattling good calves sired by the great King Lyons Hengerveld out of Tidy Abbecker and Pontiac Korndyke cows, fellows that will make herd headers. If you want such at a reasonable price, write H. BOLLERT, R. R. NO. 1, TAVISTOCK, ONTARIO

Questions and Answers.
Miscellaneous.

Twitch Grass — Devonshire Cream — Bloody Milk.

1. Have a field with a lot of twitch grass. Do you think it would be wise to plow deep and sow with buckwheat, or what do you think would help to kill it?

2. What is Devonshire cream, and how is it made?

3. Have a cow that has been milking for several months. Some time ago she gave bloody milk out of one teat, but have not noticed any for a long time, but now a lump has formed in each teat. In three, it is far enough down that she can be milked, but in the other one it is up so near the udder it is difficult to get the milk from that quarter. She has never been hurt in any way that we know of. What is the trouble, and what would you advise to be done?

AN ONTARIO READER.

Ans.—1. Plow shallow early in the spring, and work with the cultivator and disk once or twice a week until time to sow buckwheat in early July. Sow thickly. Or, if very bad, summer-fallow this year and sow buckwheat next.

2. To make Devonshire cream, strain new milk into a large, shallow pan, to a depth of four or five inches. Let stand in a cool place for twelve hours in summer and twenty-four in winter. Place the pan on a pot of hot water on the back of the stove. When the cream forms a ring around the pan and is wrinkled, it is done. Heat for one-half hour at 180 degrees. Let stand ten or twelve hours before skimming.

3. Bloody milk is often due to a rupture of some of the small blood vessels of the udder, usually induced by congenital or inherited weakness. Bathe the affected parts long and often with cold water, and give one ounce of tincture of iron in a pint of cold water as a drench three times daily until blood-flow ceases. Obstructions in teats can only be removed by a delicate operation.

FROM LONDON ENGLAND. SUIT \$4.50 DELIVERED FREE

\$1,000 IF UNTRUE WE SEND A GENTS SUIT DUTY & CARRIAGE PAID FOR \$4.50.



This marvellous but perfectly honest offer of a Gents 3 piece suit, delivered free (nothing more to pay) for \$4.50 (backed up by testimonials from the British Police) has never been equalled in Canada. The biggest advertising offer made! Our Suits have reached every Village in Great Britain. Our name is known and respected in every corner. Our Postal business is enormous. Now, Sir, we are going to make that same big business in Canada. **WE'LL DO IT AT ALL COSTS! Honest dealing and rock bottom prices MUST win through.** We want your Trial Order, simply as an advertisement for us in your locality. We want you to talk about us to your friends, so we offer a Gents stylish well-fitting London-cut made-to-measure 3-piece sample suit in genuine fine quality English Tweeds and Blues, direct from London to you, for \$4.50, absolutely free of further charge. Our styles, materials, cut and finish are absolutely unbeatable. Raincoats from \$6.50.

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Send postal card for free Cloth Cuttings, fashions, and easy self-measure charts. They cost you nothing. We send also higher price samples.

ADDRESS FOR SAMPLES: H. THOMAS & CO. (Dept. 17)
Dominion Bank Building, Cor. College and Spadina, Toronto, Ont.

ORDERS & PAYMENTS ONLY TO: H. THOMAS & CO. 142, GRAY'S INN ROAD, LONDON, W.C. ENGLAND.

Pull Big Stumps Quick and Easy \$1280 from 40 acres the first year stumps are out.

Pulls an acre a day. It doubles land values. Enables you to grow crops instead of paying taxes on land that yields nothing.

HERCULES Stump Puller

More power than a tractor. 60 per cent lighter, 40 per cent stronger has cast iron pulley, 30 days' free trial. 3-year guarantee to replace, free, all castings that break from any cause whatever. Double safety ratchets insure safety to men and team. Accurate turning means light draft. Mail postal for free book showing photos and letters from owners. Tells how to turn stumps and into big money. Special introductory price proposition with interest you. Write now.

HERCULES MFG. CO., 1125-1126 St. Centerville, Iowa

From Michigan



When writing advertisers please mention this paper.

Unless the cow is valuable, and provided, of course, the obstructions grow so as to preclude drawing milk from the teat, we would advise disposing of her.

Well in Quicksand.

My buildings are on a knoll of sand, with the worst kind of quicksand as a subsoil. My wells are so shallow now that they go dry in a dry summer. I want to have one well just beside the house for household purposes, and pipe the water from this to the house, but the problem is how to dig it. I have tried twice, and only been able to get about eight feet down, the quicksand flowing in from all sides almost like water. The water from this sand is very clear and good, but after every rain it suspends this fine sand and takes a couple of days to become clear again. This rising of the water occurs also when we draw a quantity at one time. I do not know what is below this quicksand, nor how far it goes down. The land around the knoll has, in some places, a clay subsoil, in some places gravel, and in some places sand. This I have found in digging postholes. My farm lies in the middle of the Annapolis Valley, near the river, and I imagine the soil is largely alluvial. Will you kindly give directions how to dig and curb as well so that I will have one some five or six feet in diameter, and twelve or fifteen feet deep? What kind of curbing, and how to keep it from stirring up and becoming cloudy under conditions mentioned above?

R. M.

Ans.—This is a very difficult problem to solve, but we have seen it done by the use of a curb pressed down by a heavily-weighted well-digging machine, coarse gravel being packed in behind, and bricking up inside the curb, which is pulled out board by board. It may be that some of our readers, having had experience of this kind, could give us some of their results.

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to the baby chicks for the first few weeks until they are old enough to take larger grain when they may be fed our Chick Food.

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Questions and Answers. Miscellaneous.

Holidays.

Tell me the legal holidays on the farm. Is Good Friday one of them for the hired man? Also, what chores is a hired man to do on those days? R. C.

Ans.—In the absence of any agreement to the contrary, hired help in Ontario is entitled to Sundays, New Year's Day, Good Friday, Easter Monday, Victoria Day, Dominion Day, Labor Day, Thanksgiving Day, Christmas Day, and any other day or days proclaimed as public holidays. These holidays, of course, are taken subject to necessary chores. It is difficult to state just what chores should be done, but all matters of feeding and caring for the farm live stock come under this heading.

Siphoning Water—Millet.

1. Will a pipe lift water out of well 15 feet deep, and run it to trough in pasture 500 feet from well? I am told it will. Does it give any trouble? The trough is, of course, a little lower than bottom of well.

2. How large a pipe would be best for summer use? Has any reader such an arrangement in use?

3. Would millet do sown as late as the first of August, to cut for feed? Will the frost stop the growth or hurt it for feed? YOUNG READER.

Ans.—1. It would be possible to siphon the water out of the well, provided the trough is below the bottom of the well, and you succeed in getting water to flow through this pipe. It would be necessary to keep the pipe air-tight, and keep water flowing through it all the time. You would have to pump water up through it to commence the siphoning. We do not know any such arrangement working to as great a depth at the present time.

2. Use a small pipe, one-half inch or inch should be large enough.

3. The millet should be sown earlier than the first of August. Frost will stop its growth. The latter part of May or the first of June would be a better time to sow, and cut before hard frosts in the fall.

Height of Silo.

Would you kindly tell me just why a silo must be so high in proportion to its diameter? Is it to obtain the great pressure necessary, and is there no way of obviating this great height, with its attendant expense of filling, by loading with stone, or some other way? We only keep four cows, and maybe fifteen head of cattle all told, and a 30-foot silo would be foolish with but a foot or two of silage in it, as I can only grow a small patch of corn. Now, my idea was a 16-foot silo, 8 feet in diameter, which I can fill right from the high side of my bank barn, with my gasoline engine, a cutter, etc., and shovel. Is this utterly impracticable? If it is, it means no silo for me, and I want one. I suggest four feet underground, and raising my engine and cutter to the level of the wagon-rack, and simply shoveling in the cut corn by the top of the silo and then loading with a ton of stone. E. S.

Ans.—One of the main reasons why a silo must be built high is to get the necessary weight to keep out air and avoid spoiling of the silage. Another thing is that the diameter must not be greater than just enough to allow of a sufficient quantity to be removed from all over the top each day. From one inch and a half to two inches should be taken off, otherwise there will be a considerable waste from spoiled silage. The plan which you intend following is scarcely practical, although you might succeed in keeping a fair amount of silage for the stock. A sixteen-foot silo is too low, and even though you placed a ton of stone on top of it, it would not be of sufficient weight to make it solid. Compare this with the silo which contains 120 to 150 tons, and you will easily see the difference in the pressure which would be brought to bear upon the ensilage down in the silo. If you decide to try this method, give our readers the benefit of your experience, after you have used this silo a winter or two. We would advise increasing the height, and possibly increasing the diameter to at least ten feet.

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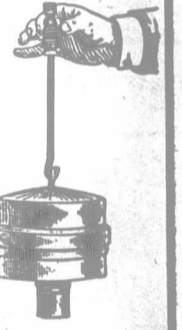
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Gossip.

Thos. Bradshaw, a reader of "The Farmer's Advocate" in Tweespruit, Orange Free State, South Africa, writes under date of March 9th: "I have just received "The Farmer's Advocate" of 29th of January, and have read about the awful calamity at the Ottawa Winter Fair. Knowing some of the exhibitors and breeders in Canada so well, I sincerely sympathize with those who have suffered through loss or injury."

The sale of stock held at Burford by J. Lloyd-Jones, on April 3rd, was a success, and well attended. The stock was in nice breeding condition, and the entire lot sold without reserve, and there were some great bargains. Three brood sows sold for an average of \$28, being very cheap. The cows were all young and choice, only two of the twenty sold being over five years old. The top price was \$91, for a Holstein grade, and went to Kyle Bros., of Ayr. They also got a two-year-old heifer at \$61. The twenty cows sold for an average of \$70; twelve steers and heifers for an average of \$40, and sixteen calves under one year, for an average of \$17.50. The Shorthorn yearling heifers sold for an average of \$136, and went to Mr. Shaver, of Lynden. The largest buyer was Mr. Meggs, of Paris. The Shropshire ewes averaged \$16, and lambs \$11. The fine display of ribbons, some 700 or 800, won on sheep and ponies during the last few years, was much admired; also six silver cups won at Detroit.

Colin McKeigan, of Strathroy, Ont., has sold to D. F. Thomson, of St. Mary's, Ont., the three-year-old Clydesdale stallion, Ardimersay's Heir 15481. This colt has high-class breeding on both sides of his pedigree, and is an individual which does credit to his breed. He will weigh considerably over a ton when mature, and is a very drafty young horse, sired by Ardimersay Prince, sold at a long price to go to New Zealand. The sire of Ardimersay Prince was the Cawdor Cup champion, Prince Alexander, by the renowned Prince of Wales 673. A combination of the blood of Prince of Wales, Darnley, Knight of Lothian, and Glancer, stamps Ardimersay's Heir as a sire to be relied upon, and the district to which he has gone is to be congratulated upon securing such a good horse. Mr. Thompson also owns the good horse, Sir Edmund, which was imported by Mr. McKeigan, a horse which is proving one of the best stock-getters of the right type. He is a winner of many prizes in Scotland and Canada.

Record of Performance for Pure Bred Dairy Cattle.

According to Report No. 5, of the Canadian Record of Performance for pure-bred dairy cattle, conducted by the Livestock Branch of the Department of Agriculture of Canada, 746 cows and 25 bulls had, up to the end of March, 1913, qualified for registration. The cows were divided among the several breeds as follows: Ayrshire, 13; Holstein-Friesian, 357; Guernsey, 13; French-Canadian, 21, and Jersey, 30. The bulls which qualified on having four daughters in the Record of Performance, each from a different dam, consisted of 15 Ayrshires and 10 Holsteins. A fact worthy of special attention is that several of the highest producers were milked three times daily for varying lengths of time. Noted among these are Belle of Wellington, a mature Ayrshire cow, which gave 12,632.82 lbs. of milk and 511.05 lbs. fat, and Rosa Omega, a mature Holstein-Friesian, with a record of 18,603.7 lbs. of milk and 574.07 lbs. fat. Many other excellent records not confined to any one breed, were made during the year. This report contains the regulations governing the work, the standards for registration for the different breeds, and the records of cows that have obtained certificates of the Record of Performance. A copy of this report can be obtained by making application to the Publications Branch, Department of Agriculture, Ottawa.



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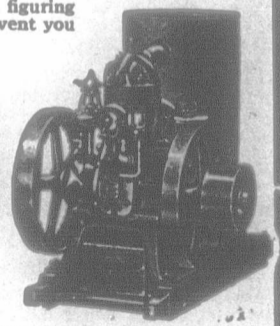
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Questions and Answers. Miscellaneous.

Wants Pheasant Eggs.
Can any of your readers, through the columns of "The Farmer's Advocate," inform me of anyone who has golden pheasant eggs for sale, and at what price?
W. T.

Ans.—You had better place a small advertisement in our columns.

Cement for wall and Floor.
How many barrels of cement and how many yards of gravel, at the strength of 7 to 1, would it take to put a wall and floor under a barn 38 x 58, the wall to be 10 inches thick and 10 feet high?
W. D. M.

Ans.—Between 80 and 85 barrels of cement, and about 18 cords of gravel.

Butterfat.
How many pounds butter—fat would there be in 20 pounds of cream testing 26, and how many pounds butter?
FARMER'S WIFE.

Ans.—Twenty pounds of cream testing 26-per-cent. fat would contain 5.2 lbs. of fat, and assuming that 1 lb. of butterfat makes one and one-sixth lbs. of butter, it should make 6.06 lbs. of butter.

Carding Mill.
I would like to know of a carding mill where I could get wool carded into rolls for spinning to make yarn for knitting. Those formerly in the business have died, or quit carding. We live five miles from Sharbot Lake. I could send the wool by express to any point within 200 miles.
T. G.

Ans.—We cannot direct you to a carding mill.

For Ringworm.
A correspondent sends the following as a treatment for ringworm on calves: "Having seen several enquiries in 'The Farmer's Advocate' for a cure for ringworm on calves, I give this as a simple and sure cure: To one box of cheap axle-grease add one gill of coal oil, one gill sulphur, and one tablespoonful of carbolic acid. Mix and apply occasionally."

Tree - Tapping—Chairmanship.
1. Can landlord stop tenant from tapping maple trees if nothing is mentioned in lease?
2. In a rural district, which of the three trustees should be Chairman of the School Board?
Ontario. AN OLD READER.

Ans.—1. No.
2. Whichever is elected to the position by the trustees at their first meeting as a board.

Sale by Mortgage.
C buys a farm from A on yearly installments. A agrees to give C a clear deed upon final payment. On searching title, C finds there is a mortgage on A's place. What would be C's best course to take in the matter?
Ontario. A SUBSCRIBER.

Ans.—C should pay no more money to A until a suitable arrangement has been made respecting the mortgage; and he should instruct a solicitor to attend to the matter for him without delay.

Bulls at Pasture.
What is the law in Quebec regarding bulls one year old and over running at large; that is, in the owner's pasture? Can the owner be compelled to keep them shut up? If he can be compelled to keep them in, what would be the penalty for letting them run loose?
Quebec.

Ans.—It is not likely that he can be legally compelled to do so; but to be quite sure about it, you should consult a local lawyer.

Telephone Information Wanted.
I desire that some of your readers who have a municipal telephone line in the township in which they reside, would be kind enough to forward to "The Farmer's Advocate" for publication, the figures as to cost of constructing the lines and installing the telephones to each subscriber, and also the cost for a year to maintain the service to each subscriber. This would be of benefit to your intelligent readers, which are scattered all over the country.
A SUBSCRIBER.


Ans.—Readers having such knowledge of the workings of local telephone systems are invited to explain them through our columns.

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Just landed, a choice lot of young stallions of the best breeding, with size and quality. Several winners in Europe. For sale at Hunters' Stables, 106 Nelson St. (near Rideau), Phone Rideau 671, Ottawa, Ont. A visit solicited. **H. E. Martinette, Proprietor, 52 Sweetland Ave., Ottawa.**

Imp. CLYDESDALES and PERCHERONS Imp.

The Season is advancing, select your horse now. I can show you Clydesdale Stallions with size, quality, and breeding, second to none in Canada for about half the usual price, and the same in Percherons.

T. J. Berry, Hensall, Ont., G.T.R., Phone.

Imported CLYDESDALE Stallions

Yes, they are here, our 1914 importation, and if you want a big young stallion with the best legs, ankles, feet, action, breeding and character you ever saw at a price a poor man can pay, come and see our lot.

BARBER BROS.
Gatineau Pt., Quebec.

BREEDING AND QUALITY Clydesdales

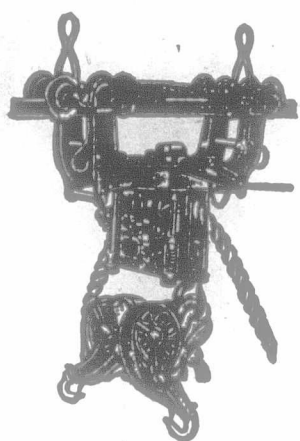
There never was a better bred lot imported, and their standard of character and quality is the highest and my price the lowest.

STALLIONS AND FILLIES G. A. Brodie, Newmarket, Ont. L.-D. Bell Phone

Imp. Stallions CLYDESDALES Fillies Imp.

To the Clydesdale men of Canada we wish to say we have some of the best show material in this country. More size, more style, more quality, more character and better breeding than ever before, in both stallions and fillies.

JOHN A. BOAG & SON, Queensville, Ont.
Electric cars every hour.



Now is the time to install one of our Hay Carriers

In the winter months when you are not busy is the time to figure and plan for your next summer's work. Every farmer should have in his barn a Hay Carrier, and we feel satisfied when you look into the merits of the Stratford Short Draft Hay Sling Carrier, you will agree that it is one of the best on the market.

It is not a complicated machine. Its simple construction assures no expense or time lost in repairing.

The team can elevate and the car can easily handle 2,000 lbs. per draft. Team can be stopped at any point, and the load will be sustained instantly by the Carrier. There is a great saving of rope when you use the Stratford Hay Carrier. Do not wait till the busy spring-time or haying-time comes to install one of our Carriers, but order one now and install the same in your slack time this winter. We are making an exceptionally low price on the Carrier at this season, namely \$8.00.

Write us, giving measurements of your barn, and we will quote you price on a complete outfit. We carry in stock: Carriers, Pulleys, Slings, Steel Track and Hay Forks. Ask for Catalogue No. 1.

The Stratford Mfg. Co., Ltd., Stratford, Ont.

We make Ladders of all kinds and Lawn Swings. If your dealer does not handle our line, write us for Booklet "A."



WESTON, ONT. BRANDON, MAN
IMPORTING BARNES

J. B. Hogate, Proprietor IMPORTER OF Percheron Stallions and Mares

Ages from one year old to six years old. Blacks and greys. Great, big, thick ones. Come and see what I can show you and get prices before you buy. That will be to your interest. And if I cannot sell you a better stallion or mare for less money than anyone in the business I do not want you to do business with me. Weston is three miles from Toronto, and can be reached by C.P.R. and G.T.R. Also by Dundas & Weston electric cars every twenty minutes. For further particulars, write

J. B. HOGATE
West Toronto Ontario

Percheron Stallions

The premier show herd of Canada. All ages, blacks and greys, weights from 1800 to 2150 lbs. Write for the greatest illustrated horse catalogue in Canada

HODGKINSON & TISDALE, BEAVERTON, ONT.
G.T.R and C.N.R. Railroads, Bell 'phone, No. 18.

SEE OUR CLYDESDALES

A choice lot of Stallions and Mares are in our stables at the present time. They are the big kind with the best of quality and in the pink of condition. Write us for particulars, and we will be pleased to meet you at any of the Stations mentioned.

SMITH & RICHARDSON - **Columbus P. O.**
Myrtle. C.P.R.; Brooklin. G.T.R.; Oshawa, C.N.R. Long-distance 'Phone.

Percheron, Clydesdale and Shire Stallions, Mares and Fillies

Belgian, Hackney, French Coach, and Standard Bred Stallions.
We have a better bunch of stallions and mares in our barns at present than ever before, and are in a position to sell cheaper than any other man in the business. We raise our own feed, do our own buying and selling. No commission agents to share profits with. We have nice, big stylish blacks and greys, with right kind of bone and feet and good, straight, true action. Every stallion guaranteed a foal getter. Every mare a breeder. List of prizes won: Sherbrooke and Ottawa on 16 head, 15 firsts, 6 seconds, 4 thirds, 3 fourths and 6 championships. This speaks stronger than words as to the quality of our stock.
J. E. ARNOLD, GRENVILLE, QUEBEC.
Grenville is midway between Montreal and Ottawa C. P. R. and C. N. R. Three trains run daily from each of these cities.

Mount Victoria Clydes and Hackneys
When in need of a high-class Clydesdale stallion or filly, or something that has won and can win again in Hackney stallions or fillies, visit our barns at Hudson Heights, Quebec.
T. B. MACAULAY, Proprietor. Hudson Heights, Que. E. WATSON, Manager.

Sprucedale Stock Farm

We are now booking orders for **LEICESTER LAMBS** of either sex. A. Watson & Sons, St Thomas, Ont. Breeders of Clydesdales and Hackneys, Holstein Cattle and Yorkshire Swine.

BEAVER CREEK PERCHERONS
Present Offering:—2 Percheron Stallions and a nice Filly (black) foaled July 1913.
A. MITTFELDT, Smithfield Sta. T.H. & B. R.R. ELCHO, ONTARIO

Questions and Answers. Veterinary.

Unthrifty Colt.

Two-year-old colt has poor appetite. His teeth are falling out. M. G.

Ans.—If he is nearing three years old he should lose eight teeth, two molars out of each row; but if he is only approaching two years of age, he should lose no teeth. If there be an abnormality or decay of the teeth, those that are affected should be extracted, and in all probability they will be replaced by permanent teeth at the usual ages. Mix equal parts sulphate of iron, gentian, ginger, and nux vomica, and give him a dessertspoonful three times daily. Feed well, and see that he gets regular exercise. V.

Fatality in Sheep &c.

1. About six weeks ago we lost some sheep. They would grind their teeth, stagger, and shake their heads, stand around stupid and die. There was no nasal discharge or sniffing.

2. Sow with litter four weeks old has hard, swollen mammae. H. H.

Ans.—1. This was constipation. The administration of half a pound of Epsom salts and half an ounce ginger, followed by twenty grains nux vomica three times daily, would probably have saved the most of them.

2. Bathe frequently with hot water, and after bathing rub well with camphorated oil. V.

Lump in Quarter.

Heifer has been milking since August, and will be due again July 2nd next. There is a movable, small lump in one quarter, and ever since New Year's, the first milk each milking out of that quarter is bloody. J. G.

Ans.—It is possible that a veterinarian might be able to remove the lump, but if deep-seated, the success of the operation would be doubtful. It would be wise to try and get the quarter dry, with hope that the lump may become absorbed before she again freshens. Absorption can be aided by rubbing a little of the following ointment well in once daily, viz.: Two drams each of iodine and iodide of potassium, mixed with two ounces vaseline. V.

Eye Trouble.

I have six or seven lambs about two weeks old, each of which has a growth on its left eyeball. Some of these growths are the size of small peas, pinkish in color, and light around the base. The trouble commenced with a watery discharge. Now there is no discharge. I have twelve more lambs not affected. J. F.

Ans.—This is a peculiar affection of the eyes, and particularly so as several are affected in the left eye only. It will be wise to call your veterinarian, as he may be able to remove the growths by an operation. All that you can do is touch them once daily with a pencil of the nitrate of silver, being careful not to touch any part of the eye except that which you wish to remove. V.

Lame Cow—Absence of Oestrus.

1. Cow is lame on hind leg. Sometimes she can walk all right, and at other times drags her leg.

2. Two cows have not shown oestrus for a year. T. H.

Ans.—1. This is dislocation of the stifle bone. Get a blister made of two drams each of biniodide of mercury and cantharides, mixed with two ounces vaseline. Clip the hair off the front and inside of stifle joint. Tie her, and rub well with the blister once daily for two days; on the third day apply sweet oil. Turn loose in a box stall and oil every day until the scale comes off. Keep quiet in box stall, and blister as above every four weeks until the lameness ceases.

2. Keep in good order, allow to run with bull, and give each two drams nux vomica three times daily. V.

Attention is called to the new advertisement in this issue of the imported Hackney stallion, Dainty Duke of Connaught, and the Clydesdale stallion, Mazepa. These horses are offered at a reasonable price, by B. Rothwell, R. R. No. 1, Ottawa, Ont. See the advertisement for further particulars.

Horse Owners! Use GOMBAULT'S Caustic Balsam

A Safe, Speedy, and Positive Cure
The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUSTIC OR FIRING. Responsible 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. The Lawrence-Williams Co., Toronto Ont.



KEEP THEM WORKING

A horse in the field is worth two in the barn. You can't prevent Spavin, Ringbone, Splint, or Curb from putting your horse in the barn but you can prevent these troubles from keeping horses in the barn very long. You can get

KENDALL'S SPAVIN CURE

at any druggists at \$1 a bottle, 6 for \$5, and Kendall's will cure. Thousands of farmers and horsemen will say so. Our book "Treatise on the horse" free. Dr. B. J. KENDALL CO., Enosbury Falls, N.Y.

DR. PAGE'S ENGLISH SPAVIN CURE

For the cure of Spavins, Ringbone, Curbs, Splints, Windgalls, Capped Hocks, Strains or Bruises, Thick Neck from Distemper, Ringworm on cattle, and to remove all unnatural enlargements. This preparation, which acts by absorbing rather than blistering. This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin or money refunded, and will not kill the hair. Manufactured by Dr. Frederick A. Page & Son, 7 and 9, Yorkshir Road, London, E.C. Mailed to any address upon receipt of price, \$1.00.—Canadian agents: J. A. JOHNSTON & CO., Druggists, 171 King Street E., Toronto, Ont.

For Sale

THE IMPORTED HACKNEY STALLION

Dainty Duke of Connaught—353—(8809). Sire, Garton Duke of Connaught; dam, (1071) Dainty, by Denmark. Color, dark chestnut; 15.3½ hands, with plenty of bone and substance, a great sire and most successful foal-getter. A son of the famous Garton Duke, which horse, except that he is a little larger, he very closely resembles. Winner of many prizes and diplomas, and his stock are noted prize-winners wherever shown.

Mazepa [13451] CLYDESDALE

Foaled April 8th, 1911. Sire, Silver Strand (Imp.). dam, Marchioness (Imp.), by Marcellus. Bay, star, snip, four white socks. Up to largest size and weight will make a ton horse. A very gay mover, with very straight and true action both before and behind. Winner of two first and one second prizes at Ottawa, and his dam, the champion mare Marchioness, was grand sweepstakes female at Ottawa for two years, 1910 and 1911.

Both horses are guaranteed sound, free from vice and sure foal-getters, and are offered without the money, as I have no further use for them.

B. ROTHWELL, HILLSDALE FARM R.R. No. 1, OTTAWA, ONT.

Notice to Importers C. CHABOUDEZ & SON

205 rue La Fayette, PARIS, FRANCE

If you want to buy Percheron Horses and Mares, I will save you time and money and all trouble with papers and shipment. Will meet importers at any landing port. I am acquainted with all breeders and farmers. 30 years experience. Best reference. Correspondence solicited.

DR. McCAHEY'S HEAVE CURE FOR BROKEN-WINDED HORSES. The only medicine in the world that will stop heaves in 3 days, but for a permanent cure it requires from one-half to one bottle used according to directions. \$1.50 per bottle. The Dr. McCAHEY Medicine Co., Kempville, Ontario.

TRY STEELS TEN DAYS FREE **SAVE \$20 ON SIDE BILLS**



"The World's Greatest Workshoe"

Lighter than Leather Stronger than Leather Cost Less than Leather More Comfortable More Economical Best Health Protection Get Foot Protection

For Men and Boys Best for Farmers Stockmen Chicken Raisers Dairymen Creamery Workers Truck Farmers, Etc.

Free Ten-Day Try-on Offer

No man or boy should think of buying ANY workshoes until he SEES and TRIES my "steels" at home. My "steels" are better in every way than any all-leather workshoe or rubber boot you ever wore. I will send a pair of "steels" your size, for your Free Ten-day Try-on, without cost, risk or obligation on your part to prove them an ABSOLUTE NECESSITY in your work.

An Absolute Necessity to Outdoor Men

Over a Million men and boys wear "steels" because they are "The World's Greatest Workshoes" for field, furrow, stubble, roads, forest, stable, barnyard or cement floor; rain, mud, slush, sand, gravel, rocks, snow or ice. "Steels" are the only Light, Comfortable, Economical, WATERPROOF, Cool in summer and Warm in winter workshoes ever made. They cost less and outwear 3 to 6 pairs of best all-leather shoes. Get full particulars and Free Ten-day Try-on Offer - today, Sure.

Sizes for Men, 5 to 12

Steels 6 in. high, black or tan	\$3.50
Steels 9 in. high, extra grade of leather, black or tan	5.00
Steels 12 in. high, extra grade of leather, black or tan	6.00
Steels 16 in. high, extra grade of leather, black or tan	7.00

Sizes for Boys, 1 to 4

Steels 6 in. high, black or tan	\$2.50
Steels 9 in. high, extra grade of leather, black or tan	3.50

Each style of "Steels" is worth at least twice as much as the best all leather workshoe of the same height.

My "Steels" run in the same sizes as ordinary, all leather workshoes. In case of error in ordering, exchange will be made to larger or smaller size, without extra cost to you.

Write a Postal for Free Book

It tells How to Keep Your Feet in Good Condition; Tireless, Powder-dry and Comfortable; How "steels" save your feet, your health, your money. Read my free book, "The Sole of Steel" - SEE and TRY my "steels" before buying workshoes.

H. H. RUTENSTEIN, The Steel Shoe Man, Dept. 50 TORONTO, CAN.

TO FARMERS Summer Season and Fall

Secure good help and make 12 months engagement to prevent disappointment next spring. Farm help supplied from the Old Country. Utmost care given in selecting the right class of help to fill each individual requirement. Write stating particulars.

New Magnificent Steamers for Direct Canadian Service

ANDANIA, ALAUNIA, ASCANIA
AUSONIA, AURANIA 14,000 tons building. One Class (II) Cabin. Lowest Rates.

Apply
Cunard Steamship Company Limited
Immigration Dept.
114 King Street West, Toronto

BITTER LICK MEDICATED Salt Brick

Great Conditioner & Worm Destroyer

Bitter Lick is a compressed salt brick, medicated with roots, herbs, etc. In such proportion as will keep horses in excellent condition and free from worms. Bitter Lick keeps the appetite keen; all horses like it; tones the digestion and prevents colic. It has no cheap filler and takes the place of worm and condition powders, etc., keeps horses healthy for only 10¢ a week.

Ask your dealer or write for booklet.

STEELE, BRIGGS SEED CO., LTD., WINNIPEG, MAN. Wm. Cooper & Hephew, Toronto, Ont.

FOR SALE—THREE CHOICE Imported Clydesdale Stallions of the best breeding right in every way and splendid stock getters. Wm. MEHAREY, RUSSELL, - ONTARIO For Sale—Registered Imported Clydesdale Filly, a good one. Hy. Hulse, - Newmarket, Ont.

Questions and Answers. Miscellaneous.

Whole Wheat Flour
Kindly state, through your valuable paper, the difference between whole-wheat flour and Graham flour. W. J. G.

Ans.—These two names are given to the whole of the wheat ground en masse. They are the same product.

Permanent Pasture.
Have a field that was summer-fallowed last summer. I wish to seed it with permanent pasture. Would you prefer sowing the mixture alone, or would you sow barley as a nurse crop? If so, what amount per acre? Would prefer not sowing the barley, but want to be sure of a catch. Kindly advise through the columns of your paper. L. W. H.

Ans.—We would try the nurse crop of barley, about 1½ bushels per acre, or if the land is very rich, perhaps a little smaller quantity. It would likely catch all right without the nurse crop, but you might as well have the barley as not, as usually permanent - pasture mixtures catch very well with such a crop if it does not lodge, or is not sown too thick.

Rotation and Roller.

1. What would be the most profitable way to handle a field of six acres, from year to year, without seeding down for manuring purposes? I desire to grow annually on the field, corn, potatoes, roots, and strawberries. Could you suggest a better series of crops?

2. Please advise me how to construct a one-horse cement roller and corn-marker. ENQUIRER.

Ans.—1. Your series of crops is right, provided you supply manure, which should preferably be applied to the corn or root crop. As for the crops themselves, they are placed in the rotation as their different peculiarities would suggest.

2. Many cement rollers are lying unused, as they have not come up to expectation. They are heavy and awkward. We have not constructed any, and have never interested ourselves in them.

Thrush.

I have a light colt, coming two years old, which is suffering very badly with thrush. She is lame on one of her forefeet. Would like to know, through the columns of your valuable paper, a cure for same. W. H.

Ans.—Pare away all partially-detached horn from the frogs, and apply a little calomel. Work some of it down to the bottom of the cleft of the frog. Do this every third day until all discharge and odor ceases. The best method of producing healthy growth of horn is to blister all around the coronet every month. If you are compelled to work her, poultice her feet every night with boiled turnips and ground linseed. Formaldehyde may also be used for thrush. Clean out the cleft and syringe daily with formalin in four or five parts of water.

Itchy Legs.

We have a heavy draft horse which is very badly troubled with itchy legs. We have been rubbing his legs with a solution of corrosive sublimate (40 grains to a quart of water). This seems to have no effect. He rubs one hind leg against the other, and keeps calking himself so badly we have had to remove his hind shoes. It seems to be the whole length of his legs. Pimples form on his legs and dry up hard. Would feeding sulphur, and in what quantity, cure it? A. M. S.

Ans.—Horses having beefy legs, with coarse, wavy hair, are predisposed to this condition, and a permanent cure cannot be effected. In addition to the corrosive-sublimate treatment, we would suggest that you give him one ounce of Fowler's solution of arsenic night and morning on his grain or in a pint of water as a drench every alternate week, as long as necessary. It would also be good practice to purge with eight to ten drams aloes and 2 drams ginger at once. Feed moderately, and with a light grain ration. This is probably developing into grease. If so, try a lotion of one ounce each of acetate of lead and sulphate of zinc and two drams carbolic acid to a pint of water. Apply to the legs frequently.

EVERY FARMER KNOWS

That fertilizers are an absolute necessity to successful farming. The only question that confronts him is getting the right fertilizer.

GUNNS SHUR-CROP FERTILIZERS

are prepared under the supervision of chemical experts—are backed by forty years' reputation, and are guaranteed to be in perfect condition chemically and mechanically. Gunns' fertilizers are finely ground, insuring an even, easy distribution. For users of our fertilizers we are ready at all times to analyze samples of soils and recommend the fertilizer best suited, making it up especially if necessary.

For fertilizer book and other information, write
GUNNS LIMITED, - WEST TORONTO

Lightning Rod Efficiency

The Farmers Mutual Lightning Protected Insurance Company of Michigan as its name implies insures only rodged buildings, and that only after the Company's Inspectors have carefully examined the rodding and approved of it. During 1909-1912 inclusive, in a business which for the four years totaled \$55,172,175 risk this Company paid only \$32.00 for damage to buildings by lightning, in three small claims all traceable to defect in rodding which were overlooked by the Company's Inspector.

The Patrons Mutual Fire Insurance Company which also does business all over the state of Michigan insures both rodged and unrodged buildings. In the same four years 1909 to 1912 this Company on a total risk of \$59,567,272 paid Lightning damage on buildings to the extent of \$32,268.78 which is 1008 times as much as the protected Company paid. Of this loss the damage to rodged buildings consisted of three small claims only, and 20 per cent of their buildings are rodged. Deducting these rodged risks we see that the \$32,269 damage occurred on unrodged risks amounting to \$47,753,818 at this rate the loss on the \$55,172,175 of unrodged risks the same as the Protected Company would be \$37,282 which is 1168 times as great as the loss on the same amount of properly rodged buildings. Thus when the damage to properly rodged buildings amounts to \$1.00 the damage to unrodged ones amounts to \$1168.00 or in other words, Rods have saved \$1167 out of an expected loss of \$1168.00 indicating an efficiency of 99.91 per cent or 999 out of 1000.

From Prof. Day's address, Winter Fair Dec. 1913.
No building with Universal Lightning Rods on it has ever been damaged by lightning.

Write us for a sample.
THE UNIVERSAL LIGHTNING ROD CO. HESPELER - ONTARIO

SHORTHORNS AND CLYDESDALES

We have seven yearling bulls and seven bull calves from 7 to 12 months. All reds and roans, and of choice breeding. We have some extra good imported mares for sale, also some foals. If interested, write for catalogue of their breeding.

W. G. PETTIT & SONS, Freeman, Ont.
Burlington Junction, G.T.R. Bell 'Phone

SHORTHORNS I have ten young Shorthorn bulls, some fit for service now. Part of them are bred, and made so that they are fit to head the best herds in any country, some of them are of the thick, straight, good-feeding kind, that will produce money-making cattle; some of them are bred from the best-milking Shorthorns, and the prices of all are moderate. I have SHROPSHIRE and COTSWOLD rams and ewes of all valuable ages. Write for what you want. **Robert Miller, Stouffville, Ont.** I can suit you in quality and price.

Shorthorn Bulls FOR SALE—From one up to one hundred head of Shorthorn bulls for sale, ranging from 6 months up to 3 years old. Car loads a specialty. Ship to any place in Canada or U. S. **T. L. MERCER, MARKDALE, ONTARIO.**

Shorthorns and Clydesdales 5 bulls of serviceable age, choice quality, some of them herd headers, sired by His Grace (imp.) -69740= and a number of cows and heifers. One stallion rising 3-year-old. A big, good-quality horse; also four choice fillies All from imported stock. **A. B. & T. W. DOUGLAS, STRATHROY ONT. L.-D. 'phone.**

SHORTHORNS Our present offering consists of Nonpareil Lord -87184=, Dam Imp. Dalmeny Nonpareil 6th. 7 breeding. **A. J. HOWDEN & CO., COLUMBUS, ONTARIO. Myrtle, C. P. R. and G. T. R. Long-distance 'phone.**

Springhurst Shorthorns Shorthorn cattle have come to their own; the demand and prices are rapidly increasing; now is the time to strengthen your herd. I have over a dozen heifers, from 10 months to two years of age, for sale; every one of them a show heifer, and some of them very choice. Bred in my great prize-winning **HARRY SMITH EXETER STN. HAY P. O.** strains. Only one bull left—a red, 18 months old.

SHORTHORN BULLS FOR SALE Eight head, from 10 to 18 months, bred from cows which are from imported dams and sired by choice bred bulls. Prices are not high, as I need the space for stabling cattle. Shropshire and Cotswold ewes bred to imported rams.
BLAIRGOWRIE FARM JOHN MILLER, JR., Ashburn, Ontario

SHORTHORNS of breeding, style and quality. If in want of an extra choice herd header, carrying the best blood of the breed, or a limited number of right nice yearling heifers, write us; we can supply show material of either bulls or females.
GEO. GIER & SON, WALDEMAR, R. R. No. 1, ONT. L.-D. 'PHONE.

Salem Shorthorns—Herd headed by Gainford Ideal, and Gainford Perfection, sons of the great Gainford Marquis. We are generally in shape to supply your wants in either sex.
J. A. WATT, Elora G. T. R., C. P. R. Telephone and Telegraph

Heaves CURED

—by removing the cause—and cured to stay cured—If 3 boxes of Fleming's Tonic Heave Remedy fall to effect a cure of any case—old or new, we will refund the full amount paid.

Par Box 1.00, 3 for 2.50 Mailed on Receipt of price

Scratches Disappeared
Gentlemen:—I gave a course of your Tonic Powders, which has put a horse and his mate in fine shape, and a touch of scratches has quite disappeared.

Fuller information in FLEMING'S VEST POCKET VETERINARY ADVISER Write us for a Free copy

FLEMING BROS., Chemists
75 Church St. Toronto, Ont.

What Every Dairyman Needs

A clip to hold the cow's tail while milking Handy and easy to use. Saves the milker many a nasty blow in the face from the cow's tail while milking. Sent post paid to any address, with full instructions as to how to use them, upon receipt of 50c (fifty cents). Address:

R. A. CHAMBERLIN
83 Painswater Ave. Ottawa, Ontario

Aberdeen-Angus of Show Form and Quality. For this season my offering in young bulls and heifers, are toppers every one. Show-ring form and quality and bred from show-winners. T. B. BROADFOOT, Fergus, Ont. G.T.R. and G. P. R.

Shorthorns

Bulls all sold, choice females for sale. 1 yearling Clyde stallion, 1 weanling Clyde stallion, big, best quality and breeding.

JOHN CLANCY Manager
CARGILL LIMITED Cargill, Ont. Proprietors

Shorthorns, Cotswolds Berkshires

FOR SALE—A few Shorthorn females, a limited number of young Cotswold ewes and a number of Berkshires about three months.

CHAS. E. BONNYCASTLE
F. O. and Station Campbellford, Ontario

Woodholme SHORTHORNS

I have a few more Scotch Bulls, of the low set thick herd, breeding unsurpassed, left for sale; among others a 10 months, out of imp., sire and dam, a kind header of the right kind. Write me your wants

G.M. Forsyth, North Claremont, Ont.

GLENGOW SHORTHORNS

Still have a few choice bull calves, and several real nice heifers of different ages.

WM. SMITH, Columbus, Ont

1854 MAPLE LODGE STOCK FARM 1914 Estate of late A. W. SMITH

SHORTHORNS AND LEICESTERS

We still have an excellent lot of rams, mostly sired by Imp. Connaught Royal; also one extra choice young bull for sale.

Situated one mile from Lucan Crossing. P. O. Address, R. R. No. 1, Clandeboye, Ont.

"OAKLAND" SHORTHORNS

80 head of good individuals to select from, 26 breeding females, headed by a fine roan 1st prize and sweepstakes bull. Just three bulls fit for service, all of high quality, and priced to sell Dual-purpose a specialty.

John Elder & Sons - Hensall, Ontario

Spring Valley Shorthorns

Herd headed by the two great breeding bulls, Newton Ringleader (Imp.) 73783, and Nonpariel Ramsden 83422. Can supply a few of either sex.

KYLE BROS., Drumbo, Ontario
Phone and Telegraph via 'Ayr.

Good Shorthorn Bulls

not all sold. I have 2 roans, 17 and 12 months respectively; a dark red, 12 months; a white, 11 months; a red roan, 10 months; all straight, smooth, wide, fleshy, strong-boned bulks, showing breed character; some from heavy-milking dams; also five yearling heifers Priced on easy terms for quick sale.

STEWART M. GRAHAM, - Lindsay, Ontario

FLETCHER'S SHORTHORNS—Present offering 5 choice bulls, suitable for high-class herd headers, 8 to 11 months, and females all ages. Present stock bull "Royal Bruce" (imp.) = 55038 =.

George D. Fletcher, R. R. No. 2, Erin, Ont.
Erin Station, C.P.R. Long Distance Phone

Spruce Lodge Shorthorns & Leicesters

Present offering: A number of good heifers and young cows, with calf at foot, from good milking families. A few ram lambs and a choice lot of shearing ewes, now bred to imp ram.

W. A. Douglas, R. R. No. 2, Caledonia, Ont.

Questions and Answers.

Miscellaneous.

Barbed Wire Fence.

A and B own lots side by side. B's part of the line fence is built of barbed wire, not over forty inches high, and no pole on top. Is this a lawful line fence? If not, what action must A take to have it removed? READER.

Ontario.

Ans.—Probably not; but for definite information you should see the Clerk of the municipality, as the matter is one usually regulated by local municipal by-law.

Veterinary Fees.

What is the farm regarding veterinary fees, mileage, etc.? A SUBSCRIBER.

Ontario.

Ans.—We do not think that there is any, excepting that they must be reasonable, and also that a veterinary surgeon, when called upon to give evidence in consequence of any professional services rendered by them, or to give professional opinions (in either supreme or County Court), is entitled to a professional fee of \$5 per day, and travelling expenses, over three miles, not exceeding 20 cents per mile one way.

Mortgagor vs. Mortgagee.

1. A has a farm against which there is a mortgage. Can A remove hay-fork outfit from barn, or will the mortgage hold it? A SUBSCRIBER.

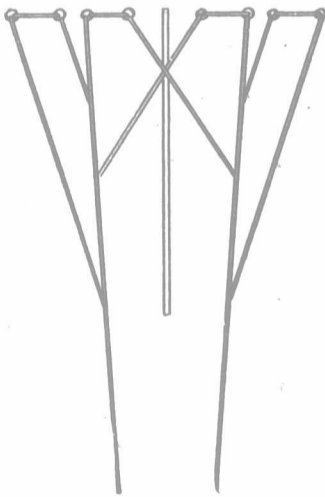
2. In case A cannot meet his payments, can B, who holds the mortgage, take A's chattels if the farm does not sell for enough to satisfy the mortgage? Ontario.

Ans.—1. Yes, provided he can do so without serious injury to the barn.

2. Not without first obtaining judgment and execution, and then only through the Sheriff or Bailiff of the Court, and to the extent only to which the chattels are not exempt from seizure.

Four-Horse Lines.

Would you publish cut of lines for driving a four-horse team? J. A. C.



Ans.—We publish this illustration as being quite suitable for driving such a team.

Bee Books.

1. Will you kindly publish the name, price, and where obtained, a first-class book on bee culture, suitable for one who has had no experience with bees?

2. The name and address of parties from whom I could purchase a colony of bees in healthy condition? A. L.

Ans.—The A B C and X Y Z of Bee Culture, is a very good book for the beginner, or even for an experienced beekeeper. It may be procured through this office for \$2.25, postpaid.

2. We could give you the names of beekeepers who would likely be willing to sell you a colony of bees, but we do not know of any in your immediate vicinity. It would be better for you to look around, or put a small advertisement in your local paper, and inspect the yard from which you are likely to purchase, assuring yourself that there is no foul-brood or other diseases. It will be wise to avoid all diseases when establishing your yard, therefore, it is to your advantage to purchase near at home, where you know the keeper and his bees. Find out a reliable man, and purchase from him.

HUNDREDS of farmers are proving to their own satisfaction that

Caldwell's Cream Substitute Calf-Meal



is a good business proposition any way they like to figure it out. The Meal is precisely what the name implies—a substitute for Cream or Whole Milk. You can veal up or raise just as good calves on Cream Substitute as you can raise on whole milk and at a cost which is trifling in comparison. You owe it to your bank account to find out all there is to know about Caldwell's Cream Substitute Calf Meal.

Ask your Feedman about it or write to us for full particulars. 40

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Choicely-Bred Shorthorns at Auction Thursday, May 14, 1914

I will offer at Broad Lawn Stock Farm, one mile from Grand Trunk Station, Coaticook, Quebec

50 HEAD OF REGISTERED SHORTHORNS

Consisting of cows with calves at foot and due to calve, heifers and young bulls suitable for service this spring. Coaticook is on the Main Line of the Grand Trunk Railway between Montreal and Portland, twenty miles south of Sherbrooke. Sale begins at 2.30 sharp.

Terms: Six months' credit on approved joint notes, or 2 per cent. off for spot cash. Catalogue of pedigrees on application.

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100 SHORTHORNS IN OUR HERD 100

Our 1913 crop of 22 bulls are all sold, we have 20 extra bull calves coming on for the fall trade. For Sale—25 heifers and young cows; these old enough are bred to Right Sort (imp.), or Raphael (imp.), both prize winners at Toronto last fall.

MITCHELL BROS. Farm 1/4 mile from Burlington Junction. **BURLINGTON, ONT.**

Poplar Shorthorns

We have the best lot of young bulls for sale this spring we have ever bred, reds and roans, 10 to 18 months of age, Butterflies, Roan Ladys, Lavenders and Lovelys, all sired by the great Uppermill Omega Imp. Strictly high-class herd headers

MILLER BROS. BROUGHAM, ONT. Claremont Station, C.P.R.

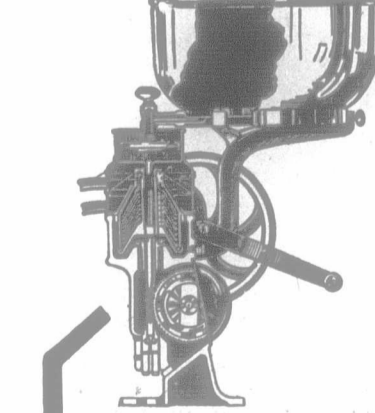
SHORTHORNS

Scotch, Bates and Booth. Yes, we have them, pure Scotch, pure Booth and Scotch topped Bates, Young bulls of either strain. Heifers from calves up; one particularly good two-year old Booth bull, ideal dairy type.

GEO. E. MORDEN & SON, Oakville, Ontario

MEADOW LAWN SHORTHORNS OF RICHEST AND MOST FASHIONABLE SCOTCH BREEDING, and of high-class type and condition. I can supply young bulls and heifers—Clarets, Roan Ladys, Mildreds, Stamfords, etc. L.-D. Phone

F. W. EWING, R. R. NO. 1, ELORA, ONTARIO.



SIMPLICITY— EASE and DURABILITY

Every extra moving part adds its weight to the load you must turn and adds friction which takes its toll of the life of a separator.

Choose then the

EMPIRE DISC SEPARATOR

because these features eliminate waste of power and friction:—

Its bowl is smaller and 20% lighter than any other disc bowl of equal capacity.

It has only 6 points of contact of moving parts. Its three main bearings are of unique design that are infinitely superior to closed bearings.

Its exclusive clutch makes starting easy and allows not running but the bowl to spin in "running down."

For the use of small dairy herds we recommend the Baltic separator—the smallest of which sells at \$15.00.

Write for information about the famous "Sta-Rite" gas-oil engines—"they start right and sta-rite."

Clip the coupon and mail it to-day for our booklet.

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(Make every one of these
books yours)

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All kinds bought outright or handled on Commission. Write at once stating grade, quality, quantity and when you could make shipment.

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Dovercourt Road, TORONTO, ONT.

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USE
Rice's Pure Salt
IT WILL PAY YOU

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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.**

City View Herd of R. O. P. Ayrshires—When you want a choicely bred bull calf, write us. Nothing serviceable on hand. Can spare a couple of young heifers.

James Begg & Son, R.R. 1, St. Thomas, Ont.

High-class Ayrshires—If you are wanting a richly bred young bull out of a 50-lb.-a-day and over cow, imported or Canadian-bred dam or sire, write me. Females all ages. Prices are easy.

D. A. MACFARLANE, Kelso, Quebec

Dunganon Ayrshires—For high-class Ayrshires, write us or come and see them. We can sell matured cows, heifers, heifer calves; all bull calves are sold. Prices right. L. - D. 'Phone.

W. H. FURBER, COBURG, ONT.

Please mention "The Farmer's Advocate."

Questions and Answers.
Miscellaneous.

A Bad Well.

Have a good brick well which has been down nearly twenty years. Always extra good water till two years ago. It went bad, but we have cleaned it often. Have cleaned it three times in two years, but it always fills in and is as bad as ever. There is no drain to let the water in. It just filters in through the clay. It has a hard cement bottom, and we wash it all out as clean as a plate, and still it is bad. Is there any way to have the water in it keep good, or must we put down a new well? If so, must we get new brick?

1. Are there any chemicals we can get to put in the well to cleanse it?
2. Is lime good to put in?
3. If lime is good, how much will it need for a well twelve feet deep, six feet across?

Ans.—The explanation of this undesirable condition lies, no doubt, in that the channels through which the water comes to the well have become contaminated with decaying vegetable or animal matter. When the wall was first put down the soil acted as a filter, but the interspaces have now become filled, and so long as the well is in that position without the sources of contamination removed, it will be useless to try to sterilize the water so it will be fit to use. Perhaps the sources of contamination might be discovered and removed, but if the land is sloping from all directions towards the well, it will be hard to remedy this condition. A bored well, or drilled well, is preferable, but if you decide to put down a new dug well, we can see no objection to using the same bricks, provided they are thoroughly cleansed.

Ordinary lime will not be a satisfactory disinfectant. Chloride of lime or bleaching powder, which may be obtained from any druggist, is commonly used to disinfect water for domestic use. Following is a list of instructions how this chemical may be used to purify small quantities of water. It is taken from the Journal of the Royal Army Medical Corps, and will serve the purpose only where small quantities are to be sterilized:

1. Take a teaspoonful of chloride of lime containing about one-third available chlorine, and remove the excess of powder by rolling a pencil or other round object along the top of the spoon, or by flattening it with a penknife blade, so that the excess will be squeezed off.
2. Dissolve the teaspoonful of chloride of lime in a cupful of water, making sure that all lumps are thoroughly broken up, and to it, in any convenient receptacle, add three more cupfuls of water.
3. Stir up the mixture, allow to stand for a few seconds in order to let any particles settle (this stock solution, if kept in a tightly-stoppered bottle, may be used for four or five days), and add one teaspoonful of this milky stock solution to two gallons of the water to be purified in a pail or other receptacle. Stir thoroughly, in order that the weak chlorine solution will come into contact with all of the bacteria, and allow to stand for ten minutes. This will give, approximately, one-half part of free chlorine to a million parts of water, and will effectually destroy all typhoid and colon bacilli, or other dysentery-producing bacilli in the water. The water will be without taste or odor, and the trace of free chlorine added rapidly disappears.

This method is equally applicable to the sterilization of water drawn from a farm well, and it may also be used to sterilize wells which have been infected, provided, of course, that the source of the infection has been removed. It would obviously be futile to sterilize a well situated in a farmyard from which organic matter and bacteria are constantly draining into the well.

It will hardly be sufficient to sterilize the well unless you remove the sources of contamination, but in case you would like to sterilize the whole well, you could do so by mixing up about one-third of an ounce of chloride of lime in a small quantity of water and stir it into the water of the well.

An Ideal Green Feed Silo on Your Farm Means

Better feed, cheaper feed,
more milk, larger profits

THE most prosperous and successful dairymen in Canada all agree that one of the first, and certainly the most profitable, investments that a cow owner should make, is the erection of a good silo.

Leading dairymen also testify that the **Ideal Green Feed Silo** can be depended upon to give entire satisfaction. It has proved its worth by years of use upon Canadian farms.

The materials and construction throughout of the **Ideal Green Feed Silos** are of the very best, and everyone contemplating the erection of a silo this year will find it to his advantage to get our specifications and prices before contracting for the erection of a silo.

Write for New Silo Catalogue

DE LAVAL DAIRY SUPPLY CO., Limited
LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA
Exclusive Canadian distributors of the "World Standard" De Laval Cream Separators
MONTREAL PETERBORO WINNIPEG VANCOUVER

MORE MONEY EASIER AND FASTER WORK

You lose \$1.00 on every six sheep you shear in the old way. The Stewart gets a length and quality of wool that brings the highest price. Extra profits soon pay for it. The Stewart has ball bearings in every part where friction or wear occurs. Has a ball bearing shearing head of the latest improved Stewart pattern. Its price complete, including 4 combs and 4 cutters of the celebrated Stewart quality is \$15.75.

STEWART'S NO. 9 BALL BEARING SHEARING MACHINE \$15.75

gets all the wool and takes it off quickly and smoothly in one unbroken blanket. To shear with the Stewart Machine seems like play to those who have labored with hand shears in the old, hard, sweaty way. You don't have the same swollen aching wrists. You don't scar and disfigure your sheep with uneven shearing and spoil the wool with second cuts like you used to do. Get one from your dealer, or send us \$2.00 and we will ship C. O. D. for balance. Money back if you are not well pleased.

Write for FREE catalogue showing most complete line of Sheep Shearing and Horse Clipping Machines in the world.

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Stewart Ball Bearing Clipping Machine
For Horses, Mules and Cows

It pays to clip horses and mules in the spring—they look and feel better, do more work, rest better and get more good from their food. Clipping the flanks and udders of cows prevents the dropping of filth into milk. The Stewart can be used for clipping horses, mules and cows without change. It's the easiest to turn, does the fastest work, stays sharp longer and is the most durable. Get one from your dealer, or send \$2.00 and we will ship C. O. D. for the balance. Money back if not well pleased.

Ayrshires & Yorkshires—Bulls for service of different ages; females all ages. Calves of both sexes. All bred for production and type. A few pigs of both sexes ready to ship.

ALEX HUME & COMPANY, CAMPBELLFORD, R. R. No. 3

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In official record, high testing Ayrshires, that have won scores of prizes, I can surely supply your wants, over 50 to select from. Young bulls of superb breeding on record producing lines. Also the 3-year-old stock bull, Imp. Whitehall Free-trader.

P. D. McARTHUR, NORTH GEORGETOWN, QUE.

Brampton Jerseys—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.**

Don Jerseys—Young bulls of breeding age, young cows and heifers, got by our richly bred stock bulls, Fontaines Boyle and Eminent Royal Fern, and out of prize-winning and officially record dams. **David Duncan & Son, R.R. No. 1., Todmorden, Ontario**

When writing Advertisers please mention this paper.

Boo Spavin

Cure the lameness and remove the bunch without scarring the horse—have the part looking just as it did before the blemish came.

Fleming's Spavin Cure (Liquid) is a special remedy for soft and semi-solid blemishes—Boo Spavin, Thoroughpin, Splint, Curb, Capped Hoof, etc. It is neither a liniment nor a simple blister, but a remedy unlike any other—doesn't irritate and can't be imitated. Easy to use, only a little required, and your money back if it ever fails.

Fleming's Vest-Pocket Veterinary Adviser
describes and illustrates all kinds of blemishes, and gives you the information you ought to have before ordering or buying any kind of a remedy. Mailed free if you write.

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BLATCHFORD'S CALF MEAL

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



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Applications for registry, transfer and membership as well as requests for blank forms and all information regarding the farmer's most profitable cow should be sent to the secretary of the Association.

W. A. CLEMONS, St. George, Ont.

REGISTERED

HOLSTEINS

Orders booked for bull calves from well bred dams with good A. R. O. backing. No females for sale at present.

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Present offering includes a son of Netherland Favorit who holds the (Senior 2-year) 30 days record; also bull calves from 2 to 5 months old from heifers that have made from 15 to 19 lbs. butter in 7 days (at Junior 2-year) and up to nearly 20 lbs. (at Senior 2-year). All will be sold cheap for quick sale.

W. J. Bailey, - Nober, Ont.

Cattle and Sheep Labels

Size	Price doz.	Fifty tags
Cattle.....	75c.	\$2.00
Light Cattle.....	60c.	1.50
Sheep or Hog.....	40c.	1.00

No postage or duty to pay. Cattle sizes with name and address and numbers; sheep or hog size, name and numbers. Get your neighbours to order with you and get better rate. Circular and sample mailed free.

F. G. JAMES
Bowmanville, Ontario

Woodbine Holsteins

Young bulls and bull calves, sired by Duke Beauty Pieterje; sire's dam's record 32.52 lbs. butter, and his two grand-dams are each 30-lb. cows, with 30-lb. daughter, with 30-lb. granddaughter. Three generations of 30-lb. cows. If you want a bull that will prove his value as a sire, write

A. KENNEDY & SON, R.R. No. 2, Paris, Ont.
Stations: Ayr, C.P.R.; Paris, G.T.R.

Holstein Heifer

Calves from heavy-milking, high-testing unregistered dams, sired by the great Holstein bull, Cornelius De Kol. Price crated f.o.b. Rodney \$15. Two choice bull calves from extra heavy-milking, high-grade cows, \$12 each. The right kind to improve your herd. Glenroy Stock Farm, Rodney, Ont.

GLENWOOD STOCK FARM HOLSTEINS

3 yearling bulls for sale, out of big milking strains, at low figure for quick sale. Thos. B. Carlaw & Son, Warkworth, Ont., Campbellford Station.

Please mention "The Farmer's Advocate."

Questions and Answers.

Miscellaneous.

Cleaning Wall.

What would you use to clean a plastered wall finished with a plaster-of-Paris coat?
A SUBSCRIBER.

Ans.—Try the following: Wash well with a soap solution made as follows: Dissolve 1 lb. soap cut into small pieces in 1 gallon soft, hot water, and add enough of this to make the water with which you are to wash the walls, soapy. Add 1 ounce sal-soda dissolved in a little water. If there are any especially dirty spots, powdered soap-stone, pumice, or sapollo, will help. Kerosene is also effective. When washing the wall, use an up and down motion, as a rotary motion makes the walls look clouded. Wipe dry with clean, old cotton cloths.

Probably Blackhead.

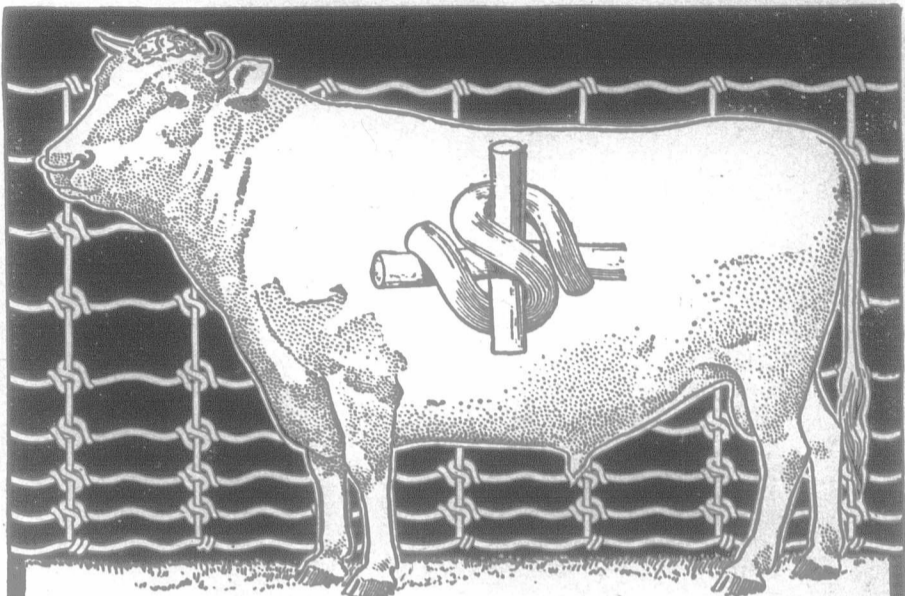
Have bronze tom. Four days ago noticed swelling under neck. It is steadily increasing in size until now it is larger than a goose egg, and is swelling on upper side of neck and on top of head. Swelling is puffy, and a redish-purple color. He does not appear to be sick, and eats as usual. Could you tell me what the trouble is, and what to do for it?
A. F. M.

Ans.—This symptom indicates blackhead to a certain extent, although the swellings are not generally so conspicuous as this particular case. They usually swell slightly about the head, turn dark, and become dumpish and mopey. The disease is frequently accompanied by diarrhea. For treatment, no remedy has ever given satisfaction. As it is only one bird, would advise you to isolate him from the others, and if you can assure yourself that it is blackhead, it would not be poor policy to destroy him, in which case you would gain considerable by sending his body to the Bacteriological Department at Guelph, where a post-mortem would be held, and your suspicions confirmed or banished. One of the treatments recommended is: Allow the patient to drink from a quart of water containing a teaspoonful of muriatic acid. Another correspondent writes that they have secured results from feeding a teaspoonful of pure oil (crude black oil) in a little soft food. This may be obtained at the drug store.

Results of Spraying.

I sprayed as thoroughly last year as on former years, when I procured good results, but in some way I did not get as good results last year. There were very few worms in the calyx end of the apples, but I should say that three-quarters of my late apples dropped from the trees useless, as a result of worms. I believe the material and poison were as good last year as they were before, and I got the codling moth stopped in the calyx end, showing the spray was good. Can you tell me what caused the trouble, and what course I should follow to avoid a repetition of the trouble. I would also like some information as regards the soluble lime-sulphur that is being sold nowadays as a substitute for the commercial lime-sulphur. Is it a sound proposition or not? This is being advertised under the slogan, "Do not pay freight on water." It is supposed to be merely added to water and dissolved before use.
R. A. J.

Ans.—The sideworm is considered a second brood of the codling worm, or the worm that enters by the calyx end. The most practical treatment for it is to destroy the codling worm by the codling-moth spray, as you say you did. Later sprays for the sideworm have not generally been a practical success. The fault must have been in your spraying or in your neighbor's orchard. Conditions were such last season in many sections that spraying did not give the expected results. Such conditions have been thoroughly discussed in recent numbers of "The Farmer's Advocate," and from a perusal of the same, much information regarding different districts may be obtained. Regarding the soluble lime-sulphur, we refer you to an article in the Horticultural Department, of March 26th, entitled, "What Spray Mixtures Shall We Use?" There is no safer way of determining the value of spray mixtures than by applying them under your own conditions. We would advise you to give it a test.



The Bull Is Strong--But "Ideal" Fence is Stronger

They are in the same class and should be in the same field. The pedigree of "IDEAL" FENCE is known throughout Canada. It is not crossed with cheap wire, cheap material, or cheap labor to produce a cheap fence. "IDEAL" FENCE is made of ALL NO. 9 HARD STEEL, EVENLY GALVANIZED WIRE. From top to bottom "IDEAL" is all the same—it's an "IDEAL" thoroughbred with an "IDEAL" pedigree—it's "made-to-last." Made with the object of getting the blue ribbon from you, the user, doing the judging. Compare the weight of "IDEAL" FENCE with any and every other make. Compare the workmanship. Test it in the severest way you can devise. You owe this to yourself before buying any fence. You will find "IDEAL" offers you the strongest, most durable and most serviceable fence that money can buy and at the lowest price you should reasonably expect to pay, counting weight, length of service and genuine value for your money. Ask your nearest "IDEAL" representative to show you "IDEAL" FENCE and to give you a price on your requirements. If you do not know him drop us a card and we will send you our complete proposition by return mail. Write for Catalogue 121 which tells all about "IDEAL" FENCE. 15

The McGregor Banwell Fence Co., Limited, Walkerville, Ont.

HOLSTEIN CATTLE

The only two world record Holsteins in Canada are owned by us. There are only three cows in the world that have made over thirty pounds butter, three years in succession; one of them is owned by us. The only bull in Ontario whose dam has given 116 lbs. milk a day and made 34.00 lbs. butter in seven days is owned by us. We have young bulls and females for sale bred on the same lines as our champions.

D. C. Flatt & Son Long-Distance 'Phone R.R. No. 2, Hamilton

Riverside Holsteins

Herd headed by King Johanna Pontiac Korndyke whose near dams and sisters, 13 in all, average 33.77 lbs. butter in 7 days. His sister, Pontiac Lady Korndyke, has a record of 38.03 lbs. butter in 7 days 156.92 lbs. in 30 days—world's records when made. We are offering several females bred to this bull; also a few bull calves.

J. W. RICHARDSON
R. R. No. 2, Caledonia, Ont.

LAKEVIEW HOLSTEINS

Senior herd bull—Count Hengerveld Fayne De Kol, a son of Pieterje Hengerveld's Count De Kol and Grace Fayne 2nd. Junior herd bull—Dutchland Colantha Sir Mona, a son of Colantha Johanna Lad and Mona Pauline De Kol. Third bull—King Canary Segia, whose sire is a son of King Segia Pontiac, and whose dam is 27-lb. three-year-old daughter of a 30-lb. cow. Write for further information to—

E. F. OSLER, - BRONTE, ONT.

Fairview Farms Herd

Offers for sale: A son of Rag Apple Korndyke 8th, out of a daughter of Pontiac Korndyke, with a record of 27.72 lbs. in 7 days, averaging 43% fat. Granddam has a record of 29 lbs. Calf is nearly ready for service. Write me for description and breeding.

E. H. Dollar, Heuvelton, N. Y. Near Prescott Ont.

Willowbank Holsteins

Herd headed by King Korndyke Inka De Kol, who has 12 sisters with records from 30 to 38 lbs. butter in seven days. Twenty-nine others with records from 20 to 29 lbs. Thirty to choose from, mostly bred to the above bull. Special offering: Two heifers, 2 and 3 years, sisters, one freshened in July, one just freshened, \$250 takes the pair. Bell 'Phone

COLLVER V. ROBBINS, Riverbend, Ontario

ELMDALE HOLSTEINS

Headed by Correct Change, by Changling Butter Boy, 50 A.R.O. daughters; he by Pontiac Butter Boy, 56 A.R.O. daughters. Dam's record, 30.13-lbs., a grand dam of Tidy Abbekirk, 27.29-lbs. His service for sale; also young females in calf to him. R. LAWLESS - Thorold, Ontario

HOLSTEINS FOR SALE—Male or female. Herd sire, Prince Hengerveld of the Pontiacs, son of King of the Pontiacs. A few choice females bred to above sire.

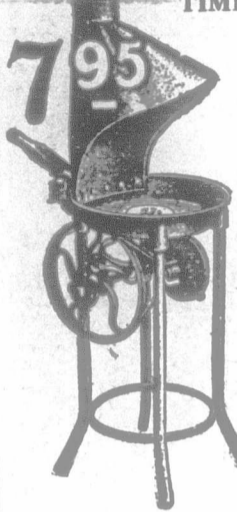
F. HAMILTON :: "Hamilton Farms" :: St. Catharines, Ont.

HOLSTEINS

We have a choice lot of bull calves with strong backing and from dams with records of 18 to 24 lbs. Just the kind you are looking for. Write for extended pedigree, or, still better, come to see us. Prices very reasonable. D. B. TRACY, Cobourg, Ont.

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One of the best investments a farmer can make. Pays for itself the first year and keeps right on saving you money. Saves time in busy season. Instead of hitching up for a trip to town and spending half a day, you can make quick repairs right on your own place.

Factory to you. Price \$7.95 only. Freight paid Ontario and East.

Liberal Delivery offer Westward. Forge complete, as pictured, has 8-in. fan, 18-in. cast iron hearth. Complete with hood to which

stove pipe can be attached for indoor use. Our direct from factory price is the lowest yet. Quality guaranteed.

ASK FOR CATALOGUE. Free catalogue shows over a dozen styles of forges, bowers, vises, anvils and all small tools—sent free to you for the asking.

The Holliday Company Limited
FORMERLY STANLEY MILLS & CO.
HAMILTON ESTAB. 1855. CANADA

Alloway Lodge Stock Farm

Aberdeen-Angus Cattle
Southdown Sheep
Collie Dogs

Four litters sired by Imp. Holyrood Marquis are expected shortly, three of them from imported Mitches. Order now if you wish to secure a choice pup. **ROBT. McEWEN,** Near London, Byron, Ontario

Oxford Down Sheep

Shorthorn Cattle, Yorkshire Hogs—Present offering: Lambs of either sex. For prices, etc., write to John Cousins & Sons, "Buena Vista Farm," 114 Harrison, Ontario

Maple Grove YORKSHIRES—200 head Are as good as the best, because they combine the bloods of the following noted sires—M. G. Champion 20102, Champion boar at Toronto, 1906; S. H. Jack, Imp. 28515, Champion boar at Toronto, 1908, 1909, 1910; and S. H. Romeo 27th, 24653, certainly the best sire we ever owned, and a grand large individual.

Our Brood sows, in view of the above, could not but be of a very high class, combining great size, true type, and easy-feeding qualities.

Our present offering—25 sows, bred and ready to breed—a grand lot. Sows and boars, from six weeks old, up to six months. Write us or come and see for yourself. All stock shipped on approval. Satisfaction guaranteed.

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TAMWORTHS—Some choice young sows, bred, for April and May farrow; also a few boars. Write for particulars. **JOHN W. TODD** R. R. No. 1, Corinth, Ontario

Hampshire Swine

I have a choice lot of Hampshire belted hogs for sale. Will be pleased to hear from you, and give you description and prices. **J. H. Rutherford,** Box 62, Caledon East, Ont.

Cloverdale Large English Berkshires No matter what your needs in Berkshires may be, see Lang, the live Berkshire man. He is always prepared to furnish anything in Berkshires. Write or come and inspect. **C. J. LANG,** Hampton, Ont., Durham Co.

Duroc-Jersey Swine Twenty-five sows, bred for fall farrow; a few boars ready for service; also one Jersey bull, 11 months, and two bulls, 6 months old, out of high-producing dams. **MAC CAMPBELL & SON,** Northwood, Ont.

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Am offering a quantity of very choice White Cap Seed Corn. The very best in Poland-Chiga and Chester White swine, and select young Shorthorns. Prices easy. **Essex Co. Geo. G. Gould,** Edgar's Mills, Ont.

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Questions and Answers.

Miscellaneous.

Descent of Estate.

An unmarried man dies intestate in the Province of Saskatchewan, all his property being in that Province. He leaves a father, brother, and sister, all over age. Is the father the sole heir, or do the brother and sister have a claim on the estate? **J. H. B.**

Ans.—The father takes all.

Angus Cattle.

A short time ago I saw a sire, called by his owner an Aberdeen-Angus. A little later I saw another animal called by his owner a polled Angus, which looked to me to be of the same breed as the first mentioned. Are they of the same breed, or is there a difference? Under what name are they registered if both are of the same breed? **A BEGINNER.**

Ans.—Aberdeen-Angus and polled Angus are names used to designate the same breed of cattle. The word "polled" simply means without horns. They are registered as Aberdeen-Angus.

About Pig Pens.

I have been reading your ideas on the building of hogpens, but I should like it very much if you would go further and describe the best way to fix the fronts for feeding, the doors for the hogs to go out, how much space to be used for windows, and how high the posts should be where a hay or straw loft is used? **W.**

Ans.—Where a straw loft is provided, it will not be wise even then to have the ceiling too low. Eight-foot posts should make a convenient height for the ceiling, and it is in general practice where modern piggeries are being erected. We have never heard of any complaints one way or the other from this height. For feeding purposes, the troughs and fronts may be constructed in two different ways. One system, which is very convenient, exists where the trough is constructed half-way inside the pen and half-way outside. The front of the pen comes exactly above the center of the trough. This may not be as convenient for cleaning out the trough, but for feeding purposes it is as expeditious as any construction that we have ever seen. However, taking everything into consideration, perhaps a trough made of cement, ten inches wide, four inches high in front and eight inches at the back is the best trough; then add a moveable front, suspended at the top on hinges so it will move inward. This is the most complete and up-to-date. One or two iron shafts fastened securely to the outside of this front, and arranged in such a way that it will slide up and down, and fastened into slots both when it is perpendicular, as the wall, and when it is swung in to prevent the hogs getting into the trough. This system has much to commend it, as the pigs can be excluded from all the troughs at once while the feeder goes about his work preparing, mixing and distributing the feeds. When his work is all done in that direction, the hogs may be allowed to commence feeding. It will be optional with the door leading to the outside pens whether it be a hinged door opening one way, or hinged at the top to open in and out. In the latter case, it would almost appear necessary in this country to have it detachable, so one could fasten the door on during the winter months so that it would be tight and warm. In any case, during warm weather this door could be fastened open, and in cold weather it should be closed tightly at night, so in our estimation the ordinary door is most advisable. There should be a door leading into the feed passage as well. Loading is mostly done from the center or feed passage. A door two and one-half feet wide by three and one-half feet high will be quite sufficient, and if the passage be wider than this, a temporary partition could be carried along and attached to the door so the pigs could be driven from one pen to the other with comparative ease.

Regarding light in the piggery, it depends altogether on the raiser's willingness to admit plenty of sunshine. Windows about three feet square would be a convenient size, and it hardly appears possible to install too many of them. Six to ten feet apart would possibly light the pens sufficiently, but we have never yet seen a piggery with too many windows installed.



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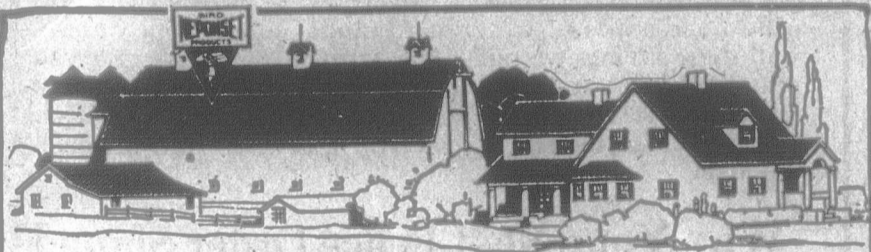


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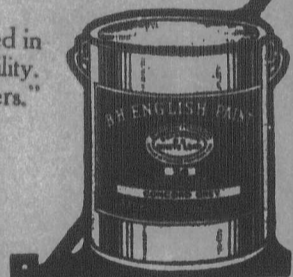
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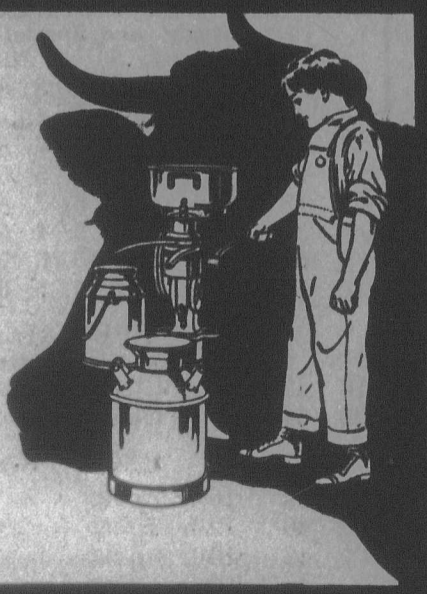
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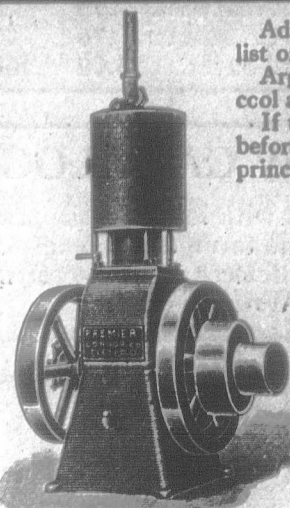
Argument No. 1.—When a blacksmith wants to cool an iron he puts it in water.

If the iron was but 1-32 inch thick it would be cold before he could get it into the water. This is the principle of cooling.

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STYLE	No. of bars.	Height inches.	Uprights inches apart.	Spacing of Horizontals in Inches.				
4 30 22		10, 10, 10				\$0.16	\$0.18	\$0.19
5 37 22		8, 9, 10, 10				.18	.20	.21
6 40 22		6 1/2, 7, 8 1/2, 9, 9				.21	.23	.24
7 40 22		5, 5 1/2, 7, 7, 7 1/2, 8				.23	.25	.26
7 48 22		5, 6 1/2, 7 1/2, 9, 10, 10				.23	.25	.26
8 42 22		6, 6, 6, 6, 6, 6, 6				.26	.28	.29
8 42 16 1/2		6, 6, 6, 6, 6, 6, 6				.28	.30	.31
8 47 22		4, 5, 5 1/2, 7, 8 1/2, 9, 9				.26	.28	.29
8 47 16 1/2		4, 5, 5 1/2, 7, 8 1/2, 9, 9				.29	..	..
9 48 22		6, 6, 6, 6, 6, 6, 6				.29	.31	.32
9 48 16 1/2		6, 6, 6, 6, 6, 6, 6				.31	.33	..
9 51 22		4, 4, 5, 5 1/2, 7, 8 1/2, 9, 9				.29	.31	..
9 51 16 1/2		4, 4, 5, 5 1/2, 7, 8 1/2, 9, 9				.31	..	..
10 48 22		3, 3, 3, 4, 5 1/2, 7, 7, 7 1/2, 8				.31	.33	..
10 48 16 1/2		3, 3, 3, 4, 5 1/2, 7, 7, 7 1/2, 8				.33	..	..
10 51 16 1/2		3, 3, 3, 4, 5 1/2, 7, 8 1/2, 9, 9				.33	..	..
10 51 22		3, 3, 3, 4, 5 1/2, 7, 8 1/2, 9, 9				.31	.33	..
11 55 16 1/2		3, 3, 3, 3, 4, 5 1/2, 7, 8 1/2, 9, 9				.36	..	..

MEDIUM WEIGHT FENCE						PRICES		
No. 9 Top and Bottom, and No. 12 High Carbon Horizontals between; No. 12 Uprights; No. 11 Locks (Maritime Province prices of Medium Weight and Special Poultry Fences include painting).						Old Ont. per rod.	New Ont. and Que.	Maritime Prov.
5 36 16 1/2		8, 8, 10, 10				.18	.19	.22
6 36 16 1/2		6, 7, 7, 8, 8				.20	.21	.24
6 42 16 1/2		7, 7, 8, 10, 10				.20	.21	.24
7 42 16 1/2		6, 6, 7, 7, 8, 8				.22	.24	.27
7 26 8		3, 3, 4, 5, 5, 6				.23	.25	.28
8 48 16 1/2		4, 5, 6, 7, 8, 9, 9				.26	.28	.31
9 36 12		3, 3, 3, 4, 5, 6, 6, 6				.27	.29	.32
9 50 16 1/2		3, 4, 5, 6, 7, 8, 9, 9				.28	.30	.33
10 54 16 1/2		3, 3, 4, 5, 6, 7, 8, 9, 9				.30	.32	.35

SPECIAL POULTRY FENCING						PRICES		
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18 48 8		Close bars				.42	.44	.46
20 60 8		Close bars				.47	.49	.52

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48	12-ft.	op'ng				4.00	4.20	4.20
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