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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

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VOL. XLIV.

LONDON, ONTARIO, APRIL 15, 1909.

No. 864



ROOF for the Years to Come

Just one roof is GUARANTEED in writing to be good for 25 years and is really good for a hundred. That's a roof of

"OSHAWA" GALVANIZED STEEL SHINGLES

Put them on yourself—common sense and a hammer and snips does it. The building they cover is proof against lightning, fire, wind, rain and snow. They cost less because they're made better, and of better material. Write us and learn about ROOFING RIGHT. Address 205

The PEDLAR People (Est'd 1861).
Oshawa Montreal Ottawa Toronto London Winnipeg



"Galt" Shingles

The new "Galt" Steel Shingles and Sidings are the surest protection from the fiercest storms that rage—yes, even lightning storms.

They are made from the Best British Galvanized Steel Plates, which shed lightning like water from a duck's back. No wind, rain or snow can penetrate the new Gale-proof, closed-end side-lock or the continuous interlocking and overlapping bottom joint. They are twice as securely nailed as any other—that's very important.

They are easily and quickly laid, and the Bold Gothic Tile pattern makes a very handsome roof.

They cost no more than ordinary metal shingles—why not have the "Galt Kind?" Our free Catalog "B-3" explains all about them.

THIS IS THE SHEET METAL AGE.

THE GALT ART METAL CO., LIMITED, GALT, ONT.
Sales and Distributing Agents: Dunn Bros., Winnipeg and Regina.

BARN ROOFING
Best for Houses Also

Our "Eastlake" Galvanized Steel Shingles have been tested by time. They have been made and laid on the roof for Twenty-five years, and no weakness found yet. Any other guarantee necessary?

FIRE, LIGHTNING, RUST and STORM PROOF.

Let us know the size of any roof you intend covering and we will make you an interesting offer.

Note what the "Philosopher of Metal Town" says on page 651 of this issue.



Metallic Roofing Co.
Limited
MANUFACTURERS
TORONTO and WINNIPEG 1865



LOUDEN JUNIOR

LOUDEN'S HAY TOOL

Ought to be in your barn

Use our Louden Junior Car, the

Doublebeaded steel track and find

Entire satisfaction. If you

Need any hay tools, write us to

Send you our new catalogue of hay tools

Feed and litter carrier, barn-door hanger, and other equipments.

LOUDEN MACHINERY COMPANY, GUELPH, ONT.

Harrow While Plow You

Make one job out of the two, and get your ground in finest condition by harrowing when the soil is first turned up.

Kramer's Rotary Harrow Plow Attachment

Attaches to any gang or sulky and levels, pulverizes and makes a mulch of the "moist soil" that is not possible after the ground dries and "sets." Draft only slightly heavier—you'll be surprised to see how little. A great time and labor saver. Quick Canadian Shipments. Stock now carried at Winnipeg, Regina and Calgary. No Custom House or other delays. Write for catalog No. 65

THE E. M. KRAMER CO., Paxton, Illinois.

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.

Spring is Here



If interested, it will pay you to look over HULL'S price list for Fruit and Ornamental TREES, Grapevines, Small Fruits, Shrubs, ROSES, Evergreen Hedge, Seed Potatoes, etc., while in verity, it will soon be too late. We ship DIRECT CENTRAL NURSERIES for satisfaction. Don't be too late—the rush is now on.

A. G. HULL & SON, ST. CATHARINES, ONT.

Learn Telegraphy!

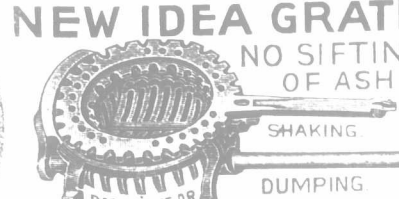
No trade or profession offers better opportunities or pays as well. Write for booklet giving full particulars. It is free.

DOMINION SCHOOL OF TELEGRAPHY, 9 East Adelaide, Toronto, Ont.

Seed Barley—A quantity of the famous No. 21 barley, which is the best at O. A. and also most popular throughout the Province since first distribution in 1906.

JOHN ELDER, Hensall, Ont.

NEW IDEA GRATE
NO SIFTING OF ASHES



SHAKING
DUMPING

BOTH SHAKES AND DUMPS

NEW IDEA FURNACES

ASK FOR FREE CATALOGUES.
SEND SIZE OF HOUSE
IF YOU WISH ESTIMATE OF
COST OF FURNACE
INSTALLED READY FOR USE

THE GURNEY TILDEN CO.
HAMILTON LIMITED MONTREAL
WINNIPEG DEPT. A VANCOUVER

Look Behind the Peddler

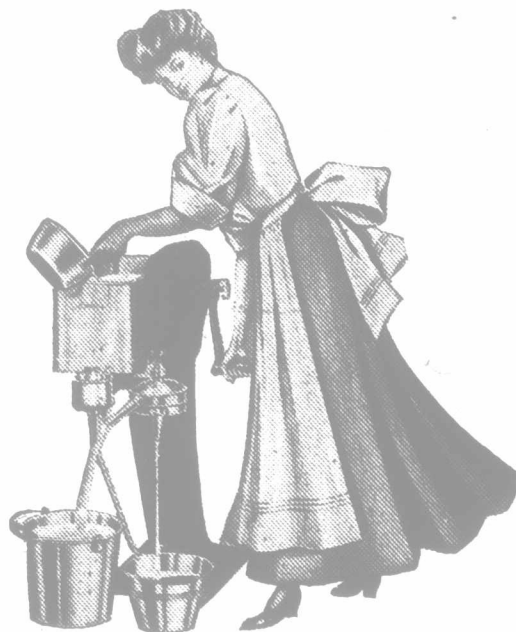
SOME CREAM SEPARATORS are so unsatisfactory that responsible dealers will not handle them. The manufacturers of such machines must sell them through peddlers or go out of business. If a peddler offers you a cream separator, look behind his smooth talk—think of the things he prefers not to talk about.

What ails his separator? Why don't responsible dealers handle it? Would you buy a machine that wide awake dealers refuse to touch? What hold have you on a peddler? What good is his guarantee? He takes your money—leaves his machine—and you never see him again.

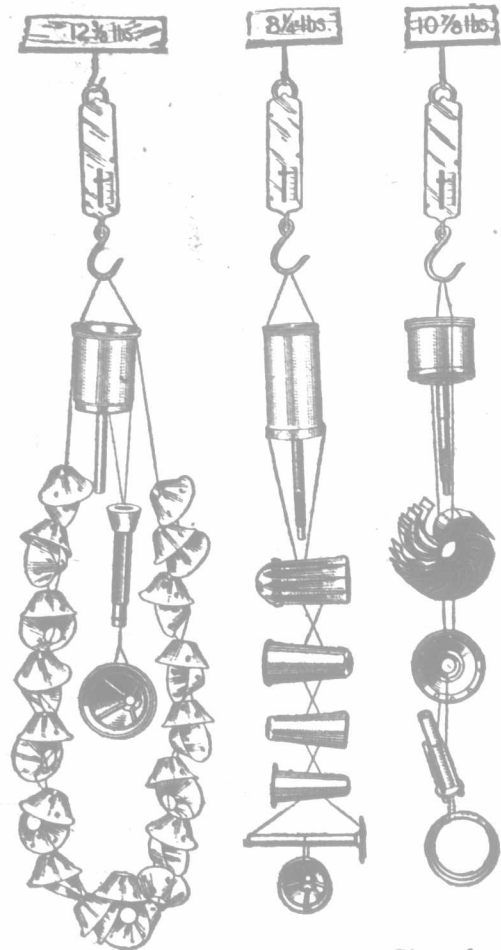
Perhaps the peddler says the maker guarantees the machine. What is such a manufacturer's guarantee worth? No more than his machine, which responsible dealers refuse to handle—no more than his business, which is simply peddlers' pickings. When such manufacturers go to smash, as they often do, where will you get repairs for the cheap machine the peddler offers? Don't say you won't need them—a cheap separator is always needing them. Worse still, a cheap separator will lose more than its cost, every year, through poor skimming.

Any machine that has to be peddled had better be let alone.

Sharples Tubular Cream Separators are sold everywhere and only by responsible dealers. Every dealer stands back of every Tubular he sells. We stand back of every Tubular we make—and the manufacture of Tubulars is one of Canada's leading industries. More Tubulars are sold than the three leading "bucket bowl" separators combined. Sales for 1908 way ahead of 1907. Fine Tubular features are making 1909 still better. Write for catalog No. 193



These illustrations are from actual photographs. They show the easy running Sharples Dairy Tubular Cream Separator and the simple, light, durable, sanitary, easy to wash Dairy Tubular bowl used in it. The Dairy Tubular bowl develops twice as much skimming force as common "bucket bowls," skims two to five times as clean, can be washed in one-tenth the time and wears a life time.



These illustrations are from actual photographs of three complicated, common "bucket bowls" used in ordinary separators. Notice their weight. Count their pieces. Imagine the wear and trouble of washing. Peddlers' separators all have common "bucket bowls" as bad or worse than these.



The Sharples Separator Co.
Toronto, Ont. - - - Winnipeg, Man.



He Knows
"The Tie That Binds"
He knows that the lock on

STANDARD WOVEN WIRE FENCE

is not driven down on the wires at the point of crossing, but is driven at an angle and, therefore, cannot injure the fence.

This is only one of the strong points of the "Standard" Wire Fence. Our book tells them all. Write for free copy. Also sample lock.

The Standard Wire Fence Co. of Woodstock Limited. WOODSTOCK, ONT. 5



THE HEGE BUKKA PORTABLE SAW MILL.
Mounted on wheels, for sawing logs 36 in. x 25 ft. and under. This mill is as easily moved as a portable threshing machine. Write for Circulars. Mfg. by Salem Iron Works, Weston-Salem, N. C., U. S. A. International Harvester Co. of America, Agents.

Time tells the tale!

Measure the cost of ready roofing by what it will do all the way through.

Genasco Ready Roofing

costs a little more in the beginning than ordinary roofing because it is made of genuine Trinidad Lake asphalt; but that gives it life to resist sun, air, heat, cold, rain, and fire. You are sure Genasco will last—you know what it's made of; and you know it is cheapest in the end.

Insist on Genasco—the roofing with a thirty-two-million-dollar guarantee. Gives absolute protection to every building on the farm. Mineral and smooth surface. Look for the trade-mark on every roll. Write for Good Roof Guide Book and samples.

THE BARBER ASPHALT PAVING COMPANY



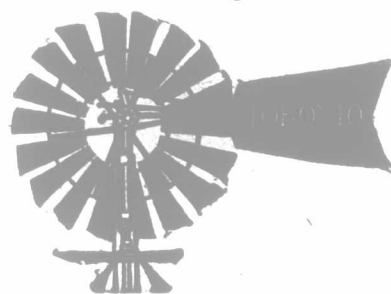
Largest producers of asphalt and largest manufacturers of ready roofing in the world.

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Roofers Supply Co., Ltd., Bay and Lake Sts., Toronto.
Alex. McArthur & Co., 82 McGill St., Montreal.
D. H. Howden & Co., Ltd., 200 York St., London, Ont.
Crane Company, Vancouver, B. C.

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IS YOUR POWER WHEN YOU HAVE
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The most faithful implement around the Farm, Dairy or Pasture Field. Does more hard work in a month than a binder in a lifetime. Pumps, Grinds, as well as operating strawcutter, pulper, grindstone, etc. Have you seen our Water Bows and Cow Stanchions? If not, send at once for catalogue No. 15, and get interested. You will appreciate it.

Ont. Wind Engine & Pump Co.
TORONTO, (Limited) ONTARIO.

Boys for Farm Help The managers of Dr. Barnardo's Homes invite applications from farmers, or others, for the boys who are arriving periodically from England to be placed in this country. The young immigrants are mostly between 11 and 13 years of age; all will have passed through a period of training in Dr. Barnardo's English Institutions, and will have been carefully selected with a view to their moral and physical suitability for Canadian life. Full particulars as to the terms and conditions upon which the boys are placed may be obtained upon application to Mr. Alfred B. Owen, Agent Dr. Barnardo's Homes, 50-52 Peter St., Toronto.

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Brooks' Appliance. New discovery. Wonderful. No constrictive springs or pads. Automatic Air Cushions. Binds and draws the broken parts together as you would a broken limb. No salves, no ointments. No fees. Durable. Pat. Sept. 10, '01. **SEND ON TRIAL—NO CHARGE FREE.**



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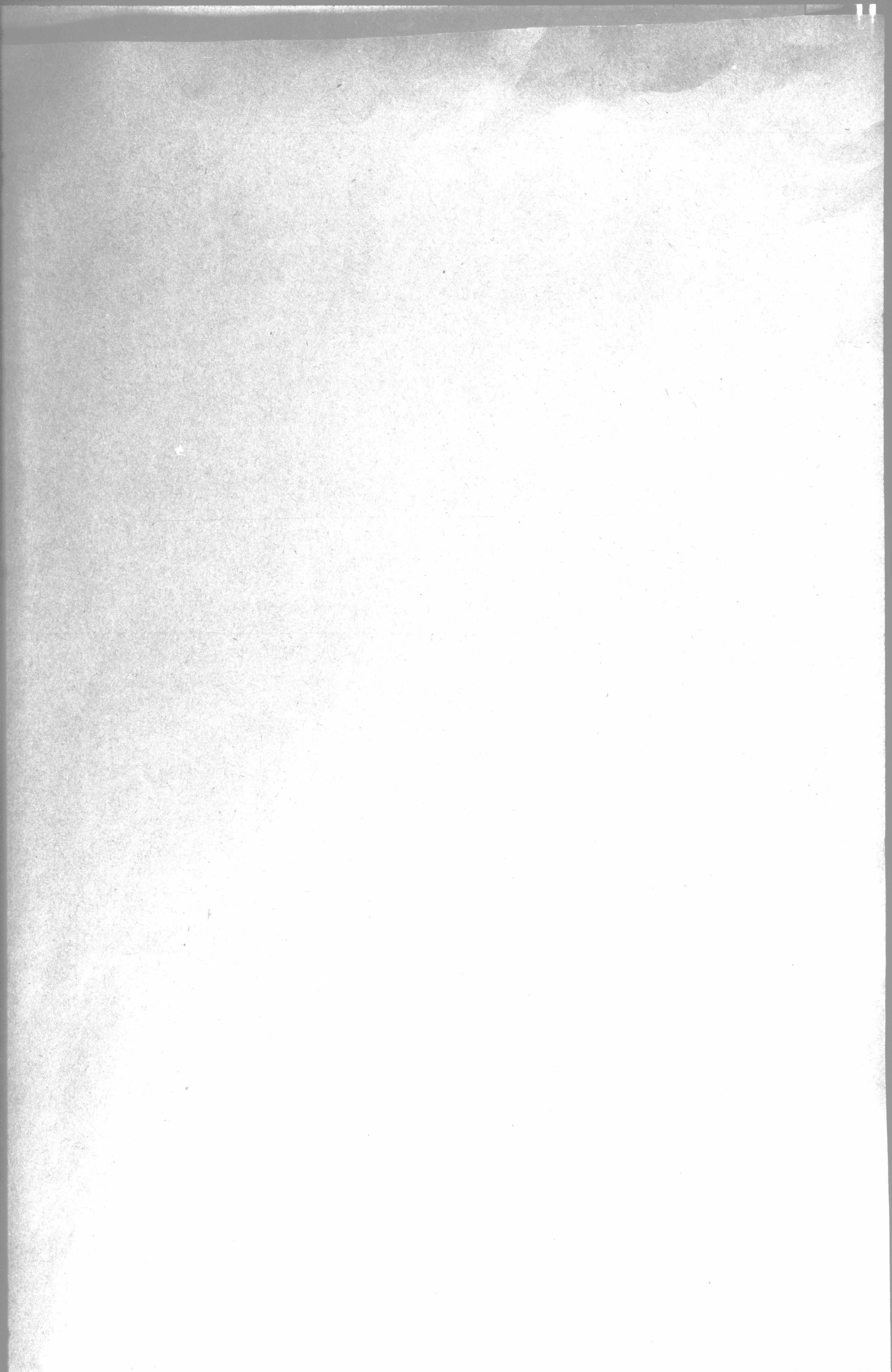
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FREE Lightning Insurance Policy With Every Roof Covered With SAFE LOCK SHINGLES

Send for our Free Book "The Truth about Roofing"

EVERY Canadian farmer who expects to build or re-roof his house or barn should write us to-day for details of our Free Lightning Insurance Policy in connection with Safe Lock Metal Shingles.

We give it to you without any conditions whatsoever, except that you roof with Safe Lock Shingles.

Such an offer is unprecedented, but we can afford to make it because we know absolutely that Safe Lock Shingles will insure safety from lightning.

It is absolutely free. You do not have to pay one cent for this protection, either directly or indirectly.

Insurance records show that nearly one-half the fire losses on barns in Canada result from lightning. This loss, running into the hundreds of thousands of dollars, can be entirely prevented if Safe Lock Shingles are used.

We know this, and we back up our statement with a Free Insurance Policy payable under its terms in cash.

Safe Lock Shingles are sold at the same price as shingles known to be inferior in quality of steel, galvanizing and construction.

We have been manufacturing Safe Lock Shingles for over ten years, and roofs laid when we started in business are still "as good as new," to quote from hundreds of letters we have on file in our office from our pleased and satisfied customers.

In all this time these roofs have not cost one cent for repairs of any sort.

In all these years no building covered with Safe Lock Roofing has ever been destroyed by lightning.

Do you know that Safe Lock Shingles fully meet the rigid requirements of the British Government for Admiralty and other public service. Think what that means. Let us illustrate.

Every farmer knows from experience that ordinary galvanized fencing seldom lasts longer than two or three years without showing signs of rust. On the other hand, galvanized wire for Government use gives years and years of service, owing to the splendid galvanizing insisted upon.

Safe Lock Shingles are galvanized the same as Government wire, and therefore may be depended upon to give long service. We really do not know how long they will last. Safe

Lock Shingles in use for more than ten years show no signs of wear.

To-day we are using better material in their construction than ever, the steel is of higher grade, and the galvanizing is heavier. We have also made several improvements in manufacturing. For instance, every shingle is cut accurately to size before it is galvanized, thus protecting the edges of the shingles instead of leaving them raw and exposed to the decaying action of moisture.

We want you to remember the

thus causing a leaky roof.

Safe Lock Shingles cannot be blown off, nor can they be pulled apart by warping of the sheeting, or any other cause.

Study the small illustrations on this page, and you will be convinced of the truth of this statement.

contraction due to heat and cold. They cannot unlock.

Illustrations 3, 4 and 5 show the construction of other metal shingles.



FIG. 1 In Fig. 1 the solid black line shows the top lock, the shaded line the bottom lock. Notice that a



FIG. 3 No. 3 is the old-fashioned cleat shingle now almost entirely driven from the market by the Safe Lock. These do not always shed water, and it is almost impossible to keep them from leaking after they have been on for a season or two.



FIG. 4 Note in No. 4 that the nail is only about half way driven into the sheeting, leaving a large surface exposed to the weather. This makes a very insecure fastening for a roof, and this is still further weakened by the springiness of the steel, which has a tendency to pull out the nails, causing a loose, leaky, rattling roof.



FIG. 5 No. 5 is a side slip pattern, similar to many now on the market. The one shingle slips into the other, but does not lock. Shingles constructed in this way pull apart easily and must not be confused with the positive lock in our Safe Lock Shingles, as shown in Fig. 2.

Safe Lock Shingles are absolutely uniform. We have spent time and money to perfect their construction, which is fully protected by patent. They are now easier than ever to lay, and a Safe Lock roof cannot leak, if the shingles are laid in accordance with our printed instructions.

SAFE LOCK SHINGLES are the only shingles that—

1. Give you a positive guaranty against Lightning, backed up by a policy signed and guaranteed by the manufacturers.
2. Meet fully the rigid requirements of the British Government for Public work.
3. Lock on four sides, and cannot be pulled apart.
4. Have three (3) thicknesses of metal along upper edge at point of greatest strain.
5. Completely protect nails from weather.
6. Have edges galvanized after being cut to exact size.

name Safe Lock. No other shingle has that name. No other shingle is a Safe Lock Shingle.

Safe Lock Shingles lock positively on all four sides. Other shingles grip only on two sides. This is not enough for a permanent, durable roof. We know of many instances of buildings covered with these shingles being entirely unroofed in a stiff breeze. Another objection is that these shingles are apt to spread apart owing to the warping of the sheeting to which they are nailed,

double fold forms the top lock instead of a single fold, thus giving twice the strength at the point where the greatest strain comes.

With Safe Lock Shingles the nails are driven full length into the sheeting, and are protected by the peculiar lock construction from any possibility of water backing up and starting rust.



FIG. 2 Fig. 2 shows the side locks. Note the deep firm grip which allows ample room for expansion and

The Metal Shingle and Siding Co.

Limited
Roofers to the Farmers of Canada
Queen St. Factory
Preston, Ont.
Branch Factory
Montreal

THE METAL SHINGLE AND SIDING COMPANY Limited
Queen Street Factory
PRESTON, ONTARIO

CUT OFF THIS COUPON AND MAIL TO US

Please send me your booklet "The Truth about Roofing," with full particulars of your Free Safe Lock Lightning Insurance Policy.

I expect to build a..... Kind of Building.....
State when you propose to build.....
Size of Roof..... If interested in any other Metal Building Goods, please state such fact here.....
Name.....
P. O..... Province.....

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Our catalogue will help you to choose from the biggest and fullest assortment of vehicles and harness. It accurately pictures and describes all the many styles, gives prices, and fully explains our method of selling direct. Mailed free. 2

INTERNATIONAL CARRIAGE CO., BRIGHTON, ONTARIO.

WHEN WRITING ADVERTISERS, PLEASE MENTION "THE ADVOCATE."

No. 10 Plano Box Buggy. Price, \$57.00.

A SEARCHING INVESTIGATION WILL
PROVE SUPERIORITY OF

IDEAL WOVEN FENCE

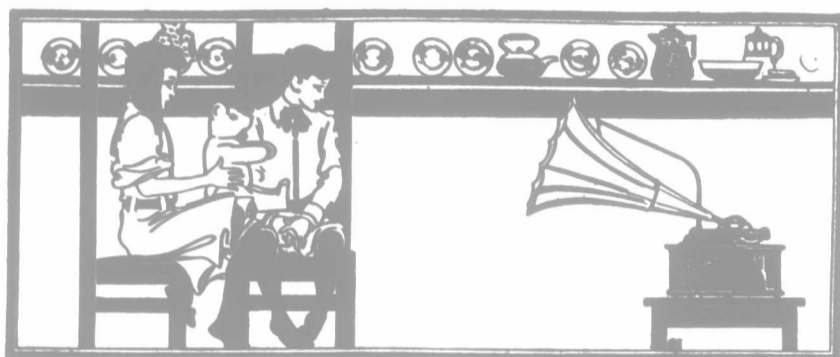
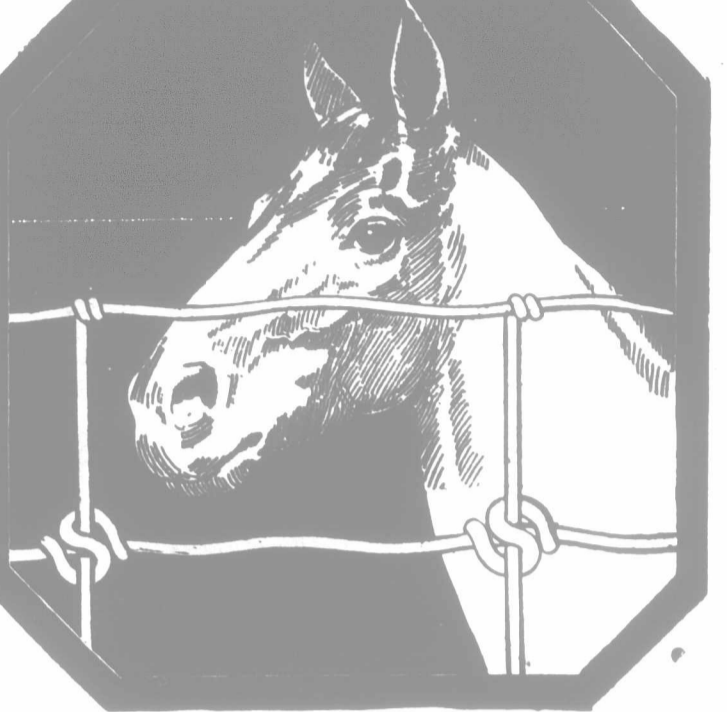
Investigate IDEAL fence. Do like the railways. Test the laterals for elasticity—the uprights for stiffness. Test both for smoothness and heaviness of galvanizing. Test the lock for gripping-tenacity. Put a roll on the scales and weigh it. The more searching your investigation the greater the triumph of IDEAL fence.

When finished, you will have indisputable evidence that IDEAL is the stiffest, strongest, heaviest, most rust-proof woven fence. If you are like the railways you will erect for permanency. That means an order for IDEAL fence. But first of all let us send you our free booklet, so you can see the different styles for hogs, cattle, etc.

HAVE WE AN AGENT IN YOUR LOCALITY?

If not, there is a splendid chance for someone to increase his income. IDEAL fence is an easy seller. Its weight, quality and strength are appreciated by every man who is looking for a permanent fence investment.

THE MCGREGOR-BANWELL FENCE CO., LTD., WALKERVILLE, ONT.



The EDISON PHONOGRAPH

Is there anything that will give more pleasure to a house full of children than an Edison Phonograph?

Is there anything that will add to the entertainment of grown folks better than an Edison Phonograph?

It is the plaything of young and old, although it is a scientific invention of the world's greatest scientific man.

For the Edison Phonograph you can now secure

Edison Amberol Records

which play twice as long as the old ones. Your present Phonograph can be equipped to play the new Records in addition to the Records you have. Many selections each month for both Records.

You have a treat before you if you have not yet heard the new Amberol Records, and you should go to your dealer's today and get familiar with them.

FREE. Ask your dealer or write to us for illustrated catalogue of Edison Phonographs, also catalogue containing complete lists of Edison Records, old and new.

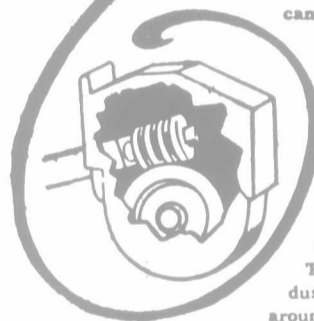
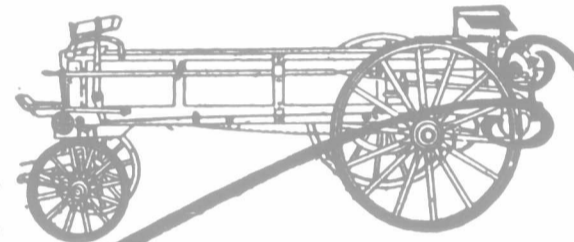
We Want Good Live Dealers to sell Edison Phonographs in every town where we are not now well represented. Dealers having established stores should write at once to

National Phonograph Company, 112 Lakeside Ave., Orange, N.J., U.S.A.



"Success" Light Draft Roller Bearing Manure Spreader for 1909 is greatly improved

Just go to the Paris Plow Agent in your locality and examine the New 1909 "Success" Manure Spreader. You'll have no doubts about which machine to purchase after you've seen it and noted the improvements for 1909.



The drawing below illustrates the New Gear Case enclosing the Apron Driving Mechanism. The case is cut away so that you can see the Worm and Gear, which run in oil. This case not only prevents all "leakage-waste" of oil but is dust-tight, too. This oil-tight, dust-proof case around Worm and Gear makes the apron driving mechanism of the "Success" the smoothest and easiest-running, lightest-draft on any manure spreader. And as the Worm and Gear are so fully protected against wear they are rendered practically indestructible.

But just see the "Success," and note all its superior features. That's the right thing to do before making your choice of a manure spreader.

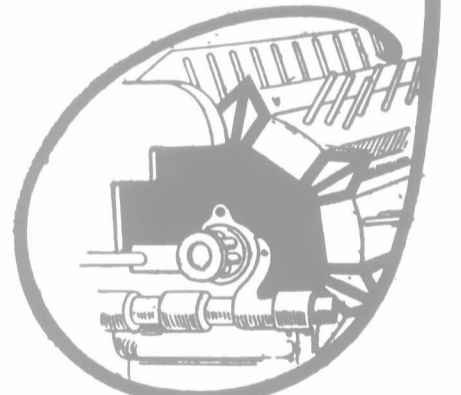
THE PARIS PLOW CO.
LIMITED.

PARIS ONTARIO

Western Agents: The John Deere Plow Co., Ltd., Winnipeg, Regina, Calgary and Edmonton. Agents for Quebec and Maritime Provinces: Frost & Wood Co., Ltd., Montreal, Quebec, St. John, N.S.

The bottom drawing shows Beater with Roller Bearing at end of Beater shaft. There is also another Roller Bearing at other end of Beater Shaft. These two bearings make the "Success" Beater a marvel for smooth and easy running—and materially decrease the draft. There are three other sets of Roller Bearings on New 1909 "Success." (Any Paris Plow Agent will show them to you). Their use lessens the draft of "Success" by at least one horse.

The large Black Teeth shown on ends of Beater are the Harpoon Teeth. These Harpoon Teeth cut up the long pieces of straw that would otherwise wind around the end of the beater and clog it up. And this is just another draft-decreasing feature found on no spreader but the "Success."



Choice Farm Lands

FOR SALE ON EASY PAYMENTS.

In Western Canada there are great opportunities for the willing farmer. He can make money and success of farming. We have for sale the very choicest of Farm Lands in Saskatchewan, and guarantee to please the most particular. Let us tell you about them, and how others are making money here. Write at once for maps and pamphlets and full information. Our years of experience are at your disposal. All we want is to know if you are interested. Write at once.

TRACKSELL, ANDERSON & CO., REGINA, SASK.

British Columbia Office: 1210 Broad St., Victoria.

HOW LITTLE RAIN-WATER REBELS SECRETLY DESTROY MOST ROOFING

Rain-water is deadly to nearly all Roofing, except *Brantford*. It contains millions of little germs which eat away its very life, and you are not aware of this rebellion until Roofing is destroyed. Wood pulp, jute, cotton-cloth, etc., is used as a foundation in most Roofing. It is lifeless, and cannot fight for itself. The refuse coating which does not possess one particle of resistance, is itself injurious to Roofing. Slight bending will produce numerous cracks or open seams, because it is brittle. But the foundation of *Brantford Crystal Roofing* is a long-fibred, evenly condensed sheet of pure *Wool*, which goes through special Saturation Process, forcing Asphalt saturation through and through, and becoming as hard as flint. This saturated *Wool* now, alone, is capable of resisting the onslaught of any enemy. But to make it doubly durable *Brantford* is heavily coated with weather-resisting, fire-proof Rock Crystals, which require no painting. After going through this process no Roofing Enemy can effect it.

Brantford Roofing

is pliable, and water, frost, snow, alkali, acid and fire-proof. It cannot absorb moisture, freeze, crack or open at seams. It fits itself smoothly to Roof—cannot warp—and remains that way, resisting ravages of savage winter and tortures of summer's heat—it cannot melt or become sticky. And in the end, after many years of service, you will be glad you made the investment. Only one cost to *Brantford*: first.

It needs no repairs, and anyone can lay it in any weather. Big Roofing Book, with samples, free from dealer or us. **Brantford Asphalt Roofing, Nos. 1, 2, 3.** **Brantford Rubber Roofing, Nos. 1, 2, 3.** **Brantford Crystal Roofing, one grade only, (heavy).** **Mohawk Roofing, one grade only.**

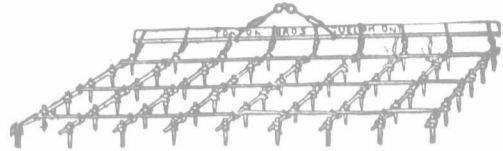


BRANTFORD ROOFING, CO., Limited, BRANTFORD, CAN.

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TOLTON'S HARROWS

HIGH-GRADE STEEL



Section and Flexible All-Steel Harrows with an unequalled record.

A large variety suitable for the requirements of any country, made in different widths to suit purchasers. Pre-eminently the most efficient, strongest, and longest-wearing Harrows ever manufactured, is our unqualified guarantee. A Harrow bargain it will pay you to know more about. Free descriptive circular furnishes the facts.

Write for it to-day. Address Dept. H.

OUR MOTTO:—"Not How Cheap, but How Good."

Tolton Bros., Ltd., Guelph, Ont.

We also manufacture the most up-to-date unloading outfits for hay and grain, comprising rod, wood or steel tracks.

EUREKA SANITARY CHURN



There's no comparison between the ordinary wooden churn and the "EUREKA". Barrel is stoneware—top is clear glass. Besides being absolutely sanitary, the glass top enables you to see how the churning is coming along without opening the churn. The "EUREKA" is the easiest churn on the market to operate. By tilting back the frame until the weight rests on the wheels, the churn can be quickly and easily moved—while the barrel remains upright.

If your dealer does not handle the "EUREKA," do not take a substitute but write us for catalogue.

EUREKA PLANTER CO. LIMITED, WOODSTOCK, ONT.

For Your Pocketbook's Sake--Read This

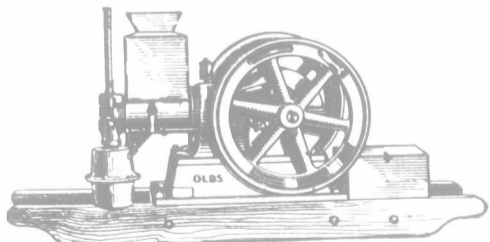
I am so confident that the Olds Engine is the most economical and most durable engine you can buy that I will make this proposition to every buyer of an Olds Engine:

I agree to replace, free of charge, any part of an Olds Engine that breaks or becomes worn, from any cause whatsoever, within one year from date of shipment, provided the replacement is one you think should be borne by the manufacturer. You are to be the only judge. There is to be no argument, no delay in returning old parts and getting new ones; you decide and I abide by your decision.

Do you think this proposition could be made on any engine but a practically perfect one? You can easily see that to stand this supreme test of durability and perfect workmanship it must be built right, of the very best material, of the simplest construction. This is the kind of an engine you want. You take no chances in buying an Olds. All of my representatives can furnish these repairs without any delay. They do not have to consult me. Write to my nearest agent. He can fix you out with the best engine you can buy, no matter what others cost.

OLDS ENGINES

Give you the power you need at the price you can afford to pay for it.



Olds Hopper Jacket Engine on Skids.

Write To-day for Our Handsome Catalogue.

It contains many fine pictures of the very latest models of Olds Engines, with a detailed description that makes the engine question as plain to you as an open book. It contains letters from farmers who have used the Olds Engines, and they give their practical every-day experience with it.

Olds Engines are made in all sizes, to suit every kind of work on the farm. We have exactly the kind of engine you want. Tell me what you want to do with it, and I will tell you just exactly the kind of engine you want to buy to do the work. It will be an expert opinion that costs you nothing.

Some of the Features of the Olds Engine.

Olds Patent Seager Mixer.—The only one that makes a perfect mixer of gas and air, giving the greatest power. No pump to leak or get out of order. No moving parts.

Removable Valve Mechanism. Removable Water Jacket. Jump Spark Ignition. Piston and cylinder ground to a perfect fit, giving better compression and more power.

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The Olds Gas Power Co. is the Largest and Oldest Concern in the United States who are Exclusive Makers of Gas and Gasoline Engines.

Our hopper jacket engine on skids or wheels, 3 to 12 H. P., is ready to run when you get it. Fill it with gasoline, throw on the switch, turn the wheel, that's all. No piping to connect, nothing to set up, always ready, can be moved anywhere.

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Every Olds Engine is fitted with the Seager mixer, which is recognized as being the most effective mixer that has ever been invented. No pump to leak, no moving parts to get out of order. They also have a removable water jacket, so if through carelessness the water should freeze, but very little damage is done.

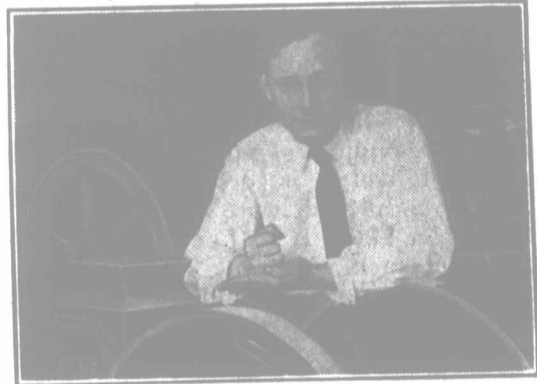
It is to your decided advantage to send for our catalogue.

Do it now before you forget it. A postal card will do, but, better still, write me a letter, telling me what you want the engine to do, and you will get a personal letter from me that will give you the facts you want. Write me or my nearest representative.

J. B. SEAGER, Gen. Mgr.

OLDS GAS POWER CO.,

Hamilton, Ont., Office, E. B. Echlin, 19 York St. Main Office and Factory: 993 Seager St., Lansing, Mich.



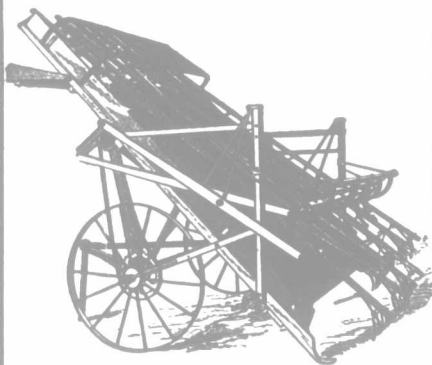
"I guarantee every Olds Engine that leaves the factory to be in perfect running order. I do not spend much time in the office. I am out in the shop with my coat off watching every detail."

"By keeping right out around the workmen seeing that all the little things are actually done, I know the engine you get is all right and that the high Olds standard is maintained. I also know the engine is 'Best by every test,' because I look after the testing and inspecting myself. They are the best you can buy, whether you pay less or more than the Olds price."

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Making Hay

As all progressive farmers are at all times ready to adopt any new machines which prove economical, we print a letter and clipping received by Dain Manfg. Co., Preston, Ont., from a party using their Loader.



Kingsmill, Feb. 27, '08

Dain Manfg. Co.:

Gentlemen,—I enclose clipping from "Aylmer Express," of July 25th, 1907:

"The haying outfit of L. M. Brown, of Kingsmill, put in 31 loads of hay one day last week, the product of 14 acres, two of which is orchard. Twenty-eight loads were loaded with a Dain Hay Loader on roller rack with only one man on the wagon, and for twenty-four loads the man drove his own team. Mostly unloaded in a shed with ordinary horse fork, although a gasoline engine is used for unloading in the barn. This looks like very fast work, and shows what can be done by an up-to-date farmer with modern machinery, even if men are scarce."

I do not regard this as a big day's work, the man with the loader easily kept the unloading gang at work, and they had long narrow sheds to work in most of the time.

I believe one man with your loader and roller racks, such as we use, will load ten loads per hour all day, if empty wagons are brought to him in the field.

Respectfully yours,

L. M. BROWN.

For further information and circular of this machine, write:

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They give nature a chance to do her best for you. The
wise planter looks to the future—to harvest time—that's
when the wisdom of buying *Ewing's Seeds* is apparent.

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Book about Roofing

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the fireproof, indestructible mineral used exclusively by us in the manufacture of ready
roofing. Our Booklet explains why.

J-M ASBESTOS ROOFING

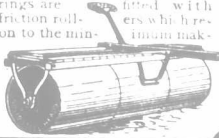
is cheaper than tin, shingle and slate roofs, and more economical than any other ready roofing—
why it resists fire, rot, rust and wear, and why it requires no coating or painting.

J-M ROOFING is ideal for farm, stock and poultry buildings, because it keeps out the
cold in winter and the heat in summer, and has always an attractive, white appearance
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THE
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Because the "Bissell" is built for business it lasts for years and gives satisfactory service all the
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and steel angles make it rigid and stout. Bearings are large anti-friction rollers which
duce friction to the minimum. The "Bissell" is the lightest
best dirt roller ever built. Nothing flimsy or shoddy about it. Free
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Think of the strongest lock of which you know on a woven fence and multiply its strength two fold. You then have an idea of the strength of the Leader lock—the new lock with the double grip (single grip locks have hitherto been considered good enough for woven fences).

The "Leader" is a brand new No. 9 hard steel wire fence—more durable and a better investment than ever before offered.

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Write for money-making proposition, covering our complete line of farm and ornamental fences and gates.

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CORN.**

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It is the table corn par excellence—just what you gardeners want for your select trade, the sweetest of all, very early—white kernels and good size ears. We are the only seed men in Canada growing on their own fields vegetable, flower and field seeds. It is of vital interest to you.

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Western Homesteaders

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Vol. XLIV.

LONDON, ONTARIO, APRIL 15, 1909

No. 864

EDITORIAL.

Seed-time and Harvest.

A careful and practical consideration of sowing and reaping in all operations, individual, commercial or agricultural, shows that, on the average, much depends on the precautions taken in connection with work done in the early stages. It is so with seeding. Now, when the husbandmen are busying themselves with seeding operations, the importance of thoroughness in all details cannot well be over-impressed. Low-grade seed and slipshod cultivation may give a fair crop, if Providence is kind with rain and other weather conditions. But the thrifty farmer so prepares his land and so selects his seed that he attains fair returns when the elements have not been so favorable—he has concluded that the cheapest insurance in farm practices is strong, clean seed, planted seasonably in a rich, mellow seed-bed. Continuous cropping, too, without returning plant food to the soil, brings certain disaster. For the next few weeks, however, special attention can be given to the quality of seed used, and the soil conditions furnished. For late-sown crops, it may still be possible to apply manure where it is needed.

Specific instructions cannot readily be given for seed-bed preparation. If such were the case, farmers could proceed mechanically, without making use of the brains with which they have been endowed. Experience on the fields reveals to every observant cultivator a certain condition of the soil that gives best results. On many farms this condition can be brought about only by different treatment in different fields, and sometimes in different parts of the same field. In some cases a double stroke of a disk harrow may be necessary, while in others a judicious use of spring-tooth cultivator will give just as good results, with much less labor of men and teams. Many implements are provided for the work. A selection must be made, depending on the nature of the soil. In some cases it may be advisable to have a variety of implements for cultivation purposes to meet soil conditions brought about by changes of weather.

Lose no time after the land is in fit condition to be worked, but put forth every effort to have thorough work done on every acre. On heavy, rolling land, time may often be saved and a more favorable condition of the seed-bed insured by giving one stroke with the harrow on the high parts, which dry first. This conserves moisture, prevents baking, and expedites the work of preparation when one is ready to go ahead and fit that field for the drill.

The question should not be, "How often should I harrow?" but, "In what condition is the seed-bed?"

Tripod of Successful Seeding Practice.

Timeliness, thoroughness and despatch are the tripod of successful practice in spring seeding and seed-bed preparation. In regard to earliness, experiments conducted by Prof. Zavitz at the Ontario Agricultural College indicated that, for every day's delay in seeding after the first week in which seeding took place, there was an average decrease of approximately one bushel per acre in the yields of spring cereals harvested. There is each spring a certain period, sometimes early and sometimes late, but always observable, when all life is quickened into activity, and vegetation bursts forth from the earth. That is the time to sow most of our spring grains. Spring wheat should come first, then barley or oats, and finally

peas and corn. The wise farmer will have all in readiness betimes to rush the seeding operations when the crucial moment arrives. It looks bad to see a man starting out to spring-plow for oats when others are using the drill, and the usual result of such tardiness is a meager crop.

But an early start is of only moderate avail unless the work be then despatched with all practicable speed. This demands fast-working implements drawn by at least three—better four or more—strong, well-fed, judiciously-conditioned horses. Economy of human labor demands this. Those who haven't such implements may sometimes double up to advantage by attaching a harrow behind the roller, and hitching four horses to the roller tongue. This is better than compelling a wife or daughter to tag around after one of the teams. We must study to save time and wages. One man can, in most cases, drive four horses as well as two, and, if riding, he usually has a snap at that.

Thoroughness we have elsewhere endeavored to impress. On refractory or weedy lands, particularly, it is of the utmost importance, and should never be sacrificed to speed. Upon the nature of the seed-bed largely depends the start obtained by the baby plant, and the start is half the race.

The Clydesdale Authority.

Again and again our Scottish correspondent has inquired who is our recognized official authority in matters pertaining to Clydesdale registration. Theoretically, it might be presumed that the Secretary-Treasurer of the Clydesdale Horse Association of Canada would be the official interpreter and exponent of registration conditions. Unfortunately, the present incumbent of that position has scarcely won such a reputation for reliability of counsel and accuracy of information as would justify reposal of confidence in that quarter. As instancing the habit of inaccuracy which has so often perplexed our live-stock editor, who has had to do with the editing of the Clydesdale Association Secretary's communications to the press, we quote from the latest letter to hand from that officer. Correcting a circular previously sent out from his office, he says: "Information has since been received from the Canadian Live-stock Records Office," etc. This would seem to indicate that, however the situation may nominally stand, the real repository of authentic information is the National Live-stock Records office, in Ottawa.

Grain-sheaf Exhibition.

By way of further stimulating an interest in the production of superior crops, the Ontario Department of Agriculture has made arrangements with the Directors of the Canadian National Exhibition to have a sheaf exhibit at Toronto at this year's show. The competitions in standing field crops and the display of threshed grain from prizewinning fields has proved to be of great educational value. Now, with attention to the intermediate stage—the sheaf of ripe crop—given prominence at the greatest agricultural exhibition in the world, visiting farmers should be enthused to a much greater degree.

But the value comes not only to those who compete. Others, seeing what has been accomplished, take steps to secure seed of superior quality for the following season. And so the campaign goes on. The competitions are doing good missionary work. Indications are that, in time, agricultural products will receive their share of attention at the Canadian National.

Seed-fair Features.

Features given prominence at Seed Fairs held throughout Canada during the winter months have done much to bring before the public the importance of thoroughly clean and vital seed. The presence of foul weeds disqualify an entry, and uniform plumpness is given preference. Exhibitors generally have been satisfied with the success of these efforts to popularize the use of such seed throughout the Dominion. Extensive sales, at an advance over market price, have been the reward to those who exhibit.

Occasionally, an over-zealous individual resorts to methods that tend to defeat the purpose of the seed fair—he hand-picks his sample. This cannot be objected to, provided he has the required quantity of similar grain in his granary, and is willing to exercise equal care in hand-picking what he may dispose of for seeding purposes. An interesting case came to light a short time ago at an Ontario seed fair, where an exhibitor admitted he hand-picked his sample in order to beat a neighbor. While the eagle-eyed judge was placing the awards, he was surprised to find his entry disqualified, because of the presence of wild oats. Evidently, he had forgotten to "pick" the bag.

The seed fairs are doing good work for those who take part, and also for Canadian agriculture. The general quality of the exhibits at next year's fairs can be improved, if due precautions are taken in seeding and in removing weeds during the summer.

Job Wanted.

At the annual meeting of the Dominion Swine-breeders' Association, in February, it was suggested that a delegation be sent to Denmark to study Danish methods of breeding, feeding and marketing hogs. After brief discussion, the proposition was referred to the executive. Little enthusiasm has since been manifested, although the idea was broached at a recent conference between the Dominion Minister of Agriculture and a deputation from the Association aforesaid.

The uninformed reader may feel disposed to make light of this valuable suggestion as designed merely to secure a sort of junketing trip for a few would-be commissioners who would like a trip to Europe at Government expense. The initiated, however, will readily recognize the urgent necessity of a Canadian pork commission to Denmark as a means of ferreting out the minute and jealously-guarded secrets of those intricate patented processes by which our astute Scandinavian friends and rivals are "putting it over us" in the bacon business. There can be no doubt whatever that the Danes studiously preserve the strictest confidence concerning their methods of breeding, feeding, packing and marketing, particularly with regard to that most extraordinary principle of co-operation of which we have heard such significant and curiosity-awakening allusions from time to time. Doubtless, also, they have secrets by which they cause their sows to produce three or four litters a year, and semi-digested feeds which produce unheard-of growth. These things we should by all means find out.

If some capable Canadians, such as Prof. Day, had only visited Denmark a few years ago, and published throughout Canada the result of their inquiries; if the Dominion Live-stock Commissioner's Branch, the Dominion Experimental Farms, and the various Provincial Departments of Agriculture had published reports and bulletins enlightening us concerning Danish methods of production and co-operation; if Farmers' Institute lecturers had informed us as to a few elementary

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

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is published every Thursday.

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

Address—THE FARMER'S ADVOCATE, or
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LONDON, CANADA.

principles in hog-feeding; if the farmers' co-operative pork-packing enterprise had been tried in Canada; and if Austin L. McCredie had then explained through "The Farmer's Advocate" why it had failed, and the fundamental principles of true co-operation; if such men as A. McNeill, Chief of the Fruit Division, Ottawa, had followed this up with a bulletin on co-operation, emphasizing the elementary principles of the Danish effort; if the agricultural press had published articles on breeding and feeding the bacon hog, and our Winter Fairs had conducted killing tests of porkers previously judged alive—if some or all of these useful means of obtaining and disseminating knowledge had been utilized, then we might not now be needing to send a full-fledged Government commission to study Danish methods. As it is, the urgent necessity of such a delegation to let a few rays of information into the profound dungeon of our ignorance must be obvious to every person of ordinary perspicacity. By all means send the commission, but—whom shall we send? What three or five swine-breeders, professors and journalists have been making least money during the past year or so? Who is in need of a job?

Value of a Catch of Clover.

A catch of clover is worth more money to almost any farmer than a crop of grain. The grain takes much plant food and returns nothing except a comparatively small amount of residue, in the form of stubble and roots. The clover catch, if it endures the following winter, will produce, without additional labor for cultivation, from ten to fifteen or twenty dollars' worth of hay per acre in the first cutting, not to mention a valuable aftermath for hay, green feed, pasture or seed. Moreover, the clover crop will have drawn its nitrogen supply largely from the atmosphere, and when the clover sod is turned down and rotted it will add a greater or less quantity of this valuable element of fertility to the soil, as well as a liberal stock of humus, containing, in addition to nitrogen drawn from the air, potash and phosphorus, elaborated from

the compounds in the soils, and in condition to be readily assimilated by subsequent crops. Then, besides all this, is the mellowing influence and thorough subsoiling resulting from the growth of clover in the land. Even though the clover seedling be killed out the first winter, it will still have added a not inconsiderable amount of nitrogen to the soil.

Grain yields one crop, and, in yielding this one, depletes the fertility in the land. Clover, without further cultivation, yields two crops in a single season, and leaves the field in excellent condition for further cropping. Verily the clover plant is a boon. Be liberal, therefore, with clover seed, prepare the seed-bed well, and sow the nurse crop thin, to give the clover its best possible chance.

Cheaper Lands the Only Advantage

Go where you may, the same optimistic spirit seems to pervade the minds of Western people. Well that it is so. They have a goodly heritage, and it is a pleasure to mark the feeling of confidence they manifest in the country. They are living in hope—the hope of another bumper crop of wheat. Wheat is unquestionably the uppermost idea in the farming operations of the West; but Ontario people must not be blind to the fact that wheat-growing must encounter the same obstacles and meet with the same disappointments in these newer Provinces as have characterized its history in other sections of the American continent. Drouth, rust, smut, frost and hail all lend their occasional hand in blasting the rosy prospect of an exceptional yield. Realizing this, and being aware of the greater certainty which will accompany a more diversified system of farming, a few of the more successful and wide-awake farmers have already begun to lay the foundation of a more permanent system of agriculture. Some have already become the possessors of a high quality of live stock, which might well be the ideal of Eastern men. There were exhibited at the Regina Winter Fair some high-class Shorthorns, although in numbers fewer than at Brandon. As at the former show, however, the greater interest was taken in Clydesdale horses, and these were distinctly of high quality in the respective classes. Females were exhibited also, which was not the case at Brandon. The entries in these classes would certainly have been a revelation to anyone who was not pretty familiar with this class of stock in the Regina district. I am told that, both in numbers and in quality, the exhibits easily surpassed all previous records of the Fair; and it was stated at last year's show by Professor Rutherford, now Deputy Minister of Agriculture for the Province of Saskatchewan, that he had seen nothing better, either at Toronto or at the International, at Chicago. In fact, the champion female at Toronto last fall, and, as well, the grand champion and reserve champion females of the late International, were all exhibited here, and now owned by men in the Province. Yet these animals, of such high quality, in their prime, and with their honors fresh upon them, were defeated in their several classes, and in the grand sweepstakes by an animal bred in Saskatchewan by the Mutch Bros., and owned by R. H. Taber, of Condie, Sask. The owners of such excellent animals are certainly to be commended for their enterprise and public spirit in laying such a foundation for the future of the horse-breeding industry in this Western Province.

Referring again to the system of farming largely followed, although, in the case of the poor settler without the wherewithal to enter into a system of stock-keeping, it will take him from ten to fifteen years (even if he has good success) of grain-growing before he is able to pursue any other line; yet, in the course of that experience, he will realize, as the early settlers now know, that continuous cultivation and grain-growing makes the Western soil so fine and free of fibre that in many sections it will blow, even as the snow. The prevalence of summer winds makes it necessary that in time large plantations of wind-breaks and shelter-belts must be made, which will render the country more home-like, and tend to counteract its drawbacks. A systematic rotation of crops must be more largely introduced and followed, which will contain the cultivated grasses and clovers which time and experience will prove are suitable to the climate. I am strongly of the opinion that, in time, the farmers of that country will realize, as some are now doing, that they will be able to grow clover successfully. If this becomes true, it will aid largely in solving the agricultural problem of the country, and show the way for an intelligent system of stock-keeping in connection therewith. Many believe that, on account of the drouth of the summer, and the difficulty of providing suitable pasturage, stock-keeping cannot be a great success; but when we know that summer fallow

in that country is a necessity, and that after summer-fallow the difficulty is in getting the soil sufficiently firm for the following crop; and knowing, also, that rape will grow luxuriantly, and is such an excellent substitute for grass pasture, it will greatly aid in solving that difficulty. I met some farmers who have adopted this system. One, in particular, who sows as much as one hundred acres of his summer-fallow in rape, allows the animals to graze upon it, solidifying the soil to such an extent that it gives him his best yields the following season. In applying manure for the rape, he also finds that it has the effect of hurrying forward the succeeding crop; that it will ripen a week earlier than the unmanured portion of the field. No doubt these experiences will continue to multiply, and in time the Western farmer will realize the value of manure, even upon the virgin soil, when properly applied.

In many sections, the greatest drawback to a system of stock-keeping is the water supply, and, unless relief is obtained through the sinking of deep artesian wells, this will continue to be a serious handicap.

In conclusion, although I may admit that possibly the West is a young man's country—a country where a man may make his way successfully with less capital than in this Province—yet the fact is forced home that cheaper lands is the only advantage the West can give. When we reflect that the yields per acre in the newer Provinces are not greater than those of Ontario have been, we must conclude that, in the matter of climate, water supply, varied productions, and the suitability of the country for prosecuting a permanent system of agriculture, together with the more congenial surroundings for the establishment of a home, this fertile section of Ontario offers attractions unsurpassed by any other portion of the Dominion.

If the farmers of this Province would take a lesson from the mode of action in the West, adopt wider machinery, use more horse-power, till more acres, with possibly a larger area under a single ownership, the further percentage of profit would be a marvel to themselves.

Huron Co., Ont. THOS. McMILLAN.

Would Affect Roofing Business Also

With reference to the editorial headed "An Exotic Industry," published in "The Farmer's Advocate" of March 25th, the subjoined communication from a leading firm of manufacturers of metallic roofing will be read with interest, furnishing, as it does, an additional strong reason why the Dominion Government should refuse to accede to the request of the Morrisburg concern for the imposition of a burdensome protective tariff on the lines in which it is interested:

"We have read with considerable interest your editorial, entitled 'An Exotic Industry,' in your issue of March 25th, and we beg to draw your attention to a feature of this case that has not been touched upon in your article, namely, that the Morrisburg people are asking for a duty to be placed on black and galvanized iron, and black and galvanized Canada plate, and other kinds of sheet steel, which is used in the manufacture of metallic shingles, sidings, ceiling and lath. If the duty asked for was placed on this raw material, it would be a very serious matter, indeed, for the manufacturers of metallic roofing, etc., and would greatly enhance the price of such material to consumers. The strongest competitors of the metal roofing manufacturers are wood shingles for roofing purposes, and lumber for siding and interior finish, also lath and plaster. Therefore, as you will readily understand, it is absolutely necessary for the metallic roofing manufacturers to sell their product at the lowest possible price in order to meet this competition; consequently, they are not in a position to charge a very high price to consumers in the event of the duty being put on their raw material.

Just why a considerable number of metallic-roofing manufacturers, who are employing a large number of people, should have their business seriously injured for the sake of building up one that practically does not exist at the present time, and which was only a promoter's scheme in the first instance, we are quite at a loss to understand.

"We hope that you will feel disposed to use your influence, and to urge your farmer-readers to use their influence with the members of the Dominion House from their several districts, against the imposition of this duty."

Welcome as Pay Day.

I have taken your valuable paper for a number of years, and have received much valuable information; and, as for what I think of it now, I build on every Friday night as I would on a good pay night. If it cost \$5.00 a year, instead of \$1.50 I would have it. GEO. McKAY.
W. Kingston Co., Ont.

HORSES.

The Thoroughbred.

Every improved breed of light horses is indebted to a more or less degree to the influence of the Thoroughbred or running race-horse, which is the oldest of the pure breeds of the equine race in existence, the inception of its improvement dating well back into the seventeenth century, while its studbook started in England in 1791. The foundation of the breed consisted in crossing stallions of Barb and Arabian blood with the native English mares, used for the chase and other sports where speed was required. Authorities, writing of Thoroughbred pedigrees, invariably refer to the blood lines of the three great horses, Herod, Matchem and Eclipse. These were three great progenitors of speed in the early days—all of Eastern origin. The Herod line traces in male ascent to the Byerly Turk, the Matchem line to the Godolphin Arabian, and the Eclipse line to the Darley Arabian. Though he played an important part in the evolution of the Thoroughbred, the Arabian horse is not now of much account. He still has his admirers, but for every purpose to which he can accommodate himself, the Thoroughbred is greatly his superior. To the Thoroughbred may be accredited all the different coach, carriage, hunter and trotting breeds, in greater or less measure.

That the Thoroughbred and the Hackney breeds trace their origin in large measure to the same source, is undeniable, as the same sires, in many instances, figure in the lineage of both, as recorded in the studbooks, the difference in the two breeds to-day being accounted for to a considerable extent by the purposes to which they have been put, the Thoroughbred being bred and trained specifically for speed under the saddle, while the Hackney has been bred to combine beauty of conformation, style and high-stepping action in harness, as a coach or carriage horse, of which he is the ideal type. The American trotting-bred horse owes its origin, undoubtedly, to the English Thoroughbred as foundation stock in the paternal line, the horse that played the most important part, and that figures most in the ancestry of the greatest sires and performers of the breed, being imported Messenger, a grey English Thoroughbred, foaled in 1780, of handsome conformation and phenomenal prepotency, whose blood transformed the type of the horse stock of the United States and Canada, wherever used, to the third and fourth generation. The most famous son of Messenger was Mambrino (named after his English-bred grandsire, the sire of Messenger), and his son, Abdallah, foaled in 1823, was the sire of Rysdyk's Hambeltonian, from whom many of the best trotters are descended.

The chief claim of the selected Thoroughbred sire to the favor of the average horse-breeder, as well as that of the connoisseur, is his prepotency in refining and improving the offspring of mares of every class, no matter how mixed their breeding, on which he is crossed, handsome and stylish carriage horses frequently being produced by grade mares of the heavy breeds mated with the Thoroughbred sire, owing to his prepotency, the result of the purity of his breeding in unbroken lines.

Only Sound Horses Acceptable.

Recent issues of "The Farmer's Advocate" have contained accounts of an organization called the National Bureau of Breeding, the object of which is declared to be to disseminate throughout Canada high-class, pedigreed Thoroughbred stallions, in a healthy condition, and free from hereditary taint, for use by farmers, at a moderate service fee, with a view to improving the character of our light-legged stock. These articles have been written by our own staff, largely on the strength of information and assurances received from an unusually reliable source, our informer having, we are certain, no interest in the Bureau other than that of a well-wisher.

There seems to be no reason to doubt that the enterprise is bona-fide in its aims and intentions, and, if the right class of horses are brought in and distributed, it should do a vast amount of good. It is with much regret, therefore, that we give publicity to a letter just received from a Quebec subscriber, who has seen several of these horses. "All three of them," he says, "were anything but of the conformation and type desired in a high-class Thoroughbred. One of them had a well-developed ringbone, another a curby hock." After referring to several other well-known horsemen, who endorsed this opinion, he proceeds: "As these three horses appear to be perhaps the best known of those now owned by the Bureau, I fear they are not making a good start in their work. While not at all having the intention of criticising their proposition, I cannot but feel that, if such is the type of horse that they are going to use and recommend, anything that they may do will work toward the

harm, rather than the benefit, of the horse-breeding industry in the country."

It is to be hoped that none of the other horses owned by the Bureau are of the class described; but, in view of this criticism, we can only caution our readers to inspect very critically any horses, whether belonging to the Bureau or not, before breeding to them or interesting others therein.



Scotch Sign.

Thoroughbred stallion. Winner of Premium, Hunter Show, London, Eng., 1909.



Bonnie Buchlyvie (14032).

Clydesdale stallion; bay; foaled 1906. Winner of first in class, and the Cawdor 50-guineas Challenge Cup, Scottish Stallion Show, Glasgow, 1909. Sire Baron o' Buchlyvie.

Indigestion in Horses.

(Continued from April 8th issue.)
CHRONIC INDIGESTION.

Chronic indigestion is sometimes caused by food of poor quality, or by weakness of the glands of the stomach and intestines. In these cases a purgative of 8 to 10 drams aloes and 2 drams ginger should be given, and this followed up by tonics, as 1 dram each of sulphate of iron and gentian, three times daily, and a change to food of good quality. The acute forms of indigestion in horses are known as spasmodic colic,

flatulent colic and acute indigestion. Some class enteritis (inflammation) of the bowels as indigestion, but while it is a disease of the digestive organs, we think it is hardly correct to call it indigestion; it is rather the cause than the effect of indigestion. All these forms of digestive troubles are classed under the name of colics, of which there are many; but the three forms already mentioned practically include all. Any or

all of these are caused by food of poor quality, or in too large quantities; change of food or water; working or driving too soon after a hearty meal, or a heavy feed of grain too soon after a long drive, or many hours' work; when the horse eats too greedily and too much; allowing large quantities of water after long abstinence and when the animal is still very warm; giving a full feed of grain to a horse not accustomed to it, in order to fortify him for unaccustomed work; a weakness of the digestive organs, etc. In fact, we may say that a very large percentage of these diseases is due to errors in feeding and care, and while we occasionally meet with cases without well-marked cause, doubtless due to a temporary weakness of the digestive organs which cannot be suspected or explained, we notice that the horse owner or caretaker who has an intelligent idea of the proper methods of care and feeding has few cases of indigestion in his stable. We have stated that the diseases under discussion are due to the same causes, and we may state that, while they vary greatly in character and in probable results, unless skillfully and promptly treated the symptoms, especially in the earlier stages, are so similar that it is often difficult for the most expert and experienced to make a correct early diagnosis. In a typical case of any of these diseases, a person who knows the symptoms can easily diagnose, but it is seldom the symptoms are strictly typical, hence the difficulty in diagnosing. When the first symptoms have passed, diagnosis is not difficult to the person who has made a study of them. These facts are, after all, not so serious as it first may appear, as during the early symptoms the same treatment may be said to be correct for all. That is, the administration of an ordi-

nary colic drench is indicated during the first stages of all, such as ½ oz. each of laudanum and sweet spirits of nitre, and 1 oz. of the fluid extract of belladonna in a pint of cold water, given as a drench. This is given to relieve pain and spasm. Some will find fault with this statement, as in either flatulent colic or acute indigestion there is a danger of constipation, and laudanum tends to constipate. They claim that it should not be given, while it is correct in cases of spasmodic colic, but a little consideration will convince the student of materia medica that, while laudanum may be contra-indicated, the con-

stipating action of the laudanum given is neutralized by the belladonna, and while we would not continue the administration of any form of opium, the first dose given will have no evil effect, and by the time we wish to give the second dose the symptoms presented will enable us to diagnose definitely.

SPASMODIC COLIC.

Spasmodic colic probably presents the most alarming symptoms of any digestive disease in the early stages. The horse suddenly becomes violent, falls down violently, rolls, gets up, paws, throws himself down again, etc., and after a few minutes has a period of ease, probably to be followed by another spasm, etc., etc. During the spasms his pulse will be frequent, strong and bounding, but during the periods between spasms it is normal, and he will usually eat if food be before him. This trouble consists in a spasmodic contraction of a portion or portions of the small intestines. In many cases the neck of the bladder is also involved in the spasm, and the patient will frequently attempt to urinate, but is not able to do so. This very frequently leads the observer to the decision that he is suffering from some acute and painful disease of the urinary organs. I may just here state that this very common idea is radically wrong. Horses seldom suffer from diseases of these organs, and when they do the symptoms are not violent. As regards treatment for this trouble, we may say that it is wise to give the colic drench already mentioned, or in case drugs are not at hand, any good stimulant, as 4 to 6 ozs. whiskey or brandy, or any alcoholic stimulant gives good results; or in case even this is not obtainable, an ounce of ginger in a little warm water. In fact, a spontaneous cure will result in the course of an hour or two without treatment in most cases. In rare cases the disease is more protracted, when the dose should be repeated every two hours until relief be obtained. Some horses are particularly liable to attacks of this kind under certain conditions. For instance, if given water after a meal; if worked or driven immediately after a meal, etc. This is due to peculiarities of digestion, and when noted the cause must be avoided.

FLATULENT COLIC.

Flatulent colic, while much more serious than spasmodic, does not cause such alarming symptoms in the early stages. The attack is less sudden; the horse becomes uneasy, will paw, possibly pass feces in small quantities and rather soft, lie down, roll, get up again, paw, look towards his flank, etc.; his pulse will be full and frequent, and the mucous membranes reddened. Very soon a fullness of the abdomen, especially on the right side, is noticed. The pain is constant, but of varying intensity. The symptoms increase in severity, the abdomen becomes more tense, the pulse more frequent, and the animal sweats and his respirations become labored. He lies down more violently, and if the bloating be very tense he may cause rupture of the large colon, after which the symptoms are not so violent; he will probably stand with head hanging; sweats become more profuse, the pulse more frequent but weak, often imperceptible at the jaw, and after a few hours he will fall down and die.

TREATMENT.—In the early stages, before the symptoms have become diagnostic, the administration of the ordinary colic drench is indicated. As soon as the bloating is noticed, skilled attendance should be procured as soon as possible. In the meantime, a drench of 2 to 4 ozs. oil of turpentine in a pint of raw linseed oil should be given, or if this cannot be procured, half a cupful of baking soda in a pint of cold water should be given. When veterinary attention cannot be had, these doses should be repeated every two hours as needed. When the bloating is excessive and there is danger of rupture or suffocation, immediate relief can be given by puncturing with a trocar and canula at the most prominent part, just in front of the point of the right hip. In the absence of the proper instrument a pocket knife may be used, but the operation with this instrument is not usually successful. Amateurs are seldom supplied with instruments for this purpose, and are usually afraid to use them if they are; hence, we say, as soon as the disease is diagnosed a veterinarian should be sent for. He will have the instruments to use if necessary, but unless the bloating be of such intensity as to demand immediate relief he will not puncture, but give a hypodermic injection of eserine or atropine, which will cause an evacuation of the gases without an operation. It is always good practice in these cases to give an injection of warm, soapy water, per rectum. If an injection pump or large syringe is not at hand, this can be done with a couple of feet of garden hose and a funnel. When treatment of a case of this kind has been successful, it is good practice to follow up with an aloetic purgative.

ACUTE INDIGESTION.

The symptoms of this disease are much the same as those of flatulent colic. In fact, the practitioner usually calls both cases acute indigestion, and the treatment is practically the same.

In a typical case of acute indigestion the trouble is principally in the stomach, while in flatulent colic it is principally in the large colon, but in the former the intestines, both small and large, usually become involved, and the gases passing to the colon produce the same form of bloating. In a typical case the early symptoms are the same, but a fullness of the abdomen is not so soon noticed, and there often is observed an attempt to regurgitate gases by the gullet, and in severe cases small quantities of ingesta are regurgitated. This is always a grave symptom, as it indicates rupture of the stomach, but sometimes occurs without rupture. Here the administration of turpentine or soda has a more direct action, if it can be accomplished, as the drug is introduced immediately in the organ in which the gases exist, and exerts a direct chemical action by neutralizing them. In these cases, also, the services of a veterinarian should be procured as soon as possible, and in the meantime the patient should be made as comfortable as possible, and treated as for flatulent colic.

Constipation may be classed as a form of indigestion. The horse does not show violent symptoms. He is dull, eats little, tires easily, passes little feces, and those hard and dry; placing the ear to the abdomen reveals an absence of the normal murmur. After a time he becomes more uneasy, will lie a good deal, and often endeavor to lie on his back, or will stand with his croup pressed against the wall. The pulse becomes somewhat frequent and full, and he often makes vain endeavors to defecate. If treated in the early stages it is usually successful. There is a paralysis of the muscular coats of the intestines. A moderate purgative should be given, as 8 drams aloes and 2 drams ginger. In addition, 2 drams nux vomica should be given three times daily to overcome the paralysis, and injections of warm, soapy water should be given, per rectum, every five or six hours. He should not be allowed to eat anything except small quantities of damp bran. If necessary, the purgative or a quart of raw linseed oil should be given in 48 hours. "WHIP."

Clydesdale Rules.

J. W. Sangster, Secretary of the Clydesdale Horse Association of Canada, the directorate of which is making an unenviable record in the incubation of new and mystifying registration rules and regulations, writes "The Farmer's Advocate" as follows:

"In the circular which was sent out from this office some time ago, re certificates of service from owner of stallion, now called for in the registration of Clydesdales in the Clydesdale Records of Canada, the statement was made that a written declaration of service, made by owner of stallion, was required. Information has since been received from the Canadian Live-stock Records office, that the Department of Agriculture will accept no such certificate of service, excepting those made out on the special form printed by them, and issued for this purpose. The new application form for the registration of Clydesdales also has a space for the signature of the owner of the service stallion. Both may be had on application to the Accountant, National Live-stock Records, Ottawa.

"Below will be found a copy of the rules of entry, as revised at the last annual meeting of the Clydesdale Horse Association of Canada, and the Secretary writes, 'There is little more that can be added, excepting that the rule regarding the imposition of penalty fees on colts over one year of age comes into force on July 1st, 1909. There is also a general impression that the rule providing for the registration of four-cross fillies has been revoked. This is not the case, but the application form must be filled out with a statutory declaration or affidavit."

RULES OF ENTRY.

Write to the "Accountant," National Live-stock Records, Ottawa, for Application Blank Forms, Transfer Blanks, etc. All letters to this address will go free of postage.

1. The following are admitted to registry:

IMPORTED ANIMALS.—Stallions and mares recorded and bearing registration numbers in the Clydesdale Studbook of Great Britain and Ireland, whose sires and dams, together with their sires and dams, are also recorded and bear registration numbers in said Studbook, providing that the breeding of such sires and dams, if already recorded in the Clydesdale Studbook of Canada as ancestors, comply with this rule.

When recording animals imported in dam, certificate of service must be furnished from the breeder, signed by the owner of sire at the time of service.

An imported animal is one which has been imported from Great Britain and Ireland. Applications for registration of animals imported from Great Britain after April 1st, 1909, must be accompanied by a tabulated certificate, in addition to the regular export certificate issued by the Clydesdale Society of Great Britain and Ireland showing ancestors, numbered as stated above.

CANADIAN-BRED ANIMALS.—(a) Stallions and mares by sires and out of dams recorded in the Clydesdale Studbook of Canada.

(b) Clydesdale stallions having five top-crosses by sires recorded in the Clydesdale Studbook of Canada, and Clydesdale mares having four top-crosses by sires recorded in the Clydesdale Studbook of Canada. In all cases of Canadian-bred animals, the dam must be recorded before the stallion is eligible, or, in case of a mare with five top-crosses, her dam must be recorded before she is eligible. Applications for the registration of four-cross pedigrees shall be certified and sworn or affirmed to by the breeder before an officer authorized to administer oaths.

2. Every application for registration shall be made on a blank which shall be furnished free for the purpose, and must contain a description as complete as possible, together with the date of birth, name and registered numbers of the sire, and of the dam, if recorded, and must be signed by the breeder, except in case the person applying for registration purchased the dam after being served, then he must sign the application form; but a transfer of ownership of the dam must be supplied, signed by the Recorded owner (giving date of service, name of sire, and date of sale). In registration of pedigrees of four-cross mares which were not bred by the applicant, but which have been foaled his property, the application must be signed by the owner of the dam at the time she was served, and the general color, year of birth, and name and address of breeder of dam must be given.

3. The owner of the sire of an animal whose pedigree is offered for entry shall certify to service, giving date of service, with name and recorded number of said sire in the Clydesdale Studbook of Canada. Signature will not be accepted unless such ownership appears on the books of the Clydesdale Horse Association of Canada.

4. The breeder of an animal is the owner of the dam at the time she was served. The first owner is the owner of the dam at the time the colt was foaled.

5. No application for registration or transfer shall be considered until the fees are paid, nor shall any number be assigned to the pedigree until every requirement has been complied with.

6. In the case of a change of ownership of an animal, the buyer must obtain from the seller a certificate of transfer written in ink upon a blank form procured from the Record Office, which will, when returned to the record office, accompanied by the original certificate of registration, be entered upon the record. The certificate of transfer shall be endorsed on the back of the original certificate, and returned to the applicant. Transfers will be required from the first and succeeding owners to the applicant for entry. If the animal is a female, it must be stated whether or not she has been served. If served, the date of service must be given, with the name and record number of the sire, certified to by the owner or his authorized agent.

7. When an animal is a twin, it shall be so stated when applying for registration, and the sex given of the animal with which it was a twin. Should a twin be entered upon the record without such statement, no subsequent application for the entry of animal twin with the same shall be accepted.

8. When the pedigree of an animal may have been admitted or ownership transferred through misrepresentation or fraud, the Board of Directors shall, on the discovery of the same, declare the entry or transfer void, together with any entries or transfers of descendants of such animal, and subsequent applications for entry or transfer dependent on the signature of any person implicated in such fraud shall be refused.

9. Duplicate names should be avoided. To this end, the right will be reserved to change any name when necessary, preserving, however, as far as practicable, some characteristic of the name given in the application. The word "Young" shall not be used in connection with a name, unless the pedigree has been previously so recorded in another studbook.

10. No duplicate certificate will be issued unless a statutory declaration of the applicant (who must be the recorded owner) is supplied, setting forth reasons why such certificate is required. Such declaration must be made on form provided.

11. The fee for registration of pedigrees shall be as follows:

For Canadian-bred Horses.	
	Each.
To Members—Animals under 1 year of age	\$1.00
To Members—Animals over 1 year of age	2.00
To Non-Members—Animals under 1 year of age	4.00
To Non-Members—Animals over 1 year of age	4.00
Transfers	.50
Duplicate Certificates	.50
New Certificates, replacing old ones, of which shipping vouchers have been used	.50
Tabulated Pedigrees	2.00

In determining fees, the age of an animal is computed from the first day of January of the year of foaling.

For Imported Horses.

	Each.
To Members—Males	\$3.00
To Members—Females	2.00
To Non-Members—Males	4.00
To Non-Members—Females	3.00

Annual membership fee, payable January 1st, \$2.00. Members wishing to withdraw from the Association must give three months' notice of their intention so to do, and pay all arrears.

Address all correspondence and make all fees payable to Accountant, National Live-stock Records, Ottawa, Canada.

LIVE STOCK.

Shearing Sheep.

The time is now at hand when flock-owners will be considering the clipping of their sheep. The better time to shear depends largely on how and when they are housed, and what provision has been or can be made to protect them from exposure should a sudden fall in temperature occur, or a wet, chilly season set in for a time.

To wash, or not to wash, before shearing, is a question which is not, of late years, causing much thought, as those who wash are slowly but surely decreasing in numbers. There are good reasons for the change, and yet much can be said in favor of washing first, and shearing a week or ten days later. Wool-buyers some years will severely dock unwashed fleeces in weight, or price, which amounts to the same thing. Therefore, results the desire to wash on the sheep's back, if suitable facilities are at hand. Again, the shearing of washed sheep is a much easier job, as a great deal of the grit and dirt have been removed, so that a better cutting edge of the shears can be maintained. Another consideration in favor of washing is the fact of a larger return being obtained for the fleece, if the flock is kept in a clean place for such time after washing as to allow the natural oil, of which much has been washed out with the dirt, to again accumulate, thereby adding quite a percentage of weight. The disadvantages are: First, that the washing necessarily means late shearing, and that in time means often a loss of fleece, as, from one cause or another, a partial shedding of the coat will be noticed as the months of April and May are passing by. Seldom is the weather sufficiently warm and settled to make washing safe till near the end of May, and more frequently it is on in June when sheep so handled are put through their bath. In the second place, we may notice the required laying aside of pressing field work to wash and shear. To that we may add the danger to both man and sheep in the process of washing. We have known of fine, promising mornings ending in cold, bleak days, when the shivers would run up and down the back, and the huddled-up animals would look the very picture of misery. And, should cold weather continue, harm, probably of a lasting nature, would result. And the special danger would be to the ewes suckling comparatively young lambs. Summing all up, we cannot arrive at any other conclusion than that the early shearing, without washing, is safer, and, therefore, better.

For many years, at Fairview Farm, we have practiced shearing in early April, and for the following reasons: Time can more readily be taken to do the work carefully and well. Up till then there is little or no pulling of the wool. If ticks happen to be present, a dusting over and brushing in of dry sulphur after the fleece is removed destroys the pests. Both the ewes and lambs appear to thrive better after the early shearing; the job is out of the way of field operations, the wool is marketed soon after, and, as a rule, a higher price got than can be obtained a month or two later in the season.

Such early clipping would be very risky without a place to house warmly, should the weather turn cold or wet any time during three or four weeks following. Our sheep barn, so constructed as to enable us to stop all drafts, and keep up the temperature when necessary, tends to reduce the danger of chilling the naked sheep, and so prevents trouble. Troubles which may be anticipated are udder disorders, which may be classed as among the most trying of all in connection with the lambing season.

As shearing machines are now made which do good work, people are thinking about the wisdom of adding one to their stock of farm machinery. The past two seasons we have used the flexible-shaft clipper. So far, it has given us fairly good satisfaction. Not that there is much time, if any, gained in the removing of the fleece, considering that it requires two to operate it, one to turn the crank (a light job), and the other to guide the cutting part. The gains are in a smoother, cleaner job, less chance of having gashes made in the skin, and a nicer-looking finish, with a slightly-increased quantity of wool secured from the closer and evener shearing. To make it a profitable investment, we think, thirty

to forty in a flock should be the minimum number. Two or more neighbors might combine in getting one, if the cost (\$18.75, plus transportation and duty) would be thought too much for one person. An enterprising young farmer in this locality was the first to invest. He shears many flocks each season besides their own, charging eight cents per head for his part of the work in handling the cutter, the flock-owner furnishing a boy or man to turn the handle.

In shearing by hand or with the machine, the mode is much the same. The sheep is set on its rump at the start. Then the fleece is cut open from jaw to brisket, and, after the belly wool is removed, working downwards with the machine or across with the shears. Next, one side—the left—is done, cutting from belly to back, so far down as can be comfortably reached. The sheep is next slightly turned, to allow cutting the other side from back to belly, after which it is laid on its side, held down by the legs, and the hind parts are finished. Close clipping—as close as possible—has been our rule for many years past, as that appeared to cause a nicer start of the new coat, which means much in medium-wooled flocks.

An after operation, which is not attended to generally, is the dipping of ewes and lambs the end of May or in early June. After shearing, what ticks may be on the ewes will find their way to the comfortable quarters afforded by the lambs' covering of fine wool. That move means the beginning of misery to the youngsters, and a tick-infested lamb stands a very poor chance of maturing into a profitable animal, whether intended for the market or to add to the flock. The process of dipping, in a properly-made vat, and drainer attached, is one which does not require much time, and certainly tends toward pleasure and profit.



Hope of Dunglass.

Junior yearling Shorthorn bull. First in class, Perth Show and Sale, February, 1909. Sold by auction for \$2,255.

There are several good dips in the market which are cheap and effective. Indeed, so much so are they, that it would be found advantageous to dip the whole flock a second time, in October. By so doing, there would be no sign the following winter and spring, of rubbing or pulling of wool—all going to make them comfortable; and comfort, in handling live stock on the farm, spells PROFIT in big letters every time.

Victoria Co., Ont.

JOHN CAMPBELL.

Milk Fever in Sows.

Septimus Bourne, Middlesex Co., Ont., a hog-breeder of some experience, asserts that milk fever in sows is caused by the sow lying too long after farrowing without passing urine or feces. By making them get up and move around several hours after farrowing, he says, the excretory organs may be stimulated to action, and the trouble prevented. He claims to have averted it in the case of two sows that were threatened.

The veterinary editor of "The Farmer's Advocate," while of opinion that Mr. Bourne over-estimates the value of his preventive treatment, is, nevertheless, inclined to agree that forced exercise for sows within a reasonable length of time after farrowing would have a tendency to avert the trouble. Of course, they should not be disturbed for five or six hours, as a period of rest is demanded by nature. Laxative food before and after parturition is a safer reliance than enforced exercise.

Old Country Stock-raising.

Editor "The Farmer's Advocate":

Not all the farmers in the Old Country breed for beef type. If they did, where would the great cities' milk supply come from? Yet, to make it clear to our readers, I will give the facts as I found them. The general farmer around our part kept the Shorthorn cow, which was as profitable as any. On our 600-acre farm, our dairy herd ran from 8 to 12, according to how the heifers came in, as we always had several coming in every year, and it did not pay to keep old cows. We always put the old cows off at about 8 years. The reason for this was we got a better price for the beef from the local butchers. Our cows were a good milking strain, and also good beef type. We made butter all the year round. In winter we got 32 cents a pound at the market town; spring, 28 to 30 cents, and summer months, 24 cents. We always had more demand than the supply; the best price was for butter salted lightly. This is where the test of buttermaking comes in, and one reason why the Danish butter has grown in favor in the Old Land. We find a great difference here; the customers call for plenty of salt. We have a good demand for our butter; all the stores have asked us to supply them, as in our township good butter is not very plentiful, except at the creamery.

We always used to raise all calves, and buy others at the markets, to make up our steers to about 16 each year. Our method was to keep all calves up the first summer. We found they did better kept in the first year. The feed was skim milk twice a day, after three days old, with a little flaxseed meal added. As soon as they were old enough, we gave them nutted oil cake, chopped oats and green tares or clover hay; we had hay almost all the year round. In the fall

the calves would be fed cut wheat and oat straw, and white turnips, mixed with oat and barley chop. The yearlings would be fed about the same, only more turnips than the calves. Our steers, from 2 to 2½ years, would be put up for fattening the last week in September. We first gave them all the good chaff and sweet turnips they could eat three times a day, beginning with two parts of chaff to one of turnips, then adding more turnips, till they would have no chaff. Then we would begin feeding barley chop, with a mixture of rye and pea meal, then add a little bean meal, then a little oil cake, till they would be getting from 4 to 6 pounds oil cake a day with the bean meal, and a little clover hay added. They would

now be putting on the kind of meat that is relished by the Old Country gentry. We would single out the best for the Christmas market; these would go to the block, and be sold by auction. I have seen some go from our farm that could only just make a move, they were so fat. Oh, how I long for a good old English joint! The remaining steers would be kept till spring, if possible. If the swedes gave out, we then began the mangels. We mostly had mangels till about June.

Now, I might say here that, to feed cattle like this, requires common sense and sound judgment, and it is mostly left to the cattelman, or yardman, as he is called. This is like a trade to him, he being brought up to it from a boy. As a rule, the son takes the father's place, and sometimes you find three or four generations follow on in the same line of business on the same estate. It pays the farmer to keep them, and it pays the man to stay. He mostly has a good house and garden, good pay, and the wife gets so much butter and eggs, and the feathers from the plucking, and all the skim milk required. There are a great many men who object to being a yardman. Why? Because it is a tie; they can't get days off, and not much church-time; besides, it's dirty work. We find it the same here—the hired man will have his days off.

Now, in concluding, I would like to give my opinion to the average farmer feeding steers. Keep less stock, feed better, and feed more concentrated foods. Don't be afraid to lay out

few dollars on oil cake or cotton-seed cake; you will then have the satisfaction of the best price, and no trouble to sell when your beasts are finished. Also, I think it would be doing more for our Dominion if the immigration agents induced the farm hands to come from the Old Country, instead of the worthless lot coming now.

OLD COUNTRY JOE.

Stock-raising and Soil Fertility.

From any farm on which a miscellaneous collection of stock is kept, writes Prof. M. Cumming, in the annual report of the Secretary of Agriculture for Nova Scotia, the amount of fertility removed need not exceed about 10 per cent. of that which would be removed under the hay-and-grain systems of farming. The important problem that remains is, how can the farmer get the 90 per cent. voided in the manure onto his fields without further loss? The solution of this depends upon the care taken of the barnyard manure, which is subject to great loss from two sources, viz., leaching and fermentation. To prevent the former, he must prevent the running away of the liquid manure. To prevent the latter, he must keep his manure from heating. And to prevent both, he must take as his general guide the getting of the manure on the fields, as soon as possible after it is made.

AN INSTANCE.

Suppose that a farmer, instead of selling the two tons of hay produced on an acre of land, feeds it to his dairy cows, marketing therefrom only butter and pork. The two tons of hay, as above, contain \$13.36 worth of fertility. There will be sold with these about 10 per cent. of the fertility in hay, leaving \$12.03 worth of fertility on the farm. Of this amount, the equivalent of at least two-thirds will reach the fields. To this should be added the value of the vegetable matter or humus in the barnyard manure, a value which we can scarcely quote in figures, but which constitutes, in the main, the superiority of barnyard manure over commercial fertilizers. The same principles can be applied to all other fodders, and in every case it will be found that, from the standpoint of soil fertility, it pays to feed all fodders except those for which the market prices are much in excess of their fertilizing value on the farm.

It is not long since a large portion of the cottonseed meal produced was sold to be applied directly to the land as a fertilizer. Now it is practically all fed to cattle, with the result of not only increasing the milk flow and adding to the flesh, but of increasing the value of the manure heap at the rate of over \$20 for each ton fed. Note, too, the high value of bran as a fertilizer. Through the medium of this, much of the fertility of the Western plains is now being transferred to the East. Compare the relatively low fertilizing value of corn with the high value of linseed and cottonseed cake.

Not every farmer keeps an account with his soil, yet it is hard to see how anyone, who accepts the principles laid down in the preceding paragraphs, can fail to estimate the importance of knowing whether his capital stock of soil fertility is decreasing or increasing, for in this way only can he expect profitable returns from his field each succeeding year.

Stable and Pigpen Plans.

Editor "The Farmer's Advocate":

In the issue of March 4th is a plan of a model stable, by J. H. Grisdale. It may be all right for those who can afford it, but it strikes me that the initial cost is disproportionate to the accommodation for the ordinary barn. Should any, however, feel disposed to build such a stable, I would beg to offer at least one suggestion. He has wisely provided a shed for the manure spreader, but, in order to close the doors, the spreader should be provided with an adjustable tongue, and so far I have never seen one that has such a convenient device. They are away behind on this point. An adjustable tongue is a good talking-point, if the manufacturers only knew it. But, about the location of the spreader in this model stable. Why is it not put in a more central point? It is all very nice to have wide and convenient holes, chutes and passages for feeding purposes, but when it comes to handling the manure—the heaviest part of the work—matters are allowed, in a measure, to take their chances. Why not put the spreader down grade, in a pit in a central part, then practically no lifting will have to be done in loading? Of course, we have litter carriers, with overhead track, about the stables, but when it comes to pulling up a bucket of heavy manure, it is not quite so charming as reading the manufacturer's catalogue before we made the purchase.

Of the pigpens so far shown, that of Elmore Jackson, Addington County, comes nearest to my ideal of any yet shown. The feed box (F.B.) on the north side would, I think, be an improvement if it were built in the wall, with an adjustable

cover on the outside half, so that the chop could be more conveniently unloaded from the wagon.

Another suggestion I would make to the general run of hogpens is, why not build them high enough so that the upper part can be used for a corn crib? I have such a one, and it gives splendid satisfaction; and, having two buildings under one roof is a piece of economy we are all looking after. Suitable boxes are made for gathering corn in the field (on a low wagon), and these boxes are hoisted by the team and dumped into the loft. Ventilators run up through to the roof. The bottom floor in the corn crib is the ceiling for the hogpen. About eight inches above this floor is a slatted floor, built in sections, which allows the corn ample ventilation. Besides, being built in sections, I can remove part or all of it for convenience in cleaning, etc.

Lambton Co., Ont. G. A. ANNETT.

Handy Ox Team.

Editor "The Farmer's Advocate":

The oxen shown in the accompanying photograph are a very handy and serviceable team. They can be ridden with a saddle, and the boys



take great pleasure in going for the mail in this manner. They can also be hitched to the family carriage, and also to the sugar-beet scuffler. Can be driven with yoke or lines.

Waterloo Co., Ont. A. E. QUICKFALL.

time, and filled every pen on the farm. About this time, Prof. Day wrote an article about hogs to "The Farmer's Advocate." Then the crash came. The farmers were loaded with pigs, and looked for revenge. The editor climbed the tree, and the abuse fell on the professor. I killed pigs, gave some away, sold what I could, and traded some for three old ewes. One was lame, one had lost a tooth, and the other had all her front teeth worn off. This ewe, last spring, gave birth to a lamb that weighed 20 pounds at birth, and raised it. The other two had twins, and the three raised four lambs that I believe cannot be surpassed for weight now. The old ewe died last fall, with paralysis. Last week, one of the others gave birth to a pair of twins and died, and the same day the other died lambing, and, when opened, disclosed a lamb that weighed more than 20 pounds. These sheep were fed a few light oats, a few turnips twice a day, and all the clover hay they could eat.

Oxford Co., Ont. W. F. EDMISTON.

[Note.—And what is the point of it all? Which pays better, pigs or sheep? Or does the profit chiefly depend upon how either is handled, and how the husbandman stays with the game through thick and thin, maintaining a reasonable quota of each from year to year? This is what "The Farmer's Advocate" has consistently counselled, and swine-feeders who have followed the advice find much encouragement in the present level of values. As for the neatly-portrayed drama of the professor and the editor, our correspondent omitted an incident of the last act, in which the latter repaired to the rescue of the professor, who seemed to have become a target for unfair insinuation and retort.—Editor.]

THE FARM.

Another Road Drag.

Editor "The Farmer's Advocate":

Take three pieces of 4 x 6-in. timber, 7 or 8 feet long, and five pieces of 2 x 6-in., 5 feet long; place these as in the accompanying sketch, and fasten together with spikes or wood screws 6 inches long. A log-chain to draw it with, and two or three pieces of board for the driver to stand on, completes the outfit.

On an uneven road, this drag will do better work than a split-log drag, cutting down lumps and filling holes, and will grade up the center equally well. By using a grab-hook or link on the chain, any desired pitch can be secured. Use a three-horse team, and stand on drag to drive.

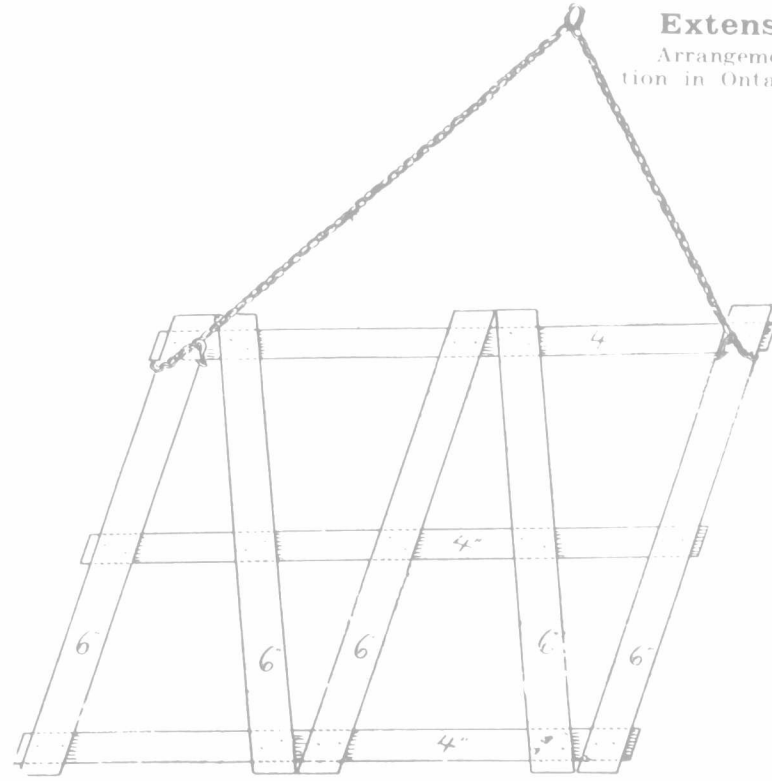
Brant Co., Ont. WM. SHEARER.

Extensive Crop Competition.

Arrangements for standing field-crops competition in Ontario for 1909 are even more comprehensive than in the past. These competitions have been of great value to the Province, and of financial benefit to the competitors. This year three lots of prizes are offered: First, for the standing field-crop competitions; second, for the sheaf exhibit at the Canadian National, Toronto; and third, for the seed grain from standing field-crop competitions at the Winter Fairs at Guelph and Ottawa.

Agricultural Societies will be assisted in the holding of competitions limited to one crop, to be selected by the society, which should be the one of most importance to the farmers of the district. Entries for competition should consist of not less than five acres, and, when beans and potatoes are entered, the minimum plot must not be less than one acre. Selection must be made from the following crops, viz.: Spring, Fall or Goose Wheat; oats, barley, rye, corn, peas, alsike, clover, red clover, potatoes, beans, or any other staple crop produced for seed in Ontario.

Competition is limited to members of an agricultural society, and the fields entered must not be more than fifteen miles from its headquarters. Competitors shall be allowed to make entry in only one society, and but one entry can be made by each competitor. Societies desiring to enter this competition must notify the Superintendent not later than the first day of May, and must make not less than ten entries, nor more than twenty-five. All individual entries must be forwarded by the secretaries of the societies to J. Lockie Wilson, Superintendent of Agricultural Societies, Parliament Buildings, Toronto, before June 1st, 1909. Societies may, if thought advisable, charge competitors an entry fee of not more than one dollar.



Mr. Shearer's Road Drag.

Professor and Editor.

Editor "The Farmer's Advocate":

One of your subscribers asked about 16-pound lambs. I would like to give you my experience with sheep, as well as tell you how our worthy editor once climbed a tree—just as his great ancestor, Adam, did in the Garden of Eden. The spring I started farming I saw common ewes sold for \$14 and \$16 each. I did not buy any, but bought two brood sows. Pigs soared in price, farmers wrote to "The Farmer's Advocate" telling how many pigs their sows were having at a litter. The editor clapped his hands and wrote, "Keep more of their offspring for brood sows." My old sows caught the spirit of the

An amount not less than \$50 must be offered in prizes by each society, to be divided as follows: \$15, \$12, \$10, \$8, and \$5. Of the above amount the Ontario Department of Agriculture will contribute \$30. The balance is to be contributed by the society, and this \$20 can be counted as expenditure for agricultural purposes in the yearly financial statement. The Ontario Department of Agriculture will furnish expert judges free of charge.

Large prizes will be offered by the Department for two-bushel sacks of grain at both Guelph and Ottawa Winter Fairs, the competition for which will be confined to prizewinners in the standing field-crop competitions. Full particulars will be furnished later to the prizewinners.

In addition to the above, arrangements have been made with the Directors of the Canadian National Exhibition, to be held in Toronto, August 28th to September 13th, to donate \$240 in prizes for a sheaf exhibit of grain from the fields, the owners of which were awarded prizes in the standing field-crop competitions. For this sheaf exhibit, the Province has been divided into three districts, and prizes amounting to \$80 will be awarded to competitors in each of the three divisions mentioned below: For wheat, oats, barley and rye—first prize, \$6; second, \$5; third, \$4; fourth, \$3; fifth, \$2.

Division 1 includes Muskoka, Parry Sound, Haliburton, Nipissing, Manitoulin, Algoma, and other districts in New Ontario.

Division 2.—All counties east of York and Simcoe.

Division 3.—York, Simcoe, and all counties west and south-west of same.

Each sheaf must contain not less than 1,000 stems, and must be boxed and shipped C. O. D. to the Superintendent of Agricultural Products, Exhibition Park, Toronto, not later than August 20th. All entries for this exhibit must be made to J. Lockie Wilson, Parliament Buildings, Toronto, before August 2nd, 1909.

Round Plank-frame Barn.

Editor "The Farmer's Advocate":

I am sending you particulars regarding my round plank-frame barn. I am not a practical mechanic, but I could not get information from any person as how to plan it, therefore had to draw the plans and manage the work myself. I hired a few of the handiest young men in this neighborhood to help erect it.

This barn is perfectly round, and built on a cement basement seven feet high. It is 66 feet in diameter, and covers an area of 3,415 square feet. For the foundation, I first put in a footing 18 inches deep, 18 inches wide at the bottom, and 13 inches wide at the top, and then built an 11-inch wall 7 feet high. In building the frame, I first put on a circle sill 4 inches thick, made of 2 x 10-inch plank, cut 4 feet long, and trimmed on the outside edge to make a circle. These are doubled, so as to break the joints, and are spiked together. The ends of the cross sills are on top of the circle sill. Cross sills are 8 x 8 inches square. There is an 8-inch board nailed to the foot of the studding for the outer end of the joist to rest on, thus making it 8 feet from ground to bottom of joist. The studding are 2 x 6 inches, and 2 feet apart.

The interior timbers are 2 x 8 inches, except the braces, which are 2 x 6 inches. The rafters are 2 x 6 inches, and 2 feet apart. The bands or hoops are 1 x 6 inches. The driveway is 13 feet wide in the clear, and runs from west to east. There is a bent made of 2 x 8-in. girt, and 2 x 6-in.-long braces running through the center at right angles with the driveway, thus dividing the barn into four mows. This makes it necessary to have two hay-fork tracks. The top of the plates of this bent are 33 inches higher than the top of the circle-plate over the driveway; this gives the roof a slant of one inch to the foot. The shortest studding are at the driveway. They gradually get longer as they get nearer the center bent. The circle plate is 4 inches thick, made of 2 x 6-in., and 4 feet long, and trimmed to the right circle. This frame, at the highest point, is 30 feet above cement basement.

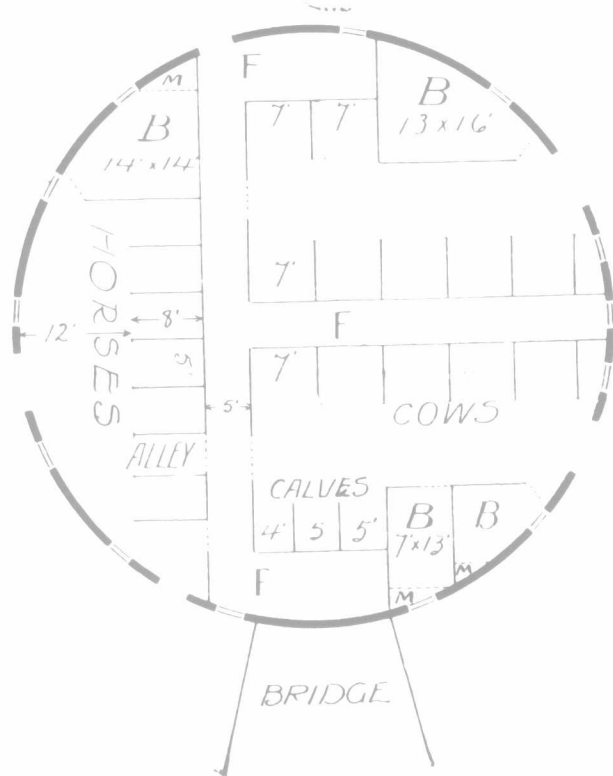
The barn is sided with 26-gauge corrugated galvanized iron. This makes a tight siding, which I can highly recommend, as, in windy weather my hay and fodder does not get so dry on top as it does in more open barns. Although this siding is tight, the hay and grain did not sweat any more than it would have done in any other barn. It took 260 sheets, 33 x 96 inches. There are six windows, 2 ft. 6 in. x 6 ft. The space between the rafters over the circle plate is covered with screening. This makes a good ventilation for the top of the barn. The roof is sheathed with shiplap hemlock, and covered with asphalt roofing.

For the basement, it took 41 yards gravel, 17 yards tiling, 35 barrels cement; for the floors, 40 yards gravel, 50 barrels cement; and for footings for the posts in the basement, door and window sills, and a large cement sill for the front driveway, and other extras, it took 6 yards

gravel and 8 barrels cement. All the wood material in the barn and basement together amounts to 29,200 feet.

The total cost, exclusive of labor, is \$1,200. After using the round shape for one year, I am well satisfied with it. I think it will resist more wind than a square shape. The strongest winds we have had in 1908-9 have not made it quiver. The braces being bolted, they hold both ways.

The greatest advantage in a round barn is the extra amount of room. For example, a barn 34½ x 69 feet is 207 feet around, and has an area of 2,380 feet. A round shape, 207 feet around, has an area of 3,415 feet, giving an area of 1,030 feet in favor of the round shape. Some argue that there is a disadvantage in a long driveway, but, after a 13-foot drive-floor is taken out, there is still 177 feet more than there is in an oblong one, driveway and all. There is an



Plan of Round Barn on Farm of Herman Upcott, Essex Co., Ont.

advantage in having the four mows fronting the drive-floor.

The illustration shows the front opening of the driveway. There is some dirt drawn for the bridge, and the rafters are not all on.

The stable accommodates six head of horses, twenty-six full-grown cattle, and six yearlings, besides the boxes. The letter F shows where the feed chutes are. The open spaces show the doors, and the marks M show the mangers in box stalls.

Essex Co., Ont.

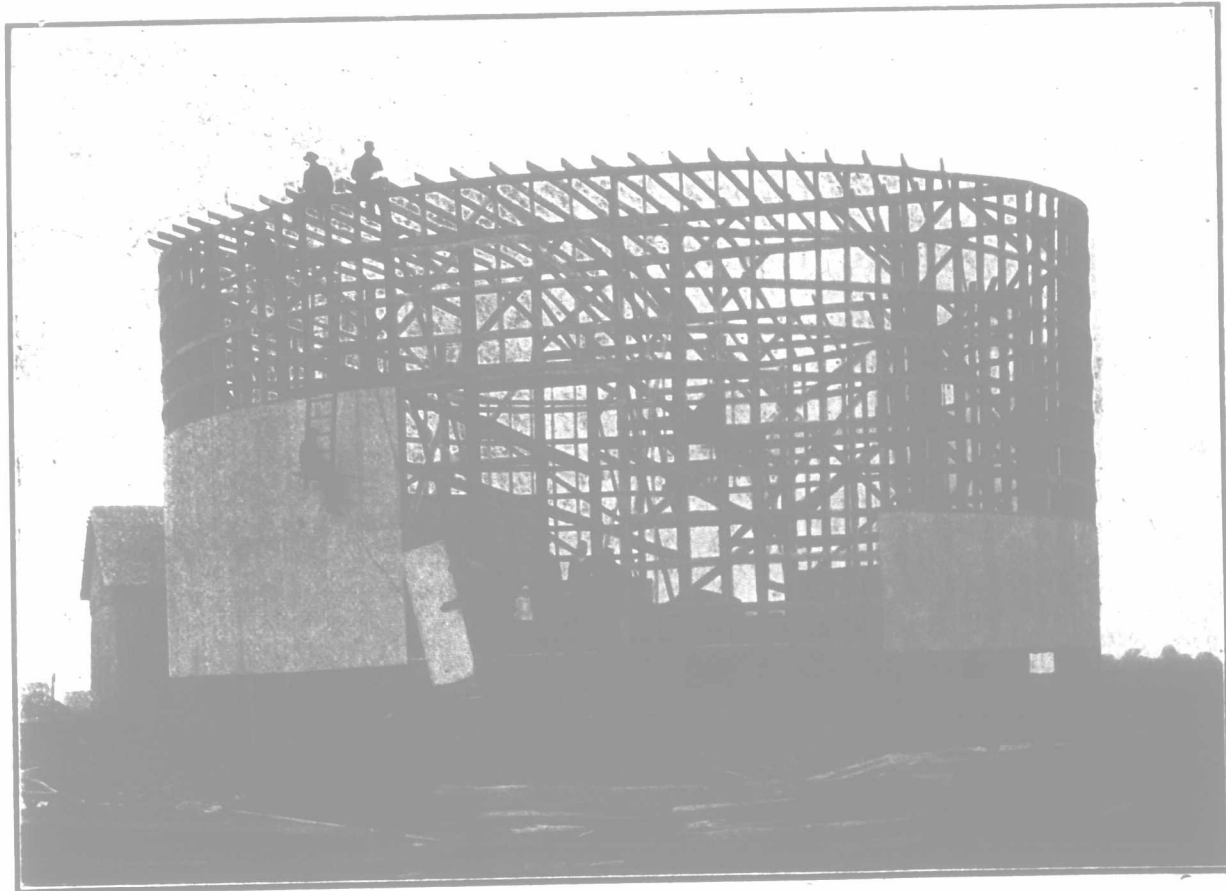
HERMAN UPCOTT.

Installing an Hydraulic Ram.

Editor "The Farmer's Advocate":

In your issue of March 25th, S. W. H. asks for information regarding the cost and installing of hydraulic rams. The reply to his queries by Prof. Wm. H. Day has prompted me to write you a few lines. Living in a neighborhood where there are half a dozen hydraulic rams (all of which I installed) in successful operation, I think I should be in a position to give some information regarding them. I am not looking for a job, but only hope that what I have to say may be of benefit to some fellow farmer who is fortunate enough to have a spring or spring creek running through his property. There is no cheaper, efficient means of supplying the farm stable with water than the hydraulic ram. But when as practical a man as Prof. Wm. H. Day gives information as to cost, etc., of a ram that would use only a ¾-inch drive-pipe, I think he should be taken to task. The farmer who installs this size of machine would very soon wish he had used a larger machine, if he is much of a stock-raiser. While it might possibly pump sufficient water for a small herd, the risk of such a small stream of water freezing up in cold weather is too great, and is still greater where the water used is from a spring creek. The spring creek that would not supply a larger size than this could hardly be called a spring creek. I think it best to always use as large a machine as one's supply of water will permit, up to a No. 5, which is large enough to pump sufficient water for any ordinary farm. The difference in cost between the smaller and larger machines (considering the greater capacity of the latter) is trifling. The trouble and annoyance liable to result from installing too small a machine may be considerable.

I will now endeavor to describe how I installed a No. 5 machine for my own use in 1907. It is supplied with water from a spring creek. I first selected a suitable location for the ram, on a level piece of ground about 100 feet from the creek, and dug a round hole about four feet in diameter, and three and a half feet deep. I then made a round wooden mold or core-box out of 2-inch strips, 2½ feet long, nailed to a circle cut out of inch boards. I placed this core-box in the center of the hole I had dug, put three 4-inch tile near the bottom—one to let out the waste water, one to let in the drive-pipe, and the other the discharge pipe—and then filled in with concrete and stone to top of box. The next day I removed the core-box, made it a little larger by putting in four more 2-inch strips, and set it back on the tile I had made. I now filled around it with concrete again, using a sheet of galvanized iron around the outside to keep the concrete in place till set. This gave me a box five feet deep, and the top of it a foot or more above ground, which is necessary for banking up to keep out the frost. Frost will heave the top tile more or less every year, but it does no harm, as the tile settles back to its place in the spring. Forty feet from this box I built another one just like it, for a supply box, first digging a trench between the two boxes and putting in the drive-pipe, and also a 4-inch tile about 2½ feet from the level of the ground, to let in the supply



Round Plank-frame Barn on Farm of Herman Upcott, Essex Co., Ont. Finished 1908.

water. I now tapped the spring creek 600 feet up stream, and ran the water down to this box in a 4-inch tile. The water rose in the box till it reached the level of that where I had tapped the creek, but was still about one foot below the surface of the ground. Care should be taken not to go further up stream than is necessary to bring the water to this level, for, though tile is a cheap and excellent medium for conveying water underground, it is a rather difficult matter to confine the water in it. I now went down stream 200 feet from the first box (a point where the level of the water in the stream was a little lower than the bottom of box) and dug a ditch to it, digging just deep enough so that the water would follow me back. This ditch carries off the waste water from the ram, and is also tiled with 4-inch tile. I strongly advise tiling it right to the creek, for, if there is a pig on the farm, he will prefer to wallow in it to any other place. A trench 100 feet long to a concrete watering-trough in the barnyard, completed the job. The ram is giving splendid satisfaction, though working with a head of less than two feet. The total cost for everything was not over \$50, but this does not include our own labor. We worked at it odd days through the summer, when we could spare the time. GEO. W. BLYTH.
Wellington Co., Ont.

Cleansing Maple Syrup.

Editor "The Farmer's Advocate":

I have read with great interest the different letters written to your paper on syrup-making. I have made syrup for a number of years, and consider it a good-paying job for the farmer, as it is in a time of the year that there is not much else he can work at. I have no bush on my own place, and a neighbor of mine gave me his, as he did not use it for syrup-making. It is a small bush of about 300 trees. We did tap, at one time, over 1,200 trees, but the caterpillars killed the bush a few years ago. In making the syrup, we gathered in a tank, and strained the sap, when we put it in the store-tank. When the syrup is boiled to the proper thickness, which we can tell by the use of a syrup thermometer, I strain it through a piece of flannel, which is fastened to the top of a milk can. This will take out the sandy substance which is in the syrup. After I have finished boiling for the day, I take the syrup to the house, where it is cleansed. This is done by putting it in a boiler and placing it on the stove. Before it is hot, beat up four eggs for one boilerful; add some syrup to the eggs and beat together, then put in your syrup. It will mix better than to put the eggs in alone. Do not have the syrup hot enough to scald the egg when it is put in. As soon as the egg is put in the syrup, stir well, then leave it till it just starts to boil, then lift it off and skim off the scum which has formed on the top. When this is done, strain it through a good piece of factory cotton; a 10 or 12-cent piece will be about right. If you do this, you will find that your syrup has a better flavor, and is free from any kind of sediment. I have always followed this method of cleansing, and have always got the highest price for my syrup on the market.

I would like to know, with Lambton Co. Spruemaker, how the sugarmaker from Dundas Co. can draw off his syrup so often, and make such a large quantity out of the number of trees. I cannot make any more to the tree than Lambton Co. man, and have it standard weight. I would be pleased to hear from others who could give me any information on this subject. PETERBORO CO., ONT. "WARSAW."

Seeding Practice in Prince Edward Island.

Editor "The Farmer's Advocate":

Campbell's White Chaff and White Russian are the varieties of wheat generally sown in this neighborhood; a little White Fife is grown; quantity per acre, 2 to 2½ bushels. Oats, 3 bushels per acre; white: Banner, chiefly; black: Norway, and "Old Black." Corn, very little sown. Potatoes, about ten bushels per acre; the blue-sheathed kinds are mostly in favor; white and red kinds do poorly.

In seeding-down, we use Mammoth Red, 3 pounds; a little early red; alsike, 2 pounds; timothy, 10 to 12 pounds. Wheat and oats are the nurse crops. About 50 per cent. grain is seeded. Only soiling crops are mixed grains, vetches, and some corn; no alfalfa or permanent pasture here. Seven-year rotation is most general, but six is common, and five and four are practiced with success.

Of implements there is no end: Single plow, two-furrow plow, disk harrows, spring-tooth harrows, drag harrows, broadcast seeders, drills, weeders, rollers, etc. In this section, implements requiring three and four horses are coming into general use. JOHN ANDERSON.
P. E. Island.

Raising Potatoes.

The Dominion Agricultural Offices of the Potash Syndicate submit the following letter, recently received by them, showing, among other things, the results of fertilizing a potato crop with a complete fertilizer containing a fairly liberal proportion of potash:

Dominion Offices of the Potash Syndicate:

At your request, I am sending you an account of the methods pursued in raising the largest crop of potatoes I ever had.

Preparation of Land.—Plowed under a short aftermath of clover in August, 1907, and also a light dressing of farmyard manure. This plowing was 4 inches and under. During the fall this was disked two or three times to keep down weeds and rot the sod. In the spring of 1908, as soon as the land was fit, it was plowed again, about 5 inches deep, this to loosen up the soil and to bring the manure near the surface again. The piece was divided into three plots for experimental purposes. On plot 2 I sowed acid phosphate at the rate of 400 pounds per acre, and sulphate of potash at the rate of 200 pounds per acre. On plot 3, acid phosphate at the rate of 400 pounds per acre, but no potash. Later, after the plants were up, plots 2 and 3 received a dressing of nitrate of soda, at the rate of 140 pounds per acre. Plot 1 received no fertilizers. The ground was thoroughly disked and harrowed, then drills four inches deep were made thirty inches apart.

Preparation of Seed.—The previous season's crop of potatoes is celled all together, little and big, and sorted during the winter. At this time, medium-sized tubers, smooth, and of typical shape, are spread out in a barn loft or floor, where it is light, and allowed to lie until planting time. This toughens the skin of the potato, makes it less liable to rot, and produces a short,



Experiment on Potatoes by R. J. Messenger, Annapolis Co., N. S.

1.—Unfertilized, yield per acre, 318 bushels.	2.—Complete fertilizer, 489 bushels.	3.—Fertilizer without potash, 432 bushels.
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stout sprout, which starts strongly and quickly as soon as put in the ground. Seeds are cut to have at least two eyes, and planted about one foot apart. The furrows, or drills, are made generally in the morning, and potatoes dropped and covered in lightly in the afternoon; this covers them with warm earth. I have found that the potato set starts better in dry, warm earth than soil on the moist side. This, I consider, is the most important part of potato culture; i. e., the getting well-prepared seed in well-prepared ground.

The remainder of the work consists in keeping the surface soil loose and free from weeds by frequent cultivation. Potatoes planted thus will be up in two weeks; and, if the land is not too weedy, very little hand-work is necessary.

Spraying.—As soon as the beetles begin to eat the leaves, I spray, and, as it takes no longer, I use the Bordeaux mixture with the poison to keep ahead of the blight. Generally, two sprayings are necessary for the bugs, but often a late spray is beneficial.

In the case of the above experiment, by August 1st plots 2 and 3 were completely covered by the vines, while plot 1 always showed some soil between the rows. They were dug the first week in October, and gave the following yields per acre: Plot 1, 318 bushels; plot 2, 489 bushels; plot 3, 432 bushels.

I have been more than satisfied with the result of the experiment, and am convinced my land will repay a dressing of manure strong in potash. (Signed) R. J. MESSENGER.

Binder Twine from Flax Fibre.

Binder twine, to the amount of about 30,000,000 pounds, was used in Canada during the season of 1908, all of which was made from fibre that Canada was obliged to import. At present, twine for the Canadian harvest is manufactured from manilla fibre from the Philippine Islands, sisal from Yucatan, and New Zealand fibre from New Zealand. At the request of the Department of Trade and Commerce, Inspector J. L. Haycock has submitted a report on the manufacture of binder twine from flax fibre. We quote this report as follows:

The value of the fibre used in the Canadian industry would, even at present prices, which are the lowest for eleven years, represent an outlay of over \$2,000,000. And, with the continued development of the Canadian Northwest, the amount required annually will not only be more than doubled in the next ten years, but will increase for many years to come. A large amount of time and money has been expended in Canada, United States and elsewhere in trying to obtain a native fibre that would answer the same purpose. The plant which seems to give the greatest promise of success, and the one that has received the most experimental attention in this line is flax. But the great difficulty has been to invent some process by which the fibre could be separated from the woody matter or "shive" in the plant.

FLAX FIBRE EXTRACTED BY ROTTING.

Of course, the value of flax fibre for the manufacture of various fabrics, yarns, threads and twine has been long recognized, and utilized for numerous purposes for hundreds of years, but the systems adopted in the past for extracting the fibre from the plant have been crude, slow, and expensive. Under these systems, it was necessary to put the plant through a process of rotting, or, as it is commonly called "retting," in order to get it into a condition whereby the fibre could be separated from the plant.

The first of these systems was known as "dew

retting," and consisted in spreading the flax straw thinly on the ground, turning it frequently, and continuing the process until the action of the dew and rain on the plant had rotted it sufficiently to separate readily. The second, "river retting," consisted in placing the flax in large crates, sinking the filled crates in water, and, by weighting them with heavy stones, keep them submerged until sufficiently rotted. The third system is known as "tank retting," and consists of building large tanks, in which the flax straw is placed, pumping water in, and leaving until ready to separate. With these two latter systems the straw had to be taken out and dried before any further operation.

SUCCESSFUL SEPARATION BY MACHINERY.

In order to overcome the difficulties in connection with these processes, various machines have been invented for the purpose of separating the fibre, without the "retting" process. So successful have been some of these inventions, that in Canada, at the present time, machinery is in use extricating the fibre from the unretted flax quite satisfactorily. In fact, the separation of the fibre from the unretted flax, and the manufacture of it in various grades of shop, counter and other commercial twine, has passed the experimental stage, and is now being carried on profitably.

There has also been a small quantity of binder twine made from this fibre, which, it is contended, has done good work in the field, although it is thought that some slight improvements are still necessary before it will be perfectly satisfactory. These improvements will undoubtedly be made in a short time, and the result will be materially beneficial to Canada.

YIELD WOULD BE 600 POUNDS TWINE PER ACRE.

Under this process, the yield of fibre is about 300 pounds per ton of flax, and, as the average yield of flax is about two tons per acre, it would mean about 600 pounds of fibre per acre. The area of flax grown in the Provinces of Manitoba, Saskatchewan and Alberta for the year 1908 was about 200,000 acres, which, at 600 pounds per acre, represents a yield of 120,000,000 pounds of fibre. If manufactured into binder twine, the

quantity would be four times as much as was required to tie the Canadian grain crop of 1908. At present, all this flax, after separating the seed, is burned. There is annually paid out in Canada \$2,000,000 for 30,000,000 pounds of fibre, while, at the same time 120,000,000 pounds of fibre is burned.

What Draws the Lightning.

Editor "The Farmer's Advocate":
After reading Mr. Forster's article, in your issue of March 11th, re lightning striking where springs are flowing beneath the surface, I would like to give my views on the subject. It may be possible such a thing might be, but there are other objects which are targets to the lightning bolt. Last summer, I saw where three cows were killed by lightning. They were situated on a large limestone rock, near a lone basswood tree. The tree was also struck. I dare say there was no water under the surface for forty feet down, as there is a well near-by, and it was drilled 40 feet for water. I have more faith in your editorial of the same issue. A lone tree, church or barn makes a more common target than an underground spring. I can speak from experience re the underground springs, as there are several such subterranean creeks on and around our farm. I know of seven places where water flows freely from the earth on our farm, and yet the lightning always takes a tree. We have never had any animal killed by lightning yet, though the stock pasture on the places above stated; but perhaps the lightning has something of a better conductor on our farm, which acts as a lightning-rod for barn and live stock. What I refer to is plenty of green trees. Our buildings are surrounded by tall maple and elm trees, and a few evergreens. Only once in my life did I see a tree struck in this grove, and it was a balsam, about 100 yards from the barn, and 30 from the house. This tree was growing on a rocky place.

There are two poles to a battery, and unless you make a connection you will not get a shock, but the moment you connect, immediately you get a shock. Now, it is the same with lightning; there is a current of electricity in cloud, and another on the ground. When there is a strong ground current, the lightning is sure to head for the earth, and, if closely watched, you will see a bolt sometimes going up to the clouds, and down and up several times. I have heard it said that this which I refer to is an optical illusion, but science tells us differently. The reason a lone tree, church or barn becomes a target to the lightning-flash is that they form an attraction for the ground current, which makes a connection with the upper current, whereas a large grove of trees or houses proves to scatter the ground current, and the bolt may not reach the earth.

OBSERVER.

[Note.—Our correspondent rather effectually disposes of the idea that underground veins of water are the controlling influence in attracting the lightning bolt, and suggests a plausible explanation of the protective nature believed to inhere in groups of trees near the farm buildings. We are not equally satisfied, however, that he has precisely explained what draws the lightning to the earth. Experts in physics have advanced the theory that both clouds and earth are charged with electricity, and that the lightning is simply a more or less violent passage of the electrical fluid from the more highly to the less highly charged battery.—Editor.]

Champions the Corn Crop.

Editor "The Farmer's Advocate":
Reading the report given in "The Farmer's Advocate" of March 18th, of the debate on "Corn vs. Roots," it seems to me that the corn advocates had not made the best of their subject, by any means. On the other hand, some of the points in favor of roots seem exaggerated, and others very doubtful. I should like to make some remarks on these root points, taking them by number for reference.

1. The Central Experimental Farm Bulletin gives \$52 per acre as the cost of raising potatoes. Other roots can be no less. The cost of corn, put in silo, is, on the same authority, \$21.25 per acre.
2. What stock can not, or will not, eat corn?
3. Land that will yield 200 bushels of potatoes will give at least 20 tons of corn silage. What is the relative food value of the two?
4. Well water is cheaper.
5. Nothing like corn for putting the finishing touch on pigs for market.
6. By using a silo, we have green feed the year round.
7. What about cutworms, turnip beetle, grubs in turnips and carrots, potato bugs and blight?
8. Corn is cut and the ground plowed before roots are ready to dig or pull.
9. Thousands of farmers grow no roots, but

they might as well give up dairying as try to do without corn.

11. Dried cornstalks and cobs make good fuel, and the leaves can be used to make paper.
12. This is true.
13. Millions of the human family never saw a potato.
14. Cows fed silage in winter need very little water.
15. This is true.
16. Take a census; you are not the whole country.
17. They can't raise corn in Scotland.
18. I have not the figures, so don't know how true this is; but, if true, there are other things to be taken into consideration. But what county in Ontario is not adapted to corn?
19. This is not so, if the corn be properly cultivated. Corn takes less manure than roots; the balance can be put on the meadows. It requires less hand labor than roots, and potatoes is the only root crop that can be harvested by machinery. When corn is in the silo, it is ready to be fed, while roots must be chopped or pulped. Corn and clover make a good team, a perfect food, one that will produce either milk or beef, and not impoverish the land.

C. W. BEAVEN.
Grenville Co., Ont.

[Note.—Our correspondent makes out a strong case for corn, though not any too strong, we concede. It is worth noting, perhaps, that, from a botanical standpoint, potatoes are not roots, but swollen portions of the underground stem of the plant.—Editor.]

Nitro-culture in Nova Scotia.

Co-operative experiments in 1908, with 110 samples of nitro-cultures prepared in the Bacteriological Laboratory of the Nova Scotia Agricultural College, resulted in about 50 per cent. of the experimenters reporting splendid results, 20 per cent. fair results, and the rest no noticeable difference. "Wherever the latter has been the



A Comfortable Rural Home in South-western Ontario.

At Ruthven, Ont. Formerly owned by the late Golden Wigle; now owned by Elmer Burke.

case," says Principal Cumming, in his annual report, "we have usually found that the soil has either been very rich, or there has already been a luxuriant growth of the particular legume upon which the experiment was tried, in which case the soil was already filled with the bacteria required to encourage the growth of these plants, so that further inoculation was quite unnecessary. After summarizing all the results, we are convinced that considerable advantage will follow the inoculation of the seed, especially of alfalfa, but also of the various other clovers and peas, beans and vetches to be sown on fields which are not in a high state of fertility, or on which these crops have not previously flourished. Any farmers in the Maritime Provinces who wish to secure a bottle of nitro-culture, with full directions for inoculating any of the above-mentioned crops, can do so by application to the Nova Scotia Agricultural College, Truro, N. S. The price for each bottle is 25 cents, an amount barely sufficient to pay the necessary expenses. Several firms in the United States and elsewhere are supplying these same cultures at costs varying from 50 cents to \$2.00."

The Bacteriological Department of the Ontario Agricultural College, Guelph, supplies nitro-culture to Ontario farmers on the same terms, and for the same nominal price.

Cleaning-up the Cellar.

Editor "The Farmer's Advocate":

Now is the time to clean up the cellar, ready for summer. It is bad policy to leave decaying fruit and vegetables in the cellar when warmer weather is coming. Sort over the potatoes, and throw out any that are decayed. Put the good ones in barrels or boxes, according to size. Pick out enough good-sized ones for seed. It is not good policy to plant the little ones.

Remove from the cellar all remaining vegetables. The cattle will eat any good carrots or turnips that are left. The apples should also be kept picked over. The rotten or partially-rotten ones cause the good ones to decay rapidly, besides making a bad odor in the cellar. Get everything in first-class shape in the cellar, and then sprinkle some lime on the floor.

C. H. R.

How to Awn Barley.

Editor "The Farmer's Advocate":

Seeing in "The Farmer's Advocate" of March 28th directions for awning barley, I will give a much simpler method. In threshing your barley, reverse the concave, raise it up close to the cylinder, and you have your barley threshed, awned and cleaned at the same time.

Peterboro Co., Ont. CONSTANT READER.

THE DAIRY.

Pure-milk Commission.

The crusade for a healthy milk supply for the people of Ontario took practical form recently in the Legislature, when it was moved by W. K. McNaught, member for North Toronto, and seconded by J. R. Dargavel, member for Leeds, that:

"Whereas milk is a necessary and common article of daily food, and is one of the most important factors in bodily growth, and in maintaining the good health of the people; and,

"Whereas the development of strong men and women, and the maintenance of good health is one of the greatest assets of the people;

"Therefore, this Legislature respectfully recommends that His Honor the Lieutenant-Governor-in-Council will be pleased to appoint a royal commission, composed of a competent person, or competent persons, with such powers and instructions as may be necessary to enable it to inquire into the conditions and methods whereby milk is being produced, cared for, and supplied to the people of this Province for domestic consumption and manufacturing purposes, and to investigate

the matters whereby clean, wholesome and sanitary milk is being successfully supplied to consumers in this or any other country, and to make a report as to its findings in the matter, together with such recommendation as may be considered advisable."

In supporting the motion, Mr. McNaught stated that he had been carrying on a thorough investigation for over a year, during which time he had communicated with many leading milk experts on the American continent and in Great Britain. The value of pure milk as a human diet, particularly for infants and invalids, was shown by the fact that it embraced in its composition every element necessary for the preservation of human life. Chemical analysis showed the following average percentage of ingredients: 87 per cent. water to quench the thirst; 4 per cent. butter-fat for heat and energy; 3.3 per cent. protein for making muscle and tissue, and 0.7 per cent. of mineral salts necessary for bodily health. High authorities stated that a quart of milk was equal to a pound of beefsteak, a dollar's worth of oysters, or three-quarters of a dozen eggs. The infant mortality and the deaths due to preventable causes also were urged as reasons for attention to this important question. Milk samples that had been analyzed showed the presence of germs sufficient to turn digestion and nutrition into a

process of self-poisoning. Children dwindled and drooped, until a mild infection resulted in death. Many infectious diseases were spread by milk. It was pointed out that much could be done to avoid infection by inducing the producers and others who handled milk to use ordinary precautions regarding cleanliness in every detail.

Speaking from the standpoint of the dairyman, or producer of milk, Mr. Dargavel said he believed that if the Government would adopt the motion a great benefit would result to all. The value of milk could be increased five or ten per cent., giving a net advance of \$1,500,000 for the raw product, or an average of \$175 more to each dairy farmer.

"If this commission is appointed, such information will be gathered as will be of immense value to the dairymen of this Province, and I ask, in the name of the 75,000 dairymen of Ontario, that the motion of my honorable friend pass, and that such commission be at once appointed."

Ten Minutes Per Cow to Test.

Every farmer who is anxious to know what cows in his herd are paying their board-bill each year, keeps records of their production. At this season, when factories are preparing for the year's operations, and when a large percentage of the cows are freshening, is a good time to make arrangements. Supposing the work only reveals the fact that one cow is being kept at a loss, it is worth while. According to careful investigation made by the Dairy Division, Ottawa, tests made every tenth day require only ten minutes per cow per month. Surprising revelations of the total yields from individual cows in the same herd, freshening about the same time, have been made. Not infrequently does the best cow prove to be worth twice as much as other cows that eat just as much feed and demand just as much time and attention. As long as herds show an average annual production of less than 3,000 pounds of milk in a season, or perhaps 4,000 pounds in twelve months, there is vast room for improvement. It is only by systematic testing that this improvement can reach the maximum.

At leading dairy meetings during the winter months, Chas. F. Whitley, who has charge of the cow-testing Associations in Ontario and Quebec, under the direction of the Dairy Division, in discussing the work of organized cow-testing, said:

"Many men can point with satisfaction to an increase of 25 per cent., 35 per cent. and 50 per cent. in milk yield per cow. Some men have doubled the yield. One man has raised his average production in two years from 4,500 to 6,100 lbs. per cow, while the factory average remained at 3,400 pounds. Systematic improvement of the dairy herd cannot be made until records form the starting-point. We cannot create an improved herd. We must select and develop. All the skill of the world's wise men cannot construct one cell of the millions of which the body is composed, not weave one square inch of the delicate fabric in which the Creator has wrapped us. The best we can do is to assist, to work in harmony with, to improve, to develop. Records of production are the only sure and certain guide in selection and improvement. First must come the root of the whole matter, a personal conviction of the system's value; the branches and fruitage of higher attainment will surely follow, and add a new charm to life. We cannot remain content with poor records; we must progress, or be out of the running.

"The work assists in the solution of domestic problems of farm life. It appeals to the boys and girls, riveting their interest in home economics. It induces the hired men to milk cleaner, so that from that source alone an extra 500 pounds of milk per cow may be obtained. The best-kept and the neatest records are evidently those sent in by some of the gentler sex; and where the women get interested, we may always count on steady improvement.

Figures given by Mr. Whitley show that, while 37 cows in one district last season gave only 162,506 pounds of milk, the same number of cows in another locality gave 225,000 pounds of milk, or nearly three tons extra of cheese. Consider the increased output of Canadian dairy products that would be manufactured each year if all herds were equal in average production to the best. Each man can do his part by making his average approach the net returns from his best cow. The equipment for weighing and testing costs but little. Regular weighing in itself is of great value, but testing, too, is advisable. A half pound extra of milk at each milking makes a startling difference when the ten-months' milking period is considered.

Start now and test for one year.

In 1904 Sweden exported 13,000,000 pounds of butter; in 1905, 40,700,000 pounds, and in 1906, 35,600,000 pounds. In 1907 it went to 38,000,000, and in 1908, 40,000,000 pounds.

Retention of Afterbirth—Weaning Calves.

Editor "The Farmer's Advocate":

Replying to an inquiry in your recent issue, re retention of afterbirth, would say I always feed freely of bran and oil-cake meal for some weeks before freshening. This keeps the bowels loose, and the animal in general good condition. As soon as possible after calving I give a hot bran mash, plenty of good bedding, and keep the patient warm and comfortable. Also make it a practice never to let my cows stay with their calves; then they do not worry, and are contented to lie down and be quiet. Generally, they will clean at once, but, if they do not clean inside of twenty-four hours, I then proceed to take it away, after which I syringe out with a diluted solution of creolin, followed by three drenches—more or less, as the case may require—of 1½ pounds of salts, given at alternate days, and feed on light feed for a few days. Also give only a limited amount of water.

Re keeping cows away from their calves, I have cows that are eight years old that have never mothered a calf. I think this is especially important in the case of heifers. I always try to be with my heifers when calving, and give assistance, if necessary, taking the calf away as soon as dropped, then carefully taking a very small quantity of milk from her. I find, then, the heifer looks for me to milk her, and does not worry as when left with the calf. I find I am well paid for my trouble, even if vealing the calves, and have to feed them from the pail, which is, of course, more trouble.

Norfolk Co., Ont.

SUBSCRIBER.

Mitchell-Walker Test Bottle.

Admitting the general excellence of the Babcock test, but feeling that improvements could be made to save time in performing the tests, Messrs. Mitchell and Walker, of the Eastern Dairy School, Kingston, made investigations that have resulted in a satisfactory outcome. The bottle is equipped with two necks, instead of a single, graduated neck, so that water can be added without stopping the centrifugal machine. This necessitated a modification of the test bottle for the purpose of receiving the water from a small centrifuge placed on the spindle of the machine, for the purpose of adding water to the bottles while in motion, there being, in addition, the large centrifuge for whirling the bottles. The water centrifuge is perfectly simple in construction, consisting simply of a hollow cylinder, with the upper and lower parts of the wall perforated. In order to guard against any particles of dirt that might be in the water used, entering the centrifuge and stopping up the perforations, a horizontal plate forms a strainer consisting of a solid bottom, with sides of wire gauze that can easily be removed and cleaned when necessary. The whole centrifuge slips onto the spindle of the ordinary machine, and the water is simply poured in at the top through the cone-shaped cover of the machine.

In a descriptive bulletin, recently published by the Ontario Department of Agriculture, the bottle is described as follows:

The bowl and graduated neck of the bottle are similar to those of the ordinary test-bottle. In addition, it possesses a second neck of a funnel or inverted-cone shape for receiving the water from the water centrifuge on the spindle. The upper end of this neck is bevelled for the twofold purpose of catching the water from the centrifuge, and preventing the fat in the graduated neck from overflowing. The lower end of the neck is reduced in size and prolonged into a curved tube, for the purpose of preventing any fat from rising into it during the test. Furthermore, the direction in which it curves, namely, toward the outer wall of the bottle, causes the acid to flow down the side of the bottle to the bottom, thus avoiding its mixing with and charring the sample.

Directions for use are:

1. Add the milk and acid through the funnel-shaped neck. Shake the contents as usual.
2. Place the small water centrifuge on the spindle, with the perforations just behind the arms of the large centrifuge, and at the right height to fill the bottles.
3. Place the bottles in the pockets of the machine, with the funnel-shaped necks on the inside, or toward the spindle.
4. Have the cover of the machine fitting closely.
5. After whirling the bottles for four or five minutes, pour the water through the cover of the machine at a rate corresponding to that of a stream from a half inch pipe. Use from two to three quarts of water, or enough to insure the filling of the bottles.
6. Continue whirling the bottles from one to two minutes after all the water is added.
7. See that the speed is maintained during the addition of the water.
8. When emptying the bottles, have the graduated neck perfectly dry.

9. The general principles and precautions that govern the conduction of a test with the ordinary bottle are assumed to be understood by the operator, and expected to be applied when using the new bottle.

POULTRY.

Operating the Brooder and Feeding Chicks.

It is advisable to get the brooder out a week or two before it is to be used. Wash it thoroughly with a disinfectant, and water, so as to kill any germs that may have harbored there during the winter. Let it remain in the sun for a week or more, till needed, then give it another washing with the above solution, for it is very important to have the brooder pure and clean. Run the brooder at 90 degrees for twenty-four hours. It will then be thoroughly dry, when the chicks may be put into it. Scatter an inch or more of fine chaff on the floor of the brooder. A good plan is to place chicken grit in shallow dishes in or near the brooder, so that the chicks can easily help themselves to it. We intend this grit to be their first food.

The next feed is hard-boiled eggs and millet seed, the yolks of eggs being the only part used for the first week. We keep the clear eggs that we test out of the incubator for this purpose.

For the next five days give a variety of feed, consisting of the yolks of hard-boiled eggs, millet seed, pin-head oatmeal, and stale bread soaked in sweet milk, and squeezed out dry. Never feed sloppy food. One or two feeds of liver may be given. It should be cooked till it will crumble. For the next two weeks give a variety of food. The whole egg may be used. The millet seed and oatmeal may be replaced occasionally by cracked corn and cracked wheat. Feed green food, such as potatoes, turnips or cabbage, finely chopped.

Later in the season, lettuce, onion tops or other green foods are preferred. The supply of meat should be increased as the chicks become older. Avoid overfeeding. Give at one time just what the chicks will eat up clean.

For drink, we give equal parts of water and milk. A teaspoonful of tincture of iron added to every quart of water forms an excellent tonic and blood-forming material. Boiled rice is a good preventive of bowel trouble.

Keep the brooder clean at all times. Filthiness and dampness are sure forerunners of disease. Change the litter on the floor of the brooder often, and keep the chicks busy searching for the small or broken grains which should be scattered in the litter.

Sunshine is essential in rearing chickens. If the brooder seems too small for the chicks (which is frequently the case), secure a good-sized packing-box and lay it on its side, removing the top and boarding up the end that has been removed. Cut a small access for the chicks, and place the box close to the brooder; if the box does not fit close to the brooder, a small gangway may be made. Cover the top with glass. One or more ordinary windows, simply laid on it, will do. These can readily be removed.

COLONY HOUSES AND FEEDING.

At the end of three or four weeks, if well developed, the chicks should be removed to a colony house, in order to make way for another hatch. Many kinds of colony houses have been devised, but our favorite is made as follows:

This colony house is in two apartments. The smaller apartment, to the left, contains a hover, or cold mother, made as follows: It is best to make it so that it will go in or out of the window in the top. We make it of a number of poles, covered with canvas, each pole being four inches apart, and having a canvas strip tacked to it. This forms a covering under which the chicks may huddle and keep warm. The apartment to the right is larger. It has a large window in the front, which is constructed so that it may be taken out easily. In each end there is a ventilator, fitted with a slide, which may be opened or closed at will. The window in the roof is hinged so that food may be given through it to the chicks inside.

The colony house is made on runners, so that it can easily be moved when desirable. A small door allows exit from or entrance to the inside.

The chicks should be moved at night from the brooder to their new apartments in the colony house, when they will huddle under the hover as they did in the brooder. Let them out next morning into the scratching shed, first having sprinkled some wheat screenings in the fine chaff on the floor.

For the noon feed we give mash consisting of bran and cornmeal; at night, cracked corn. Give the chicks a liberal allowance of grit and pure water, with plenty of beef scraps and green food. Teach the chicks to seek shelter in the

roosting place. Some may be inclined to stay in the scratching shed over night.

Keep everything free from vermin, and change location often.

If the colony house is desired for another lot of chickens, those in the house may be removed to any suitable place. BERT SMITH.
Lambton Co., Ont.

The Sitting Hen.

Some farmers still content themselves with the natural way of hatching out chickens. In setting a hen, be sure that she "wants to sit." Let her sit on the "china egg" for a couple of days. If she keeps the nest and appears faithful, then you may prepare her nest, and give her the eggs selected for hatching. They should be of an even size, free from any defects. In preparing the nest, do not arrange it too high off the floor or ground. Take a box about 18 x 14 x 8 inches high; whitewash it inside and out, adding to the whitewash a two-per-cent. solution of crude carbolic acid. Then, if convenient, a sod the size of the nest should be placed therein. Upon this sprinkle some good disinfectant; as too much precaution cannot be taken to keep down vermin and mites. The hen should also be well dusted with some good lice paint. This should be done about three times during the sitting period, and, when the hatch comes off, the hen should be dusted again. Do not feed the chicks till they are at least 36 hours old. When placed in coops, keep a close watch for head lice on the heads of the little fellows. If any are found, take them off, and apply a little lard (fresh) mixed with sulphur. This will keep them at a distance; but close observation should tell one when a lice-destroyer is needed. A prevention is better than a cure. I have always adopted this method of setting hens, and found it a good one. JNO. W. DORAN.
Renfrew Co., Ont.

Paraffin Treatment for Preservation of Eggs.

Another new process has been introduced for preserving eggs, by which it is claimed that eggs can be made to retain their new-laid freshness for six months, writes Jno. B. Jackson, Canadian Commercial Agent in Leeds, Eng. The theory underlying the so-called discovery is that an egg decomposes owing to the entry of bacteria through the shell. By this new process, the shells are first disinfected, and then immersed in a vessel of hot paraffin wax in a vacuum. The air in the shell is extracted by the vacuum and atmospheric pressure is then allowed to enter the vessel, when hot wax is forced into the pores of the shell, thus hermetically sealing them, evaporation of the contents, which has a harmful effect, is thereby prevented, and the egg is practically sterilized. Eggs thus treated bring better prices.

Some new-laid eggs, treated in this way six months ago by a Hull firm, we are informed, have been submitted to chemical and microscopic examination, and found equal to new-laid in every respect. The inside of the shell showed that the wax fills up the pores, and its contents are thus rendered immune from all external influences.

It is claimed that eggs treated in this way will fetch 48s. (\$11.67) per 1,440 more than those preserved in lime water or by water-glass, and 32s. (\$7.78) more than those kept in cold-storage.

Why Not More Poultry?

Editor "The Farmer's Advocate":

As I am a reader of "The Farmer's Advocate," especially of articles on poultry, and as I am greatly puzzled to know why the great majority of farmers do not give better attention to poultry, I thought it would be a good plan to have it discussed through the columns of "The Farmer's Advocate."

The reason, I think, is that farmers' poultry do not give as large a dividend as other stock kept on the farm. Now, why is this? I think, in the first place, it is because they don't keep the right kind of hens. Most farmers in this neighborhood keep hens descended, I think, from the hens their ancestors brought with them from the Old Country, with perhaps a stroke of Indian Game, Barred Plymouth Rock, or some other breed, and some of these nearly old enough to vote.

Now, if they would sell this old, useless variety, and get a start of some reliable breed—some of the different breeds of Leghorns or Wyandottes—and not keep any hens over three years of age, they would not regard poultry-keeping so much a failure.

Another reason for the failure is that the hens are not properly sheltered during the winter months. Now, this need not be; the hens do not need a warm house. The small-combed breeds

will do well in a house where the temperature is nearly zero, if it is dry, and free from drafts. Build the henhouse on a dry piece of ground, and do not build it high—only high enough for a man to go around in. Double-boarded, and with a good building paper between, it will be warm enough. Have good ventilation, and plenty of windows in the south side. It is more comfortable with a floor, but is not necessary. Three or four inches of gravel in the bottom, covered with five or six inches of fine straw, will be nearly as good.

Another drawback is the filth the hens are kept in. Some farmers do not clean their henhouse more than twice a year, spring and fall, and a few not that often. Hens that are permitted to pick their grain out of their own manure become covered with lice, hardly ever lay, and very often die of some disease. The henhouse should be cleaned as often as any other stock buildings, and the floor covered with a fresh litter. The roosts and nests should be sprinkled with coal oil once or twice a month. A good dust bath should be given equally as often.

Another thing is the feeding of the farm poultry. Some farmers, when asked how the hens are doing, will say, "I think they must be getting fat; they are eating all the oats and turnips they can eat, but we don't get any eggs," or something to that effect.

The hens should get a mixed ration of the different kinds of grain, especially wheat, corn, barley, peas and oats (a very small portion of the latter two) should be fed. They should also



Ditches in the Center of the Road.

A combination of water and traffic which can produce only one result—mud: deep, sloppy, and afterwards sticky mud. A split-log drag used on this road would draw some of the subsiding mud to the center, fill the ruts and puddles, send the water flowing to the sides, and slick up a smooth surface, which would rapidly dry off.

get a mash at noon, composed of equal parts of shorts, corn meal, oat chop, mixed thoroughly together, and made damp with milk or water. In addition to this, they should be fed mangels or turnips daily, and a feed of meat once a week. Oyster-shells should be kept constantly before the fowls. If this were done, I am sure that farmers would keep more poultry. I would like to see more articles on this subject in "The Farmer's Advocate." A FARMER'S SON.
Wellington Co., Ont.

A London (Ont.) poultry-keeper says he has never found difficulty in keeping his sitting hens free of vermin. In his sitting apartment he has a large box of ashes just inside a wide south window, and here the hens dust themselves from day to day. Then, by sprinkling a little sulphur in the nests occasionally, he finds the sitters effectually protected from blood-suckers and itching pests.

Forty Years a Subscriber.

I have been taking your valuable paper for forty years, and I would not like to do without it. I learn many good lessons from it nearly every week. I was but a lad when I first got a sample copy of your paper. I had one dollar of my own, and I sent for "The Farmer's Advocate." JOSEPH G. WIGGINS.
Peel Co., Ont.

Arsenical Poisons.

The constantly-increasing use of insecticides in various spraying mixtures makes the effectiveness and the cheapness of the poisons used a matter of considerable practical importance to the orchardist. Practically all the insecticides used for leaf-biting insects are arsenic poisons of one form or another. The essential point in all these preparations is that the poisonous material must be in an insoluble form. White arsenic is a poison, but when it is dissolved in water, it forms an acid which will "burn" the leaf of the plant with which it may come in contact. While it is a very efficient poison, therefore, it cannot be used as an insecticide unless it is combined with some substance which will render it insoluble in water. Further, to be efficient as an insecticide, the insoluble arsenic compound must be in a very finely-divided condition, in order that it will not settle in the spray barrel or tank, and also so that it will cling to the leaf of the plant.

The three most common forms of arsenical poisons in general use are: Paris green, lead arsenate, and calcium arsenite.

Paris green is essentially copper aceto-arsenite, and, if pure, should contain an equivalent of 58.65 per cent. of arsenious oxide. The commercial article, however, usually contains small quantities of impurities, which somewhat reduce the percentage of the arsenic. Samples analyzed in our laboratory and elsewhere show that most greens contain at least an equivalent of 56 per cent. of arsenious oxide, or white arsenic. Judging from the analysis of Paris green made by the Inland Revenue Department, at Ottawa, and in our laboratory, we cannot say that there is much evidence of adulteration of the greens sold in this country. In our experience, the chief objection to Paris green is that it will sometimes "burn" the leaf of the plant to which it is applied. This is due partly to carelessness in the manufacture, or to the intentional addition of white arsenic. The latter is a serious adulteration, for white arsenic is a cheaper material, and its solubility in water renders its presence in anything but small quantities a source of much danger to foliage. Furthermore, Paris green has not, of late years, been as efficient in destroying insects, especially the potato beetle, as formerly. Just what is the reason for this is hard to say. It has been suggested that the particles of the green

are larger, and, consequently, do not stay on the leaf so well; or, possibly, the bugs are becoming immune to this form of poison.

Lead arsenate contains, on the average, about the equivalent of 14 per cent. of arsenic oxide, which is equal to about 12 per cent. of white arsenic. Recent analyses show considerable variation in different brands, the range being from 11 to 21 per cent. This is probably due to the wide variation in the composition of the different commercial grades of sodium arsenate and lead acetate and nitrate used in its manufacture, and to the fact that, when lead nitrate is used a material richer in arsenic is obtained than when the acetate of lead is the source of the lead.

However, allowing for the variations in the composition of the materials used in the manufacture of lead arsenate, it would seem that the proportion of water present was the greatest factor in affecting the arsenic oxide content. Connecticut Bulletin, No. 157, shows that the water content of samples analyzed varied from 33.65 to 58.44 per cent. The same bulletin states, further, that "a perfectly dry material has not been found advantageous, for, while even in such form it remains in suspension several times as long as the finest Paris green, it settles about three times as fast as when the arsenate is used in the form of paste.

The chief advantages of lead arsenate over Paris green are (1), it contains very little soluble arsenic, and may be used even in larger quantities, without fear of harming the most tender

foliage; and (2) its mechanical condition is such that it stays a much longer time in suspension in the spraying mixture, and adheres much more firmly to the leaf. Consequently, a smaller amount of actual poison, in the form of arsenate of lead, may go farther than in the form of Paris green.

On the other hand, it is evident that, if Paris green contains the equivalent of 56 per cent. of white arsenic, and lead arsenic only 12 per cent., it will take more than four pounds of the latter to furnish as much arsenic oxide as one pound of the former.

Homemade lead arsenate may be very easily prepared. The Coby formula is as follows: Dissolve 24 ounces of lead acetate or 20 ounces of lead nitrate in one gallon of cold water; also, separately, dissolve 10 ounces of sodium arsenate in three quarts of water—both solutions to be in wooden vessels. Pour the separate solutions into the spray tank containing from 100 to 150 gallons of water; a white precipitate of lead arsenate immediately forms. This solution may be several times stronger, without the least danger of injury to foliage. The freshly-prepared, homemade arsenate is said to stay in suspension better than the best commercial preparations. The above formula will give a little less than the equivalent of 5 ounces of arsenious oxide or white arsenic, and is equal to about 10 ounces of Paris green. The objection has been made to this insecticide that, as the materials used in its preparation vary widely in composition, it is impossible to obtain a uniform product. But the same objection may be raised with reference to the commercial lead arsenate.

Calcium arsenate is not, so far as I know, a commercial product; it is entirely a homemade article. There are two formulæ recommended, but possibly the Kedzie-formula is the best. It is as follows: Boil two pounds of white arsenic and eight pounds of sal soda (washing soda) in two gallons of water, until all is dissolved but a little muddy residue. This is accomplished in fifteen minutes to half an hour. Be careful to replace the water evaporated. Put the solution in a two-gallon jug or jar, and label POISON. The spraying mixture can be prepared, whenever required, by slaking two pounds of lime, and adding this to forty gallons of water; pour into this one pint of the stock solution, stir thoroughly, and the spraying mixture is ready for use. Or the stock solution may be added to Bordeaux mixture direct, as in this case there is sufficient lime present to combine with the soluble sodium arsenate and convert it into the insoluble calcium arsenate. White arsenic contains approximately twice as much arsenious oxide as Paris green. Therefore, the two pounds of white arsenic used in this formula will be equivalent to four pounds of Paris green; and, as this is contained in the two gallons of the solution, each pint will be equivalent to one-sixteenth of four pounds of Paris green, or 4 ounces. This is possibly the cheapest form of all the arsenical poisons. Its chief disadvantage is that it is not a very stable compound, and may break up and "burn" the foliage. It must also be remembered that the soluble stock solution is a poison, and should be carefully labelled, and, further, that it cannot be sprayed in this soluble condition, but must be mixed with lime to render it insoluble, or it will destroy all vegetation on which it may be placed.

Caution.—One point that must always be remembered is that these arsenical poisons are soluble in alkalies, such as caustic soda, washing soda, etc., and cannot be sprayed in conjunction with any such material, or the arsenic will be dissolved and scorching will result.

For purposes of comparison, let me again point out that, on the basis of arsenious oxide content, fully four pounds of lead arsenate are required to equal one pound of Paris green, and that two pounds of Paris green are equal to only a little more than one pound of white arsenic.

R. HARCOURT.

Ontario Agricultural College.

Interested in Spraying.

Increasing ravages in fruit sections have been accompanied by increased attention to life-histories, general habits, and the most successful methods of eradicating the various forms of spores and insect life that attack trees and plants.

This demands a thorough knowledge of spraying outfits and appliances. The Ontario Agricultural College each year enlightens the students regarding spraying preparations and their application. Last week, L. Caesar, of the Entomological Department, accompanied by six students who are taking the Horticultural option, visited the factory and warehouses of The Spramotor Company, at London, with the object of becoming acquainted with the different forms of spraying outfits and the essential parts of modern spraying machinery. W. H. Heard, the manager of the company, tendered the College men a dinner during their visit.

Lime-sulphur Analyses.

The use of the lime-sulphur wash has passed the experimental stage, and is now recognized as one of the most efficient of the spraying materials known to orchardists. There is still a great deal of confusion regarding the formula recommended for the preparation of the wash, and there is doubtless considerable difference in the strength of the materials applied to the tree. This would be due not only to the differences in the amount of sulphur and lime used, but also to the method of preparing, length of time of boiling, etc. The subject has become somewhat more complicated by the introduction of the so-called commercial lime-sulphur solutions. The orchardist is not in a position to judge of the efficiency of these solutions, because he does not know their strength, nor can he compare them with the homemade mixtures, for he does not know the strength of these, either.

The object of boiling in the preparation of the lime-sulphur washes is to make the sulphur combine with the lime; and, naturally, it would be expected that the solution which contains the most sulphur in combination with lime—or, in other words, in solution—would be the strongest. Authorities, however, generally agree that it is the sulphur, in the form of sulphides which is most desirable; in fact, it is doubtful if the other and higher forms of combined sulphur are of any value as an insecticide. It would, therefore, appear to be more accurate to make a comparison of the strength of the washes on the basis of the amount of sulphur in the form of sulphides.

Recently, we have analyzed three different brands of commercial lime-sulphur washes, and the following are the results:

	Niagara.	Rex.	Grass-elli.
Beaume	*	330	320
Specific gravity		1.295	1.285
Total sulphur in solution in 1 imperial gal. (grams per gallon)	1254.9	1512.0	1403.9
Sulphur in form of sulphides in one imperial gal. (grams per gallon)	782.7	1093.3	958.07
Sulphur in form of sulphides in one imperial gal., diluted 1 with 11 gals. water (grams per gallon)	65.2	91.1	79.84

*Sample thick; no determination was made of specific gravity.

It is usually recommended that these washes should be diluted one with eleven gallons of water, or one gallon of the preparation will make twelve gallons of the material for spraying. It will be seen that, according to the above figures, 65.2, 91.1, and 79.84 grams per gallon of sulphur, in the form of sulphides, are contained in the mixture, diluted and ready for spraying. So far as I am aware, there have been very few determinations made of the strength of the homemade lime-sulphur washes. We have made a determination of the sulphur in the form of sulphides in three preparations, and obtained the following results:

	1	2	3
Sulphur in the form of sulphides in 1 imperial gal. (grams per gallon)	153	161	147

These results were got from homemade mixtures, prepared by the use of 20 pounds of lime, 15 pounds of sulphur, boiled for one hour, diluted to forty imperial gallons, or fifty wine-measure gallons. It is impossible to say that all the washes that are prepared throughout the country would analyze the same strength as those which we examined, but it is probable that all those prepared by the same formula, and boiled an hour, would give similar results.

From the data which we have on hand, it is apparent that there is a difference in the strength of the lime-sulphur solutions which are being offered for sale, and it is also evident that they are weaker than the home-boiled mixtures, but on this subject we have not as full data as is desirable. It is our intention to gather full information this coming season regarding the strength of the homemade washes as they are actually being applied to the tree, so that we may have some correct basis of comparison of the homemade with the commercial preparations. In the meantime, it would appear as though, where farmers have all necessary appliances for boiling, either by steam or direct heat, they can make a cheaper spraying mixture than can be bought. I feel confident that if these commercial mixtures are diluted one with eleven, they cannot be as efficient as the homemade preparations.

R. HARCOURT.

Ontario Agricultural College.

Garden Crops in Root Field.

Editor "The Farmer's Advocate":

I have always read with interest the articles on gardening published in "The Farmer's Advocate," and have found in them much useful and profitable information. I see no reason why farmers in this country should not be able to supply at least their own table with vegetables the year round. The general complaint seems to be that the farmers have no time to look after a garden, or else that they have no proper place for one.

I think the most convenient place for a farmer to have his garden is in the root field, and next to his potatoes, as they will require to be put in about the same time, which should be about the middle of May.

As our fields are about forty rods long, we find twenty feet is sufficient width, as it will allow for about eight rows. In drilling, I leave about six rods at the end undrilled, in which I make the hills for the squashes, melons, citrons, etc. These hills I make continuous, like wide-topped drills, and for two-thirds of the space I make two hills, eight feet apart. These hills are for those sorts with short vines, as cucumbers and melons; while, for the squash and pumpkins I make a single hill down the center of the remainder, leaving space enough between the single and double hills, so that when they are being scuffled the horse may turn in between the double rows without tramping on them. The hills are made with a plow, and finished with a shovel. I always put a lot of well-rotted manure in the hills. I think hen manure, if available, is the best.

Melons do very well here. I have tried starting them in the hotbed, but get most satisfactory results from planting them in the hills about the fifteenth of May. For varieties, the Sweetheart and Ice Cream are, I think, the best watermelons, but I would also highly recommend Halbert's Honey, which is a new variety, and, although I have only grown it one season, I would not want to be without it. As for musk melons, I find the Hackensack a reliable variety.

Squashes, also, do very well, and the year before last I succeeded in growing a Mammoth Green squash weighing 230 pounds. The Vegetable Marrow and Green Hubbard, I think, are the best varieties.

A few citrons should always be grown. I think the red-seeded varieties are of the best quality. A few vine peaches, or mango melons, as they are sometimes called, are easily grown, and make splendid pies.

For cucumbers, I think the White Spine and Long Green are the best varieties.

The first of the eight drills I usually put in corn I grow the Evergreen, and consider it the best all-round variety. The remainder of the drill I put in popcorn, which, when properly popped, and served with cream and sugar, makes an excellent dessert. The next row I put in beans, one-half in butter beans for use green, and the other half in white beans. I think the White Wonder is the best variety.

In the third row I plant carrots, beets and parsnips. For carrots, I plant the Chantenay and Early Horn varieties. I grow the Detroit turnips, and Long Red varieties of beets, and the Improved Hollow Crown parsnips.

In the next row I plant tomatoes, cabbage, cauliflower and onions. The Earliana tomato does very well here; I also find the New Globe a good variety. I have tried over a dozen different varieties of cabbage, and I have found the Winningstadt and Danish Bald Head to do the best here. I have not had very good success with cauliflower. The heads grow large enough, but they don't grow solid. I would like to hear from someone who has grown them successfully. I have tried the Erfurt and Autumn Giant varieties. I think the Danvers is the best all-round onion, although the Prizetaker, if planted early, is a large variety. I start the onions and cabbage in the flower garden at the house, planting them about the first of May in a bed where asters may be transplanted into after the cabbage and onions are large enough to be removed to the field.

In the next row I plant lettuce, spinach, cress, radish, and table turnips. In planting these, I leave a space between them, so that I may fill it in later on, and so have a succession of fresh vegetables. I grow the French Breakfast variety of radish, and after those planted first are up, which is about the last of June, I plant winter radishes. I find the White Chinese a good variety.

The remaining three rows I use for conducting experiments with field roots. I find this very useful and interesting work, as it enables one to find what varieties are most adapted for growing in his particular locality. Last season I tested three varieties of mangels, three of sugar beets, three of carrots, and six of turnips. I would like, if time permitted, to describe these experiments; but, as it does not, I will have to stop. I would especially recommend to farmers the Giant

Rose Feeding sugar beet. I think it superior to any other beet or mangel, especially for dairy cows. Last season we had over 1,500 bushels on an acre and a half, and, by test at the Experimental Farm, they contain about 12 per cent. sugar, which gives them great feeding quality. Grey Co., Ont. A FARMER'S SON.

Growing Dutch Sets.

Editor "The Farmer's Advocate":

I noticed in your valuable paper, some time ago, an inquiry for information on growing onion sets, and, although I think I have read every issue in your paper since, I haven't noticed a reply.

Until a year or two ago it was only known locally that the district around the Village of Hensall, Huron County, was producing very large quantities of sets; in fact, there is such a large grower and exporter there that he is known as an "Onion King," and there are also some ambitious young men who are partly paying the expense of a college education from their investments in this industry.

It has not been of mushroom growth, but has been built by nearly a dozen years of experiment and patient work, in some cases the former being quite costly. Very often, unless the prospective grower had the proper kind of soil to begin with, his efforts were a failure, as far as growing for profit was concerned.

Speaking generally, a rich loam, well underdrained, and having been well cultivated for two or three years, produces the best crop. This should be highly fertilized with well-rotted stable manure. The latter feature is very important, as fresh manure is hard to work into the land prepared for small seed, and it also has a tendency to produce soft onions. Heavy, stiff clay on the one hand, and light, sandy land on the other, are both unfavorable. In short, a soil in which potatoes grow well might be expected to produce onions satisfactorily.

The industry is well suited to a small farm, provided, always, the soil is of proper character, as there are few crops that pay better per acre, when investment in land, labor and expense of production are considered. No heavy machinery is required, and, outside of the preparing of the plot and horse cultivation, the rest is all hand labor.

A ready market can always be found for small quantities in the general stores of our villages, while larger quantities can always be disposed of to the seedsmen and grocers of the towns. But when all has been said, it is an uncertain and risky business, and, as I said at the beginning, experiments may prove very costly, especially if they are conducted on a large scale.

To any prospective grower, then, I would say, "hasten slowly." Commence on a small scale, until you see how your land suits them. A pound of seed sown by hand in drills ten to twelve inches apart, should be a large enough experiment. As local conditions vary so much, no infallible instructions can be given, but it may be well worth while to make the venture, and learn for yourself.

Huron Co., Ont.

READER.

Burning Brush as Gathered.

Editor "The Farmer's Advocate":

To dispose of orchard brush, take a piece of heavy sheet iron—a piece of old smoke-stack will do—about five or six feet square, make a cut three inches long, and three inches from each corner. Now turn up the edges all around, three inches deep, in line with the cuts; lap and rivet the corners. This will form a shallow pan. Two or three pieces of old wagon-tire or other flat iron riveted onto the bottom, and turned up at one end, to form runners, will add to the strength and durability of the pan. Fasten a long chain or strong wire to the front end to draw by, and you are ready.

Start a fire in the pan with some dry wood, and put on the brush as it is gathered. A little care at first, and a dry stick occasionally, until a good fire is secured, and it will burn brush as fast as two or three men can gather it. Move the pan along between two rows of trees, from tree to tree, as the brush is cleaned up. It may be drawn by a quiet horse, or moved by the men. The fire will hold from day to day, when once started, and is always ready until allowed to burn out.

Brant Co., Ont.

WM. SHEARER.

Five dollars' worth of vegetables of all kinds, from onions, lettuce and salsify, to potatoes, corn and peas, all raised on an unmanured sandy garden plot, 18 x 33 feet, most of it spaded out of sod in May, is the experience of an amateur suburbanite. This takes no account of the healthful exercise afforded, of the satisfaction of having home-grown vegetables fresh when wanted, nor of the inspiration and pleasure born of contact with Mother Earth.

Saving Girdled Trees.

A reader in Wentworth County writes: "I have two apple trees, one of which had fruit on last year, and is about three inches in diameter. It was girdled with mice during winter for a distance of two feet or more from ground, not a bit of bark being left from the ground up. The other is girdled for six or eight inches up from ground. What can be done to save the trees? When first noticed, I painted with tar, and then wrapped with fresh cow manure."

Ans.—In many districts, some seasons find girdling by mice or rabbits a serious problem with orchard and lawn trees. If the girdling has not been too severe the tree can be saved, provided it is in a thrifty condition, by judicious wrapping with fresh cow manure, or bridge-grafting, or both. When the girdling is complete, bridge-grafting must be resorted to, because the sap flow has been checked. For trees on which the bark has been torn only from one side, the cow-manure treatment is sufficient.

With the two trees in question, the application of tar was not essential. The cow manure alone will not save the trees. In fact, it is extremely questionable whether tree number one can be saved, even with bridge-grafting, because of the length of the girdled area. Tree number two should be treated without difficulty.

Steps should be taken to remedy the injury as soon as the ground is dry enough to go into the orchard, or before tree-growth starts. It is well to have it done as early as possible, in order to prevent the exposed parts from being dried out.

Fresh droppings from cattle should be mixed in a bucket or pail, enough water being added to form a paste about the consistency of mortar. Place this on wounded parts an inch or more deep; wrap well with old cloths to help hold the moisture; tie with string, and leave on for two years. Late in the second summer the wrappings should be removed, lest the parts should start to decay.

When bridge-grafting has to be resorted to, the bark should be neatly trimmed above and below the wound, and scions of sufficient length to establish connection furnished. Scions are small branches of last year's growth. The ends should be wedged and inserted about one inch under the bark at the upper and lower extremities of the wound. Then the wound can be carefully wrapped with cow manure or covered with grafting wax. Some advocate thorough washing with Bordeaux mixture or some other antiseptic to avoid some wood disease. If grafting wax is used, the scions must be watched, and sprouts that may appear at the buds trimmed off from time to time.

Greater hazard attends attempts at bridge-grafting plum and cherry than apple and pear. However, all have been treated successfully. The number of scions required depends on the size of the tree. For one three inches in diameter, three or four scions are sufficient. For trees only one or two years planted, many prefer to replant, rather than attempt treatment.

Raspberry Culture.

Editor "The Farmer's Advocate":

Though the luscious strawberry is considered by the epicurean to be the finest fruit provided for man, yet its more modest neighbor, the raspberry, the next in season, is a strong rival.

The ideal soil for raspberry culture is a loam with gravel bottom, naturally drained, easy to hoe and cultivate. Another important consideration in its favor is that pickers, during the harvesting season can go on the ground after heavy rains, without being mired. The location is also an important factor. Experience has proven that the high or elevated land should be selected, as the low-lying ground is subject to the very heavy spring frosts, which, after the canes have budded, may ruin them completely. The elevated land generally escapes these frosts.

Soil that has been previously cropped to roots, potatoes, or any hoe crop, should be given preference, as it is important that the soil should be as free from weed seeds as possible; if not, considerable labor and expense will be unnecessarily incurred in the future. The land should be liberally covered with well-rotted manure—50 to 100 loads per acre. Green manure may be applied, but quickest results come from the former, as certain bacteria have prepared it for almost immediate assimilation as plant food.

Authorities are pretty well agreed that fall-plowing is more beneficial than spring, as the ground is well loosened by frosts. If the plowing has not been done in the fall, however, it should be done as early as possible in spring. Then work the soil into the finest possible condition. Prior to planting, the ground should be well rolled.

Now, as to standard varieties. It seems strange to find that, although there are so many standard varieties of strawberries on the market, there are only two, possibly three, standard vari-

eties of raspberries. These are the Marlborough and Cuthbert. The third, the Herbert, has yet to prove its worth. Of these first two varieties, the Marlborough is early, and the Cuthbert late. The latter generally ripens before the others are done. The Marlborough is considered the biggest money-maker, though it does not bear as heavily. The Cuthbert is considered to be the choicest. The fruit is a deep red, and has an excellent flavor. The berries of the early kind are a light red, and without much flavor. Both, however, are good for table and preserving purposes, solid, and of good shape.

There are two methods of planting, commonly called the hill system and hedge-row. The latter method, however, has been generally adopted of late years, the growers claiming that much larger returns per acre are obtained, with very little extra labor.

If the hill system is preferred, for the Marlborough, the ground should be marked 4½ feet each way; then a hole is made where the lines cross, and two last year's canes set therein. Press the soil firmly around the canes. For the hedge-row, mark 4½ feet one way. Plow a furrow along each line. Place the canes about 18 to 20 inches apart, plow the furrow back, afterwards straightening canes and pressing the soil firmly around each. It is not advisable to turn many furrows at one time before planting, or the moisture in the soil will not be conserved. The Cuthbert is generally grown 5½ feet between the rows. The canes spread much more than the early variety. They, therefore, soon form hedge-rows. In the case of the Marlborough, planted according to the hill system, they can be left to hedge at any time, by cultivating only one way.

The planting is best done in the first part of May. All depends on the season. The earlier the planting, the better. A long season's growth the first year is desirable.

Plant only sound, healthy, one-year-old canes. Throw culls away. Select a damp, dull day for planting, then growth will go on immediately. Make sure the plants are taken from a patch two or three years old. Those from old patches are generally weak. Don't hesitate to pay a fair price for good plants; you will be the gainer in the end.

After the planting is done, cultivation and hoeing must be at once proceeded with. If the soil is left rolled after planting, it soon dries out. Cultivation and hoeing make a fine dust mulch, and the moisture is retained beneath. Hill up the plants a little when hoeing the first time. Always cultivate after heavy rains. When working the patch, always be on the lookout for any canes that have failed to take root. Plant others in their places without delay. It is advisable to keep a few dozen plants trenched for this purpose.

Middlesex Co., Ont.

WM. BARTLETT, Jr.

Celery Culture in Canada.

Among the valuable garden crops that should be found on every farm in Canada, celery generally is too scarce. The idea prevails that it is a difficult crop to produce in really good condition. With a rich soil and a liberal supply of moisture, any person of ordinary intelligence will be amply repaid for the labor entailed. Experience has shown that a rich muck soil gives best returns, but well-manured, well-drained and thoroughly-cultivated land of any kind is satisfactory.

For early crop, the seed is planted in the greenhouse or hotbed in time to have stout, strong plants ready for setting out as soon as weather conditions are favorable. Those who cannot provide plants, usually find them on general sale. Late crop can be grown from seed planted outside in a well-pulverized plot, by thinning out, and transplanting only the stockiest plants. If the weather should happen to be very dry, it is well to shade the plots in which the young plants are being grown for a couple of weeks.

Plants are ready for setting in the row when five or six inches high. The space left between the rows will have to be regulated according to whether blanching is to be accomplished by the use of boards, or by banking with earth. For board-blanching, two and a half or three feet apart is wide enough; while, if earth is wanted, it may be well to leave more space. Plants can be set five and one-half to six and one-half inches apart in the row. If the ground is not rich, it is well to dig a trench about six inches deep, put in three or four inches of well-rotted manure, and then work in the soil with this, almost filling the trench. The young plants can then be set in this trench. Care must be taken not to bury the plants too deep. If the heart of the plant is below the surface, or if dirt gets in around the crown, the plant does not thrive so well.

Cultivation should commence as soon as the plants have taken root, and continued frequently enough to keep down weeds, conserve moisture, and induce the elaboration of plant food. On proper soil, and with sufficient moisture, rapid

growth continues until the plants are about one foot high. Up to this time, no dirt should be allowed to bank around the plants, as it gives slender stalks and prevents a spreading growth.

Operations to produce the necessary blanching should be commenced at this stage—when the plants average about one foot high. The object is to exclude the sunlight, and to cause the green stems to bleach and become white and tender. If boards are used, twelve-inch lumber suits admirably. One board can be placed on each side of the row, and held in place by stakes. The boards should be bound together at the top by means of wires or strong strings. Sometimes it is necessary to place strips where the ends of the boards meet, and to bank with earth along the bottom. If the weather is warm, the crop is sufficiently blanched in ten or fifteen days.

In earth blanching, the soil is drawn closely around the plants by degrees. At first, only enough is piled up to make the plants take a more upright position. After four or five days, dirt can be piled higher and closer. At a third treatment, the earth should be piled as high and as tight as possible, leaving only the leafy tops exposed. The length of time required to complete the blanching varies from two to four weeks, depending on whether the weather is warm or cool.

No feature of cultural methods in celery-growing is so seriously difficult that the crop should be left out of any garden collection. It is advisable not to work amongst it, particularly during blanching operations, when it is wet either with dew or rain, as rust is likely to result.

Sunlight and Quality of Fruit.

More and more orchardists are realizing the relationship between sunlight and quality of the fruit grown on their trees. Prime quality admittedly is not found unless the sun has had reasonable opportunity to give color to the fruit. In the rush to accomplish this purpose, some prune injudiciously, leaving the trees with a very mutilated appearance. Others resort to the extreme in low heading of the young stock, and then allow the growth of long limbs and branches.

Extremes are dangerous in any practice. Because a man erred a few years ago in lack of attention to pruning is no ground for excessive cutting out of bearing wood now. Neither does the advantage of low-heading give excuse for lengthy branches towering high into the air. Intelligent moderation is safest.

The difficulty in most orchards seems to be due to the fact that the owner dislikes to remove more bearing wood than he considers absolutely necessary. He sacrifices quality for quantity, or perhaps only for number of fruit specimens. In many instances the fruit on a properly-pruned tree has size sufficient to make up for absence of cores per yard of limb.

The happy medium, with trees headed as low as cultural implements will permit, and branches thick enough to bear a moderate crop that will receive enough sunlight to give color, is what is wanted. Fewer bushels, greater size, higher color, and consequently superior quality, will do much to maintain a reputation on the world's markets, and bring higher prices.

Experimental Work with Tobacco.

W. A. Barnet, in charge of the Tobacco Experiment Station being established by the Dominion Government in Essex County, Ont., informs us that they intend to have nine acres of tobacco this year, but there will be in practice a systematic four-year rotation somewhat as follows: Clover, corn, tobacco, cereals. The intention is to introduce on a small scale the Virginia types, and for this a special kiln is required for drying, or rather curing, by means of flues and artificial heat, thus producing a product very yellow—lemon-yellow shade. It is proposed to sow a pedigreed stock of oats of Banner and Ligowo varieties, complying with the regulations of Canadian Seed-growers' Association.

THE FARM BULLETIN.

Apiary Department at Jordan Harbor.

In line with the suggestion made by "The Farmer's Advocate," we are pleased to hear that an apiary department is to be established this year at the Horticultural Experiment Station at Jordan Harbor. Morley Pettit, the well-known apicultural writer, and in former years a successful apiarist, is to be in charge of the work.

Is the voice of Canada to be for peace and human progress, or for war and barbarism? (Weekly Sun.)

State Restrictions as to Importation of Stock.

An Act has recently been passed by the General Assembly of South Carolina prohibiting the importation of diseased live stock into the State. Such a law became necessary, owing to the passage of similar laws by other States, and unless this protection has been afforded, this State would soon become a dumping-ground for diseased stock from other States.

All shipments of live stock, except those for immediate slaughter, must be accompanied by certificate of health, showing that the animals are free from contagious or infectious diseases. This certificate can be issued by the State veterinarian or assistant State veterinarian of the State from which shipment is made, or by a veterinarian in the employ of the U. S. Bureau of Animal Industry, or by any competent veterinarian authorized by the State veterinarian of South Carolina. All health certificates must be in duplicate (these certificates will be furnished qualified veterinarians and transportation companies at actual cost), the original of which must be forwarded to the State veterinarian of South Carolina, and the duplicate must be attached to bill of lading for said animals.

All cattle over six months of age, except those for immediate slaughter, must be tested with tuberculin, and must be free of tuberculosis before they are brought in this State. Temperature reports of the test, or a certified copy of the same, must accompany the health certificate. The tuberculin test must be made within 30 days preceding shipment.

N. B. Agricultural Commission Report.

The report of the Agricultural Commission that was appointed by the New Brunswick Government, to investigate and make suggestions for improvement, after describing the work done, the places visited, etc., takes up a few matters of general importance, such as agricultural education, which, it urges, should be introduced in a practical manner to the rural schools of the country, with technical-agriculture teaching in advanced schools as soon as possible, and, when the Province is ready for it, an agricultural college. Short courses for the practical study of live stock, dairying, horticulture, etc., are urged. The importance of good roads is referred to; the necessity of the extension of railway accommodation, in some sections; of rural-mail delivery and parcel post. The importance of a general rural telephone service is pointed out; the great benefits that have been derived from the organization of the women of the country in Women's Institutes, etc., as in Ontario, Maine, and other places, is mentioned. The question of agricultural societies and technical information through the country is dealt with.

It is stated in the report that it is the opinion of experts, who have been over the ground, that the annual fruit crop of New Brunswick could and should be as valuable as that of Nova Scotia. The employment of a Provincial horticulturist, who would assist in the development of the apple and other fruit-growing capacities of the Province, is urged.

The report concludes with the following summary:

"While our agricultural condition is shown to be anything but satisfactory, there can be no doubt as to the favorable natural conditions of the Province for Agricultural development. New Brunswick is fortunate in many things: the regularity and sufficiency of her water supply, both from moderate rainfall and soil reservoirs, is not excelled in any country; her seasons favor the growth of almost every crop necessary to the sustenance and best development of human and other animal life; her climate is healthful and invigorating, fostering the growth of almost every crop necessary to the highest degree of mental and physical effort; her soil, while variable, compares favorably, so far as we can ascertain, with any known agricultural country, and, under intelligent cultivation, produces large crops of the highest quality.

"With such natural surroundings, her people should be able, by intelligent use of their opportunities, to live in the largest and noblest sense of the word, and to build up here a country of healthful and happy homes, and a people who will have no superior in the world.

"That this result may be achieved, those who are living, and who are growing up to live on the land, must have larger conceptions of the country's capabilities, and must place themselves in a position to secure a fair reward for their labors. To this end, it would seem necessary that there should be:

"1. A system of education which will enable farmers best to utilize their opportunities, and which will give their children that knowledge which will be most useful to them for the development of the district in which they live.

"2. Improved means of communication which will include good highways, sufficient railway ac-

commodation, an adequate rural postal service, a cheaper express service, and rural telephones in every section.

"3. Effective co-operation among farmers for economical production, and to enable them to meet fairly the organized interests with which they are forced to deal.

"These we conceive to be among the most important of the immediate needs of the farmers of New Brunswick, if they are to best do their important part in the development of the Province, and take their proper place in the social, intellectual, business and political life of the nation."

Essex is Marching On.

March went out in Essex, the most southerly county in Canada, like the proverbial lamb, and for a week or ten days dust has been flying on the roads, and field work is in progress. A couple of spring rains started vegetation. Through many districts, such as in Mersey Township, the deep, open ditches skirting the highways insure speedy drainage. The use of the drag or heavy leveller faced with steel, and graveling, where the necessary material is available, are effecting marked improvements in the condition of the roads. The intelligent use of the grader, filling up ruts and preserving a crown on the gravelled roads, and of the leveller before the mud dries hard on the clay roads, is found to give gratifying results. This plan deserves more systematic and persistent attention. Some of the worst apologies for roads in the south-eastern part of the county have been within the corporation of Leamington, and the suggestion has been made that the town fathers should do something more than wait for the sun to dry out the mud holes before the Old Boys' return, next summer.

Garden, fruit and farm prospects are good, save in many fall-wheat and clover fields, which made little top last year because of the drouth, and the last few weeks of March killed out some areas entirely. Next season, top-dressing with stable manure will probably be more generally tried, in order to save the clover seedings.

Here and there tile drains are going down, and in no other one particular is there, perhaps, as much room for a profitable campaign of improvement. Good drainage brings the fields under control for early tillage. Large numbers of farm barns and houses are to be improved this season throughout Essex. The old snake rail fences are rapidly going the way of the buzz-saw and the wood pile. Already this season thousands of rods of handsome and substantial woven-wire fences, on good cedar posts, have been erected.

It is gratifying to observe that many old apple orchards are undergoing a thorough pruning-out of useless and injurious wood this spring, which is in line with suggestions made some time ago in "The Farmer's Advocate." The township San Jose Inspectors have been out on their educational rounds, and spraying is being done. Fertilizing and tillage will complete the transformation of many an orchard. Prospects are for a brisk season in early fruits and vegetables, canning and pickle-factory crops. In addition to some Government cultural and curing tobacco experiments, under W. A. Barnet, B. S. A., on the farm of A. R. Ferris, at Harrow, the Imperial Tobacco Co. are having an expert in the field from the Southern States, with a view to improvements in the crop grown here.

Throughout all south-western Ontario, the outlook is for a great year in corn-growing. Stocks of feed corn have been pretty well sold out at good figures, and the call for seed from all parts of the country has been brisk. There will be a larger area planted in the "corn belt," and growers will have their eye on the fields preparatory to the fall fairs and the next big show of the Ontario Corn-growers' Association, the membership of which is spreading rapidly. The work of this new body will not only extend the corn-growing area, but will simplify and standardize the matter of varieties and usher in more widespread uniformity in cultural and curing methods for seed and feeding purposes. Anyone desiring further information in regard to the advantageous plans of the Association should write to the Secretary, A. McKenney, B. S. A., Essex, Ont.

Hogs and horses, like most other farm products, have been selling high in this county, and there are good evidences of increased attention to the breeding of these two classes of live stock, but with a conservative disposition to have regard to quality, and not to overload the market. Good heavy horses are in keen demand, and are regarded as a very safe and profitable breeding proposition.

Plums at the Top.

April 3rd—beginning to look spring-like. Fields are pretty bare, and as nights are still pretty frosty, there is danger of the clover meadows being injured by heaving. March was a fine month till the last week, and farmers got well ahead with their hauling. Most of the manure has been gotten to the fields, and either spread or piled. This will facilitate spring work very much, as drawing manure a distance takes a lot of valuable time in seeding time.

Large quantities of seed oats are being bought up for shipment to Nova Scotia and New Brunswick, and some are also going to the United States. The price paid here is 50c. per bushel. P. E. Island became known last year as a place where the best quality of seed oats were obtainable. The shipments made from here last year to the Northwestern Provinces of Canada were by far the best quality that went there, and were practically free from noxious weed seeds. To still further foster this good-seed business, our local Government, at its recent session, passed an act entitled, "An Act to Prevent the Spread of Noxious Weeds." It provides for the cutting of weeds along the public highways, and also will compel farmers to destroy the most noxious weeds in their fields. The great majority of farmers are in sympathy with this compulsory legislation, as it will compel the careless ones to do their duty in this matter, instead of being a menace to a neighbor who is determined to keep his fields clean.

The Prince Edward Island Poultry Association got incorporated at the recent session, and promises to do some aggressive work towards improving our poultry interests. Their winter show was a grand success. Our poultry business now, in spite of the careless, slipshod methods followed, is perhaps paying the farmer better than any other branch, and, if there was a little more intelligence worked into our methods, it might be made to pay double the present profit. As it is, it brings in more money than our dairy exports.

Dairy cattle are in fine condition to begin the cheese-factory season. Last year's fine crop of clover has brought all kinds of stock through in the best of fettle. If we could only have such a clover crop every year, farmers here would soon be rolling in wealth. In our somewhat moist climate we seldom fail to get a catch, but the great difficulty is to preserve it alive through the first winter. The man who can teach us how to thus preserve it will be the greatest benefactor the farmers ever had, and will have his reward in the kindly remembrance of P. E. Island farmers. With clover every year, agricultural prosperity would be assured.

As navigation begins to open up, horse-buyers are coming thick and fast to the Island, and those who have good specimens of either drivers or draft horses are beginning to reap their reward in good prices. Beef cattle are scarce here, and prices for prime stock rule high. For the Easter market, 5½ to 6 cents, live weight, is being paid. A Polled Angus cow from the herd of John Richards, fed for Easter, tipped the scales in Charlottetown a few days ago at 2,000 pounds. A young farmer in Prince County, a few days ago, sold a four-year-old grade Clydesdale gelding that weighed a ton. These are object-lessons for all of us, of what can be done with our stock-raising. There is always room at the top, and that is where the plums are. W. SIMPSON, Queen's Co.

An Act Respecting Commercial Feeding Stuffs.

In compliance with the desire recently and repeatedly expressed in interviews, addresses and articles in the agricultural press, Hon. W. Templeman, Minister of Inland Revenue, has introduced into the Dominion Parliament an act to regulate the trade in commercial feeding stuffs. In this act it is specified that "commercial feeding stuff," "feeding stuff," and "feed" mean any article offered for sale for the feeding of domestic animals, and feeds claimed to possess medicinal, as well as nutritive, properties, excepting only hay and straw, roots, the whole seeds, or the mixed or unmixed meals made directly from the entire grains of wheat, rye, barley, oats, Indian corn, buckwheat, or flaxseed; wet brewers' grains; the bran or shorts or middlings from wheat, rye, oats, peas or buckwheat, sold separately, and not mixed with other substances." The bill provides that every brand of commercial feeding stuff offered for sale in Canada shall bear a registration number, permanently assigned to the brand for which it is issued and granted by the Minister of Inland Revenue upon application, accompanied by a fee of two dollars. This number must then be affixed in a plain and legible manner, as by a tag, to every package sold or offered for sale, and shall constitute an identification of the brand. On each package there must also be legibly printed the name of the brand, name and address of the manufacturer, and the analysis, as guaranteed by the manufacturer, showing the minimum percentage content of protein and fat, and its maximum

percentage of crude fiber. If a manufacturer elects to change the composition of any particular brand, he shall apply for a new registration number, the old one being cancelled. An annual license to sell any brand of commercial feeding stuffs shall be obtained from the Minister for each such brand, on the application of the manager or his agent, and on payment of a fee of five dollars. Provision is made for inspection and analysis of feeding stuffs offered for sale, and also, of course, for contravention of the provisions of the act. The bill is a very moderate one—almost too moderate, if anything. It is urgently demanded by the state of the feed trade in Canada, and we trust it may become law this session. As introduced, it is intended to be brought into force January 1st, 1910.

Stevenson's Holstein Sale.

Following is the sale-list of the Holstein herd of R. S. Stevenson & Son, Ancaster, Ont., dispersed by auction on April 1st:

FEMALES.	
Patsy Fifth; T. Bogg, Weston	\$190
Patsy Sixth; Mr. Laidlaw, Aylmer	225
Brada Tensen; P. Merritt, Beamsville	70
Patsy Third's Silver; M. & W. Schell, Woodstock	185
Patsy Fifth's Five Spot; Charles B. Canfield, Vandecar	160
Patsy Fourth's Axie De Kol; T. Hartley, Downsview	160
Catherine Topsy Netherland II.; E. A. Lloyd, Stouffville	300
Brada Tensen's Silver; Charles B. Canfield	140
Patsy Pauline De Kol; Mr. Inksetter, Brantford	140
Patsy Seventh; E. A. Lloyd	310
Consuela's Johanna; Joseph Todd, York Mills	120
May Consuela Second; P. D. Ede, Oxford Centre	215
May Consuela Third; W. A. Anderson, Peterboro	65
Bertha Tensen Second's Pauline; T. Bogg	170
Patsy of Brockholme; F. S. Passmore, Brantford	145
Silver of Brockholme; A. E. Bishop, Norwich	165
Patsy of Brockholme Second; F. L. Culver, Waterford	150
Patsy Sixth's Pauline De Kol; W. J. Robinson, Snelgrove	185
Patsy Pauline De Kol 2nd; A. C. Hallman, Breslau	95
Patsy Sixth's Pauline De Kol 2nd; M. & W. Schell	125
Topsy Netherland De Kol; D. C. Flatt, Millgrove	155
May Consuela Pauline; M. & W. Schell	85
May Consuela Panarista; M. & W. Schell	140
Ideal Silver De Kol; C. Moynihan, York Mills	150
Brada Tensen's Silver II.; Prof. Dean, O. A. C., Guelph	165
Brada Tensen's De Kol; H. Stewart, Brantford	150
Brada Tensen Panarista; M. & W. Schell	105
Patsy VII's Pauline; F. L. Culver	185
Patsy of Brockholme III.; W. A. Meadows, Port Granby	85
Dee Mischief De Kol; E. Bishop, Norwich	75
Jean Stuart De Kol; E. Bishop	65
HERD BULL.	
Gano's Favorit Butter Boy; George Ward, Brantford	325

The Strathcona Gift.

Editor "The Farmer's Advocate": The Strathcona gift, coming with the British war scare, has revealed a spirit the most discouraging in Canadian history. The atmosphere has frequently been poisoned with blustering jingoism, but, to find the whole Canadian Parliament on their knees before the god of war is not only a misfortune, but embarrassing King Edward's and Premier Asquith's efforts as peace-makers. The gift itself is most unfortunate, breeding, as it must, a lust for war; and, even with the utmost care, firearms in the hands of school children will be extremely dangerous. Strathcona and the Canadian Parliament will have many bloody trophies laid at their feet. The rural districts are already suffering by squads of boys from city and town roaming through field and forest, shooting our insect-devouring and song birds. If this new element of destruction is forced into every school section, one of the sweet voices of springtime will be silent. Instead of the sweet, happy song of the little pairing birds among the branches, our ears will be jarred by the bang! bang! of the hunter's gun, and the tender leaves, as they unfold, will be eaten by the caterpillar. The educators of Ontario are striving to bring the boys and girls to love the beautiful in nature—how to beautify and adorn the homes and cultivate the farms—teaching an art wholly constructive. Now comes a gift of thousands, the tendency of which will be wholly destructive, to destroy the peace,

the happiness and purity of the people. In Canada, in this twentieth century, all religious teachers and law administrators are teaching the sacredness of human life—"Thy brother's blood crieth from the earth"—and now the curse is pronounced. The great central thought of the New Testament is love—no happiness without it. Hate can only bring us misery.

We are told that Canada's defence demands much training to shoot straight, but our neighbor is so very large that we could scarcely miss him. The greatest trouble we would experience would be to miss our own near and dear relatives and friends. Defence on the American border is too absurd, and will never be needed. I am sure our good King Edward will not envy our good-natured Uncle, with his large country and unestimable resources. Some of our Canadian and British jingoes might, by way of experiment, try how much real solid comfort they could squeeze out of envy, malice and hatred.

Protection of Canadian commerce is another cry that is made to do duty by these militarists. The very large subsidies paid by Canada to steamship lines has more than covered the risks of piracy, so Canada owes nothing to her commerce, or to Great Britain for her protection. Canada's only risks are in tangling alliances in Britain's wars. In that there is grave danger. Avoid it.

I agree with Premier Laurier in so far as the following quotation goes, but cannot endorse all his Government's actions in proposing to spend millions of dollars in establishing a Canadian navy: "The situation of Europe cannot be characterized as other than madness. Every nation there is living in a condition of armed peace almost as intolerable as war. . . . I hope the day shall never come when we will be drawn into the conflicts of Europe." THOS. B. SCOTT, Middlesex Co., Ont.

May Wheat Above \$1.25.

In the Chicago wheat pit, on April 7th, a wave of buying lifted all deliveries of wheat to a high level, May wheat selling at \$1.25 at the tap of the bell, the highest price since the Leiter deal. Subsequently it went still higher, closing for the day at \$1.25½.

The wheat corner in Chicago is arousing the keenest interest in England, where, since November last, there has been a rise of from six to seven shillings per quarter.

One of the chief milling experts of England, A. Voernon, is quoted as saying: "The situation in America is sensational, as, in addition to the corner engineered by Patten, it is supposed that they will not have more wheat than is sufficient for their own requirements, and, therefore, ought not to export any more this season. But we are expecting from them this season from two to three million quarters. The primary cause of the rise is the failure of the Argentine crop through frost in December last, thus causing the exportable surplus to be reduced by from five to seven million quarters. Then, the stocks all over the world are at a low ebb. The stocks in the farmers' hands in this country are only 20 per cent. of the average for this time of year. They marketed their stocks soon after harvest, as the prices were good, and great quantities were exported to Germany, and some to Italy."

Toronto Milk-producers to Enter Retail Trade.

Milk producers who have been supplying retail dealers in the City of Toronto have decided to form a joint-stock company, with a capital of \$60,000, divided into 1,200 shares of \$50.00 each, to handle their own products in the city. A provisional board of directors was chosen, as follows: J. G. Cornell, of Scarboro Village; Reeve Geo. S. Henry, of Oriole; Levi G. Annis, of Toronto; W. C. Grubbe, of Thistletown; John W. Breakey, of Thornhill; R. L. Crawford, of Elia; R. M. Holtby, of Manchester; Archie Patterson, of Ellesmere; A. J. Reynolds, of Scarboro' Junction, and W. C. Bross, of Bowmanville.

The prize list of the Fifth Annual Winnipeg Horse Show is out. The show, as usual, will be held in June, but this year will be held in a spacious new arena, which the association have erected. Classes have been arranged for all kinds and types of harness, saddle, hunting, commercial and military horses and ponies. No cash prizes are given, but exceptionally keen interest is developing among the amateur exhibitors.

It was announced from Winnipeg, on April 7th, that the Great Northern Railway had filed plans for its entry into the city, and that President Hill made a positive declaration that his road would run into Winnipeg by September 1st, next.

Vancouver's second annual horse show will be held from April 21st to 24th. A commodious new arena has been built to accommodate the show, at a cost of \$70,000.

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LIVE STOCK.

At West Toronto, Ont., on Monday, April 12th, receipts were 30 cars, consisting of 577 cattle, 14 sheep, 61 calves. Trade good. Export steers, \$5.40 to \$5.85; bulls, \$4.25 to \$5; butchers' trade active; prime picked lots and loads, \$5.25 to \$5.40; loads of good, \$4.90 to \$5.25; medium, \$4.50 to \$4.75; common, \$3.80 to \$4.40; milkers, \$4 to \$5.5; calves, \$4 to \$6.50 per cwt.; sheep, \$4 to \$5.25 per cwt.; yearling lambs, \$6 to \$7.75 per cwt.; spring lambs, \$5 to \$10 each; hogs, \$7.15 for selects, fed and watered, and \$6.90, f. o. b. cars at country points.

REVIEW OF LAST WEEK'S MARKET.

Receipts of live stock at the City and Union Stock-yards last week were 190 carloads, consisting of 2,140 cattle, 3,787 hogs, 532 sheep, 691 calves, and 164 horses. The quality of the cattle was none too good at either market, but there were many more of the best classes at the Union Yards than at the City. Trade was slow, with market dull. Few outside dealers were on the market, and local abattoirs and butchers had bought heavily the week previous.

Exporters.—Export steers sold at \$5.30 to \$5.60; export cows and bulls, \$4.25 to \$5 per cwt.

Butchers.—The best lots and loads sold from \$5 to \$5.40; loads of fair to good sold at \$4.75 to \$5; common, \$4 to \$4.50; cows, \$3.50 to \$4.30; bulls, \$3.50 to \$4.25; canners, \$1.75 to \$2.50.

Stockers and Feeders.—There was little doing in stockers and feeders. Stockers, 500 to 700 lbs., sold at \$3.25 to \$4; feeders, 900 to 1,100 lbs., \$4.25 to \$4.75.

Milkers and Springers.—Trade in milkers and springers was not nearly as brisk, nor was the general quality as good. Montreal buyers were not anxious, which caused prices to go lower, from \$5 to \$10 per head. Prices ranged from \$30 to \$60 each, but only one at the latter price.

Veal Calves.—Veal calves are becoming more plentiful, but generally were of poor quality. Prices remain about steady, as the demand is greater at this season of the year. Prices ranged from \$3 to \$7 per cwt., but the bulk were sold from \$5.50 to \$6 per cwt.

Sheep and Lambs.—Receipts continue to be light. Export ewes, \$4.50 to \$5.50; rams, \$3.75 to \$4.25 per cwt.; yearling lambs, \$7 to \$7.75 per cwt.; common-quality yearlings, \$5.50 to \$6.50 per cwt.; spring lambs, \$5 to \$11 each, but the bulk sold at \$5 to \$8 each.

Hogs.—Receipts were light, and prices steady. Selects, fed and watered at the market, \$7.15, and \$6.90, f. o. b. cars at country points.

Horses.—There was an active trade at the Union Horse Exchange last week, both at the regular auction sales on Monday and Wednesday, as well as by private sales on the other days of the week. As usual, there were buyers from the Northwest, and from many points in Ontario

About 162 horses were offered, among which were a number of the finest drafters offered this season, which sold at fancy prices. The general run sold at about steady prices, which were quoted by Manager Smith as follows: Drafters, \$175 to \$210; general-purpose, \$160 to \$195; drivers, \$100 to \$175; expressers, \$130 to \$200.

BREADSTUFFS.

Wheat.—No. 2 white winter, \$1.10 to \$1.12; No. 2 mixed, \$1.10 to \$1.12, outside points. Manitoba—No. 1 northern, \$1.25 to \$1.25½, on track at Lake ports. Rye—No. 2, 72c. to 73c. Peas—No. 2, 95c. to 96c. Oats—No. 2 white, 45½c. to 46c.; No. 2 mixed, 44½c. to 45c., outside. Barley—No. 2, 61c. to 62c.; No. 3 extra, 59c. to 60c.; No. 3, 58c. to 59c. Corn—American, No. 2 yellow, 74½c. to 75c.; No. 3 yellow, 73½c. to 74c.; Canadian, 71c. to 72c., Toronto. Flour—Ontario 90 per cent. patent, \$4.50 asked for export; Manitoba patent, special brands, \$5.70 to \$5.90; second patents, \$5.20 to \$5.40; strong bakers', \$5 to \$5.20.

HAY AND MILLFEED.

Bran.—Scarce, at \$24 per ton, in sacks, car lots, on track, Toronto. Shorts—Firm, at \$25, sacks, Toronto. Hay—Baled, car lots, track, Toronto, \$10.50 to \$11. Straw—Baled, car lots, track, Toronto, \$6.50 to \$7. Caldwell's Manitoba meal, \$28.50 per ton. Flax-seed meal, \$3 to \$3.25, in sacks, Toronto.

COUNTRY PRODUCE.

Butter.—Supplies of old butter were large, and sold very slowly. Good, fresh-made butter found ready market at steady prices. Creamery pound rolls, 25c. to 26c.; creamery solids, 21c. to 22c.; separator dairy, 23c. to 24c.; store lots, 17c. to 19c.

Cheese.—Market firm. Large, 14c.; twins, 14½c.
Honey.—Market steady. Extracted, 10½c. to 11c.; combs, \$2.75 to \$3.25 per dozen sections.

Potatoes.—Market firmer, owing to American buyers taking large quantities of Ontario potatoes. Prices ranged from 70c. to 75c. per bag, for car lots on track, Toronto.

Beans.—Market steady, but firm. Hand-picked, \$2 to \$2.10; primes, \$1.90 to \$2.

Poultry.—Receipts light, scarcely enough to make a market. Turkeys, 24c. to 28c. per lb.; chickens, 18c. to 22c. per lb.; fowl, 14c. to 15c. per lb.

HIDES AND WOOL.

E. T. Carter & Co., wholesalers dealers in wool, hides, etc., quote prices as follows: Hides—No. 1 inspected steers, 60 lbs. up, 10½c.; No. 2 inspected steers, 60 lbs. up, 9½c.; No. 1 inspected cows, 9½c.; No. 2 inspected cows, 8½c.; No. 3 inspected cows and bulls, 8c. to 8½c.; country hides, 8c. to 8½c.; calf skins, 12c. to 14c.; horse hides, No. 1, \$2.50 to \$2.75; horse hair, per lb., 30c. to 31c.; tallow, per lb., 5c. to 6½c.; sheep skins, each, \$1.15 to \$1.25. Raw furs, prices on application.

VEGETABLES AND FRUIT.

Onions, per bag, \$1.20 to \$1.30; turnips, 35c. per bag; parsnips, 50c. to 65c.; carrots, per bag, 30c. to 40c.; beets, per bag, 35c. to 40c. Apples—Prices very firm. Spies, \$5 to \$6.50 per bbl., and \$7 is being asked by the dealers; Baldwins, \$4 to \$4.50; Greenings, \$3.50 to \$4.25; Russets, \$3 to \$4 per bbl.

Chicago.

Cattle—Beeves, \$1.85 to \$7.15; Texas steers, \$4.50 to \$5.70; Western steers, \$4.25 to \$5.70; stockers and feeders, \$3.55 to \$5.60; cows and heifers, \$2 to \$5; calves, \$5.50 to \$7.75.

Hogs—Light, \$6.90 to \$7.30; mixed, \$7 to \$7.37½; heavy, \$7.05 to \$7.40; rough, \$7.05 to \$7.15; good to choice heavy pigs, \$5.80 to \$6.70; bulk of sales, \$7.20 to \$7.30.

Sheep and Lambs.—Native, \$3.75 to \$6.35; Western, \$3.75 to \$6.30; yearlings, \$6.25 to \$7.30; lambs, native, \$5.50 to \$8.30; Western, \$5.50 to \$8.35.

Buffalo.

Cattle—Prime steers, \$6.25 to \$6.70.

Veals—\$7 to \$8.75.

Hogs—Heavy, \$7.60 to \$7.65; mixed, \$7.55 to \$7.65; Yorkers, \$7.25 to \$7.55; pigs, \$6.20 to \$7; roughs, \$6.50 to \$6.80; stags, \$5 to \$5.50; dummies, \$7 to \$7.65.

Montreal.

The restrictions which have existed for some time in Great Britain against the shipment of cattle from American to British ports have been removed, save against the port of Philadelphia. There has been an impression here that the removal of the restrictions mentioned above would result in a depression in the market for cattle here, as shipments from the United States would show an increase. That prices were not higher during the past season than they were, has been attributed to increased shipments of cattle from Argentina and Denmark.

Trade in the local market was quite active last week, large purchases being made for Easter, owing to the exceptionally fine quality of the offerings. However, high prices restricted trade somewhat. Purchases were made for export, and half a dozen cars were taken for out-of-town account, the former paying about 6c. per lb. Holders were asking 7c. for some of their stock, but butchers were not prepared to pay over 6½c., and purchases of choice cattle were made at 6½c., and even 6c. per lb. Good to fine stock brought from 5½c. to 5½c., and medium at 4½c. to 5c., or a shade more, common running down to 3½c. Yearling lambs were in good demand and offerings were light, so that prices advanced to 6½c. to 7c. per lb., while old sheep held firm, at 5c. to 5½c. per lb. Spring lambs being scarce, purchases could not be made at less than \$3 to \$7 each. Supplies of these, as well as of calves, are increasing quickly. Some of the latter were choice last week, bringing all the way from 6½c. to 9c. per lb., while ordinary stock brought from \$2 to \$5 each. Hogs held steady, under a fair demand, selects selling at 7½c. to 8c. per lb., and straight lots at 7½c. to 7½c. per lb.

Horses.—Demand fair, both from city and country sources. Heavy draft, 1,500 to 1,700 lbs. each, \$225 to \$300 each; light draft, 1,400 to 1,500 lbs., \$185 to \$240; good blocks, 1,300 to 1,400 lbs., \$175 to \$200; small or inferior horses, 1,000 to 1,100 lbs., \$100 to \$150, and fine saddle or carriage animals, \$300 to \$500 each.

Dressed Hogs.—Fair demand; market held steady, at 10½c. to 11c. per lb., for fresh-killed, abattoir-dressed, and 10c. to 10½c. for Manitoba dressed. Provisions of all kinds experienced a brisk demand, owing, doubtless, to Easter.

Potatoes.—Dealers were not prepared to pay shippers more than 95c. per 90 lbs. for Green Mountains, track, in carloads, as they were able to turn them over only at \$1. Shippers talked independently owing to the demand from the United States, but it has been possible to purchase all that is required at the figures mentioned; bagged and delivered, \$1.10 per 80 lbs.

Maple Products.—New syrup is now arriving freely. Quality good, prices ranging around 6½c. per lb., wholesale, for syrup, in wood, and 6½c. to grocers, syrup in tins being 7c. per lb. New sugar arriving and selling at 8c. to 10c. lb.

Eggs.—Easter season did not seem to change the price of eggs; tone of market firm. Prices, 20c. to 21c. On Monday prices were easier, at 19c. to 20c.

Butter.—This market, also, refused to respond to the usual Easter-week boom; 21c. per lb. was outside price for fall creamery, with summer makes available around 20c. and less. Fresh-made creamery sold at 18c. to 21c., the range being wide to cover all qualities. Monday's advices state that at the first board of the season, at Cowansville, competition drove prices a fraction over 22c. new creamery selling in Montreal the first of this week at 21c. to 23c.

Cheese.—Little interest in the market; it is reported that the idea of prices in the country, for new cheese, is around 12½c. per lb., for colored.

Grain.—Canadian Western oats, No. 2, are quoted at 51c. to 51½c. per bush.; No. 1 extra feed, 50½c. to 51c.; No. 1 feed, 50c. to 50½c.; No. 2 Ontario oats, 50c. to 50½c.; No. 3 Ontario, 49c. to 49½c.; No. 4, 48c. to 48½c.; carloads, track, Montreal, No. 2 barley is quoted at 66c. to 67c., feed barley being 59½c. to 60c., buckwheat 69½c. to 70c., and No. 2 peas, \$1.03 to \$1.04.

Flour.—The market held steady, Manitoba spring-wheat flour being \$5.80 to \$6 per bbl., in bags, for first patents, and \$5.30 to \$5.50 for seconds—strong bak-

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ers' being \$5.10 to \$5.30. Ontario winter wheat flour, very firm and scarce, and prices are \$5.50 to \$5.65 for patents, and \$5.10 to \$5.25 for straight rollers.

Feed.—Market firm throughout, demand for bran being exceedingly good, and stocks light. Manitoba bran, \$22 to \$23; Ontario, \$23 to \$24; very little of either available. Shorts were not in such active request, and were quoted at \$24 to \$25 per ton. Cottonseed and oil cake were quoted, nominally, at \$32.50 to 35 per ton.

Hay.—Market firm and steady, under a moderate demand. No. 1 hay, \$12.50 to \$13.50 per ton, carloads, track; No. 2 extra, \$11.50 to \$12; No. 2 hay, \$9 to \$10; clover mixed, \$8 to \$8.50, and clover, \$7 to \$7.50 per ton.

Seeds.—Demand was exceedingly active, dealers working night and day to keep up with orders. Prices steady, at \$13 to \$14 per 100 lbs. for red clover, in bag lots; \$16 to \$18 for alsike, and \$5.25 to \$6.50 for timothy.

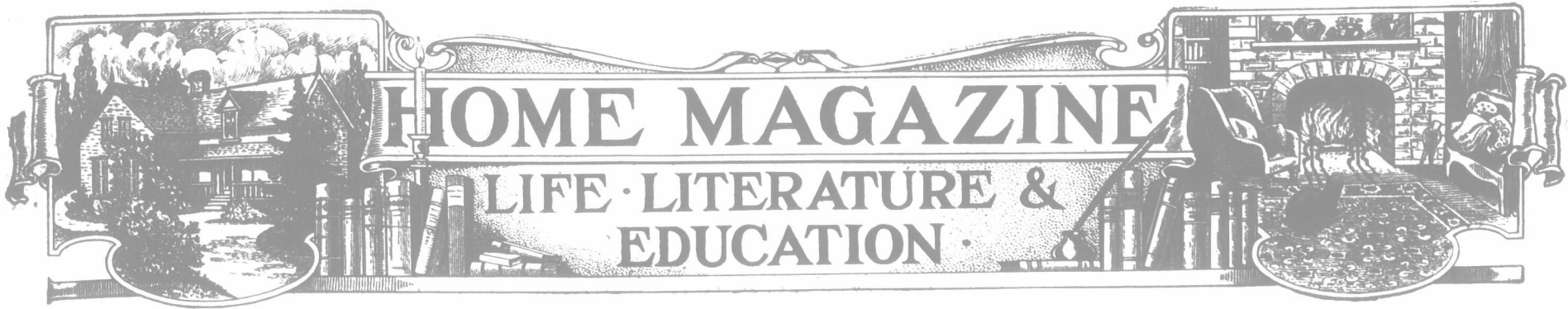
Hides.—Market steady and very dull, quality of hides being poor. Dealers were paying 7c., 8c. and 9c. per lb. for beef hides—Nos. 3, 2 or 1—and 12c. and 14c. for Nos. 2 and 1 calf skins, spring lamb skins being 10c. each, and sheep skins \$1. Horse hides, \$1.50 to \$2 each. Tallow, 1½c. to 3½c. per lb. for rough, and 5c. to 6c. for rendered.

British Cattle Markets.

London.—Canadian cattle 13c. to 13½c. per lb.; refrigerator beef, 10c. to 10½c. Liverpool.—Canadian cattle 12½c. to 13½c.; cows and heifers, 12c. to 13½c.; bulls, 9½c. to 10c.

GOSSIP.

Messrs. Geo. Davis & Sons, Alton, Ont., write: "The inquiries and demand for Aberdeen-Angus bulls have been quite good and every person seems pleased to acknowledge the sweeping honors they made for themselves at all the great fat-stock shows of 1908, and which is good reason for their increasing demand. To Mr. E. J. Jackson, of Teeswater, we sold the Fair Lady bull, Scattie 3rd of Glengore, a bull of great substance and quality, and a grand doer. Mr. Jackson, after seeing several other animals, picked on him to start the foundation of an Aberdeen-Angus herd, and in the near future he will be a prominent Angus man. To Mr. Kenneth Quarrie, of Belwood, we sold the bull, Robin's Heir of Glengore, a grand animal of the choicest quality. Mr. Quarrie chose him to head his herd of pure-bred Angus, and is to be congratulated in his efforts to advance the interest of the Dobbies. Mr. J. J. Braiden, of Shelburne, who has a large herd of Angus pure-breds, picked on Fair Boy 3rd of Glengore to head his herd. Mr. Braiden can stand some beating with this bull, as he is remarkable for his perfection of build and breed type. To Mr. Philip Kelly, of Ayr, Ont., we sold the bull, Carl 2nd of Glengore, a grand animal of choice show-ring quality. Mr. Kelly is a new man in the Angus cause, and we wish him every success. We have still a couple of choice young bulls, ready for service, and we will be pleased to hear from intending purchasers, and will assure all a fair and honest deal."



In the same papers of last week which contained an account of the defeat of Longboat and Shrubbs by St. Yves, might be found an insignificant paragraph, giving notice of the death of one Frederick Rumsbey, who collapsed when nearing the end of a 20-mile Marathon run at Hull, England.

It is about time that the glorification of mere arm and leg prowess was done with. Thirty thousand people, we are told, stood in a pouring rain watching the Marathon race in New York;—30,000 people, who, no doubt, would have been quite indignant had anyone expressed doubt as to their complete sanity. And for what did they stand there thus, dripping and draggled? For what but to watch and cheer a number of men—"making tracks" around a race-course,—men who, for all they knew, might be anything—drunken sots, mere animals, without an idea above the level of the sporting ring; human apologies, who have never done and never will do any useful work in this world. More laudable a hundred times would it be for such a crowd to watch and cheer any old cart-horse toiling with its load up a hill. We are prone to believe that we live in a progressive age, but until a little better discrimination as to the relative value of things is more generally shown, a doubt as to whether progressiveness is not confined as yet to the few, may be pardoned.

Exercise to a judicious extent is useful and praiseworthy; carried to excess it can but be deleterious to both body and mind. A few years ago we heard a great deal about "bicycle heart"; it remains to be seen whether "Marathon heart" is any the less generally dangerous.

Of course, the Marathon races are of undoubted interest to someone. They serve the laudable purpose of throwing fortunes into the pockets of the few dead-game sports who engineer them, who are responsible for the bulk of the yellow advertising which proves so attractive to a certain class, and who can well afford to pay the runners well in consideration of the big moneys which trickle into their own coffers through the exhibitions in running. The crowd is bled. So be it. It is their own affair, and this is a free country. But Heaven help humanity if dependent upon the mind-calibre which finds a chief interest in life centred on the race-track for the things that make life worthy.

The Audubon workers of America have undertaken a vigorous and far-reaching propaganda looking to the protection of the bird-life of the continent, and have made provision for a complete census of bird-life over every State in the Union, bird friends everywhere being invited to "unite in such observations as will enable us to determine the decrease which is going on in the feathered forces necessary to preserve our trees, increase our forests, aid in the development of our crops, and cross-breed our fruits"—all of which is done by the agency of the birds.

The New York Audubon Society is particularly active in the work, and has at present under consideration measures to establish an international agreement to suppress the trade in bird feathers throughout civilized countries. Some time ago this society introduced a Bill providing that a fine might be imposed on any woman of the State found wearing or

buying birds or bird plumage for hat trimming. It now proposes to prevent the passage through customs offices of the plumage of "beneficent wild birds." The Society also recommends the planting of viburnums, dogwoods, mulberry trees, mountain ash, etc., which provide food for birds; also the building of nest-boxes in orchards, etc., where the good offices of birds may be especially useful.

While recommending measures in favor of nearly all of the wild birds, only war is advised as regards the English sparrow and cow-bird. Both of these are pests, which should receive small mercy wherever found.

The financial slump of the past two years which affected practically the whole world, is, according to the edition of Dun's Review, which makes a special study of international trade, giving way before a worldwide resumption of commercial activity. "At the present time," says this authority, "the financial, industrial and commercial world is experiencing a movement, once more independent of geographical boundaries and local conditions, in the direction of a slow revival of confidence and resumption of activity in all leading lines, and in practically all important centres. As this movement gains strength and volume it is inevitable that it will result in a largely increased international demand for commodities, since stocks are every-



A Bit of Roadside Scenery.

where at the lowest point. Exports and imports of the leading commercial nations, which of late have been considerably below normal in volume, may reasonably be expected to improve, gradually, perhaps, but none the less steadily throughout the whole of the present year. This improvement in international demand will, undoubtedly, reflect and to some extent stimulate a similar improvement in the volume of domestic transactions. The year 1909 will thus, in all probability, prove to be a year of universal recovery and of progress in the direction of what may reasonably be hoped will eventually be universal prosperity.

A Bill has been introduced into the United States House of Representa-

tives, providing that all vessels carrying fifty or more passengers, and going on journeys of 500 miles or more, must be fitted with wireless apparatus; also, that foreign vessels not equipped with wireless shall be refused admission to American ports. So far there has been much confusion in the establishment of wireless, on account of the fact that the three wireless services—Marconi, Government and United Wireless—refuse to accept each other's messages, except in cases of distressed vessels. The Atlantic liners use the Marconi system, the steamship providing board and lodging to operators in exchange for the use of the system for company purposes, and the Marconi company trusting to make profit out of private messages. In winter, when there are very few first-class passengers, these messages are very few, hence the Marconi officials now want the steamship companies to pay \$1,000 a year for each installation. As yet there is the usual opposition to anything that involves considerable expenditure, but the advantages of a general wireless telegraphy system are so patent that agreement will probably be arrived at in the near future.

People, Books and Doings.

Women have now the complete suffrage in Norway, Finland, Australia, New Zealand, Wyoming, Colorado, Idaho and Utah.

eleven as a slim young thing in long trousers. Six years later he weighed 225 pounds. What happened in the interim staggers the imagination. The fact remains that at the age of seventeen, when he landed at Yale, he was the biggest freshman who had ever entered college. The students gazed at him with awe and admiration, for he was large all over, not globular. They paced off his width, ran lines around his calves, estimated his height by triangulation, and immediately made him leader of the freshman squad in the class rush. All the next day the saddened sophomores were busy digging their unfortunate brethren out of Taft's foot-tracks. Thus the Taft steam-roller had its humble beginnings. When Taft left Yale, four years later, he was still the largest student who had been enrolled in college. In a quiet, steady way he has been merging and annexing the outlying provinces of space ever since. He now weighs about 325 pounds, and wears trousers whose legs might do for temporary funnels for the "Lusitania." He is of the consolidated mogul type, and is built to fit a canal-boat. Still he is not fat; he is merely expansive. He is like Chicago—he covers a lot of ground, but he is not unduly swelled in any one part. He is built to fit his body in temperament, sympathies, and understanding—in everything, in fact, but voice. He has a 34-inch voice, which sounds a trifle peculiar in a man wearing a 48 coat.

"Mr. Taft is fifty-one years old, and has held office almost continuously since he was twenty-four years of age. For the first few years he sought office; after that offices were fighting over him. Early in life, Opportunity, coming to knock at the Taft door, found that the gentleman had already gone out and gotten a job. Never being able to find him at home thereafter, Opportunity went home himself, grabbed Taft as he came past, and held on with firm determination. Mr. Taft started in life as a rich man's son. Taking up the somewhat unusual fad of studying during his college course, he became a scholar. Believing that in time he could become a better jurist by knowing life, he became a reporter, and then for one brief period in his life a politician. He was elected prosecuting attorney of Hamilton County, Ohio, at the age of twenty-four. From this position he relapsed into that of office-holder, being collector of internal revenue for a year; then he became a lawyer. At the age of thirty he became a judge. Ten years later, for a short time, he became a law professor in the Cincinnati Law School. Then he took a job as nation-builder in the Philippines, after which he came home and became a travelling man, from which position he has stepped into a good job as custodian of the national veto.

"Mr. Taft is the first travelling man to be elected President. For the last eight years he has been travelling out of Washington for the Government, and so large has been his territory that he has frequently failed to spend Sunday at home for as much as six months at a time. He has been official trouble-shooter for the Roosevelt Administration. Let a stiff joint develop in the entente cordiale between Madagascar and the United States, Bill is sent over on the next boat to talk it into good working order again. Let there be a strong smoke, suggestive of a hot-

box in the Philippines; there never was such a man for cooling hot-boxes as Bill. In his official capacity as salve-slinger and wheel-greaser for the Administration, he has visited Japan, China, the Philippines, Russia, Rome, Cuba, Porto Rico, and the Panama Canal. He has travelled over 50,000 miles, and this in spite of the fact that a Pullman berth fits him as snugly as a shoe-box would fit a bull calf."

Something About Esperanto.

Editor "The Farmer's Advocate":

I have been somewhat interested in the discussion on spelling reform. We should not adhere too closely to the old methods in education as well as in farm operations. We are glad enough to have sulky plows, seed drills, horse hoes, mowing machines, etc., in these days. They make the life on the farm a pleasure. Now, why not make education easier? Why adhere so strongly to those old, clumsy methods of spelling?

Mr. Dearness said: "It is said that the spelling of Esperanto can be learned perfectly in a single week." That is about true. As I am interested somewhat in Esperanto, I should be pleased to give you a little idea of it, if you care to have it. It is perfectly phonetic. Esperanto is the name of the universal language invented by Dr. Zamenhoff, a Russian scholar. His intention, it seems, was not to do away with other languages, which would be impossible, but to supplement them in a number of ways. In business, Esperanto would be invaluable. It is a very easy language for any nationality to learn. A Canadian could correspond with a Russian, Japanese, or any other, without much study on the part of either. The knowledge of Esperanto would be a great help to tourists. It could also become the language of science, instead of Latin. This last might horrify some; but why stick to old, clumsy ways?

In Esperanto all nouns end in "o," all adjectives in "a," all derived adverbs in "e"; such as patro, father; bona, good; bone, well.

The plural number is formed by adding "j" final—patroj, fathers. There are two cases, nominative and accusative. The latter is formed by adding n final—patron (singular), patrojn (plural). The possessive case is expressed thus: Instead of "the boy's book" is used "the book of the boy"—"La libro de la knabo." The feminine gender is formed by adding "in" before "o"—patro, father; patrino, mother; bovo, ox; bovino, cow. Direction to, date, price, are expressed by accusative. Prepositions govern the nominative case. Adjectives agree with their nouns in number and case, as "bona knabino," "good girl"; "bonaj knabinoj," "good girls"; also "bonan knabinon," and "bonajn knabinojn" (acc. sing. and plural).

The cardinals are: Unu, 1; du, 2; tri, 3; kvar, 4; kvin, 5; ses, 6; sep, 7; ok, 8; nau, 9; dek, 10; dek-unu, 11; dek-du, 12, etc.; du-dek, 20; du-dek-unu, 21, etc.; tri-dek, 30; kvar-dek, 40, etc.; cent, 100; mil, 1,000. Ordinals formed by adding "a"—unua, first; dua, second, etc. Fractionals formed by adding "on," and final "o" or "a," according as it is a noun or an adjective, as "duono," "one-half"; "la centona parto," "the hundredth part." Multiplicatives are formed by adding "obl," and adding "o" or "a"—"duoblo," "the double"; "duobla," "double."

Collectives are formed by adding "op," as duope, by twos, etc. Distributives are formed by prefixing "po"—po kvar, four apiece. "La" is the; "a" is contained in the noun.

The personal pronouns are: Mi, I; Vi, you; Li, he; Shi, she; Ghi, it; Ni, we; Ili, they; Oni, one. Possessive pronouns, add "a"—Mia, my, etc. Reflexive possessive: sia, his, her, their, its (limited to third person). By means of this we can avoid much ambiguity: "Li vidas Johanon kaj sian fraton"—"He saw

John and his (not John's) brother." Otherwise it would be "Li vidas Johanon kaj lian fraton."

The irregular verb is unknown in Esperanto. When we have mastered the conjugation of one verb, we know how to conjugate all the verbs. There is no change in form for person or number. The Esperanto verb has the following characteristic terminations for all moods and tenses; twelve in number:

"I" final marks the infinite mood—ami, to love.

"As" final marks the present tense—mi amas, I love.

"Is" past tense—mi amis, I loved.

"Os" future tense—mi amos, I will love.

"Us" conditional—mi amus, I should or would love.

"U" final marks the imperative—amu, love (ye or you). Ni amu—let us love. This form is used for subjunctive mood. Ke mi amu—that I may love.

"Anta" final marks the present participle (active)—amanta, loving.

"Inta" past participle (active)—aminta, having loved.

"Onta" future participle (active)—amonta, about to love.

"Ata" present participle (passive)—amata, being loved.

Thus "ita" and "ota" are past and future—passive endings.

Compound tenses, both in active and passive, are formed by the only auxiliary verb in Esperanto, esti, to be. As: Mi estas amanta, I am loving. Mi estas aminta, I have loved (literally, I am having loved). Mi estos aminta, I shall have loved (literally, I shall be having loved). Mi estos amonta, I shall be about to love. These are active. Mi estas amata, I am loved. Mi estis amata, I had been loved (literally, I was having been loved). Mi estos amata, I shall be about to be loved. The others are formed just as easily.

Now, this is not much verb to learn, is it? Not much like Latin or Greek! Even English!

There are only about nine hundred simple words in Esperanto. The rest are formed by means of an ingenious word-building system. Here are a few:

We add "ist" and we get from drogo a drug; drogisto, a druggist; kudri, to sew; kudristino, a seamstress; etc., etc.

We add "il," which expresses the instrument by which something is done. As kudri, to sew; kudrilo, a needle.

There are about thirty (some make it more) of these prefixes and suffixes; and using these we have all the words we need. Even enough to translate the Iliad of Homer into Esperanto!

I should like to hear other's opinion of this new language. Thanking you in advance for space.

JUDSON F. SHAW.

Hope's Quiet Hour.

To Be With Christ.

For to me to live is Christ, and to die is gain. . . . What I shall choose I wot not. For I am in a strait betwixt two, having a desire to depart, and to be with Christ, which is far better—Phil. 1, 21-23.

"Beside the dead I knelt for prayer,
And felt a Presence as I prayed,
Lo! it was Jesus standing there,
He smiled, 'Be not afraid!'"

"Lord, Thou has conquered death, we know,
Restore again to life, I said,
'This one who died an hour ago,'
He smiled, 'She is not dead!'"

"Asleep, then, as Thyself did say,
But Thou canst lift the lids that keep
Her prisoned eyes from ours away,
He smiled, 'She doth not sleep!'"

"Nay, then, tho' haply she doth wake
And look upon some fairer dawn,
Restore her to our hearts that ache,
He smiled, 'She is not gone!'"

"Alas! too well we know our loss,
Nor hope again our joy to touch,
Until the stream of death we cross!"
He smiled, 'There is no such!'"

"Yet our beloved seem so far
The while we yearn to feel them near,
Albeit with Thee we trust they are,
He smiled, 'And I am here!'"

"Dear Lord, how shall we know that
They
Still walk unseen with us and Thee;
Nor sleep, nor wander far away?"
He smiled, 'Abide in Me!'"

"Anxious Mother" wants to know what I think of Heaven, whether we shall "know each other, and remember what relation each one was to us in this life." She says she used to think it was a "place," and now she hears some people say that it is a "state" or condition. I fancy she is a little disappointed at the change of opinion; although we all know that if the heart is beating fast with a new and wonderful joy, any place becomes dear. Palaces are very unsatisfying to one who is homesick for the sight of a dear face, and to be with Christ is to be in Paradise, if our hearts are one with His.

As for the question whether we shall know each other, and remember the past, in the new life beyond the veil of death, I don't feel any doubt in my own mind. God is Love, and all earthly love is a rich gift from Him to His dear children. Love is, in its nature, eternal—the greatest thing in the infinite universe—and it would be very poor if it could not survive death, or if it lost the tender memory of the past. The Bible tells us of the love of God, and we can rest on that, sure that He will fully satisfy our hungry hearts, which would be terribly disappointed if human fellowship were interrupted or destroyed.

I don't know who wrote the verses given above, but they answer many questioning hearts. We feel that they must speak the truth, because they fit the lock of the heavy door which seems to shut us from those who have passed out of sight. The door is flung open, and we can look through into the brightness beyond.

We see that those who have passed through that door are with Christ—they are "not dead," they "do not sleep," they are "not gone." Though they seem to be far away, they are with Christ, and He is here with us—therefore they also are very near. If we abide constantly in Him, we are certainly in close fellowship with them. As for the question whether they can see us, that seems to me to be of very little consequence. We can be in closest fellowship with friends who are out of our sight, and they also can be in close touch with us, without seeing us.

We look up into the sky and say that Heaven is there, but if we begin to measure the distance by miles—with mathematical, materialistic precision—just think how infinitely far away it would seem to be! Take the most powerful telescope that you can conceive of, look through it, and you will see into the depths of infinite space—but no telescope could possibly help us to see the golden gates of Heaven, nor the sunny fields of Paradise. In our desire to make the life beyond the grave seem a reality, we must not lower it by materialistic thoughts. If we do, we shall be forced to seek the spirit-world at an immeasurable distance. When Elisha prayed that God would open the eyes of the young man, that he might "see," the prayer was answered, and "behold the mountain was full of horses and chariots of fire round about Elisha."

"And everywhere, here and always,
If we would but open our eyes,
We should find through these beaten
Footpaths
Our way into Paradise,
Dull earth would be dull no longer,
The clod would sparkle—a gem,
And our hands, at their commonest
Labor,
Would be building Jerusalem."

It is a great mistake to attempt to reach spiritual realities with our physical senses—one might as well try to grasp the reality of courage, faith, hope, or love, by sight or hearing or touch of the hands. We are spirits living in bodies. In Paradise we shall learn the lesson,

which we dimly apprehend here, that we can and do enter into fellowship with each other without the help of the senses. In Heaven, when soul and body are reunited, God will provide perfect satisfaction for both bodily and spiritual desires. If He leaves us in the dark now, it is probably because the things which He has provided for His children are beyond their comprehension. The eye of man has not seen, nor his ear heard, anything fit to be compared to the glories which God has prepared for hearts that love Him. It would be impossible to describe the beauty of the flowers or the songs of the birds to one who had always been blind or deaf. His conception would be very different to the reality.

God does describe Heaven, in beautiful, sacramental, symbolic language. The golden streets, the gates of pearl, and foundations of precious stones, speak to the imagination. God's evident love of beauty; the harmony of coloring we see in the sky, in the earth and water, in the feathers of birds, and the grace of animals, above all in the human form, which is the favorite study of artists, make us feel sure that Heaven will perfectly satisfy our love of beauty.

We know that Heaven is a "state or condition," because the most perfect place imaginable could not make anyone happy if his soul were black with unrepented sin. No one could possibly find himself in Heaven unless he was cleansed and made pure; even if he were permitted to enter the open gates and walk along the golden streets. He would be utterly miserable, being out of harmony with God and all his surroundings.

But I should be very unwilling to believe that Heaven is not also a "place." When we enter there we shall have bodies as well as souls, and our Lord expressly declares that He has gone before to prepare a "place" for His disciples. He has also promised to "come again" and receive them unto Himself, saying: "Where I am, there ye may be also." He speaks of making a new heaven and new earth, as though great changes might be expected in the existing order of things.

We cannot understand, yet we can surely trust our Lord's love to disappoint us in nothing, but to do for us far more than we could ask or think. Wherever in space the heaven may be into which His bodily presence ascended visibly, and from which He shall visibly come again at the Last Day, we know that He is most truly with us still—and yet He went away.

If we try to understand mysteries too deep for us, we at once discover new difficulties. If our present ideas of place are to govern heavenly things, how can we—each of us—kneel at our Master's feet and gaze up into His face. We should be crowded out by the thronging multitudes, and could hardly hope to get near enough even to touch the hem of His garment. If He is to be all-satisfying to the spirits, and also the bodily senses, of all who love Him, He must have some way of meeting us that is beyond our present comprehension. We can't understand how He can give perfect attention and fellowship to millions of souls at once, and yet unnumbered witnesses testify that He has met and is meeting their highest needs.

We cannot yet understand the life beyond death; but we shall still be ourselves, and the God who loves us will provide opportunity for our highest longings to grow and bear fruit. When I hear that a beautiful soul has been called to "go forward," my first instinct is to send congratulations to his friends on his behalf. The sorrow seems really small in comparison with the joy that he is most certainly experiencing. The mourners may misunderstand my letters of sympathy, but while I am carried away by the wondering thought of a soul in the first bliss of radiant joy, it is not easy to weep with those who weep. Sympathy for the earthly grief comes afterwards.

Our bodies will be changed when we inhabit them again, as our Lord's body was changed after the Resurrection. He could appear and disappear at will, He could pass through the grave-clothes without disturbing or disarranging them, and He made Himself visible to the disciples in a room with closed doors. His body was not bound by the laws of gravitation, or hampered by the laws of space. But I must not make this article too long. The subject is beyond my powers

to understand or make clear, but I would remind "Anxious Mother" that we can trust where we cannot understand. I know that "to die is gain," because we shall be more perfectly in open fellowship with our Lord when, with clear spiritual vision, we "see Him face to face," and know even as also we are known. Let us never forget that He sees us always: "Thou, all unseen, dost hear my tired cry. As I, in darkness of a half-belief, Grope for Thy heart, in love and doubt and grief; O, Lord, speak soon to me—'Lo, here am I!'"

DORA FARNCOMB.

Editor "The Quiet Hour":

In your issue of March 18th, a subscriber asks for one or two "blessings" suitable for mealtime. In answering a question such as this, your reader would like to know what was in Subscriber's mind that prompted the question? Was it that the food would be of more benefit to him if he prayed the Lord to bless it?—or was it for a form of words that would imply nourishment for his spirit as well as for the body?—or was it to know whom he should ask? As this is very important, I will assume this was his reason, and as there is diversity of ideas on this point, it is necessary for me to be careful what I say. I am aware some would say, "Ask God," meaning a personal Deity, who hears our petitions through another personal divine Being—but I would say, and I think that Scripture teaches, that "Blessed is the man whose God is the Lord"; the name Lord implies all of Deity revealed to man, and is the fulness thereof, "the true God and eternal life," the "I am." That Name is above every other name as a revelation of the attributes of divinity recorded in the Bible, therefore He says, "Ask of Me and it shall be given unto you, come unto Me, etc.; therefore any form of words is acceptable, when the mind and heart are directed to Him as the Giver of every good and perfect gift. Ask Subscriber to continue the blessing in using that he has manifested in providing his blessings for body and spirit. JNO. BROADFOOT.

Huron Co.

Something More About Our Goodly Heritage.

In an article written over three years ago, since which, probably, our land has, by God's good hand upon it and us, nearly doubled its increase, we are told that "the people of Canada sheared from God's sheep in the year 1905 \$2,000,000 worth of wool; they gathered from God's fowls \$10,000,000 worth of eggs, and drew from God's seas and lakes \$22,000,000 in fish; they dug from God's rocks in minerals \$71,000,000, and they had reaped from God's fields and orchards, thanks to His sunbeams, rain and dewdrops, \$350,000,000." This article was evidently written with a view to point out, also by statistics, how out of all proportion were the returns made into His treasury by those who had reaped so rich a harvest from His bounty, and to impress upon those who read it the sense of their responsibilities towards One whose claims upon our love and duty are indisputable for "everything." He tells us, "that is under the whole heavens is Mine." Seeing, then, that we are, after all, but stewards of our heritage, it surely behooves us to look well after our stewardship.

If of Canada's wheat-growing area in the West there are at present only 5,000,000 out of its 171,000,000 acres under cultivation, the possible wheat production being quoted at 800,000,000 bushels, an amount which would feed 133,000,000 people; if, as Lord Strathcona is credited with asserting, that within the next 24 or 25 years Canada can produce all the grain required by Great Britain, we may well be almost aghast at the extent of our heritage, and at the huge possibilities which are awaiting it. The present seems to be the crucial moment in the history of our Dominion, for, to nations as to nature's products, may be equally applicable the saying that

"As the twig is bent so will the tree grow."

The Canadians of the future will be the children of the enormous influx of people of all nations who are pouring into the country, so now is the time to use some measure of discretion in guarding the gates of entry therein. Surely the assimilating of such a vast amount of raw material, raw as far as Canada is concerned, but with differing standards of law and order, and with very different views upon their rights, and our rights, and mutual rights and concessions, will call for, the exercise of the greatest wisdom and forethought on the part of our rulers, upon whom rests the great responsibility of seeing to it that "our heritage" remains as it now is, and, please God, always will be, a part of the British Empire, with the one flag claiming the allegiance of its people.

Canada has its corporate life as well as its individual life, and the realization of that corporate life can best be expressed through the emblem of our nationhood, the Union Jack, which every child should be taught in our schools, from the kindergarten upwards, to reverence and to uphold.

By the kind courtesy of the Statistician of the Immigration Office at Ottawa, I have been supplied with the list of nationalities, with the actual numbers of each, who during the year ending March 31st, 1908, had landed upon our shores, or crossed the borders from the United States. These nationalities are over sixty in number, some of them with names so unfamiliar as to be practically unknown to many of us; such as Slovak, Bukowinian, Ruthenian, etc.; in all, 262,469 people.

When we realize that amongst these newcomers were over 58,000 from the United States, 11,212 Italians, 14,268 Galicians, 5,738 Russians, 7,601 Japanese, and representatives in somewhat lesser proportions of other nations, as against 120,182 who were already British subjects, may I not repeat and appeal to the convictions of every intelligent Canadian in this year of grace, 1909, that the children of our schools, let their parents have come from where they may, should be taught to reverence and uphold the red, white and blue of the flag of Great Britain, and be proud of the emblem upon the banners of the country of their birth or their adoption, when their trained voices join in the grand chorus of Canada's national song, "The Maple Leaf Forever." H. A. B.

With the Flowers.

Flowers for Shady Situation.

I would like to know if pinks do well and blossom on the shady side of the house? If not, what flowers will grow in the shade about their height? H. R. Beauharnois, Que.

Ans.—The Dianthus or Garden Pink will bloom fairly well in partial shade, although it is better to give it as much sunlight as possible. There are but few flowers that thrive really well in deep shade. The best plants for such positions are the ferns and wild flowers. Among the cultivated flowers which may be grown in the shade are the various varieties of herbaceous Spireas, Funkia, or Day Lily, and the Vincas or Periwinkle.

The following list contains a few of the most desirable hardy perennials which thrive in partial shade: Valeriana officinalis (Garden Heliotrope), Corydalis nobilis, Dielytra spectabilis (Bleeding Heart), Hemerocallis flava (Yellow Day Lily), Iris Germanica (German Iris), Iris Kaempferi (Japanese Iris), Liliun Candidum (Madonna Lily), Liliun elegans, Liliun tigrinum (Tiger Lily), Liliun superbum (Turk's Cap Lily), Convallaria majalis (Lily of the Valley), Mertensia virginica (Bluebell), Narcissus in variety, Tulips in variety. O. A. C., Guelph. H. L. HUTT.



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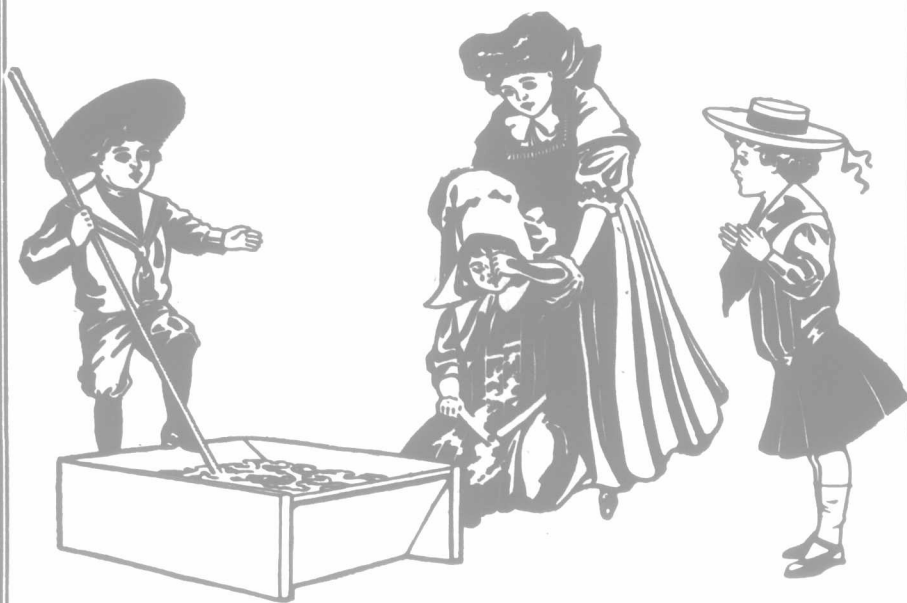
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What fond mother has not sent her little one out to play, in a brand-new dress, and had her come in crying, woefully bespattered with mud? Youngsters have a mania for making mud pies and gathering wherever there is dirt. They are full of life and action and don't have time to think about saving their clothes. This constant activity brings the bright glow of health to their little cheeks, but it plays havoc with their clothes.

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It is expensive to keep children properly dressed, but Diamond Dyes will cut that bill in two.

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Diamond Dyes for Wool cannot be used for coloring Cotton, Linen, or other Mixed Goods, but are especially adapted for Wool, Silk, or other animal fibres, which take up the dye quickly.

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The Ingle Nook.

Not long ago someone applied to the Ingle Nook for suggestions as to how housework might be accomplished more quickly and more easily. One of the staff who happened to read the letter as it lay on my desk (a man, by the way), remarked: "Tell her to use her head." At the time, the advice passed "in at one ear and out of the other" as it were—it seemed so indefinite; but it has been ringing on all of this time, nevertheless, and at last, as you see, I have felt constrained to pass it on.

After all, what better advice could one have? Have you never found out the truth of it, once in a while? Have you never thought suddenly of some better way of doing something, of some expedient to help you over a difficult place? And do you not remember the thrill of satisfaction with which you said to yourself, "Now that was a good way; I'll try it again?"

But have you ever paused to think that that little trick—of using your head—could be indefinitely extended, and that dozens of ways of doing things that you do daily in the old way, might be infinitely improved just by the exercise of a little ingenuity?—and the odd part of it is that the more you use the faculty of ingenuity, the more of it you will have to use. These brains of ours are queer things. They are divided, so the scientists tell us, into little areas, each area devoted to a certain faculty. If you neglect one of these areas, it simply remains torpid; if you use it, it develops power more and more, just as an arm develops muscle with exercise—so now you may see what we can do with ourselves.

Now, perhaps this little skit does not seem very helpful. It all seems very vague, and you would like a concrete example. Well, I can't give you examples to suit your immediate needs, because I do not know your circumstances. Anyway, I want you to learn to think for yourselves. I can, however, give you an example of a housekeeper I once knew, who was quite contented to do things "as her folks had always done them," and who quite resented the suggestion that anything could be done better.

She kneaded her biscuits and pie-paste, long and diligently, and never seemed to see anything amiss in the fact that it turned out hard as a board. She boiled her beef to a frazzle. It was hard and dry and tasteless, too, but she didn't seem to mind. Beefsteak was fried ditto. She disregarded all the rules of science in canning fruit, and used old seal-rings to save the price of new ones; as a result most of it fermented. She never found out the merits of fresh air in winter time, and so the windows were kept shut until the place smelled heavy and foul, and one wondered whether she had a nose at all, or not. . . . This same woman boiled her tea, and never seemed to notice how sharp and disagreeable it became, and she cheerfully cooked lemon filling in tin—and—oh, she did everything else about on the same scale. Yet she resented a single suggestion as to wherein anything could be improved.

Even the best of us, or the surest in our work, surely cannot afford to despise suggestion; there is always the possibility that something may be better done. And surely none of us can afford to miss using our heads. If things go wrong there must be a reason. Can we not ferret out that reason, and avoid the mistakes in future?

Now, just to finish up, a few hints:

Have you ever found out these?

- (1) To prevent drawing strings from coming out in the wash, use good long strings, and tack each securely in place right in the center of the space to be drawn in.

- (2) Badly faded carpets may be given a new lease of life by applying good dye with a paint brush.

- (3) Holes in window curtains, if patched with net, or bits of lace, are scarcely noticeable.

- (4) It pays to have two skirts like a coat when suits are worn. One coat will easily wear out two skirts, and the second need not be made up until the styles have changed.

- (5) A little lard in the starch will do much towards keeping irons from sticking to the clothes.

- (6) In breaking an egg and separating the yolk from the white, sometimes the yolk will break, and some specks will get mingled with the white. Take a piece of white linen, wet it, squeeze dry, and touch to the bits of yolk, which may thus be quickly and easily removed.

Editor "The Farmer's Advocate":

I am a constant reader of "The Farmer's Advocate" and feel that we could not do without it in our home. We have just taken it for three years, and would recommend it to every home. Would you please send me a recipe for potato salad? Should the dressing be made the same as for cabbage?

Could anyone tell us how to get rid of rats, both in house, cellar, barn, and pigpens? We have not been able to raise fowl for a couple of years, the rats have been so bad. We have tried trapping and poisoning, but they will not touch either one. We also have two or three good cats, which we often see with one, but we never seem to get rid of them. A FARMER'S DAUGHTER.

There are many different ways of making potato salad. The following is very good: Boil small potatoes and slice while hot, adding about two dessert-spoons oil, or melted butter, and two of vinegar. Chop one small onion and a little celery (or pickled beets) fine, also a little parsley. Mix these with the potatoes, and pour a thin mayonnaise dressing over all, mixing thoroughly. Garnish with lettuce and bits of lemon. . . . Dressing used for cabbage salad will always answer for potatoes.

Boiling Potatoes—Souring Cream.

Dear Dame Durden,—For nearly a year I have been a reader of the Ingle Nook and have enjoyed the bright letters written by the other Chatterers. I have used several of the recipes given, so to show my appreciation I will give you one, "How to boil potatoes."

After putting the boiling water on them, salt them. When they are about half-done, pour off the water and cover up with a tight cover, putting them at the back of the stove for about fifteen minutes to steam, and you will find them flourey and beautiful, for there is nothing to my taste nicer than a well-cooked potato.

Having had all sorts of difficulty in getting good butter, I have found the best way to get the cream sour is to put a cup of vinegar into the cream the night before churning, and then bring it to 64 degrees. The butter is much better flavored, and the buttermilk not so creamy. M. E. L.

Norfolk Co., Ont.

Question for "Exit."

I saw in the Ingle Nook of March 18th, in an answer to Jack's Wife, Exit says she has used limed eggs exactly one year after liming them, and found them perfect. Would Exit kindly give her recipe, as I have never made a success of liming eggs yet? Can you tell me, through your columns, where I can get stamped floor-mat patterns? I get a great lot of very useful information in the Ingle Nook. FARMER'S WIFE.

Carleton Co., Ont.

Write to John E. Garrett, New Glasgow, Nova Scotia, for rug patterns.

Maple Syrup.

Dear Dame Durden,—My husband is a subscriber to "The Farmer's Advocate" and we enjoy its weekly visit very much. I enjoy the "Home Magazine" part. In looking over some of the back numbers, I find in December 24th, 1908, a letter from Lankshire Lass, Wellington Co., Ont., in which she says the following: "Now is the time, when apples are so scarce, to try the maple syrup I gave the recipe for last January. Try it again." We have looked for this recipe, but have failed to find it in any of the January numbers, 1908, and have also looked through the contents given in June, 1908. I would be very pleased to have the recipe. AN INTERESTED READER.

York Co., Ont.

Will Lankshire Lass kindly repeat the recipe? A good substitute for maple syrup is made as follows: Boil corn-cobs and strain the liquor. Add sugar.



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boil to a syrup, and flavor with a very little vanilla.

Stain for Wood.

A question regarding wood-stain, received from Mrs. W. V., has been handed to me: Mrs. V. writes as follows: "Can you tell me, through your valuable paper, if there is any stain on the market which will make a dark wood look like light graining? I have two rooms which I want to paint this spring before the real hard work comes on, and would like such advice. I have been told there is a stain that can be put on over dark wood and will make it any color you desire. Now, I tried a can of the Martin Senour Ornamental varnish stain (light oak), and was thoroughly disappointed, for it merely made a shine, not even covering the scratches or changing the color in the least. What I want is a light grain, and I have been told, in order to get this, we would have to first paint the wood cream color and then get a man to do the grain work."

There is no "stain" which will make dark wood look light. We should say the advice given you, provided you must have graining, is very good. Very few amateurs can make graining to have it look like anything, hence it is much safer to employ someone who is used to the work.

But why have graining at all? It is only imitation at best, a sorry imitation of the real thing, and is not considered in good taste at all nowadays. A stain applied to the natural wood is most frequently used, and the finish is left dull, not glazed over with varnish. If this does not suit, paint is used, of a color to match the leading color-tone of the room, or else ivory white, the white being only suitable, of course, for drawing-rooms or bedrooms. Paint, to our mind, is exceedingly satisfactory. If of the right shade—a soft and artistic, not a crude or glaring color—it is very pleasing. Besides, it is comparatively inexpensive, and may be put on by the veriest amateur.

Note.

Will correspondents kindly write on but one side of the paper? Any other way is exceedingly awkward for the printer.

The Use of Gelatine.

With the approach of summer, one instinctively turns away from the thought of the hot soups, meat pies and suet puddings that have delighted us through the winter. Something cooler and more delicate seems in order, and really is in order, considering that food should be adapted to the season, heat-producing foods eaten in winter, non-heat-producing in summer.

Among light and simple desserts, those made with gelatine are exceedingly satisfactory, that is, provided you know how to handle the gelatine; without proper understanding on that point, you know, gelatine can be but a delusion and a snare.

Gelatine is usually put up in two-ounce packages, just enough to jelly about two quarts of liquid. As the dry material will keep indefinitely in a dry place, just as much as is necessary for the time may be used, half a package for one quart, one-fourth a package for one pint, etc.

In the first place, never try to dissolve gelatine in hot water; soak it in cold water, of which it will take up about four times its own weight. A full two-ounce package will require a full cup of water, and so on.

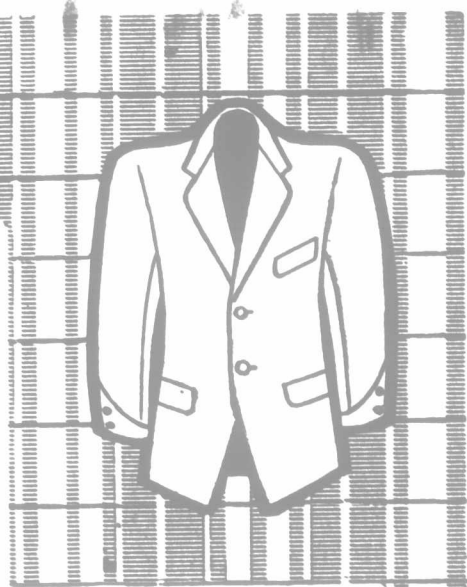
In the second, never boil gelatine, as boiling destroys, to a certain extent, its gelatinous properties; simply add it to the hot liquid, and when thoroughly dissolved set away to cool. When used in whipped or fluffy mixtures, the gelatine mixture must, after dissolving, be cooled to about the same temperature as the mixture to which it is to be added. Otherwise, it will sink to the bottom in a hard mass.

A little practice in carrying out the following recipes, taken from Boston Cooking School, will familiarize the experimenter in the use of gelatine, and provide her with the means of making many appetizing summer dishes at comparatively little expense:

Caramel Jelly.—Soak 1 tablespoon

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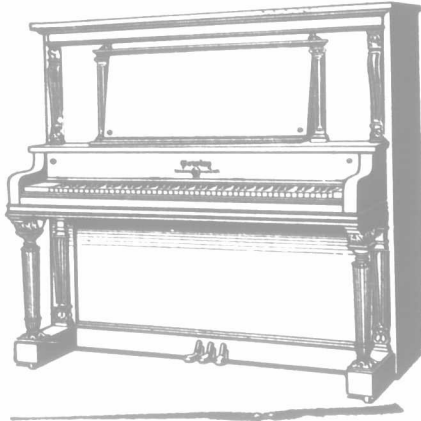
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UPRIGHT PIANOS

MENDELSSOHN—A very attractive upright piano by the Mendelssohn Co., Toronto, in rich mahogany case of simple design, with full-length plain panels. Has trichord overstrung scale, 3 pedals, practice muffer, has been used less than a year. Manufacturers' Price, \$275. Special Sale Price..... \$198

WINTER—7½-octave Cabinet Grand "Winter" Piano, a piano of particularly solid and durable construction, with full rich tone, perfect repeating action, ivory and ebony keys, 3 pedals, etc. Case in walnut of attractive design, with Boston fall board, full length music desk, just like new. Special Sale Price... \$238

KARN—7½-octave upright piano by D. W. Karn & Co., Woodstock, in dark Circassian walnut case, with full length music desk, carved panels, Boston fall board, ivory and ebony keys, 3 pedals, etc. In perfect order. Manufacturers' Price, \$450. Special Sale Price \$243

GERHARD HEINTZMAN—7½-octave upright Gerhard Heintzman piano, in attractive walnut case, with full length music desk, ivory and ebony keys, 3 pedals, etc. Case of attractive design, with a little carving, but not too much. Special Sale Price..... \$263

NORDHEIMER—Cabinet Grand upright piano by Nordheimer, Toronto, in mahogany case, plain panels, full length music desk, Boston fall board, 3 pedals, etc. A first-class piano in fine order. Special Sale Price..... \$268

GERHARD HEINTZMAN—A large-sized Cabinet Grand Gerhard Heintzman piano, in mahogany case of Colonial design, Boston fall board, ivory and ebony keys, 3 pedals, etc. Manufacturers' Price, \$500. Special Sale Price..... \$283

GOURLAY—A Cabinet Grand upright piano of our own make, in rich walnut case of Florentine design, full length panels and music desk, Boston fall board, 3 pedals, etc. Has been out from the factory less than two years, and has had very little use. Is just like new. Special Sale Price..... \$305

GOURLAY—A New Grand Scale Gourlay piano, in rich mahogany case of Ornate Colonial design, with Boston fall board, 3 pedals, etc. If we were to make a piano for \$1,000 to your order, we could not make a finer piano, either musically or durably, than this instrument. The difference would be spent on the case. Has been very little used. Special Sale Price..... \$325

SQUARE PIANOS

WEBER, N. Y.—Small 7-octave square piano by Albert Weber, New York, in rosewood case, octagon legs and overstrung scale. A good practice piano. Special Sale Price..... \$70

GROVESTINE & FULLER—Full 7-octave square piano, by Grovestine & Fuller, New York, with large overstrung scale and good repeating action. Case in rosewood with octagon legs. Special Sale Price..... \$85

GREAT UNION—7-octave square piano by the Great Union Piano Co., New York, in rosewood case with serpentine and plinth mouldings, carved legs and lyre, overstrung scale. Special Sale Price..... \$98

HARMONIC, N. Y.—7½-octave Harmonic square piano, manufactured by F. C. Smith, New York, successor to Bradbury & Sons, in handsome rosewood case, serpentine and plinth mouldings, carved legs and lyre. A good toned piano. Special Sale Price..... \$107

HAINES BROS.—7-octave square piano by Haines Bros., New York, a fine piano by this celebrated firm, in rosewood case, with carved legs and lyre, serpentine and plinth mouldings, overstrung scale, etc. Special Sale Price..... \$113

STEVENSON—A very fine 7½-octave square piano by Stevenson, Kingston. This piano has the full square-grand "Decker" scale, is a splendid musical instrument, case in rosewood, with carved legs and lyre, serpentine and plinth mouldings. Special Sale Price... \$118

GABLER, N. Y.—7-octave square piano by Ernest Gabler, New York, in rosewood case, with carved legs and lyre, serpentine and plinth mouldings, full overstrung scale, first-class action and superior tone quality. Special Sale Price..... \$123

STEINWAY—A very fine square piano by Steinway & Sons, New York. This piano is one of the most modern square pianos that we have had for some time, and is a beautiful-toned piano. Is made in rosewood case, with carved legs and lyre, and is easily a bargain at..... \$155

PLAYER-PIANOS and GRAND PIANOS

HOWARD AUTOPIANO—This fine player piano is a full Cabinet Grand piano, manufactured by the R. S. Howard Co., of New York, whom we have represented for some years. The interior playing mechanism is the celebrated autopiano. The complete instrument is not only a fine piano in point of musical quality, but a piano easily operated by means of the pneumatic player, without previous practice or experience. It will give equal pleasure to the experienced pianist who uses the keyboard, or to the novice without musical education, who plays by means of music roll. Used only nine months. Price, complete, with 10 rolls of music..... \$435

Payments, \$35 cash and \$10 per month.

EMERSON-ANGELUS—This player piano is one of the most celebrated instruments known to the American buying public. It is a combination of a first-class Cabinet Grand Emerson piano, manufactured by the Emerson Piano Co., of Boston, and an Angelus piano-player, the pioneer of American piano-players. The reputation of the Emerson piano, backed by over fifty years' manufacturing experience on the part of its makers, is sufficient guarantee of quality. The Angelus instrument, built as an interior part of the combination, contains the Phrasing Lever, Melody Buttons and Diaphragm Pneumatics, which are exclusive features of the Angelus, and which make possible artistic piano-playing, for which the Angelus holds a unique record. This instrument has been used for only six months. Regular price, \$725. Special Sale Price..... \$510

Payments, \$35 cash and \$12 per month.

KNABE "MIGNON" GRAND—Knabe Mignon Grand piano, by Wm. Knabe & Co., Baltimore, in rosewood case of the latest design. This superb piano has been used for not more than a dozen concerts here in the city, and is in absolutely perfect condition, and could not be told from new, but because of its aforesaid use cannot be sold as such. Regular price, \$900. Special Sale Price..... \$685

Payments, \$50 cash and \$15 per month.

KNABE "MOZART" GRAND—This beautiful Grand piano, manufactured by Wm. Knabe & Co., Baltimore, is an exceptionally fine piano that we have used for a few recitals during the past two seasons, and therefore has to be sold as a used instrument, although it does not show any sign of use. Is in rosewood case of the most modern design, and is in perfect condition. Regular price, \$1,000. Special Sale Price..... \$740

Payments, \$50 cash and \$15 per month.

GOURLAY, WINTER & LEEMING, 188 Yonge Street, Toronto.

granulated gelatine in ¼ cup cold water. Cook ½ cup sugar in an old pan until brown, add ½ cup boiling water, and boil to a thick syrup. Add the softened gelatine, ½ cup sugar, ¼ teaspoon salt, and 2 cups thin cream. Stir well, strain into moulds, and set away to stiffen.

Moulded Rice.—Put 1 pint cold water over ½ cup rice, boil five minutes, then drain and rinse the rice in cold water. Add to it 1 cup milk and the grated yellow rind of an orange, and cook in a

double boiler until the grains are tender. Now add ½ cup sugar, ¼ teaspoon (level) salt, and 1 cup thin cream. Let become hot, then add 1 tablespoon gelatine which has been softened in 4 tablespoons cold water. Place the pan over cold water and stir until the mixture begins to thicken. Serve with boiled custard, sugar and cream, currant jelly, or strawberry preserves.

Caramel Bavarian Cream. Soak 1 tablespoon gelatine in ¼ cup cold water

Cook ½ cup sugar to a caramel, then add ½ cup boiling water and simmer to a syrup. Add the softened gelatine, and half a cup of chopped nuts. Set into ice-water and stir until it begins to set, then fold in 1½ cups cream, whipped soft. When the mixture will hold its shape, put into a mould. Serve in a bowl with whipped cream on top decorated with preserved cherries, or strawberries and cherries.

The Beaver Circle.

Poor Robin.

I killed a robin—the little thing,
With a russet breast and a glossy wing,
That comes to the apple tree to sing.

I flung a stone as he twittered there,
Intending only to give him a scare,
But off it went and hit him square.

A little flutter, a little cry,
Then on the ground I saw him lie,
I didn't think he was going to die.

But as I watched him I soon could see
He never would sing again for me
On a swaying branch of the apple tree

Never more in the morning light,
Never more in the sunshine bright,
Thrilling his song in gay delight.

And I'm thinking every summer day
How never, never, I can repay
The little life that I took away.

Our Letter Box.

Dear Puck,—I was so glad to see that you were taking up cudgels in behalf of the birds. Did you think of this as you wrote? :

"Do you ne'er think what wondrous beings these?
Do you ne'er think who made them, and who taught

The dialect they speak, where melodies
Alone are the interpreters of thought?
Whose household words are songs in many keys,

Sweeter than instrument of man e'er caught!
Whose habitations in the tree-tops even
Are half-way houses on the road to heaven!

Think every morning when the sun peeps through
The dim, leaf-latticed windows of the grove,

How jubilant the happy birds renew
Their old, melodious madrigals of love!
And when you think of this, remember,

Too,
'Tis always morning somewhere, and above
The awakening continents, from shore to shore,

Somewhere the birds are singing evermore."

—Longfellow

O, comrade Beaver workers! the spring is on its way, and the birds will soon be bursting into song, and flooding the air with melody. What weapon have you decided to use—the gun or the kodak? If you haven't a kodak, use your eyes (as I must do), and treasure in the hall of memory beautiful pictures, which neither fire can destroy nor thieves break in and steal.

A few years ago we had a tame squirrel. When spring came, we set his cage in an upper room. Then Tommy could go and come at his pleasure—out the window, down the lilac tree, and away. One night as he was returning home, along the fence, a big boy saw him, and, snatching up a stone, took aim. My brother, noticing the action said, "Don't shoot, don't shoot, that is our pet squirrel." Even as the words were spoken, the cruel hand had laid our poor Tommy senseless on the grass. He was sadly wounded, and for a long time we feared he would never recover. However, by tender nursing, he became once more the merry-hearted little fellow that loved to play hide-and-seek among the tree-tops.

I agree with James Ray, that evening is the most beautiful time of day. All is calm and at rest. Just so should the close of our lives be—a day full of joys, and sorrows at end—a journey to the golden gates of the West completed.

From one who loves mother-earth.
LUCY ROUTLEDGE.

Oak Ridge.

P. S. Now, dear Puck, if my letter disappears in the w. p. b. I should like the Beavers to read those two little stanzas. There would be more songs from our feathered friends if everyone but "The Birds of Killingworth."

Value Received.

There is no doubt about the value of Herbageum. Horses stand the spring work better if they have it regularly. It makes skim milk equal to new milk for calves, and calves getting it regularly never scour. It is a great help to chicks and young turkeys. Its regular use with them prevents disease. Herbageum contains no drugs or dope, and, therefore, there is no reaction. It simply supplies the parts of a good pasture which are not in the dry feed. It is not expensive. There are 256 feeds in a 5-cent package. That is five feeds for one cent.

Alfalfa

Or Lucerne Clover
SEED

Are you going to seed down a field with this valuable forage plant?

YOUR SUCCESS

greatly depends on the seed you select. Our "Gold" Brand, we honestly think, is the best of last season's crop. It is a large, bright,

PURE AND CLEAN

seed, grown in Montana, the most northern State in U. S. A. It is therefore best suited for our climate.

We just received word from the Dominion Government Seed Commissioner that our "Gold" Brand Alfalfa is the best seed they have record of, both for purity and vitality. Sow 20 lbs. per acre.

BUY NOW!

Present price, \$12.50 per bus., f.o.b. Toronto. Bags, 25c. each.

Present prices for our best
RED CLOVER, ALSIKE and TIMOTHY:

"Sun" Brand Red Clover, \$ 7.75 bus.
"Ocean" " Alsike 10.75 "
"Diamond" Brand Timothy, \$3.25 "

PURE. CLEAN. THE BEST.

Ask for samples, and judge for yourselves. We have selected these seeds first and last for their purity. You cannot get cleaner seed in Canada.

SEED OATS.

If you want a change, select one of the following varieties. They are all good, clean oats, testing 36 pounds to the bushel:

Derby, 20th Century, Irish White, Waverley, Sensation, 70c. per bush., f.o.b.; Black Tartar an, 80c. per bush.; Black Joannette 90c. per bush.

SEED PEAS.

Golden Vine, Canadian Beauty, Potter, Black Eye, Twin Brother, \$1.25 per bush., f.o.b.

SPRING WHEAT.

Red Fyfe, White Fyfe, White Russian, Wild Goose, \$1.50 per bush., f.o.b.

SEED CORN.

Imp. Leam's, White Cap Yellow Dent, Mammoth Southern Sweet, Red Cob, Pride of the North, \$1.10 per bush., f.o.b.; Compton's Early, Longfellow, Canada Yellow, North Dakota White, \$1.40 per bush., f.o.b. Allow 25c. for good cotton bags when ordering.

ROOT SEEDS

KEITH'S SELECTED

If ordering by Mail add 5c. per lb. for postage.

Half Sugar Mangel	20c. per lb.
Champion Yellow Intermediate Mangel	15c. "
Mammoth Long Red	15c. "
Scottish Champion Swede Turnip	20c. "
Elephant or Junbo	20c. "
Now Century	20c. "
Improved White Intermediate Carrot	35c. "

SEND FOR CATALOGUE.

Geo. Keith & Sons
124 King St. E., TORONTO, ONT.

The Golden Dog

(Le Chien D'Or.)

A Canadian Historical Romance.

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CHAPTER XIV.—Continued.

"My Lord Governor!" said the Abbe, placing his great roll on the table, "I thank you for admitting the missionaries to the Council. We appear less as churchmen on this occasion than as the King's ambassadors, although I trust that all we have done will redound to God's glory and the spread of religion among the heathen. These belts of wampum are tokens of the treaties we have made with the numerous and warlike tribes of the great West. I bear to the Governor pledges of alliance from the Miamis and Shawnees of the great valley of the Belle Riviere, which they call the Ohio. I am commissioned to tell Ontario that they are at peace with the King and at war with his enemies from this time forth forever. I have set up the arms of France on the banks of the Belle Riviere, and claimed all its lands and water as the just appanage of our sovereign, from the Alleghanies to the plantations of Louisiana. The Sacs and Foxes, of the Mississippi; the Pottawatomies, Winnebagoes, and Chippewas of a hundred bands who fish in the great rivers and lakes of the West; the warlike Ottawas, who have carried the Algonquin tongue to the banks of Lake Erie—in short, all enemies of the Iroquois have pledged themselves to take the field whenever the Governor shall require the axe to be dug up and lifted against the English and the Five Nations. Next summer the chiefs of all these tribes will come to Quebec, and ratify in a solemn General Council the wampums they now send by me and the other missionaries, my brothers in the Lord!"

The Abbe, with the slow, formal manner of one long accustomed to the speech and usages of the Indians, unrolled the belts of wampum, many fathoms in length, fastened end to end to indicate the length of the alliance of the various tribes with France. The Abbe interpreted their meaning, and with his finger pointed out the totems or signs manual—usually a bird, beast or fish—of the chiefs who had signed the roll.

The Council looked at the wampums with intense interest, well knowing the important part these Indians were capable of assuming in the war with England.

"These are great and welcome pledges you bring us, Abbe," said the Governor; "they are proofs at once of your ability and of your zealous labors for the King. A great public duty has been ably discharged by you and your fellow missionaries, whose loyalty and devotion to France it shall be my pleasure to lay before His Majesty. The Star of Hope glitters in the western horizon, to encourage us under the clouds of the eastern. Even the loss of Acadia, should it be final, will be compensated by the acquisition of the boundless, fertile territories of the Belle Riviere and of the Illinois. The Abbe Piquet and his fellow missionaries have won the hearts of the native tribes of the West. There is hope now, at last, of uniting New France with Louisiana in one unbroken chain of French territory.

"It has been my ambition, since His Majesty honored me with the Government of New France, to acquire possession of those vast territories covered with forests old as time, and in soil rich and fertile as Provence and Normandy.

"I have served the King all my life," continued the Governor, "and served him with honor and even distinction—permit me to say this much of myself."

He spoke in a frank, manly way,



Baby's Own Soap has the natural color and fresh fragrance of the vegetable oils from which it is made. It does not contain a particle of coloring matter or of "chemical process" perfumes. That is why "Baby's Own" should be used exclusively in the home.

Baby's Own Soap

"Best for baby—best for you" 8-09

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POULTRY AND EGGS

Condensed advertisements will be inserted under this heading at two cents per word each insertion. Each initial counts for one word, and figures for two words. Names and addresses are counted. Cash must always accompany the order for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisement inserted for less than 30 cents.

BARRELS TO INTRODUCE EGGS FROM BARRED ROCK WINNERS, SEVENTY-FIVE CENTS PER FIFTEEN. Satisfaction guaranteed. Geo. S. Hammond, Poole, Ontario.

GRAND Single-Comb White Leghorn strain. Eggs, hundred, four dollars. Dollar setting. Central Ontario Poultry Yards, Colborne, Ontario.

BARRED ROCK eggs from elegant matings. Write for full particulars. W. W. Dods, Alton, Ontario.

BARRED ROCKS—Two ve emates mated of full brother, first Ontario cock-rel; eggs two dollars per fifteen. Albert Butler, Burch, Ontario.

BUFF ORPINGTONS—Eggs from my grand winter-laying prizewinning stock \$1.50 & \$3 per 13. Good fertility guaranteed. Wm. Lawrence, 291 Grey St., London, Ontario.

BARRED ROCK eggs, \$1 per setting, \$5 per hundred. Mrs. J. R. Henry, Waterdown, Ont.

BLACK MINORCA—Pure-bred eggs for hatching from heavy laying strain, one dollar per thirteen. Edward Hacker, Beachville, Ontario.

BARRED ROCK EGGS, from a pen of the "National strain." Selected for this choice barring and persistent layers of perfect colored eggs, and mated with choice cockerels. Vigorous, blocky, barrel to the skin. Price \$1 per 13, or \$2 for 40. W. C. Shearer, Bright, Ontario.

BUFF ORPINGTON eggs, from a select pen of twenty. All laying at present. Mated with a strong, blocky, vigorous cock. Price \$1 per 15. W. C. Shearer, Bright, Ontario.

BUFF Orpington eggs—Two pens specially selected for excellent laying and market qualities; headed by large, very vigorous males, unrelated. \$1 per 15, \$2 per 40. Edgar Staples, Bright, Ont.

BRONZE TURKEY EGGS for sale, from exhibition birds. The best lot of prizewinners I ever owned. Eggs \$5 per 15. Also White Wyandottes, Barred Rocks, and Black Minorcas. These pens are all mated with exhibition birds. Eggs from my best, \$2 per 15. Chas. Gould, Box 242, Glencoe, Ontario.

BUY 95% FERTILE EGGS—That will produce winter layers. Ancona eggs, \$1.50 per fifteen; Single-Comb White Leghorn eggs, \$1 per fifteen; \$4.50 for one hundred. Free circulars for stamp. Edward C. Apps, Box 224, Brantford, Ont.

BARRED ROCK eggs, safely packed in Morgan baskets. One dollar per fifteen. C. H. Chalmers, Smith's Falls, Ont.

BUFF Orpington pure-bred eggs for hatching; 9 chicks guaranteed. Illustrated catalogue, free, tells all about them. Hugh A. Scott, Caledonia Ont.

BARRED ROCK eggs from heavy-laying, prizewinning stock, dollar for fifteen; two dollars for thirty six. Chas. Hilliker, Norwich, Ont.

CLARK'S BUFF ORPINGTONS—Oldest and largest breeder in Canada. 12 years specializing. Exhibition and egg production combined. Greatest winter layers in America. 11 breeding pens. Eggs from 1st 4 pens, \$5 per 15, infertile replaced free. Eggs from pens 6, 7, 8, 9, 10, 11, from \$1 to \$3 per 15. 50 eggs, \$3; 100 eggs, \$5.50. Crates free. Illustrated catalogue free. J. W. Clark, Cainsville, Ont.

EGGS for Sale—Houdans—\$2 for 15. First hen, first co.k. Guelph, Barred Rocks, \$1 for 15. E. O. Penwarden, 20 Jackson St., St. Thomas.

EGGS FOR HATCHING—White Leghorns and Buff Orpingtons, \$1.00 per setting. R. Sanders, E. line P. O. Ontario.

EGGS for hatching, White Wyandottes, Good laying strain, \$1 per setting. L. Turnbull, Pt. Colborne, Ont.

EGGS—Buff Wyandottes, from good winter layers, \$1.50 per setting; \$5 per hundred. Chas. Hardy, Mandamin, Ontario.

EGGS—From Collingwood winners. Buff Orpingtons, Barred Rocks, Columbia Wyandottes, and Light Brahmas; \$1 for 15. S. L. Anderson, Crossland, Ont.

EGGS FOR HATCHING—Barred and White Rocks, White and Silver Wyandottes, Black and Buff Orpingtons, Brown and White Leghorns, Black and Spangled Hamburgs, Houdans, Black Javas, Dorkings, Single and Rose Combed R. I. Reds. These birds won over 300 1st prizes at nine shows \$2 per fifteen eggs. F. W. Krouse, Guelph, Ont.

FOR SALE—Pure-bred S.-C. White Leghorns eggs, Settings, \$1 and \$1.25. R. Hughes, Collingwood, Ont.

EGGS FOR HATCHING—From pure-bred prize-winners, Barred Plymouth Rocks, seventy-five cents; White African guinea fowl, two dollars per fifteen. Satisfaction guaranteed. Geo. S. Hammond, Poole, Ontario.

GET THE BEST—Single-Comb Brown Leghorns. For 16 years winners at Toronto, London, Guelph, Woodstock, Brantford, Simcoe and Paris. Stock for sale. Eggs, \$2 per 15. Orr & Cruden, Paris, Ontario.

HIGH-CLASS White Wyandotte eggs for hatching from prizewinning stock. \$1.50 per 15; \$2.50 per 30. Brown Bros., Collingville, Ont.

KLAGER'S Rhode Island Reds—both combs. 8 breeding pens. Enclose 5c. for catalogue. Klager's Poultry Yards Hepler O-T

LOCHABAR Poultry Yards offers eggs from choice stock of the following varieties: M. B. turkeys \$2.50 per 9; Pekin and Rouen ducks, \$1.00 per 11; Barred Rocks, Partridge and White Wyandottes, \$1.00 per 15. D. A. Graham & Son, Wanstead, Ontario.

QUALITY White Wyandottes—Grand layers. Eggs dollar per fifteen. W. D. Monkman, Bond Head, Ontario.

RHODE ISLAND REDS—The best winter laying fowl; \$.00 per setting. J. I. Bracken, Melgund, Ont.

R. C. RHODE ISLAND REDS Best farmers' fowl. Eggs from winners reasonable. Circular free. Write me Bert Smith Collingville, Ontario.

RHODE ISLAND REDS—Rose-comb. Bred ten years from carefully selected heavy winter layers of large brown eggs. Eggs, dollar half per fifteen. Satisfaction guaranteed. Jno. Luscombe, Verton, Ont.

ROSE-COMB RHODE ISLAND REDS—The business fowl. Eggs one dollar and one fifty per thirteen. C. Cuthbert, Alton, Ontario.

S. C. WHITE LEGHORNS—Heavy winter-layers; everlasting workers; on free range. \$1 per setting. Linscott Seven Acres, Braford, Ontario.

S. C. W. LEGHORN EGGS—Settings ten cents an egg. Five dollars a hundred. Good laying strain. Martin Robertson, Kent Centre, Ontario.

S. C. BLACK MINORCA pure-bred eggs for hatching. One dollar per thirteen. Also a few cockerels for sale. Oscar Eaman, Wales, Ont.

WHITE Rock eggs for sale, also a few cockerels. Apply to Howard Smith, Winona, Ont.

WHITE Wyandotte eggs from choce matings, \$1.50 per 30 in Morgan crates. W. A. Bryant Cairngorm, Ont.

WHITE WYANDOTTES—Spendid layers. Grand birds. Free range. Eggs one dollar per fifteen; five dollars per hundred. Satisfaction guaranteed. Chas. F. Rogers, Dorchester, Ont.

WHITE WYANDOTTES—Regal strain and trap-nest stock of splendid winter layers. Birds that "deliver the goods" when prices are highest, and take "Red tickets" at best shows. 15 eggs for \$2. C. C. Claris, Box 2, Alton, Ontario.

WHITE WYANDOTTES—Prizewinners; record layers; free range. Big brown eggs; dollar for fifteen; guaranteed. Harry Johnston, Eamers Corners, Cornwall Ontario.

WHITE WYANDOTTIE & Rhode Island Red eggs \$5 hu dred. Circular free. Edmund Parker, Compton, Qu b-r.

Geo. Amos & Sons
MOFFAT, ONT.

Eggs for hatching of the following varieties: S. C. Rhode Island Reds and Barred Plymouth Rocks, \$1 per 15 eggs.

Single-Comb White Leghorns

Bred from best prizewinning and grand-laying strains. Eggs one dollar per fifteen. A hatch guaranteed.

Geo. D. Fletcher, Binkham P. O. Ontario
Erin shipping station, C. P. R.

Write for Our Free Catalogue

Eggs for hatching from the following breeds: Buff Orpingtons, R. I. Reds (either comb), S.-C. White Leghorns, S.-C. B. Minorcas from Canada's best. Eggs, \$1.50 per 15; \$2.50 per 30.

The R. Roy Poultry Farm, Elmira, Ont.
R. R. Ruppel, Proprietor.

BESSEMER GAS ENGINE OIL

Will make your engine run better and last longer. Write now for our free trial offer, and Helpful Facts for Gasoline Engine Users.

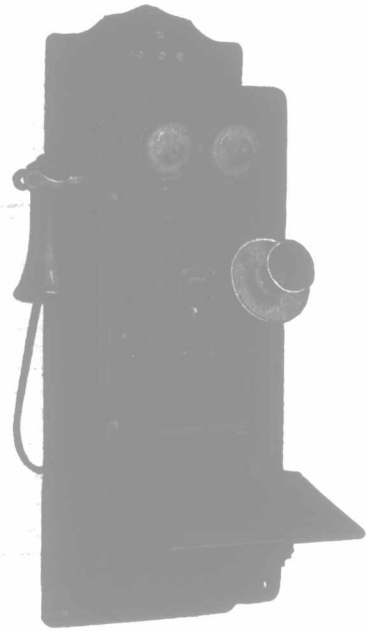
A. W. PARKS & SON,
Gasoline Engine Experts. Petrolia, Ont.

GOSSIP.

Shire horse trade in England was good last year, and high prices prevailed, but, as in the case of Clydesdales, the exports were smaller. The Society issued 389 export certificates, against 658 in 1907. The United States was the best customer, taking 227; Argentina was second with 75, and Canada followed with 44. In spite of the fall in exports, following a period of inflated demand, farmers are not likely to lessen the breeding of Shires so long as the excellent prices of the last few years are maintained.

Canadian Independent Telephone Co.

TORONTO, CANADA.



Wall Telephone, Magneto Type.

CANADIAN INDUSTRY

We have claimed and now reiterate that we have the only Canadian factory actually manufacturing telephone equipment in the Dominion that is not connected with or controlled by the Bell Telephone Company.

GET THE FACTS

Test carefully all statements made in regard to CANADIAN INDEPENDENT TELEPHONES, and the facts will guide you right as to Canadian factories.

QUALITY TALKS

The CANADIAN INDEPENDENT TELEPHONE COMPANY have made a reputation for satisfactory service, up-to-date design and good appearance. Scores of companies using other makes have changed to the CANADIAN INDEPENDENT TELEPHONE after one practical test.

INFORMATION FREE

Write us for full information and a copy of our Number 2 Bulletin on rural telephone construction. All information and estimates furnished free of charge by our engineers.

CONSTRUCTION SUPPLIES

We carry a full stock of all kinds of wire and construction material. Ask for price list.

FULLY GUARANTEED

All our telephones and switchboards are guaranteed for ten years, and you can be sure of material and workmanship being first-class.

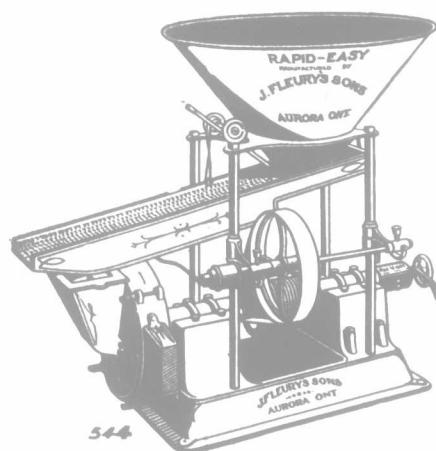
Prompt Shipments and Guaranteed Satisfaction are building up our business.

Canadian Independent Telephone Co.

DUNCAN STREET

TORONTO, CANADA

Less Power and More Work



With "Rapid-Easy" Grinders than with others. Thousands in use in all Provinces, with powers of all sorts—windmill, tread, steam and gas engines. A "Rapid-Easy" will give you pleasure and profit. No other "just as good." Only one best—the "Rapid-Easy." All sizes Sold everywhere. Tell us what power you have, and ask for any information. This cut shows one style and only one size.

The John Deere Plow Co. Western Agents, Winnipeg, Regina, Calgary, Edmonton.

J. FLEURY'S SONS, AURORA, ONTARIO, CANADA.

FOR SALE: "RIVAL DUKE" Imported English Shire Stallion

Sure foal-getter. One of the best Shire stallions in Canada. Also one 2-year-old stallion and two registered mares, 3 and 4 years old. Retiring from horse business. Will sell cheap to close them out.

H. E. GEORGE, Crampton, Ontario.

SAVE 20c PER SHEEP

With the NEW STEWART SHEARING MACHINE With 4 combs & \$12.75 4 cutters, only at your shearing machine. It does not cut or hack sheep-like hand shears, dealer's and gets one pound and over more wool per head. It shears any kind of wool easily and quickly. WE GUARANTEE IT FOR 25 YEARS. All gears are cut from solid metal, not cast; all wearing parts are file hard; spindles are ground and polished, and the driving mechanism is enclosed from dust and dirt and runs in oil. 95 per cent of all the shearing machines used in the world are Stewart patents. If your dealer does not have it, send \$2 and we will ship c.o.d. for balance. Send for a copy of our free book "How to Shear Sheep," and our big new catalogue showing the largest line of shearing machines on earth. Write today. Chicago Flexible Shaft Co., 110 La Salle Ave Chicago

SUBSCRIBE FOR "THE FARMER'S ADVOCATE AND HOME MAGAZINE."

for vanity prompted no part of his speech. "Many great services have I rendered my country, but I feel that the greatest service I could yet do Old France or New would be the planting of ten thousand sturdy peasants and artisans of France in the valley of the far West, to make its forests vocal with the speech of our native land.

"This present war may end suddenly—I think it will; the late victory of Lawfelt has stricken the allies under the Duke of Cumberland a blow hard as Fontenoy. Rumors of renewed negotiations for peace are flying thick through Europe. God speed the peacemakers, and bless them, I say! With peace comes opportunity. Then, if ever, if France be true to herself and to her heritage in the New World, she will people the valley of the Ohio and secure forever her supremacy in America!

"But our forts far and near must be preserved in the meantime. We must not withdraw from one foot of French territory. Quebec must be walled, and made safe against all attack by land or water. I therefore, will join the Council in a respectful remonstrance to the Count de Maurepas, against the inopportune despatches just received from His Majesty. I trust the Royal Intendant will favor the Council now with his opinion on this important matter, and I shall be happy to have the co-operation of His Excellency in measures of such vital consequence to the Colony and to France."

The Governor sat down, after courteously motioning the Intendant to rise and address the Council.

(To be continued.)

GOSSIP

SALE DATES ANNOUNCED. Messrs. G. A. Gilroy, Glen Buell, and G. H. Manhard, Fairfield, Ont., claim May 25th as the date for a joint sale of Holsteins, at Brockville, Ont.

WANTED

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.

MICHIGAN LANDS—Over 85,000 acres of choice, uncleared farm and grazing lands in the Lower Peninsula of Michigan for sale cheap. Rich soil and easily cleared. State size wanted, and what you wish to use it for, when writing for prices. The Riegel Land & Lumber Co., Summit Ave. & W. & L.E.R.R., Toledo, Ohio.

STUDENT at Ontario Agricultural College, with life-long experience on Canadian general farming, wants employment until Sept. 15. State wages. Box W, Farmer's Advocate, London, Ontario.

TRACTION DITCHER—Have a new Buckeye Traction Ditcher for digging underdrains. Jobs wanted in the Niagara peninsula, and large jobs outside the peninsula. Walter Day, Beamsville, Ontario.

WANTED—Persons to grow mushroom for us at home. Waste space in cellar, garden or farm can be made to yield \$15 to \$25 per week. Send for illustrated booklet and full particulars. Montreal Supply Co., Montreal.

WANTED—Reliable single man, good with horses and farm machinery. Good wages to right man. References required. Eaton's Farm, Irlington, Ontario.

WANTED—A responsible man to handle an imported Clydesdale stallion on short route in good locality. Apply, stating salary, etc., to: Nelson McRae, Moose Creek, Ontario.

WANTED—Girls to work in large Hosiery Knitting Mill in attractive Ontario town. Highest wages paid. No experience necessary to start. Apply Box P, "Farmer's Advocate," London, Ontario.

YOUNG MAN (Canadian), aged 20, seeks situation with reliable, experienced fruit and market gardener; by the year preferred. Strictly temperate. Apply: C. A., FARMER'S ADVOCATE, London, Ontario.

For Sale:

A Snug Little Farm. 30 acres, level field; wood for home use; 1-2 mile to village, good road to three cities; plenty work in neighborhood for man all the year around; cosy house, 6 rooms, barn 30x40; yours for \$800, with \$300 down and easy terms. Owner has a larger farm; see page 32, "Strout's April Bulletin," for details, copy free. Dept. 2415, E. A. Strout Co., University Block, Syracuse, N. Y.

GOSSIP.

Official records of 154 Holstein-Friesian cows were accepted by the American Holstein Association from March 16th to March 20th, 1909. This herd of 154 animals, of which just one-half were heifers with first or second calves, produced in seven consecutive days, 62,351.1 lbs. of milk, containing 2,158.68 lbs. of butter-fat; thus showing an average of 3.46 per cent. fat. The average production for each animal was 404.9 lbs. of milk, containing 14.017 lbs. of butter-fat; equivalent to 57.8 lbs., or nearly 28 quarts of milk per day, and 16.35 lbs. of the best commercial butter per week. This is the largest average production for so large a herd yet reported.

Mr. W. D. Breckon, manager of Lakeview Farm and Holstein herd at Bronte, Ont., in ordering a change in advertisement, writes: "The cow Grace Fayne 2nd's Homestead (sister from same dam, Grace Fayne, as our stock bull, Count Hengerveld De Kol) has broken the world's record, 35.22 lbs. butter, made by Colantha 4th's Johanna. The record just made is 35.55 lbs., as a six-year-old, in seven days. With the world's record milk cow on his sire's side, De Kol Creametta, and the world's record for all breeds for seven days' official-test butter record on his dam's side, I believe we have a young sire whose breeding is second to none, if facts count for anything. Individually, he has few peers, and his bull calves should find ready buyers."

\$3,025 FROM FIVE HOLSTEIN COWS, A YEAR'S RECORD.

A yearly income of \$3,025 from but five dairy cows seems large. In fact it is large and decidedly out of the ordinary, but, nevertheless, possible under favorable conditions. Such was the amount received from the products of five Holstein cows, owned by the Nebraska Experiment Station, in one year. These cows are good ones, but there are others just as good if the farmer will but find them, and then accord them the right treatment, says Farmers' Review. The following is what Prof. A. L. Haecker, head of the Dairy Department of the University of Nebraska, says about these very profitable dairy animals:

"These five cows produced 75,560 pounds of milk in one year. This is equivalent to about 35,000 quarts, which, at the wholesale price of 5 cents per quart, is equal to \$1,750. The calves from these cows at one year old sold for \$1,275. These are actual figures, derived from the books at the experiment station. It illustrates what five good cows can do when the products are used to the best advantage. The figures certainly look large when we consider what these five cows produced in one year, a product which sold for \$3,025, and their record this year will exceed that of the past."

TRADE TOPIC.

SPRAYING MADE EASY.—Spraying is to the front in Canada this season as never before, and first among the problems is the outfit to use. Of those he has tried, J. R. Johnson, San Jose Scale Inspector for the Township of Mersey, in Essex Co., Ont., likes best The Empire King hand sprayer, made by the Field Force-pump Co., of Elmira, N. Y., which he is now using in his own and other fruit and vegetable gardens for the third season. He commends it for simplicity, durability, and ease of operation, three or four strokes of the pump handle starting enough pressure in the little chamber on top of the 50-gallon barrel to keep the misty spray going over the trees for three or four minutes. A second line of hose can be attached and worked about as easily as one. One man drives the horse and light wagon and operates the pump, while two others handle the extension rods and nozzles. The agitator and brush, Mr. Johnson finds very effective. Recently he treated many fruit trees with the commercial lime-sulphur mixture (one to ten), and states that in the famous fruit district about Leamington, Ont., there are fifteen or sixteen of these outfits in use. It is not an expensive sprayer, and our readers can obtain particulars regarding it by writing the Field Force-pump Co., Elmira, N. Y., as advertised in this issue.

QUESTIONS AND ANSWERS.

Miscellaneous.

REGISTERING HORSES.

How many pure-bred crosses are necessary in order to register mares and stallions, and what conditions are demanded in furnishing proof? R. C. F.

Ans.—Enquirer does not state what breed. If a Clydesdale, see article "Clydesdale Rules" in this issue.

CHESTER HOGS.

Are there any O. I. C. hogs in Canada, are they a good breed of swine, and where could I get a pair? A. J. K.

Ans.—Ohio Improved Chesters are what are known and registered in this country as Chester Whites, which, when of the most approved type, are a good class of hogs. For address of breeders, see our advertising columns.

TRANSFER OF FRENCH-CANADIAN PEDIGREE.

The Watt Syndicate own the French-Canadian stallion Tommy 2nd 1013; the registry has not been made over to us. I hold the original pedigree. Will you please give me the address of the General Breeders' Association, and tell me how to proceed? A. B. P.

Ans.—Address "Accountant," National Live-stock Records, Ottawa, who will instruct you fully how to proceed.

APPLE VARIETIES IN BLOCKS.

I have 100 Stark apple trees, and 30 Milwaukee, to plant this spring. Would it be all right to plant them in blocks by themselves, to make it handier in picking, or would it be better to plant them mixed, so that the pollens would be carried from one to the other? W. D. I.

Ans.—Orchardists advise mixing of varieties in setting out apple trees on account of the fact that some are self-sterile—that is the blossom is not capable of properly fertilizing itself. The self-sterile sorts are not definitely known, but the results of experiments conducted by experts do not seem to have brought Milwaukee or Stark under the doubtful varieties. It would seem, therefore, that you are safe in planting these in blocks by themselves. W. T. Macoun, of C. E. F., Ottawa, says it is not wise to plant even self-fertile varieties in large blocks, as the average yields will be heavier where varieties are mixed.

BUILDING AND VENTILATING PIGPEN—PUFFY HOCK.

1. What kind of a hogpen is the best to build?
2. Cement block, big brick, or stone?
3. And the most convenient to hold 40 or 50 hogs?
4. Please give plan for building.
5. Also a plan for ventilation.
6. What is good for puffy hock on a heavy colt?

Ans.—1. Of the three materials mentioned, we would recommend, in order of preference, the large hollow brick, cement block; last and least desirable, solid stone. Better than any of these would be a frame structure on a cement-block wall two or three feet high, resting in turn on a concrete foundation.

2 and 3. See plans that have appeared in "The Farmer's Advocate" this winter.

4. Admission of fresh air may be provided by constructing 4 x 6-inch shafts in the walls, at intervals of fifteen or twenty feet. They should open outside, near the ground, and inside at the ceiling. Provision should be made to control drafts. Outlets may consist of shafts about eight inches square, extending through the roof, and equipped on the top with revolving cowls to turn from the wind.

5. Apply the common blister, biniodide of mercury 2 drams, powdered cantharides 2 drams, vaseline 2 ounces, after shaving off the hair. Rub well. In fact, rubbing, without blistering, will often tend to reduce such puffs.

Never Will There Be Built a Stronger Cream Separator Than the MAGNET.



Every part, from the Cream Screw to the stand, is made as perfect as men and material can make it. There has been no slighting in any part to compete with the sale of low-priced machines. We have done just the opposite, and we now lead the world in perfect skimming, easy operation, easy cleaning and durability. A MAGNET will not wear out in the lifetime of any purchaser. No machine skimming milk requires as few repairs as the MAGNET.

The large bowl supported at both ends (MAGNET patent). A perfect skimmer in one piece, separating all foreign matter from the cream and milk, and easy to clean. The Brake (MAGNET patent) that circles the bowl and stops it in eight seconds without injuring the machine. The MAGNET will skim sitting on a pile of chips on the ground or any floor. You do not require a level and a kit of tools to set up a MAGNET, just one small wrench. The operator saves twelve

days' work each year over other separators if he owns an easy-to-clean MAGNET. Drop us a postal card, and we will show that the MAGNET will do all we promise.

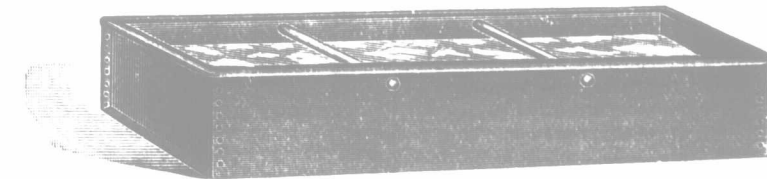
The Petrie Mfg. Co., Ltd.

Head Office and Factory: HAMILTON, ONTARIO, CAN.

BRANCHES:

Winnipeg, Man.; St. John, N. B.; Regina, Sask.; Hamilton, Ont.; Vancouver, B. C.; Calgary, Alta.

PERFECT STEEL TANKS



Our great specialty is Steel Tanks—perfect Steel Tanks. You want good ones—something that will stand the severest test. We make that kind—making tanks is our business. We like it. How perfect we can make them is our aim. We study to see how we can make still better tanks. We take more pride in a good tank than most people do in a fast horse. We begin right down at the bottom. We send to the mills in the Old Land and get the finest quality of material. We buy in large quantities to get it cheap. We select it heavy, so it will stand the test. We employ expert workmen to make it up. We take no chances on it. Our factory is equipped with power machinery, this enables us to build you heavy tanks at the same price other people charge for light ones. It enables us to make them fast. Our tanks are galvanized, so they won't rust. Thoroughly riveted and soldered so they can't leak. Finished around top with heavy steel angle, so they are strong and rigid and self-supporting. We brace them inside to prevent any bulging with weight of water. What more need we say? Look here! If our tanks are not as represented when they reach your station, just fire them back at our expense. We don't want your money if we can't give you this offer if we had not great confidence in our goods. We supply any kind. Barn tanks, bath-room tanks, gasoline tanks, windmill tanks, milk-cooling tanks, threshers' tanks, any shape, round, square or oblong. Anything in heavy sheet steel. Write us.

THE STEEL TROUGH & MACHINE, CO., LTD., TWEED, ONT.

Coil-Spring Wire



used by us is made in our own factory. This wire, while it stretches up stiff and taut, is yet remarkably springy—makes a fence so elastic that it instantly springs back into its original erect position after undergoing pressure severe enough to stretch an ordinary fence permanently out of shape.

Test the galvanizing of this Coil Spring Wire with your knife and you'll find it heavier, smoother, better. Fact is, this Coil Spring Wire makes Maritime Wire Fence fully 25 to 100 per cent. more lasting than ordinary fencing—a 25 to 100 per cent. better investment.

Will you favor us with a request for our Free Catalogue and learn more about our superior Maritime Wire Fence?



New Brunswick Wire Fence Co., Limited. Moncton, New Brunswick.

BEST RESULTS OBTAINED FROM FARMER'S ADVOCATE "KNIVES" ?

Cover the Walls Now With Alabastine and it will be less trouble and expense to redecorate them again when the time comes. When redecorating you don't have to scrape or wash Alabastine off the walls as with wall paper or kalsomine. Simply apply the New Alabastine tints over the old.

CHURCH'S COLD WATER Alabastine

It won't Rub Off.

tints last longer, too, as they are less liable to fade or discolor. Alabastine does not rub off, crack or peel. Our free book, "Homes, Healthful and Beautiful," explains fully. Write for a copy. Many interior decoration schemes illustrated. A 5 lb. package Alabastine 50c, at the hardware store.

THE ALABASTINE CO., LIMITED, 31 WILLOW STREET, PARIS, ONTARIO

GOSSIP.

Mr. B. R. Pierce, of Illinois, well known as a successful breeder, feeder and exhibitor of Aberdeen-Angus cattle, died at his home in Chicago on March 28th, in the 78th year of his age. Mr. Pierce gained much fame as the breeder of Advance, the grand champion steer of the 1901 International Exhibition. A few years later he purchased the noted bull, Prince Ito, paying \$9,100 for him.

WOODBINE HOLSTEINS.

Woodbine Stock Farm, the property of Mr. A. Kennedy, of Ayr, Ont., whose reputation as a breeder of high-class Holstein cattle is one to be justly proud of, is situated four miles south-west of Ayr Station, C. P. R. His splendid herd, founded 24 years ago, has continuously been headed by the best record-backed-up bulls attainable, with the inevitable result that each succeeding year has shown a marked improvement in quality and productiveness, and the herd has steadily gained favor with the buying public. For some time past the herd has been headed by that remarkably richly-bred bull, Sir Creamelle, one of the strongest officially-backed bulls alive, bred in the world-renowned New York State herd of H. Stevens & Son, sired by Duchess Ormsby Hengerveld De Kol Prince, own brother to that wonderful cow, Queen Ormsby, whose butter record is 28,383 lbs. in 7 days, and whose official butter-fat test showed the phenomenal richness of 5.44 per cent.; sire's dam, Duchess Ormsby 3rd, whose seven-day butter record is 22 lbs., and who has one daughter, Duchess Piebe De Kol, whose record is 29.44 lbs., and her dam, Duchess Ormsby, has to her credit 24.44 lbs. butter in seven days; besides having five daughters with records that average 20 lbs. The dam of Sir Creamelle is Creamelle Hengerveld, record 21,251 lbs. as a two-year-old; second dam, Creamelotta, a sister to the dam of De Kol Creamelle, butter record 28,131 lbs. in seven days, and milk record 119 lbs. in one day; third dam, Creamelle 2nd, butter record 18.44 lbs., and dam of four A. R. O. daughters. From the above, it will be seen that this bull combines the blood of the greatest milk cow, and the highest-testing family the breed has ever known. Sired by him, for sale, are a number of extra-nice bull calves, running along about two months of age, out of daughters of those great breeding bulls, Sir Mechthilde Posch and Homestead Albino Paul. The herd of females are an exceedingly choice lot, of ideal type and great producing appearance. The dozen or more heifers now on hand are a particularly nice lot, and will be priced. Mr. Kennedy has also for sale a rare nice two-year-old bull, a son of Sir Mechthilde Posch. This bull was held over to use to a limited extent on the herd, owing to his superior type, quality and breeding, and will now be sold right. Mr. Kennedy reports last year, and so far this year, as away the best he ever had for inquiry and sales, which he attributes to the increasing popularity of the Holstein as the dairy and home cow par excellence.

TRADE TOPIC.

The Bank of Toronto has opened a branch at Vancouver, B. C., with H. B. Henwood, of Barrie, as manager.

RENNIE'S SEEDS

8 PACKETS, 25c.

8 Superb Vegetables for 25c. Beet, Carrot, Lettuce, Onion, Cucumber, Radish, Cabbage and Tomato. Regular 40c., for 25c.

8 Attractive Flowers for 25c. Asters, Mignonette, Double Pinks, Poppy, Petunia, Nasturtium, Sweet Peas, Morning Glory. Reg. 40c., for 25c.

8 Leading Vegetables and Flowers for 25c. Onion, Beet, Lettuce, Radish, Asters, Mignonette, Pansy, Sweet Peas. Reg. 40c., for 25c.

WM. RENNIE CO., Limited, Toronto, Montreal, Winnipeg, Vancouver.

Amatite ROOFING

A Cure for Leaky Roofs



DON'T waste time trying to patch a leaky roof! A roof which leaks in one place is generally on the verge of leaking in many other places.

The cheapest method of repair is to cover the whole roof with Amatite. Amatite costs so little that the entire job can frequently be done for the expense of caring for a leaky roof. After the old roof is covered with Amatite you will have no further worry or expense.

Most ready roofings require a coat of paint every two years to keep them in order. But Amatite is not the ordinary kind of Ready Roofing. Amatite has a real mineral surface, firmly imbedded in the Coal Tar Pitch waterproofing. This surface resists the attacks of the elements like a stone wall. It demands no

additional protection or covering, such as a coat of paint.

Buying Amatite is the same as buying an ordinary ready roofing with an agreement from the dealer to keep it painted free of charge. Such an agreement on the ordinary roofing would double its value. You practically get such an agreement with every roll of Amatite; yet the price is no greater than that of the ordinary kind.

Send us your name and address, and we will forward you by return mail a free sample of Amatite, and you can see how tough, durable and substantial it is. Write to-day to nearest office.

THE PATERSON MANUFACTURING CO., LTD., Toronto, Montreal, Winnipeg, Vancouver, St. John, N. B., Halifax, N. S.

BOOK REVIEW.

SWINE IN AMERICA—By F. D. Curn, Secretary Kansas Department of Agriculture—is the latest contribution to practical literature on the breeding, feeding, management and marketing of hogs, an industry in which the great majority of farmers in Canada, as well as most other countries, are, to a more or less extent, interested. Thirty years ago Mr. Curn gave to the farmers of America the best book on swine husbandry published up to that date. Since that time the author has had an ever-widening experience in practical farming, and, being a careful observer, as well as a constant lover of agriculture, no man within the compass of our ken is better fitted to treat the subject dealt with in the pages of his new book, which will be welcomed by a host of those interested in swine-raising. This work contains 704 pages, substantially bound in fine silk cloth, and illustrated by nearly 150 superior photo-engravings and drawings of representative animals of the various breeds, besides sketches of approved methods of housing, feeding, fencing, etc. The table of contents comprises chapters on: I. Swine in America. II. The Breeder and Breeding. III. Breeds: Popularity and Distribution. IV. Breeds and Types. V. Practical Points in Breeding. VI. The Boar: His Selection and Management. VII. The Sow: Her Selection and Management. VIII. Pigs: Weaning and Growth. IX. Pasturing and Soiling. X. Alfalfa and Swine. XI. Succulent and Bulky Feeds: Roots and Tubers. XII. Indian Corn: The Pork-maker's Mainstay. XIII. Feeding and Fattening. XIV. Wheat, Other Grains and Ground Feeds. XV. Feeding By-products. XVI. Water, Slop and Swill. XVII. Swine in Connection with Dairying. XVIII. Hog Houses and Pens. XIX. Sanitation in the Hog Lot. XX. Castration. XXI. Slaughtering and Curing. XXII. Razor-backs Not Cholera-proof or Profitable. XXIII. The More Common Diseases: Their Prevention and Treatment. This book, which is choke-full of valuable information to all interested in the subject of swine-raising, may be had at the retail price, \$2.50, postpaid, from this office.

GOSSIP.

Messrs. Wm. Ormiston & Sons, Columbus, Ont., advertise for sale, at a bargain, the imported red six-year-old Short-horn bull, Merry Master—45199—, guaranteed quiet, sure, and a first-class sire. Also a daughter of this bull, out of Imp. Marchioness 34th, and Clydesdales mares and fillies, in foal to high-class sires.

With a flock of 780 Oxford Down ewes in the flock of R. W. Hobbs & Sons, at Kelmecot, England, about sixty of which had still to lamb, there were on March 10th close upon 800 lambs. The ewes, having been on grass, with a few mangels, mixed hay and straw chaff, and dried grains, came to pen in excellent condition, and with a plentiful supply of milk. Losses at the pen have been remarkably few, both as regards ewes and lambs.

On March 5th, the Armour six-horse team of Percherons, with William Wales and the big yellow truck, took the road from Chicago on the most extensive advertising tour of the sort ever undertaken. It will be on the road until late next autumn, travelling all over the West and South-west. The team will be composed of Mack and Dado, leaders, Phil and Star in the swing, and the new pair of wheelers shown at the last International. Big Jim is to be taken along, to have a good time in a sort of retired old gentleman fashion, getting all he wants to eat, a comfortable place to sleep, and daily exercise in the parades. How many thousand miles will be travelled before the team comes home again it is hard to say, but lines drawn from the Rio Grande to Seattle, and from Chicago to San Francisco, intersect a vast territory. In the meantime, Messrs. Armour & Co. are getting together a new team. A life of ease is promised the old horse Jim at the close of his memorable career in the show ring.

Cowan's Perfection Cocoa

is made from the finest carefully selected cocoa beans, roasted by a special process to perfect the rich chocolate flavor. Cowan's is most delicious and most economical.

The Cowan Co. Limited,
Toronto. 90

HE UNDERSTOOD.

"One of the easiest ways for a lawyer to confuse a witness," once said Colonel John P. Irish, "is to make him explain the meaning of a word, it being well known that few persons can satisfactorily define a word, even if they know its meaning. Once I saw a pompous attorney taken down by a man who, being asked how he knew the meaning of a word, replied, 'By the intellect the Lord gave me.' But a more matter-of-fact demonstration was this:

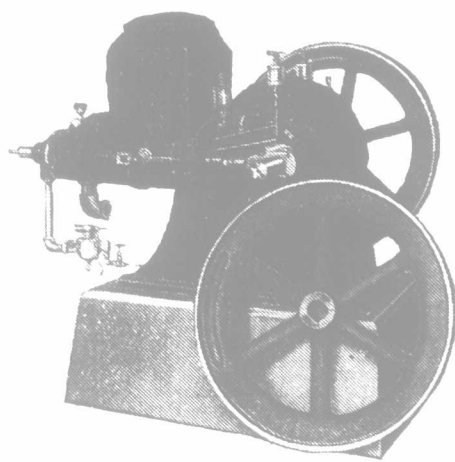
"In a case in California not long ago one attorney was cross-examining a young woman of extremely haughty temper. She had testified, among other things, that she had seen the defendant 'shy' a book at the plaintiff.

"The lawyer at once seized his opportunity. 'Shy? Shy a book? What do you mean by that? Will you kindly explain to the honorable court what the word shy means?'

"Whereupon the young woman suddenly leaned over the desk beneath the witness box, picked up a law book and hurled it at the lawyer so accurately and forcibly that he had much to do to avoid being struck.

"I think the court now understands the meaning of the word shy," said His Honor, gravely."

The Only Simple Engine THE ST. MARY'S Semi-Automatic Gasoline Engine



Only one-third the parts seen on other engines.

Runs on one-third less fuel. Easiest engine to start. No cranking. This engine is so simple that it can hardly get out of order.

It has so few parts that we can afford to build it better and sell it cheaper than other engines.

Mounted on Skids, Water Reservoir on Cylinder, Gasoline Tank in Bed, it can be taken anywhere on the farm.

It will pump your water, grind your feed, saw your wood, run separator, churn, washing machine and ice-cream freezer by day, and light your home with electricity by night.

Every conceivable advantage and convenience for you is combined in The St. Mary's Semi-Automatic Gasoline Engine.

Write now for our free expert opinion on your requirements.

A. W. PARKS & SON,
Petrolia, Canada.

QUESTIONS AND ANSWERS. Miscellaneous.

CALVES LOOSE OR TIED?

Which is the more successful way of raising calves, to be tied as soon as born, with no exercise, or to be loose in a box stall? (G. H. W.)

Ans.—To be loose in a box stall, and tied or stanchioned for half an hour at feeding time. Veal calves may be kept tied in dimly-lighted stalls; no others should be.

POTATOES AS STOCK FEED.

1. In Bulletin No. 10, Branch of the Live-stock Commissioner, on the Production of the Bacon Hog for the British Market, page 50, last sentence of section on cooking, I find this statement: "It is now generally conceded by those who have given the feeding of potatoes a fair study, that these tubers, fed raw, have very little nutritive value, but when cooked, they are worth about one-quarter as much as mixed grains." Is this statement true in feeding potatoes to stock other than pigs?

2. Is there any danger from feeding potatoes slightly affected with rot, caused by blight, to stock of any kind? (A. K. W.)

Ans.—While potatoes may, to a limited extent, be fed to horses and cattle with satisfactory results, they are best adapted to the appetite and dietetic requirements of the hog.

2. We have never heard of any, and would not anticipate any particular injurious effect, except that rotted potatoes would not be expected to be quite so wholesome as sound ones.

FEEDING A DAIRY CALF.

I have a pure-bred Holstein calf which I would like to raise by hand. What would you advise feeding it for the first summer to make a first-class calf? (J. P.)

Ans.—New milk for the first three or four weeks; then one-half new and one-half skim milk for two weeks, then all skim milk, always in moderation and at blood heat. At four weeks old, the calf may be taught to eat whole or ground oats by placing some in its mouth after taking its milk. Then a little of a mixture of whole or ground oats and bran, given fresh every day in the manger, and some sweet clover hay in the rack, and with a roomy box stall. Kept clean and well-bedded, and fresh water in a tub or trough provided, the calf may spend the summer in comfort and make steady growth, without becoming fat, which latter condition is undesirable in a dairy-bred calf. Liberty to run in a pasture-plot adjoining a darkened stable or shed as protection from flies and extreme heat of summer, together with feeding rations before mentioned, constitute ideal conditions for the dairy calf. If circumstances are not favorable for day pasturage with shelter, turn the calf out to pasture at night and stable in daytime.

EXTERMINATING RATS.

Please tell how to get rid of rats. We are badly pested with them around the barn. (SUBSCRIBER.)

Ans.—The United States Department of Agriculture has issued a bulletin on this subject entitled "Methods of Destroying Rats," which recommends barium carbonate or barytes, as an effective and comparatively safe poison to use. It should be fed in a dough, made of one-fifth barytes and four-fifths meal, or of ordinary oatmeal mixed with one-eighth its bulk of barytes, water being the mixing medium in both cases. Barytes is sometimes spread on bread and butter. This poison, although sure death to rats, is harmless to larger animals in the small quantities required. It is slow in its action, and the rodents will usually leave a building in search of water. This sometimes results in their getting into wells, cisterns, etc., for which reason it is sometimes advisable to set out a pan of water, though not very near their runs. The bulletin discusses traps, the guillotine type being preferred. It also recommends rat-proof construction. "The Farmer's Advocate" strongly urges these two expedients, viz.: Cement the barn floors and keep plenty of cats. Deprived of secure runways and breeding places under old wooden stable floors, pussy soon makes short work of them. Many an infested barn has been freed of rats by these simple means.

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IT TAKES precedence over any other spraying machine made. It is not enough for a pump to simply squirt water. Our KING is a combination of three machines in one: while it maintains a strong, steady pressure on the nozzles, it also keeps the liquid in the tank thoroughly agitated, and with each stroke of the pump-handle it cleans the suction strainer twice. Brass cylinder, plunger and valves secure greatest strength, long life, and freedom from corrosion. Every consideration urges it as the best pump. We also manufacture the Monarch, Garfield Knapsack, and many other kinds and sizes of sprayers. Write for our excellent book on spraying formulas, etc. Mailed free.

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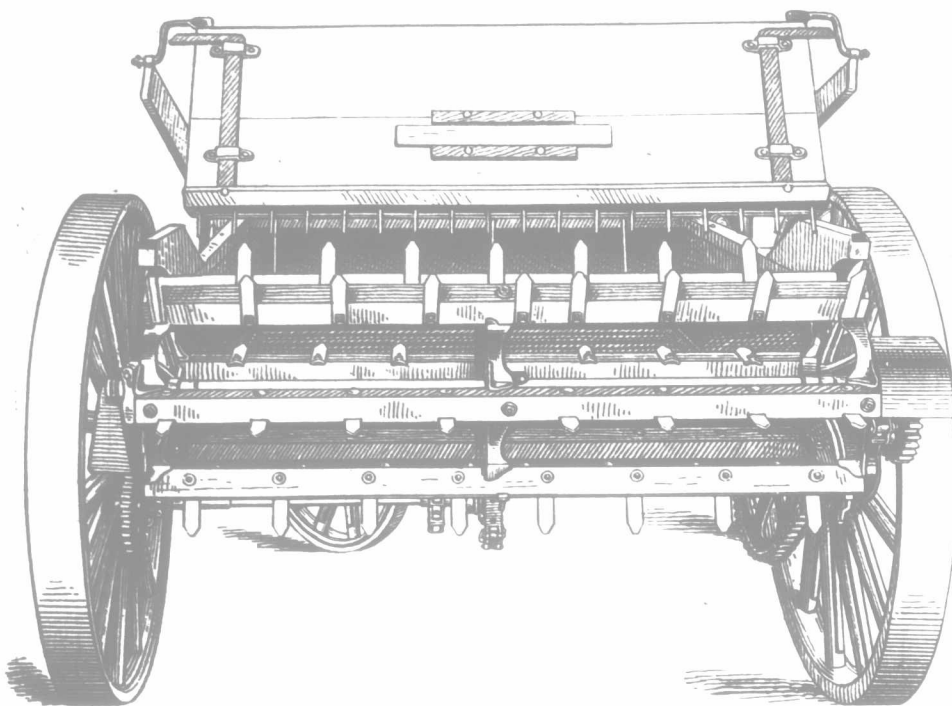
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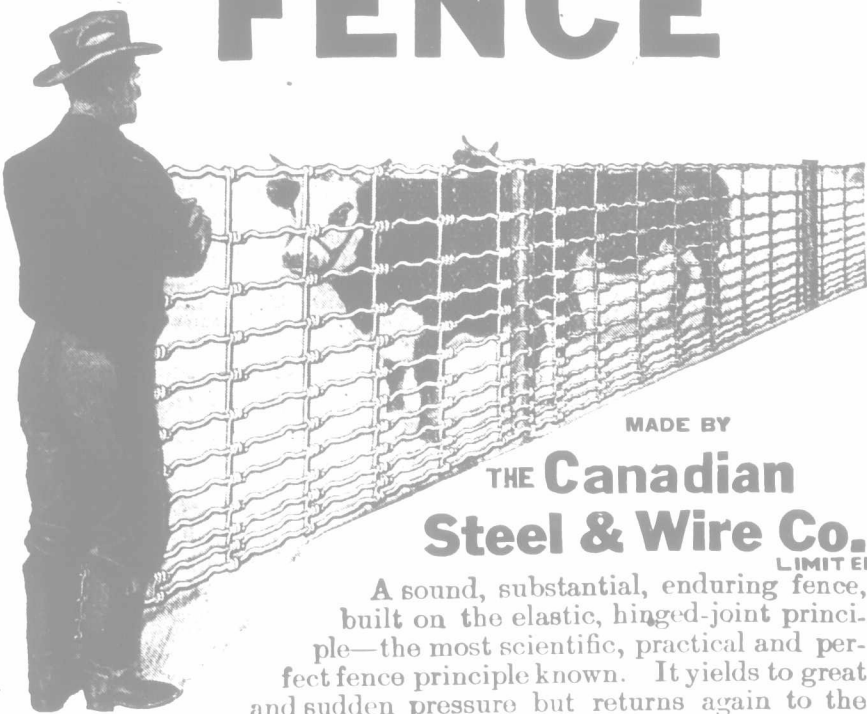
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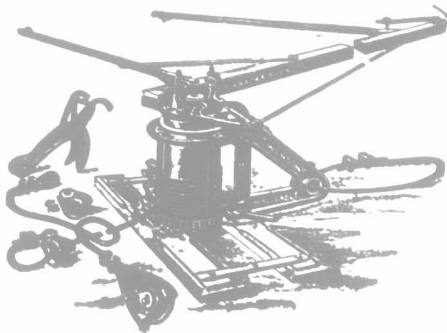
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CANADIAN SWENSONS, Limited.
Lindsay, Ontario, Canada.

QUESTIONS AND ANSWERS.
Miscellaneous.

GOOD ADVICE — PEAFAWL WANTED.

I wrote to you some time ago about a lame horse and was pleased with the good result; also about cleaning clover from rib grass. I am obliged for your good answer; it works all right. Could you, or any of your readers, tell me where I could get peafowl? I have a peacock, but can't get a hen.

M. W.

Ans.—Our friend would doubtless be able to secure a peahen by inserting a brief want ad. in our Want and For Sale column. Rates, 3 cents a word, cash with order. Or those having peafowl to sell, would find it to their advantage to insert a small advertisement in the Poultry and Eggs column. Rates, 2 cents a word, cash with order. Private replies sent us, with a request to forward to M. W., will not be forwarded. Anyone wishing to buy or sell should advertise.

NEW CORN VARIETY.

A person from down east sold here several lots of corn of 10 lbs. each, at \$1.50. It is called Mammoth Black-eyed Early Flint. Please give its origin, and tell us if it exceeds other varieties for ears and stalks as represented here.

J. I.

Ans.—We have not heard of such variety. Reports at Ottawa and Guelph, and seed catalogues at hand, contain no such name. It certainly is not a recognized standard corn for Canadian conditions, but, perhaps, is a new name attached to an old variety that gave good results in a certain locality for a season or more. From the price at which it was sold, however, the suspicion is raised that your neighbors have been handed a gold brick. The price, \$1.50, would probably be better invested in a year's subscription to "The Farmer's Advocate."

CATTLE LOOSE IN STABLE—VIABILITY OF SEEDS.

1. How many cattle coming two years old can properly be taken care of in a "loose" stable 20 x 30 feet?

2. How long will good timothy and clover seed last? Is it good for two or three years if kept in a dry place?

G. G. M.

Ans.—1. Twelve or fifteen head.
2. Clovers and timothy seed are claimed to maintain vitality for two or three years after they are grown. Generally speaking, the seed deteriorates after two years. As you suggest, the storage has an influence. They should not be exposed to dampness or to changed conditions. Too high temperature, and moist conditions, will result in injury. If the seed was thoroughly mature, and stored under ideal conditions, it would be good the third year, and probably longer.

GRAVEL ROOFING.

How much material is required per square yard for a gravel roof, and how is it put on?

R. J. McE.

Ans.—The mode of constructing a gravel roof will be to first cover the boarding, or, in case of a fireproof roof, the smooth top of the concrete, with dry resin-sized felt, with a lap of two inches, tacked only often enough to hold it in place. Over this are laid three full thicknesses of tarred felt, each sheet lapping two-thirds of its width over the preceding one, the whole covered with a uniform coat of pitch mopped on. Upon this coating, two layers of tarred felt are tacked, each lapped about twenty-two inches, and the whole mopped over, and a thick coat of pitch flowed on. As the durability of the roof depends upon the paper, only the best should be used, and the pitch should not be so hot that it will destroy the life of the paper. Upon the lush coat of pitch is spread immediately a coat of clean white sand, completely covering the whole, as a protection. Every care should be taken regarding the flashing of vulnerable parts. The grade of the gravel roof should not exceed 2-inch to a foot. If much steeper the heavy coat of tar will run in hot weather, and, settling down, will gradually fill the gutters.

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Given free for selling our Vegetable and Flower Seeds. Do not miss this chance. Watches are guaranteed silver nickel, man's given for selling \$3.00 worth, and lady's for selling \$3.50 worth. Seeds are all assorted varieties, both flower and vegetable seed in 5c, small and 10c. (large) packages, and sell very fast. Send your name and address. Write to-day. A post card will do. **The Reliable Premium Co., Dept. X., Waterloo, Ont.**

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Send for beautiful illustrated catalogue of new dahlias.
H. P. VAN WAGNER, STONY CREEK, ONT.

PLEASE MENTION THIS PAPER.

QUESTIONS AND ANSWERS.
Veterinary.

SORE EYES, ETC.

1. I bought a pair of horses the other week. They were guaranteed. Since I bought them, a scum has come over the eyes of one of them. Just one eye was affected; then the other. Is this moon blindness? The horses are paid for; am I entitled to keep them?

2. The other horse, when eating or drinking, stands with his feet spread out sideways.

J. C. P.

Ans.—1. The symptoms given indicate periodic ophthalmia, often called "moon blindness," but he may have received an injury to his eyes. If the trouble is periodic ophthalmia, he will probably go blind from cataracts in a greater or less length of time. As to the liability of the seller, you must consult a lawyer. My opinion is that you must keep the horse unless the seller will take him back and refund the price, but if you can prove that he guaranteed him sound, and that he was diseased at the time of sale, he will be liable for damages.

2. This, apparently, is simply a habit.

V.

Miscellaneous.

PROBABLY RINGBONE.

I have a valuable mare which went lame in the left hind foot about a year ago, because of a growth which came on the front of her pastern, about an inch up from her hoof, and it runs about half way around the pastern. It feels quite hard. I have blistered it twice, but it done no good. Would firing cure the lameness? What would you advise me to do with it? Would it be wise to have a veterinarian cut the growth out?

G. W. F.

Ans.—From the description, the ailment appears to be ringbone. Repeated blistering, in some cases, effects a cure, at least so far as the lameness is concerned. Firing in this, firing and blistering may be effective. For this a veterinarian should be employed. When firing fails, an operation to remove a portion of the nerve that supplies the limb, or of the small nerves that supply the foot, gives relief.

PREPARING LIME-SULPHUR — ARSENATE OF LEAD—CULTIVATING OLD ORCHARD.

1. How should I prepare lime-sulphur for spraying apple trees? What is the strength for winter spraying, and what for summer? Do you think arsenic of lead for poisoning is preferable to Paris green, and what proportion of either?

2. I have twenty acres of orchard from eighteen to thirty years old which has been in grass for about ten years. I wish to bring it to a state of cultivation. This being the bearing year, do you think plowing and cultivating would be detrimental to this year's crop, as many small roots and fibres will be cut off in plowing?

A. D. C.

Ans.—1. The preparation of lime-sulphur was thoroughly discussed in our issue of April 1. Many orchardists prefer arsenate of lead to Paris green, because it is more effective. Pure Paris green is satisfactory, but in many districts it has been found practically impossible to get it of dependable quality. Paris green is used at the rate of 4 to 7 ounces to 40 gallons of water, depending on the nature of the tree or plant to which it is applied. Some add lime in order to avoid burning the foliage. Arsenate of lead is used at the rate of about one pound to 40 gallons of water. The quantity required depends on the quality of the lead arsenate. Study the article from Prof. Harcourt in this issue.

2. Deep plowing might have a tendency to injure your chances for a heavy crop this season by reason of excessive root-pruning. You would be safe, however, in plowing rather shallow, as early as the land is fit to plow, and practicing repeated surface cultivation. About July you can safely sow to buckwheat, clover, rape or vetches, to be plowed down next spring.

Handle the heifer calf constantly from birth until she becomes a cow. She will then be gentle, and no ropes or straps will be required to prevent kicking during the days of first milking.



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The Philosopher is proud of his Metal Town—proud of the spic-and-span, fire-proof stores, public buildings and private homes. It's a town of low insurance rates, artistic appearance—sanitary and safe.

The stores are clad in metal fronts with ornamental cornices, and the dwellings and barns covered with the perfect-lock, weather-proof "Eastlake" steel shingles.

The theatre, too, and court house are roofed with fire, lightning, rust and storm-proof "Eastlake" shingles. Within they are covered with artistic metallic ceilings and walls.

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All this construction spells safety and economy for the dwellers of Metal Town.

Write for catalogue, and send measurements for any kind of building. We will be pleased to estimate the cost.

Agents wanted in some sections.

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The oldest and largest manufacturers of Architectural Sheet Metal Goods in Canada.

Goods made and laid twenty-five years ago are still perfect.

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Toronto.

Simcoe, Ont., April 9th, 1908.

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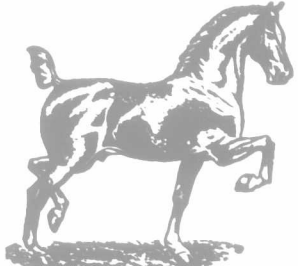
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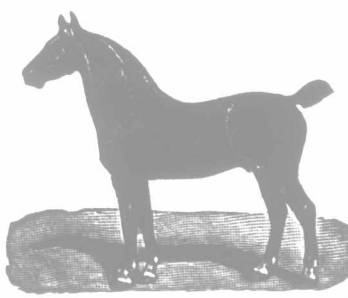
THE BEST FOR BLISTERING.

I have used GOMBULT'S CAUSTIC BALSAM quite a good deal, and for a blister it's the best I ever used. I wish your remedy every success. CHAS. MOTT, Manager, Mayfield Stud Farm, Leesburg, Va.

We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin mixture ever made. Every bottle sold is warranted to give satisfaction. Write for testimonials showing what the most prominent horsemen say of it. Price, \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use.

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Sole Agents for the United States and Canada. **The Lawrence-Williams Co.** TORONTO, ONT. CLEVELAND, OHIO.

Caldwell's Meal Non-Medicated FOR SHOW HORSES.

FED to 31 winners at the recent Ontario Horse-breeders' Show. FED to three-fourths of the Canadian horses shown at last New York Horse Show. FED in over 450 stables in the City of Toronto alone. Depends upon its palatability, digestibility and real feeding value for its results. Manufactured by A. G. CALDWELL, EAST TORONTO. Price, freight prepaid, \$34.00 per ton.

NEW CLYDESDALE IMPORTATION.

My new importation of 24 Clydesdale stallions is now in my stables. I invite inspection and comparison. I think I have the best lot for size, style, character, quality and action ever imported. 27 Clyde stallions and 8 Hackney stallions to select from. Prices right, and terms to suit.

T. H. HASSARD, MARKHAM, ONT. POST OFFICE, PHONE AND STATION.

Clydesdale Stallions and Mares!

A fresh lot has just arrived, including many prizewinners. Some extra big ones. Prices right. Inspection invited.

DALGETY BROS., LONDON, ONTARIO. Stables Fraser House. Address correspondence to Dalgety Bros., Glencoe, Ont.

NEW IMPORTATION OF CLYDESDALES.

My new importation of Clydesdales are now in my stables: 14 stallions, 2 fillies. Visitors will find them as choice a lot as ever seen in Canada. Big, full of style and quality, and bred right royally.

T. D. ELLIOTT, Bolton, Ontario, P. O. and Station COMPLETELY EXPECT TO LAND MY NEW IMPORTATION OF CLYDESDALES AND HACKNEYS SOLD OUT! about March 10th. My motto is: Quality, not quantity. THOS. L. MERCER, MARKDALE, ONT. P. O. AND STA.

IMPORTED CLYDESDALES

My new importation for 1908 has now arrived—stallions and fillies—personally selected. Richest in breeding; highest in quality; with abundance of size and character. Sold on terms to suit. **GEO. G. STEWART, HOWICK, QUE.**

Clydesdales and Hackneys We have for sale a few choice Clydesdale mares, imported and Canadian-bred; also some Canadian-bred Clydesdale stallions. Hackney stallions and mares for sale always. **HODGKINSON & TISDALE, BEAVERTON, ONTARIO.** G. T. R. and C. N. R. Long-distance phone.

QUESTIONS AND ANSWERS. Miscellaneous.

PRINTING PICTURES.

Do you know of any way of printing old pictures off their cards on to new cards, without any negative, but by some simple home way? E. G.

Ans.—No.

ARSENICAL SOLUTION.

Send me recipe for making arsenical solution? J. B.

Ans.—There are many poisonous solutions made from different forms of arsenic. As far as we know none are particularly styled "arsenical solution." It may be certain proportions of Paris green, arsenite of lead, or white arsenic, in water.

HATCHING GOSSLINGS WITH HENS.

I have pure-bred Chinese geese. They do not seem to hatch their eggs, but lay a great many. Could I set the eggs under hens, and is there any special treatment I should give the eggs? Have heard they should be dipped in water towards the end of hatching time. J. L. N.

Ans.—Yes, the eggs may be hatched by hens. See article by Bert Smith, Lambton Co., Ont., whose directions may be followed with confidence as published.

HAMPSHIRE SWINE.

I would like some information regarding the Hampshire swine, and if they require any special markings in color to be registered? R. C.

Ans.—The standard of perfection for Hampshires as to color reads: Black, with exception of white belt encircling the body, including fore legs. Objections—White running high on hind legs or extending more than one-fourth length of body, or solid black. Disqualifications, spotted, or more than two-thirds white.

FERTILITY OF GOOSE EGGS.

Our geese have been laying a fortnight. Last night the gander was killed by a kick from a horse. How long will the eggs be fertile? SUBSCRIBER.

Ans.—It is a little difficult to answer the question satisfactorily, but in all probability the eggs will not be good for hatching purposes more than ten days. Possibly the eggs may cease to be good after the third day, and they are occasionally fertile to the eleventh day, but as the period increases the vitality of the germ generally decreases. To this must be added that there are exceptional cases, probably one in one hundred, in which the eggs appear to hatch well for a longer period of time. W. R. GRAHAM.

COW WITH COUGH.

I have a valuable dairy-grade cow which has a dry cough, with no discharge from the mouth or nostrils. She started to cough nearly two years ago, principally after drinking water, which was always freshly pumped, clear, and of good quality. She not only coughs now after drinking water, but at any time when she exerts herself, licking or getting up. She is in a light, dry, well-ventilated stable, regularly cleaned, with good hay, cut cornstalks, clean bright straw, with a little shorts. She is kept in the warm stable all winter, and milks and keeps flesh as good as the rest. She has produced calves regularly, which have no cough. Can feel nothing in her throat. She is not in calf now, but comes in heat regularly. The other cows have no cough. T. C.

Ans.—This cough might be accounted for by one of a variety of causes. Quite possibly it is tuberculosis, but the only reasonably certain means of diagnosing the case is testing with tuberculin. If she has tuberculosis her presence in the herd is a source of danger to other animals. Indeed, others may already be affected. For this reason it would be wise to have the herd tested with tuberculin, and the reacting cows at once isolated or disposed of. Meanwhile, do not be too particular about maintaining a high temperature. Abundant supply of pure fresh air is of the utmost importance. Warmth is a secondary and comparatively unimportant consideration, save that violent changes in temperature or treatment should be avoided.

Lump Jaw

The first remedy to cure Lump Jaw was Fleming's Lump Jaw Cure and it remains today the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vest-Pocket Veterinary Adviser. Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy. **FLEMING BROS., Chemists, 75 Church St., Toronto, Ontario**

SAVE THE HORSE'S SPAVIN CURE



FIREMEN'S FUND INSURANCE CO., D. W. KILPATRICK, Resident Agent, Cripple Creek, Colo., Nov. 25, 1908. Troy Chemical Co., Binghamton, N. Y. Enclosed \$15, for which please send me by express as soon as possible 3 bottles of "Save-the-Horse". Since I used it on my own horse for a case of thoroughpin the people come to me now to get it for them. D. W. KILPATRICK, Oakland City, Ind.

I have had some experience with "Save-the-Horse" on a case of hog spavin long standing on which my man used a great many cures. Finally a friend of mine induced me to try "Save-the-Horse". We had blistered and rubbed and finally succeeded in laming the mare, but after commencing the use of "Save-the-Horse" she was not lame any more, and worked her all the time. It disappeared entirely and has been gone for at least six months. Cannot speak too highly of "Save-the-Horse." Yours, J. W. MCGOWAN, Collingswood, N. J.—The "Save-the-Horse" I bought completely cured the bone spavin and splint. I was greatly pleased with the result as I was very much discouraged before trying your treatment. JOHN LINCO, 148 Van Horn St., Toronto, Ontario.

LAND FOR SETTLEMENT!

Lands are offered for settlement in some cases FREE, in others at 50 CENTS per acre, in various districts in NORTHERN ONTARIO. Write for information as to terms, homestead regulations, special railway rates, etc. **HON. JAMES S. DUFF, Minister of Agriculture, The Hon. Southworth, Director of Colonization, Toronto.**

ABSORBINE

Removes Bursal Enlargements, Thickened, Swollen Tissues, Curbs, Filled Tendons, Soreness from any Bruise or Strain. Cures Spavin Lameness, Allays Pain. Does not Blister, remove the hair or lay the horse up. \$2.00 a bottle, delivered. Book "D" free. **ABSORBINE, J.H.S., (mankind 100 bottles.) For Synovitis, Strains, Gouty or Rheumatic Deposits, Varicose Veins, Varicella, Hydrocele, Allays pain. Book free. W. F. YOUNG, P. D. F., 73 Monmouth St., Springfield, Mass. LYMAN, BONS & CO., Montreal, Canadian Agents.**

Can Fruit & Vegetables

with THE BARTLETT CANNER FOUR SIZES, \$65 to \$200. There's MONEY in it. Write **CANNERS' SUPPLY CO., Detroit, Mich.**

Ormsby Grange Stock Farm, ORMSTOWN, P. Q.

DUNCAN McEACHRAN, F. R. C. V. S., D. V. S., Proprietor. Importer and breeder of high-class pure-bred **CLYDESDALES.** Farmers or ranchmen starting breeding Clyde pure or grade, specially invited to correspond.

QUESTIONS AND ANSWERS. Veterinary.

SORE NECK.

I bought a horse three months ago. His neck is sore and itchy. When the collar is taken off the neck seems greasy. I have discovered that he has been this way for six years.

Ans.—It is probable an operation will be necessary to cure this chronic trouble. There is probably a fistula which will have to be cut down on and its walls dissected out. Try the following, and if it does not effect a cure, get your veterinarian to operate: Take 2 ozs. formalin and 6 ozs. water, mix, and dress the neck twice daily with it.

MULTIPLE ABSCESSSES.

Mare took a swelling on abdomen. This disappeared, and then several small boils formed along her back. These broke and discharged yellow matter. Now there is one as large as a goose egg on her shoulder.

Ans.—These abscesses are due to an alteration in the blood. Purge her with 8 drams aloes and 2 drams ginger. Follow up with 1 1/2 ozs. Fowler's solution of arsenic, twice daily for 10 days. All abscesses should be opened freely and the cavities flushed out three times daily with a five-per-cent. solution of carbolic acid in water.

MISCELLANEOUS.

1. Cow calved on March 22nd, but gives little milk. One morning three teats gave watery fluid, but since then the milk has been of good quality, but very small in quantity. I purged her with salt and rubbed the udder with liniment. The udder is soft and natural. She gets for a grain ration one quart of barley and pea chop per day.

2. Is it advisable to breed a filly that will be two years old in May? 3. Is barley and pea chop a suitable grain ration for cows before and after calving?

Ans.—1. There is evidently no disease of the udder. The principal trouble is you are not feeding to produce milk. One quart of chop daily for a milking cow is very meagre. Give her all the good clover hay she will eat. Get chop composed of 2 parts oats and 1 part each of barley and peas, and give her a gallon of this and a gallon of bran as a mash three times daily. In addition, give a small allowance of pulped roots, mangels preferred. Feed after this fashion, and milk regularly, and you will soon notice an improvement.

2. Most breeders consider a well-matured two-year-old filly old enough to breed, but some claim that she should not be bred until three years old. I see no objections to breeding a two-year-old, but would not breed her earlier than June.

3. No. The chop mentioned in No. 1 is more suitable.

Miscellaneous.

MILK FEVER.

What are the symptoms and what the best remedy for milk fever in cows?

Ans.—The symptoms are refusal to eat, a slight uneasiness of gait, crossing the hind legs, and a swaying motion when walking, later the head droops, there is a stamping of the feet, and whisking of the tail. Paralysis comes on, the cow becomes stupefied, and lies with the head around to the flank, or flat on the side, and the animal lapses into a state of coma. As the system is paralyzed, no attempt should be made to administer medicine, as the animal is incapable of swallowing, and the medicine will enter the bronchial tubes and cause suffocation. The treatment is simple. With a bicycle pump, or a bulb syringe, and a milk tube attached, fill each quarter of the udder full of air and tie each teat with tape to prevent escape of air. It is well in extreme cases to massage the udder to force the air up into the system, and refill with air. In most cases relief, or a complete cure, is effected within an hour or two, even when the cow has lain in bed for a day or more.

A \$5,000 DAN PATCH STALLION FREE

This New Picture of DAN PATCH 1:55 in Six Brilliant Colors MAILED FREE



This new picture of Dan Patch 1:55, is the Finest I have ever gotten out for framing. It is printed in six brilliant colors and is free of advertising. It gives his age and a list of all the fast miles paced by Dan. Being made from a "Speed Photograph" it shows Dan as lifelike as if you stood on the track and saw him in one of his marvelous and thrilling speed exhibitions. You ought to have a fine picture of the King of all Harness Horse Orations and the Fastest Harness Horse the world has ever seen. I will mail you one of these Large, Beautiful, Colored Pictures of Dan Patch 1:55 free With Postage Prepaid and full particulars concerning my plan of Giving Away a \$5,000.00 Dan Patch stallion if you will simply write me.

A \$5,000 DAN PATCH STALLION FREE

An Absolutely Free Hair Counting Contest Without Money or Purchase Consideration And Open To ANY Farmer, Stockman or Poultry Breeder. Can you count the number of hairs drawn in a picture of "Forest Patch," sired by Dan Patch, dam by Moscoe by Belmont. Write for one of the Above Dan Patch Pictures. I will also mail you a photo engraving of "Forest Patch," the fine Registered Stallion to be given away and ALSO Drawing showing hairs to be counted and also stating easy conditions. Every stock owner will want to count the hairs on this Splendid \$5,000.00 Dan Patch Stallion because it means a small fortune free for some one. We paid \$50,000 for Dan Patch and have been offered \$150,000. We would have lost money if we had sold Dan for One Million Dollars.

You may secure this \$5,000 Dan Patch Stallion Absolutely Free. "Forest Patch" might make you a fortune of \$25,000 to \$50,000 as a great stock horse for any community because he will make a 1200lb. stallion with great style and beautiful conformation.

Mail this Free Coupon To-Day to E. B. SAVAGE, Toronto, Can. YOU MUST FILL IN THE THREE BLANK LINES IN THIS FREE COUPON

OUT OFF HERE

E. B. Savage, International Stock Food Co., Toronto. Will you please mail me Postage Paid one of the Beautiful Six Color Pictures of Dan Patch 1:55, the World's Champion Harness Horse, described above, and also full particulars of your plan of Giving Away a \$5,000.00 Dan Patch Stallion. I have filled out the coupon, giving the number of live stock I own, and my name and address.

CLYDESDALES AND SHORTHORNS.—Both Imported and Canadian-bred, at Columbus, Ont., the Home of the Winners. Our last importation landed in August. They include the pick of Scotland, from such renowned sires as Baron's Pride, Everlasting, Baron o' Bucklyvie, Hiawatha, Marsells, Sir Everest, and Prince Thomas. We have on hand over 30 head to choose from, from the above noted sires, from 1 to 4 years old, and including stallions and mares. Correspondence solicited. Call and see them at our barns, Columbus, Ont., before purchasing elsewhere. Our prices are right. Long-distance phone in houses. Phone office, Myrtle station, C.P.R.; Brooklin station, G.T.R.; Oshawa station, G.T.R. Smith & Richardson & Sons, Columbus, Ont.

IMP. CLYDESDALE STALLIONS AND FILLIES.—Our new importation of stallions and fillies are the best we could select in Scotland, particularly well bred, with the size, smoothness and quality that Canadians admire. Showing stuff. Come and see them. Will sell on terms to suit. JOHN A. BOAG & SON, Queensville P. O. Ont.; Newmarket Sta., G. T. R. Telephone and telegraph one-half mile from farm. Metropolitan Street Ry. from Toronto crosses the farm.

IMPORTED SHIRES At their St. Thomas stables, the John Chambers & Sons Co., of England have for sale stallions and fillies from their noted Shire stud, high-class representatives of the breed. Correspondence solicited. Address DR. C. K. GEARY, St. Thomas, Ont.

Imported Clydesdales All have great size, smoothness, quality, on the best of bottoms, and royally bred. WM. COLQUHOUN, MITCHELL, ONT.

IMPORTED CLYDESDALES My new importation of Clydesdale stallions and fillies, landed a short time ago, are an exceptionally choice lot, full of flashy quality, style and character, and right royally bred. I will sell them at very close prices, and on terms to suit. W. BARBER, Gaitneau Point, Quebec. "Close to Ottawa."

SOME SHOW PROPOSITIONS IN BOTH MALE AND FEMALE SHORTHORNS as well as a number of the useful sort of both sexes. Prices right. Large lot to select from. Up-to-date in breeding, etc. Catalogue. JOHN CLANCY, Manager. H. Cargill & Son, Cargill, Ont.

WILLOWDALE SHORTHORNS I have for sale some very fine young stock bulls and heifers ready to breed. Descendants of Joy of Morning, Broad Scotch and other noted sires. Also Chester White Swine and Imported Clydesdale Horses.

J. H. M. PARKER, LENNOXVILLE, QUE.

WHY NOT BUY A HIGH-CLASS SCOTCH SHORTHORN COW, Or a Heifer, Or a Bull, Or a Few Shropshire Ewes, Or a Few Cotswold Ewes, NOW, While You Can Buy Them Low? I can offer you something in any of them that will make a start second to none. Write for what you want. ROBERT MILLER, STOUFFVILLE, ONT.

SHORTHORNS Belmar Parc. Calves for sale by our grand quartette of breeding and show bulls: Nonpareil Archer, Imp., Proud Gift, Imp., Marigold Sailor, Nonpareil Eclipse. Females, imported and from imported stock, in calf to these bulls. An unsurpassed lot of yearling heifers. John Douglas, Manager. PETER WHITE, Pembroke, Ont.

VALLEY HOME SHORTHORNS and BERKSHIRES Our herd is strong in Nonpareil, Marchioness, Jilt, Mina, Glosterina, Rosebud and Lady Brant blood. In order to save holding a public sale, we will sell very cheap 15 one- and two-year-old heifers and several extra choice bulls. Berkshire sows safe in pig. S. J. PEARSON & SON, Meadowdale P.O. and Sta.

WANTED—HERDSMAN Capable of taking charge of show and breeding herd. Apply, giving full particulars, to J. A. WATT, SALEM, ONT. ELORA STATION, G. T. R. AND C. P. R.

GERMAN COACH STALLION FOR SALE. BLACK PRINCE No. 773. Stands 16 1/2 hands. Weight 1,500 lbs. Has proven a sure foal-getter and a prizewinner. First at Galt, April, '05; Toronto and Ottawa, '04. Will be sold on easy terms. Apply: S. S. LAWRASON, ST. GEORGE, ONTARIO

For Sale: Imported Clydesdale Stallion ADONIS (10953), sired by the noted Baron's Pride (9122). Bay in color. He has travelled six successful seasons in this vicinity. Five and a half miles from Mt. Forest station, G. T. R., or three and a half miles from Holstein station, G. T. R. John McDougall, Jr., Mt. Forest, Ont. P. O. Box 238.

Imported Clydesdale Stallion FOR SALE OR HIRE. CREMORNE (7903) (1297), 5 years old, weighing 1,950 lbs., with 7 ft. 5 ins. heart-girth; black, with white stripe; good-tempered, with abundance of snap; best of feet, legs and action; won 3rd at Sherbrooke, 4th at Ottawa, 1908. Foaled 60% in 1908. Terms to hire, \$200 cash in advance. HENRY M. DOUGLAS, MEAFORD, ONT.

The Sunny Side Herefords. The herd that has the best of breeding and individual merit. For sale: Bargains in 2-year-old, yearling and bull calves. Some cows and heifers to spare. Write for prices. Long-distance phone. M. H. O'Neil, Southgate, Ont.

Aberdeen-Angus Cattle For Sale: Cows, Heifers, Bulls. Good strains at reasonable prices. Apply to: Andrew Dinsmore, Manager, "Grape Grange" Farm, Clarksburg, Ont.

Aberdeen-Angus For sale: The right sort, some of them by Klondyke, imp. Drumbo station. WALTER HALL, Washington, Ontario.

MILK-FEVER OUTFITS. Dehorners, Teat Syphons, Slitters, Dilators, etc. Received only award World's Fairs, Chicago, St. Louis. Write for illustrated catalogue. Hausmann & Dunn Co., 392 So. Clark St., Chicago.

Scotch Shorthorns Canada's greatest living sire, Mildred's Royal, heads my herd. For sale are young bulls and heifers, show stuff and Toronto winners, out of Stamford, Lady Ythan, Claret, Emeline, Matchless and Belona dams. A visit will be appreciated. GEO. GIER, Grand Valley P. O., Ont. Waldemar Sta., C. P. R.

SPRING VALLEY SHORTHORNS One 14 months' old imported bull, bred by A. M. Gordon. Good enough to head any herd. Five Canadian-bred bulls from 12 to 16 months. Will be priced very reasonable, as we do not want to run them over. KYLE BROS., AYR, ONT.

Scotch Shorthorns We now offer four heifer calves 10 and 11 months old. All reds. Bred from imp. sire and dams. Will be sold right. C. RANKIN & SONS, Wyebridge P.O., Ont. Wyevale Sta.

COULD NOT GO TO WORK BACK WAS SO WEAK.

Backache is the primary cause of kidney trouble. When the back aches or becomes weak it is a warning that the kidneys are liable to become affected.

Heed the warning; check the Backache and dispose of any chances of further trouble.

If you don't, serious complications are very apt to arise and the first thing you know you will have Dropsy, Diabetes or Bright's Disease, the three most deadly forms of Kidney Trouble.

Mr. James Bryant, Arichat, N.S., was troubled with his back and used Doan's Kidney Pills, he writes:—"I cannot say too much about the benefit I received after using three boxes of Doan's Kidney Pills. I was greatly troubled with an aching pain across the small of my back. I could not go to work and my back was so weak I would have to sit down. It would go away for a few days but would always return. I was advised to try Doan's Kidney Pills and I must say they completely cured me."

Price 50 cents per box or 3 boxes for \$1.25 at all dealers or mailed direct on receipt of price by The Doan Kidney Pill Co., Toronto, Ont.

Scotch Shorthorns

Have yet for sale, two extra good bulls, imported, just ready for service; also one good roan Canadian-bred bull, grandson to Batton Chancellor, imp.; also a grand lot of heifers. Write or call on

H. J. Davis,
Woodstock, Ont.
Long-distance Bell phone. C. P. R. & G. T. R.

SHORTHORNS!

A few cows and heifers with calves at foot by Good Morning, imp. No bull to offer of breeding age. Office both stations.

SCOTT BROS., HIGHGATE, ONT.
M. C. Ry. P. M. Ry.

Glen Gow Shorthorns

Our present offering is 9 bulls from 6 to 14 months of age, sired by imp. Ben Loman and imp. Joy of Morning, and out of imp. and Canadian-bred cows. Also a number of very choice heifers. No fancy prices asked. Long-distance phone.

WM. SMITH, Columbus, Ontario
Brooklin and Myrtle Stns.

Shorthorns, Cotswolds, Berkshires.

Nine bulls from 9 to 14 months, from imp. and home-bred cows, and sired by Pride of Day 55192; also cows, heifers and heifer calves. Nothing to offer in Cotswolds or Berkshires.

Chas. E. Bonnycastle, Campbellford, Ont.
Post Office and Station.

MAPLE HOME SHORTHORNS

Our present offering: Two choice young bulls; also some good heifers and young cows. Away above the average. Pure Scotch and Scotch-topped.

A. D. SCHMIDT & SONS, Elmira, Ont.

CLOVER DELL SHORTHORNS

My herd are profitable milking Shorthorns. For sale are a few females and two good red bulls, of good milking dams, for spring service. L. A. Wakely, Bolton, Ont., P.O. and Station. Farm within ½ a mile of station.

Shorthorn Cows and Heifers.

I have Village Maids, Village Blossoms, English Ladies, Lancasters and Wimples for sale. Four with calves at foot, and one yearling heifer fit for any show-ring. One mile east of St. Mary's.

HUGH THOMSON, Box 556, ST. MARY'S, ONT.

FOR SALE: 2-YEAR-OLD BULL, SEA LION 66385. He is got by Sittytton Marquis 55763; his dam, Sea Lady (imp.) 70838, by Maxwell (84089). Sire bred by W. C. Edwards & Co., Rockland, Ont. Dam bred by John Marr, Cairnbrogie, Aberdeenshire, Scotland. **CYRIL M. MOORE, MILLBROOK, ONT.**

Registered SHORTHORN Yearling Bull This is a bull of superior quality. Dark red. Sired by Bapton Chancellor (imp.), that noted sire of prize stock. Will be sold worth the money. **James R. Wood, Preston, Ontario.**

QUESTIONS AND ANSWERS. Miscellaneous.

GRAFTING WAX.

Give directions how to make grafting wax.

Ans.—Following is one of several recipes: Resin, 4 parts by weight; bees-wax, 2 parts by weight; tallow, 1 part. Melt together and pour into a pail of cold water. Grease the hands and pull until it is nearly white.

LUMP JAW.

Cow had lump jaw last fall. I had veterinarian to cut it out. It has healed up and appears to be all right, and the cow is in good condition, and will calve in a few days. Would like to know if her milk will be fit for family use, or is there danger in using it?

SUBSCRIBER.

Ans.—The milk will not be injuriously affected by reason of the cow having had lump jaw.

VALUE OF SILAGE.

How much money would the bottom ten feet of silage be worth, in a silo 30 feet high by 12 feet across?

Simcoe Co., Ont. R. W. G.

Ans.—The value of silage is a somewhat problematical and variable factor, depending, among other things, upon variety of corn, earing, and maturity when ensiled; upon the locality and the value of hay and other fodders, and also upon whether or not the purchaser will be able to feed the silage at the farm where bought. The lower ten feet in a silo of the dimensions specified, that had been filled and emptied to within ten feet of the bottom, should contain, approximately, 30 tons of silage. Two dollars per ton is a low estimate of the feeding value of good silage. This would amount to \$60. Under certain conditions it is possible that \$75 would not be excessive.

GESTATION PERIOD OF MARE.

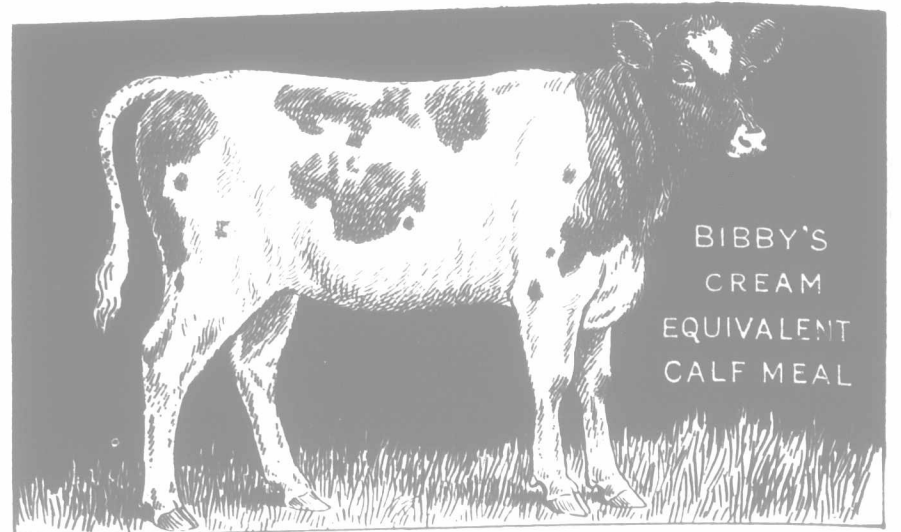
I bred a Clyde mare about the 30th of June, last year, and returned her regularly to the horse every week. She never came in season right till the 1st of August, when she was in better season than we had ever got her before. We bred her again that day. She proved to be with foal. The first service would bring her time May 20th, the last one July 1st. She is very heavy now, and makes quite a bag at night; has been worked all winter; feed her a limited amount of hay, and a gallon of oats three times a day, some bran, and a turnip three times a week. Would it be very unusual if she was in foal the first service? She is eight years old, and never had a colt before. Any information you could give me as to how I should handle this mare would be gratefully received, as I have not had a great deal of experience.

Ans.—It would be very unusual, though not unprecedented, should she be in foal to the first service. Ample exercise is important in such a case. Moderate work will be better for the mare than idleness, but backing, and heavy drawing, should be avoided.

SEEDING TO ALFALFA.

Would you advise sowing alfalfa with barley in preference to spring wheat at the rate of 1 bushel to the acre? Is 10 pounds enough alfalfa for seeding an acre?

Ans.—Alfalfa, as a rule, gives better results when seeded with barley at the rate of about one bushel per acre, than with any other crop. With an early season, and favorable rains, no doubt you would have satisfactory results from seeding with spring wheat, at the same rate, provided you have a good seedbed and deep, well-drained soil. Barley can be sown slightly later than wheat, so that the land is likely to be warmer, giving a more rapid germination of the alfalfa. The thin sowing of the grain avoids smothering the young alfalfa plants. Then barley matures in shorter time than other cereals, and is taken off in time to allow the alfalfa to come on and be well-established before winter sets in. Goose wheat is advised by some, but, as a rule, the net returns from an acre of barley, sown at one bushel per acre, are ahead of wheat at the same rate. Alfalfa should be sown at the rate of 20 pounds per acre, unless you have extra-good seed and very favorable conditions all round.



BIBBY'S
CREAM
EQUIVALENT
CALF MEAL

THRIFTY GROWING YOUNG CALVES

BIBBY'S CREAM EQUIVALENT—A perfect substitute for new milk. Bringing calves and young pigs up to first-class condition. Preventing scouring and other ailments. Made in England. Sold in Canada by all dealers, or direct from

WM. RENNIE COMPANY, LIMITED, TORONTO, ONT.

Shorthorn Cattle

AND LINCOLN SHEEP.

Females of all ages for sale of the thick-fleshed, low-down kind that have been raised naturally, neither stuffed nor starved. Twenty-five Lincoln ewes, bred to our best imported stud ram, also a few choice yearling rams. Prices very reasonable for quick sale.

J. T. GIBSON, DENFIELD, ONT.

A. Edward Meyer,

P. O. Box 378, Guelph, Ontario,

Breeds SCOTCH SHORTHORNS Exclusively

Twelve of the most noted Scotch tribes have representatives in my herd. Herd bulls: Scottish Hero (imp.) = 55042 = (90065) 295745 A. H. B.; Gloster King = 48708 = 283804 A. H. B. Young stock for sale. Long-distance phone in house.

7 Imported Scotch Shorthorn Bulls 7

Six imported bull calves from 9 to 14 months old, 3 reds and 3 roans. They are of such noted families as Clara, Jilt, Roan Lady, Butterfly, Claret and Broadhocks. One imp. bull 2 years old, red; a most valuable sire. One bull 11 months old, roan, from imp. sire and dam; promising for a show bull. Two bulls 12 months old, from imp. sire and dam; suitable for pure-bred or grade herd. Also females all ages. Write for catalogue. Prices reasonable. Farm ¼ mile from Burlington Junction station, G.T.R.

FRED. BARNETT, MANAGER.

J. F. MITCHELL, BURLINGTON, ONT.

1854 MAPLE LODGE 1909 STOCK FARM 1909

A few extra good young SHORTHORN bulls and heifers for sale. LEICESTER ram lambs by the grand champion ram, "Sanford." Right good ones, and a few choice ewes.

A. W. SMITH, MAPLE LODGE P. O., ONT.
Lucan Crossing Station, G. T. Ry.

SHORTHORNS

Nine bulls from 8 to 20 months old, reds and roans; 10 yearling heifers and a few cows. Will sell very cheap to make room in stables.

CLYDESDALES

One pair of bay mares and one dark brown, heavy draft and two spring colts.

JAMES McARTHUR, Gables, Ontario.

An Opportunity

MAPLE SHADE FARM.

Long-distance telephones.

JOHN DRYDEN & SON, BROOKLIN, ONT.

PRINCE GLOSTER 40998

IS FOR SALE. Also four yearling bulls, and a few heifers. Shorthorns that will do good. Good breeding and show quality.

STATIONS: } **MYRTLE, C. P. R.**
} **BROOKLIN, G. T. R.**

GEO. AMOS & SON,

Moffat, Ontario.

For sale: Imp. Ben Lomond = 45160 = 80468, that grand stock bull, sire of first-prize calf herd at Toronto, 1908; and Augustus, a good Bruce Augusta bull calf; also females, various ages. Write, or come and see us. Farm 11 miles east of City of Guelph, on C. P. R.

MR. A. I. HICKMAN,

Court Lodge, Egerton, Kent, England,

EXPORTER OF PEDIGREE LIVE STOCK Of every description. During the summer months the export of show and breeding flocks of sheep will be a specialty. Who can do better for you than the man who lives on the spot? Mr. Hickman will be at the Bell Hotel, Gloucester, during the week of the Royal Show, and will be pleased to meet there all colonial and foreign visitors.

WE ARE PRICING VERY REASONABLY

10 Choicely-bred Young Shorthorn Bulls

Also one extra good imported bull, 22 months old. We have always something good to offer in females. Imported or home-bred. Write for what you want, or come and see them. Bell phone at each farm. **W. G. PETTIT & SONS, FREEMAN, ONTARIO.**

ROBIN HILL FARM

SHORTHORNS AND CLYDESDALES.

We offer our stock bull, Merry Master (imp.) = 45199 =, for sale or exchange; one heifer from imported sire and dam. We also offer a few registered Clydesdale fillies and mares in foal.

Wm. Ormiston & Sons, Columbus Ontario
Brooklin, G. T. R.; Myrtle, C. P. R.
Phone Brooklin Centre.

Scotch Shorthorns!

I am offering a few choice young bulls, also heifers in calf to imp. bull. Will be pleased to furnish pedigrees and prices upon application.

JOHN MILLER, Brougham, Ontario.
Claremont Stn., C. P. R.

SHORTHORN BULLS

farmers' prices. Females for sale. Write, or come and see.

H. SMITH, EXETER, ONTARIO.

Herd-heading quality and breeding. Also good ones at the farm adjoins town.

Greengill Shorthorns!

Our present offering consists of 10 young bulls, from 8 to 20 months. All nice reds and roans. A number of them from imp. sire and dam. Prices right.

R. Mitchell & Sons, Nelson P. O., Ont.
Burlington Jct. Sta.

JOHN GARDHOUSE & SONS

Always have for sale a number of first-class Shorthorns, Shires and Lincolns, of both sexes. Drop us a line, or better, come and see for yourself.

HIGHFIELD P. O., ONTARIO.
Weston Sta., G. T. R. & C. P. R. Long-distance phone in house.

Boog 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—Boog Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc. It is neither a liniment nor a simple blister, but a remedy unlike any other—doesn't irritate and can't be limited. 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.

FLEMING BROS., Chemists
75 Church St., Toronto, Ontario

Centre and Hill View Holsteins

We are now offering 8 choice young bulls from 6 to 10 months of age, with high official backing. These are a grand lot of young bulls. We are entirely sold out of females for the present.

P. D. EDE,

Oxford Centre P.O., Woodstock Sta., Ont.

WOODBINE STOCK FARM

Offers a few fine young Holstein bulls and bull calves, sired by Sir Mechthilde Posch. Sire's dam holds world's largest two-day public test record, dam Ianthe Jewel Mechthilde, 27.65 lbs. butter in 7 days; average test, 4.46 per cent. fat; out of dams with superior breeding and quality.

Shipping stations—Paris, G. T. R.; Ayr, C. P. R.
A. KENNEDY, Ayr, Ont.

IMPERIAL HOLSTEINS!

For sale: 13 bulls of serviceable age, sired by Tidy Abbekirk Mercedes Posch, whose 7 nearest dams have records within a fraction of 27 lbs. Out of show cows, with high official records. A high-class lot of young bulls. **W. H. SIMMONS, New Durham, Ont., Oxford County**

Glenwood Stock Farm—Holsteins and Yorkshires.

Holsteins all sold out. Have a few young Yorkshire sows, about 2 months old, for sale cheap. True to type and first-class. Bred from imported stock.

Thos. B. Carlaw & Son, Warkworth P.O., Ont., Campbellford Station.

Holsteins at Ridgedale Farm—Eight bull calves on hand for sale, up to eight months old, which I offer at low prices to quick buyers. Write for description and prices, or come and see them. **R. W. WALKER, Utica P.O., Ont.**

Shipping stations: Myrtle, C. P. R., and Port Perry, G. T. R., Ontario Co.

First Home-maker—"Why is a blouse called a waist?"

Second Home-maker (ripping out tucks)

—"Because it's a waist of time making them."

EVERY WOMAN WHO SUFFERS

Can Find Sure Relief in Dodd's Kidney Pills.

Mrs. J. Oliver Tells How She Lost Her Pains and Weakness When She Used the Old Reliable Kidney Remedy.

Elgin, Ont., April 12.—(Special).—Women who suffer, and there are thousands of them in Canada, will hear with interest the experience of Mrs. J. Oliver of this place. She has suffered and found a cure, and she has no hesitation in saying that cure is Dodd's Kidney Pills.

"I suffered for over a year from Back-ache and Fainting Spells," Mrs. Oliver states. "I was tired and nervous all the time, and the least exertion would make me perspire freely. My feet and ankles would swell, and I had a dragging sensation across the loins. I saw Dodd's Kidney Pills advertised and bought some. Twelve boxes cured me."

All women who suffer should use Dodd's Kidney Pills. They make healthy kidneys, and healthy kidneys are the first rule of health for women. The female organs depend almost entirely on the kidneys for their health. No woman can hope to be healthy and happy unless her kidneys are right. The kidneys need occasional help, or they must become tired or sick. And almost any woman can tell you out of her own experience that Dodd's Kidney Pills are the help they need.

QUESTIONS AND ANSWERS. Miscellaneous.

MATERIAL FOR BASEMENT WALL.

As I am going to build a barn, with a stone basement under same, I would like to know how much stone, lime and sand it would take for a wall 36x48 ft.; wall to be 8 feet high; stone of the average quality.

H. K.

Ans.—For information of this kind relating to ordinary tradesmen's calculations, consult a mason. Any contractor would cheerfully calculate the amount of material required in such a case. "The Farmer's Advocate" receives so many inquiries for information which cannot well be locally obtained, that we must ask our readers not to refer to us questions which are not answered conveniently in the neighborhood.

SILo QUERIES.

I saw in the last number of "The Farmer's Advocate" where a man intended building a silo in the barn.

1. Which would you recommend, building it outside the barn or inside?
2. What material gives best satisfaction, the plank, cement concrete, or cement blocks? Also, where could a person get the rings to build one?

J. E. M.

Ans.—1. Except in very exceptional cases, we advise building outside. Sometimes, in severe climates, where a man has more barn room than he needs, and can build a silo to a good height inside, say 26 or 30 feet, and can provide a good cement foundation with drainage to keep the site dry, it may be admissible to build inside, but usually it is better to erect the silo outside.

2. For a permanent silo, where material can be obtained with reasonable convenience, cement concrete or cement blocks are to be recommended. The block silo is slightly more expensive than the solid cement concrete (an expert says 8 per cent. more), but keeps the silage with less freezing, which is an advantage. Cement-block silos are not yet numerous in Canada, but those who have them appear to like and recommend them. If you wish to build solid cement, the London Concrete-machinery Co., who advertise in this paper the adjustable steel silo curbs, will sell you a set or may be able to recommend a contractor in your vicinity who has one, and would build a cement-concrete silo for you.

MILK WELLS—BREED COLORS, ETC.

1. Is a cow with two milk holes about 2 or 3 inches apart at the end of the milk vein, where it comes out of the belly, likely to be a greater milk producer than one with a single hole?

2. Are there any pure-bred Jerseys with white markings on the shoulders or back or belly? If so, are they objectionable?

3. How are the Guerneys compared with the Jerseys for size and for milk and butter producers? Are there any breeders of Guerneys in Ontario?

4. What is the proper color for a Holstein bull? What is the best colored bull to breed to to get proper marked heifer calves?

5. What would be a good book to buy on the feeding and training of trotting or pacing colts?

G. McK.

Ans.—1. Large and tortuous milk veins and large and deep milk wells, so called, are generally considered indications of large milk production, though not infallible. We have not known the claim to be held that two wells are indicative of greater milk production than one.

2. Yes, many white markings are neither objectionable nor disqualifying, under the registration rules. Many of the best of the breed have white markings.

3. Guerneys, as a rule, are somewhat larger than Jerseys. For production they are about equal. No Ontario Guerneys have been advertised or exhibited at leading shows recently.

4. Black and white, or white and black. Latterly a preponderance of white appears to be most popular, other qualifications being equal, but descent from heavy producing stock together with constitution and approved conformation, is of much more importance than color.

5. Geer's Experience with Trotters and Pacers; price, \$2.00, postpaid, from this office.



The Up-To-Date Farmer

Should see that his sheep are fed to best advantage, and use

MOLASSINE MEAL

which is the sheep food par excellence. It eradicates worms and prevents husk, hoose, gid and other complaints. Equally suitable for all animals. Not a condiment, but a food replacing other food stuffs. Write for booklet. Selling agents:

Walter Thomson & Son, Limited, Mitchell, Ont., or
Andrew Watson, 91 Youville Square, Montreal.

LAKEVIEW HOLSTEINS We have for sale 4 young bulls ready for service, 2 of them by Brightest Canary, whose several nearest dams average 25 lbs., and whose B. F. test shows 4%; the other 2 equally as well bred. We have also for sale a few pure-bred females and a number of heavy-milking Holstein grades. **LAKEVIEW FARM, BRONTE, ONTARIO.** Write us for particulars. **W. D. Brecken, Manager.** Long-distance phone

Now is the time to buy a bull for service next year, because we sell **CHEAPER** now than we do next spring. Why not write to us **RIGHT AWAY** for a **BARGAIN** in bulls from R. O. M. dams? Or better yet, call and see us.
E. & F. MALLORY, Frankford, Ont.

Evergreen Stock Farm Holsteins all sold. I have a valuable recipe for calf scours, which every dairyman should know. Have had 15 years' experience without a single loss. If you are troubled send at once, accompanied by \$1. **F. E. Pettit, Burgessville, Ont.**

ROCKMAPLE HOLSTEIN HERD Offers the first son (fit for service) of Pontiac Atlas De Kol, whose three nearest dams average 22 lbs. butter, 531 lbs. milk in 7 days; also one calf 4 mos. old from a 4% dam. Address: **MARTIN McDOWELL, NORWICH, ONTARIO**

HIGH PRICES PAID FOR HIDES, SHEEPSKINS, RAW FURS AND

GALEFSKINS

Write for our COMPLETE PRICE LISTS. Issued every little while. **E. T. CARTER & CO.,** We pay FREIGHT and EXPRESS CHARGES PROMPT RETURNS.
84 Front St., East, Toronto, Ont.

The Maples Holstein Herd!

RECORD-OF-MERIT COWS.

Headed by Lord Wayne Mechthilde Calamity. Nothing for sale at present but choice bull calves from Record of Merit dams; also a few good cows at reasonable prices.

WALBURN RIVERS, Falden's Corners, Ont.

HOLSTEINS Two bull calves, two yearling heifers, two two-year-old heifers. Prices right for quick sale. White Rock and Buff Orpington eggs. Utility pens, \$1 per setting; exhibition pens, \$2 per setting. **DAVID RIFE & SONS, Hespeler, Ont.**

HOMEWOOD HOLSTEINS

For Sale: Only thrifty bull calves from 4% R. O. M. cows; some will make great herd headers and show animals. Write for prices and description. Station on the place.

M. L. & M. H. HALEY, Springfield, Ont.

Maple Hill Holstein-Friesians

Special Offer: I must sell in next 30 days two cows; one bred in Nov. to Prince Posch Pieterje C.; one fresh in Dec., just bred. One yearling bull fit for service.

G. W. CLEMONS, ST. GEORGE, ONT.

HOLSTEINS We must sell at least 25 cows and heifers at once in order to make room for the increase of our large herd. This is a chance of a lifetime to buy good cattle at bargain prices. The best way: arrange to come and look the herd over. If you cannot, we will do our best for you by correspondence. Also a few young bulls. 100 head to select from. Imported **Pontiac Herms**, son of Hengerveld De Kol, world's greatest sire, head of herd. All leading breeds represented.
Putnam station, near Ingersoll.
H. E. GEORGE, Crampton, Ont.

MAPLE GLEN For sale: Only 1 bull, 11 months old, left; dam is sister to a 26-lb. tested cow. Any female in herd for sale, 7 with records 20 1/4 to 26 1/4 lb. official tests. An 8-yr.-old G. D. of Paul Beets De Kol, in calf to Oakland Sir Maida—her record 21.88 as a 5-yr.-old. Price \$400, or will dispose of herd en bloc, a great foundation privilege. **G. A. Gilroy, Glen Buell, Ont.** Long-distance phone connects with Brockville.

BUSINESS HOLSTEINS! Over 60 head to select from. Milk yield from 60 to 85 lbs. a day, and from 35 to 47 lbs. a day for 2-yr.-olds. There are 10 2-yr.-old heifers, 8 1-yr.-olds, and a number of neifer calves. Bulls from 1-yr.-old down. Priced right. Truthfully described. **W. Higginson, Inkerman, Ont.**

OIL CAKE

J. & J. Livingston Brand

DOMINION LINSEED OIL CO., LIMITED,
BADEN, ONTARIO. 31 Mill St., MONTREAL, QUE.

The finest feed known for stock. Once a user, always a user. Sold either fine or coarse ground. Write:

WHY ECZEMA PATIENTS SUFFER

No Wonder They Despair—But Cure Has Now Been Found.

It is a strange thing about eczema. After wasting money on nostrums, dosing the stomach or smearing on greasy salves for years, many a skin sufferer gives up in despair. He says: "What is the use, some may be cured, but my case is hopeless." But a trial of the simplest remedy—just a little oil of wintergreen properly compounded (as in D.D.D. Prescription) will wash away that itch. In fact, it will take away the itch immediately, the instant D.D.D. is applied.

Read this letter from Mrs. G. J. Hut-ton, of Renfrew, Ont.:

Jan. 15, 1909.

"Since I was a child nine years old (and I am to-day thirty years old) I have suffered with Eczema in my hands. I have spent money on all kinds of medicines and ointments, but I find nothing equal to D.D.D. I have used five bottles, and to-day my hands are perfectly healed. I shall never be without it in my house, and will always recommend it to my many friends and neighbors who suffer from this awful torture, Eczema." Now, if there is anyone in your town suffering with eczema, ringworm, tetter, psoriasis or poison ivy, tell this sufferer not to sit back and say, "I have tried everything, there is no cure for me." Tell him to write for free sample bottle of D.D.D. Prescription, to The D.D.D. Laboratory, Department A., 23 Jordan St., Toronto.

For sale by all druggists.

TOWER'S FISH BRAND WATERPROOF OILED GARMENTS

are cut on large patterns—designed to give the wearer the utmost comfort

LIGHT-DURABLE CLEAN GUARANTEED WATERPROOF

BE THE FIRST TO CHANGE YOUR MIND, MAKE THE SIGN OF THE FISH

TOWER CANADIAN CO. TORONTO CAN.

MORE AND BETTER CIDER

from less apples and more juice from less grapes are produced with our presses than with any other press made. The extra yield of juice soon pays for the press.

HYDRAULIC CIDER PRESS

for custom work in your locality will prove a money-maker. Various sizes, hand or power. 25 to 400 barrels per day. Presses for all purposes. Also Steam Evaporators, Apple-butter Cookers, and Gasoline Engines.

Fully Guaranteed. Catalog FREE.

THE HYDRAULIC PRESS MFG. CO.
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RIPPLEYS COOKERS

Recommended and used by Wis., Iowa, Georgia and New Mexico State Experiment Stations. Made of Cast Iron and Heavy Steel. Last for years. Run dairy separators, cook food, heat hog and poultry houses, etc. Heat water in tanks or cook food 150 feet away. Little fuel needed. Burns coal, coke, wood. Safe as a stove. No time to rust or leak or get water in 25 minutes. Holds a barrel of water in 25 minutes. We manufacture the largest line of cookers in America. Coaker and Broadhead's Specialty Catalog Free. Special prices—only allowed Canadians.

Rippley Mfg. Co. Mfg. Box 5, Grifton, Ill., U. S. A. Northern Agents—International Stock Food Co., Minneapolis, Minn.

STAMMERERS

The ARNOTT METHOD is the only logical method for the cure of Stammering. It treats the CAUSE, not merely the HABIT, and insures natural speech. Pamphlet, particulars and references sent on request.

THE ARNOTT INSTITUTE
BERLIN, ONT. CAN.

QUESTIONS AND ANSWERS. Miscellaneous.

POTATOES AND PUMPKINS AS PIG FEED.

1. What feeding value have potatoes for pigs?
2. What would be best to do, sell potatoes at 60c. a bag and buy other feed for pigs, or feed potatoes?
3. What feeding value have pumpkins for pigs?

Ans.—1. On this point Grisdale writes: Potatoes fed alone and raw scarcely suffice to maintain life in pigs, but cooked, and a moderate amount of meal (20 lbs. of meal to 100 lbs. of potatoes), mixed with them, they make a most excellent feed for fattening pigs, and produce a very fair quality of bacon. Potatoes in small quantities fed raw help to keep pigs in health where other succulent feed is lacking. Prof. Day says, substantially, the same. Henry cites three series of experiments which went to indicate that four pounds of cooked potatoes were nearly equal to one pound of grain, the potatoes being fed as a substitute for part but not all of the grain ration. Other experiments indicated a relative value of about 1 to 4½.

2. By all means sell the potatoes at 60 cents a bag. The only exception we would make to this recommendation would be that it might be advisable to retain a very few of the potatoes in case one had no roots or skim milk to feed with the meal. Even so, it would be doubtful economy unless one had a very long distance to haul his potatoes to market.

3. The feeding value of pumpkins for pigs is approximately equal to that of turnips. To get the greatest returns from them, Grisdale recommends that they should be boiled in twice their weight of water, and half as great a weight of meal as of pumpkins added. This makes an appetizing and fattening food, with a slight tendency to over-development of fat.

STAVE OR HOOP SILO.

I would be grateful for your opinion on following method of building silo:— Silo to be round, studding to be set up one foot apart upon cement foundation, and lined with half-inch lumber, nailed horizontally on studding; tar paper over this, and then a second layer of half-inch lumber, breaking all joints of first, also put on horizontally, and well painted on inside with hot coal tar, to be finished on outside with inch lumber, placed vertically; silo to be built out of doors, upon high cement foundation, and have roof with ventilator.

1. What kind of lumber would be most suitable for lining?
2. Is coal tar considered to be the best preservative, or would boiled oil be better?
3. Would two-ply of tar paper, along with the coal tar or oil, prevent the moisture and acid from penetrating to outside lining?

Ans.—I am of the opinion that a silo constructed as your correspondent suggests would prove faulty in several respects, and, relatively, expensive. It is likely to prove uneven as to inside surface, a very serious fault; is certain to be short-lived, and very likely to be continually getting out of order. As a very much better sort, I would suggest a well-constructed stave silo. Such a silo would not require much more lumber than would be needed for the studding of the above described silo, and would be very much more durable, easily maintained, and more effective as a means of making good silage and preserving it properly. As suitable lumber, I would suggest white pine, spruce, red pine, Georgia pine, or even hemlock, if carefully selected. As objections against such a silo as proposed I might say: (1) In spite of wood preservatives, it is certain to rot quickly, due to acid; (2) such thin lumber is always splitting and breaking; (3) a dead-air space, such as suggested, induces dry rot of studding and outside boards.

In answer to questions, I would say:—
1. Pine or cedar.
2. Coal tar would be the best preservative to use. Apply hot and liberally.
3. Yes, as long as coal tar lasted. Tar would have to be applied every two or three years.

J. H. GRISDALE.

RAW FURS

100,000 MUSKRAT
5,000 RED FOXES
50,000 COON
20,000 SKUNK

WE ALSO BUY OTHER FURS.

WANTED IMMEDIATELY. WE ALSO BUY OTHER FURS. Ship to us at once and satisfy yourself that WE are the VERY BEST buyers of Raw Furs in Canada.

THE MONTEITH, STROTHER FUR CO., 11 & 13 CHURCH ST. TORONTO



Stoneycroft Ayrshires

Choice young bulls and heifers of the very best breeding, combining show and dairy quality.
Large Improved Yorkshire Pigs from imported sires and dams, now ready to ship.
Stoneycroft Stock Farm, Ste. Anne de Bellevue, Que.

HOWGLEN AYRSHIRES!

For sale: 75 pure-bred registered Ayrshires, all ages; prizewinners; many imported. Apply to
ALLAN P. BLUE, Eustis, Quebec.

Ayrshires from a Prizewinning Herd—Have some nice bull and heifer calves for sale at reasonable prices. For particulars, etc., write to
WM. STEWART & SON, Menie P.O., Ont.

CATTLE AND SHEEP LABELS

SIZE. PRICE, DOZ. 50 TAGS.

Cattle.....	75c.	\$2 00
Light Cattle.....	60c.	1 50
Sheep or Hog.....	40c.	1 00

Postage paid. No duty to pay. Cattle labels with name and address and numbers; sheep or hog labels with name and numbers. Write for sample—free.

F. G. JAMES, BOWMANVILLE, ONTARIO.

BURNSIDE AYRSHIRES

are in such demand that I have decided to make another importation. I intend attending the great dispersion sale of the world-renowned Barcheskie Herd, belonging to Mr. And. Mitchell, Kirkcudbright, Scot., where some 300 of the choicest Ayrshires ever offered will be sold. Orders entrusted to me will be carefully attended to. Breeders, take advantage of this great sale, and replenish with a few good ones. Correspondence solicited and satisfaction guaranteed. Long-distance phone in house.



R. R. NESS, HOWIOK, QUE.

SPRINGBROOK AYRSHIRES are large producers of milk, testing high in butter-fat. Young stock for sale. Orders booked for calves of 1909, male and female. Prices right. Write or call on
W. F. STEPHEN, Box 163, Huntingdon, Que.

AYRSHIRES Bull and heifer calves from producing dams. Right good ones. Hickory Hill Stock Farm. **N. DYMENT, Clappison, Ont.**

Prizewinning Ayrshires

FOR SALE:
5 High-class Bulls, from 6 to 24 months of age; 10 Cows and Heifers, from 6 months to 5 years of age.
All bred from the deepest-milking strains.
A. Kennedy & Son, Vernon, Ontario.
Hillview Stock Farm. Winchester station. C. P. R.

Brampton Jerseys

Canada's premier herd. Dairy quality. Bulls all ages for sale, from best dairy and show cows in Canada, and by best sires. Our herd is 175 strong.

B. H. BULL & SON, BRAMPTON, ONT.

Wanted Young JERSEY Bull. Registered in A.J.C.C. Write
THOS. O'BRIEN, BRUNSWICK, ONTARIO.

For Sale A PURE ST. LAMBERT BULL thirteen months old. Solid color. Dam Florence of Glen Rouge. Sire Exile Rioter King. For particulars address: **F. A. ROLPH, GLEN ROUGE FARM, MARKHAM, ONT.**

SHEEP SCAB

And How To Cure It

A book that should be in the hands of every shepherd, farmer and stockman who raises sheep. It tells what "Scab" is—how to detect it—how the disease spreads—how to cure it—and how to rid the flocks of it.

This book was written by men who have had 65 years experience in raising sheep, and whose famous rams, ewes and lambs have taken first prizes at the leading fairs of the world.

FREE Copy of this valuable book will be mailed free, if you tell us in what paper you saw this advertisement and how many heads of sheep you have.

WM. COOPER & NEPHEWS, TORONTO.

IMPORTED HORNED DORSETS

I have for sale a few of both sexes, the best of last year's champion all round the circuit. Imp. Romulus 2nd. Canada's banner flock of Dorsets.

JAS. ROBERTSON & SONS, Milton P.O. and Sta. C.P.R. and G.T.R.

Oxford Down Sheep, Shorthorn Cattle, Yorkshire Hogs.—Present offering: Lambs of either sex. For prices, etc., write to **John Cousins & Sons, Buena Vista Farm, Harriston, Ont.**

SOUTH DOWNS AND COLLIES.

Long-distance Telephone.

Orders now solicited for especially-fitted sheep. Your choice of early lambs from imported and prizewinning Canadian-bred ewes, and by the sire of the Grand Champion wether at Chicago, 1907. Twenty shearings, the choice of last year's lamb crop, also for sale.

ROBT. McEWEN, Byron, Ont. Ry. Stn., London, Ont.

Maple Villa Oxfords, Yorkshires

The demand for Oxford Down sheep and Yorkshires has been the best I ever had. I have still for sale shearing ewes and ewe lambs, and young sows safe in pig. These will certainly give satisfaction.

J. A. CERSWELL, BONDHEAD P. O., ONTARIO, Simcoe County.

CLAYFIELD STOCK Buy now of the **Champion Cattle Flock of America, 1908.** Flock headers, ranch rams, ewes of different ages. All of first-class quality, and prices reasonable. Write, or call on **J. C. ROSS, Box 61, Jarvis, Ont.**

DR. WOOD'S NORWAY PINE SYRUP

Is A Remedy Without An Equal For COUGHS, COLDS, And All Affections Of The THROAT and LUNGS.

Coughs and Colds do not call for a minute recital of symptoms as they are known to everyone, but their dangers are not understood so well. All the most serious affections of the throat, the lungs and the bronchial tubes, are, in the beginning, but coughs and colds.

Too much stress cannot be laid upon the admonition to all persons affected by the insidious earlier stages of throat and lung disease, as failure to take hold at once will cause many years of suffering, and in the end that terrible scourge of "Consumption."

Dr. Wood's Norway Pine Syrup is not Sold as a Cure for Consumption

but for affections tributary to, and that result in, that disease. It combines all the lung healing virtues of the Norway pine tree with other absorbent, expectorant and soothing medicines of recognized worth, and is absolutely harmless, prompt and safe. So great has been the success of this wonderful remedy, it is only natural that numerous persons have tried to imitate it. Don't be humbugged into taking anything but "Dr. Wood's." Put up in a yellow wrapper; three pine trees the trade mark; price 25 cents.

FITS CURED

For pamphlet giving full particulars of simple home treatment, 20 years' success. Over 1,000 testimonials in one year. Sole proprietors: Trench's Remedies, Limited, Dublin.

Morrison Tamworths, Shorthorns and Clydesdales. Tamworths from Toronto winners. Either sex. Any age. Sows bred and ready to breed. Pairs not akin. CHAS. CURRIE, Morrison, Ont. Schaw Sta., C. P. R.

A certain gentleman, having in his cellar some surplus ale on the verge of spoiling, was one day walking around his estate when he came across a party of workmen. Hailing the foreman, he ostentatiously presented the ale to the men, giving them leave to fetch it as they desired it. Some time afterward he met the foreman and proceeded to extract a suitable acknowledgment of his bounty.

"Well, Giles, did you and your men have that ale?"

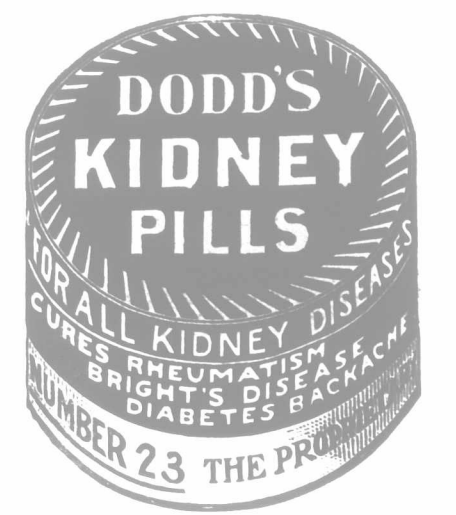
"Yes, sir, and thank you."

"How did you like it?"

"Oh, it was just the thing for us, sir."

"That's right. But what do you mean by 'just the thing'?"

"Why, sir, if it 'ad been a little better we shouldn't 'a 'ad it, and if it 'ad been a little worse we couldn't 'a' dranked it."



QUESTIONS AND ANSWERS. Miscellaneous.

PLANTING MAPLES.

When is the right time to set out young maples? How deep do you set them in the ground? How do you trim top for planting? H. O.

Ans.—This question has been covered in recent issues.

CEMENT FOR WALL AND CISTERN—LIME, SAND AND HAIR IN PLASTER—LATEST BULLETINS.

1. How much sand, gravel and cement would it take to build a concrete wall under a house about 18x24 ft., and how thick should it be; also, how deep should the foundation of wall be, and would it need a tile bedded in the foundation, or would one from center of cellar be sufficient?

2. How much cement would it take to build a cistern 6x6 ft.? Would the cistern wall need to be faced with a finer proportion of cement to make it more waterproof? I would be glad if you would tell me the proportion in which the ingredients should be mixed.

3. What is the proper proportion of lime and sand and hair for plaster for house walls and material for putty?

4. Where should I apply for the latest bulletins on potato-growing and ordinary field crops? G. W. T.

Ans.—1. Concrete foundation for house should be about 10 inches thick, and for 7 feet high under a building 18x24 ft., the cubic contents of the wall would be about 490 cubic feet; allowing for waste contractors count on, 125 cubic feet of material being needed for 100 cubic feet of wall. In other words, about 610 cubic feet of material should be provided. For such wall, 1 of cement to 10 of sand and sharp gravel is satisfactory. Probably 7 of gravel to 3 of sand would do, though the proportions must be regulated according to the nature of the gravel. The use of the cement does not lessen the quantity of sand and gravel, because the former fills the interspaces of the latter. Therefore, you require almost 23 cubic yards of sand and gravel, and 61 cubic feet, or over 15 barrels of cement. In addition, you require what may be taken to build the foundation to the cellar, floor level. This depends on the nature of the soil. Care must be taken to provide a solid foundation. In some soils it is not necessary to go one foot below the cellar floor, while in others it may be wise to go much deeper. For foundation 12 inches thick and a foot deep, you would need 84 cubic feet of sand and gravel, and with cement at the proportion of 1 to 12, about 2 barrels of cement. Broken stone can be used to advantage in keeping down the quantities, both of cement and gravel.

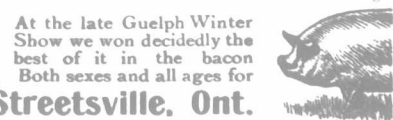
2. Three inches is sufficient thickness for cistern wall, with cement 1 part to sharp sand 5 parts. For concrete cistern 6 feet deep and 6 feet diameter, you would need about 30 cubic feet of sand and a barrel and a half of cement. In addition to this, you will need about 7 cubic feet of sand and almost half a barrel of cement for the bottom. The inside should be plastered with a mixture of 1 cement to 2 sand, requiring about 4 cubic feet of sand and 2 cubic feet or half a barrel of cement. Then it is well to use a whitewash brush and paint the inside with sloppy mixture, made of one part cement and one part fine sand. You, therefore, would need 40 or 45 cubic feet of sand, and 2½ or 3 barrels of cement.

3. Coarse plaster for house walls is made from 2 parts lime paste, 4½ parts sand and ½ part hair. Fine dressing is made by slaking lime and mixing to a paste and then to a cream, and allowing it to stand until the water evaporates, leaving it ready for working. Hard finish for house plaster is composed of 1½ to 2 parts of the latter to ½ part plaster of Paris. There are many grades of putty. Soft putty is made from 10 lbs. whiting and 1 pound of white lead, mixed with the necessary quantity of boiled linseed oil, adding to it ½ gill of high-grade olive oil.

4. Write to Department of Agriculture, Toronto, and Dominion Department of Agriculture, Ottawa, asking for bulletins and reports containing latest information on these crops.

Pine Grove Yorkshires

At the late Guelph Winter Show we won decidedly the best of it in the bacon sale. Our Yorkshires are noted for superior excellence. Both sexes and all ages for sale. J. Featherstone & Son, Streetsville, Ont.



NEWCASTLE TAMWORTHS, SHORTHORNS AND CLYDESDALES. Present offering: 1 registered Clydesdale mare due to foal April 30 to imp. Clyde stallion; 3 Shorthorn cows with heifer calf at foot, 3, 4 and 5 months old respectively and bred again; a choice lot of Tamworth boars and sows from 6 weeks to 5 months old, also a few choice sows bred to farrow in April, May and June. A. A. COLWILL, NEWCASTLE, ONT.

Hilton Stock Farm

Hoists and Tamworths. Present offering: 6 yearling heifers and several younger ones. All very choice. Of Tamworths, pigs of all ages and both sexes, pairs not akin. R. O. MORROW & SON, Hilton, Ont. Brighton Tel. and Sta.

PINE GROVE BERKSHIRES.

Sows bred and ready to breed. Nice things, three and four months old. W. W. BROWNRIDGE, Milton, C. P. R. Ashgrove, Ont. Georgetown, G. T. R.

MAPLE GROVE YORKSHIRES.

A very choice bunch of sows, mostly imported. Boars ready for service. Figs of all ages. M. G. Champion—2012—, champion, Toronto, 1907, is stock boar. A square deal or none is our motto. H. S. McDIARMID, FINGAL P.O., ONT. Shedden Station.



MONKLAND YORKSHIRES

are the easily-fed, quick-maturing kind. The sort the farmers want. All ages for sale. 100 sows bred now. JAMES WILSON & SONS, FERGUS, ONTARIO.

SUNNYMOUNT BERKSHIRES

Highest standard of type and quality. For sale: Sows of all ages, and 4 yearling boars. A grand, good lot. Also younger ones. Pairs not akin. JOHN McLEOD, C.P.R. & G.T.R. Milton P.O., Ont.

DUROC-JERSEY SWINE

Imported and home-bred. Sows ready to breed. Boars fit for service, and younger ones either sex. Also Embden geese. MAC CAMPBELL & SONS, HARWICH, ONT.

Willowdale Berkshires!

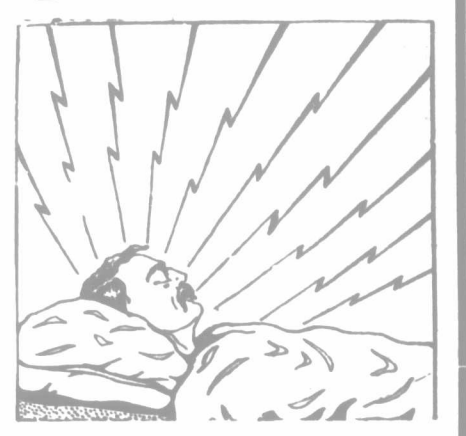
Won the leading honors at Toronto this fall. For sale are both sexes and all ages, from imp. stock on both sides. Show things a specialty. Everything guaranteed as represented. J. J. WILSON, MILTON, ONT., P. O. AND STATION. C. P. R. AND G. T. R.

ELMFIELD 50 young pigs for sale, both sexes. Young sows bred to imported boar, also sows to Canadian-bred boar due to farrow about 1st October. G. B. MUMA Ayr, Ont. Ayr. C.P.R.; Paris. G.T.R.

OHIO IMPROVED CHESTER WHITES.—Largest strains. Oldest-established registered herd in Canada. Young sows in farrow. Choice pigs 6 weeks to 6 months old. Pairs furnished not akin. Express charges prepaid. Pedigrees and safe delivery guaranteed. E. D. GEORGE Putnam, Ont.

Electricity is Life

The foundation of life in the body is Electricity. The nerves are full of it, the stomach, heart, kidneys and other organs are run by it, and the health of every man depends upon the supply of Electricity in the body. If you have pains or aches, rheumatism, nervousness, poor circulation, indigestion, weak kidneys, inactive liver, drains, varicocele, or a weakness of any organ, it is because the supply of Electricity in the body has become exhausted. If you will infuse a strong, steady current of this life-giving force into your body for a few hours every day, all pains and weakness will disappear, and a healthy, vigorous constitution will result. I have done this in thousands of cases of men who could not find benefits from any other remedy by the application of MY ELECTRIC BELT.



To those who still doubt there is any cure, because they have been misled by false representations and want of evidence of cure in their own cases, before paying, I am willing to take the chances of curing your case. Give me reasonable security, and

It Will Cost You Nothing Until Cured.

My Belt is a body battery that generates a strong, continuous current of Electricity every time it is applied to the body. It is far ahead of any other form of electric treatment. You put it on when you go to bed, and arise in the morning full of new energy and life, rested from the night's sleep, and anxious for the day's work. It removes that tired, sleepy feeling, and makes you alive and ambitious. Its cures are known the world over, and I can give you names of people in your own neighborhood whom I have cured. Here is what it is doing:

MR. CHAS. W. TOMLINSON, Baldwin, Ont., says: "The Belt I purchased from you has done me all kinds of good, although I had very little faith in it when I bought it; but in order to give it a fair trial I threw away all medicine and used nothing but the Belt, and it certainly did its work. I can now do as much work as ever without being tired out, and have only worn it a very short time."

The whole force of vitality in your body is dependent upon your animal electricity. When you lose that in any manner my Belt will replace it, and I will cure you.

FREE BOOK.—Cut out this coupon now and mail it. I'll send this book without delay, absolutely free. Call if you can. Consultation free.

DR. M. S. McLAUGHLIN, 112 Yonge St., Toronto, Can.
 Dear Sir,—Please forward me one of your Books, as advertised.
 NAME
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 Office Hours—9 a.m. to 6 p.m. Wednesday & Saturday until 8.30 p.m. Write plainly.

HAVE YOU EVER REALIZED THE RESULTS OF "ADVOCATE" ADS.?

Send Now For Free Book and Sample

"For more than five years I have been experimenting with our experts to find the BEST culvert for all-round uses.



We sought the markets of the world for one that was just right; and we didn't find it. If we had, we'd have bought the patent rights for Canada. Finally, last spring we struck the idea. Then we put in some expensive months in making that idea better,—and NOW we've got a culvert that is so far ahead of any other there's no comparison."

"You'll read something about it here; but to KNOW how 'way-ahead it really is, you'll want to see the sample (sent free) and read the booklet (free, ditto). With that before you, you will soon see why every Reeve, or Warden, or Town Councillor, or anybody who has any use for culverts at all,—will find it pays to get in touch with me right NOW. I am asking you to lay aside your notions of what makes a good culvert, and a cheap culvert, and find out about this NEW culvert. I don't expect you to buy a foot of it until it PROVES to you that Pedlar Culverts are in a class by themselves, and that you can't afford to overlook them. Let us start that proof toward you soon—address nearest Pedlar place."

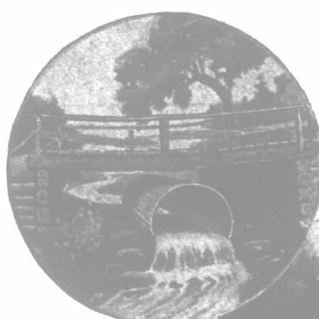
G. A. Pedlar

Frost-Proof, Rust-Proof, and Wear-Proof

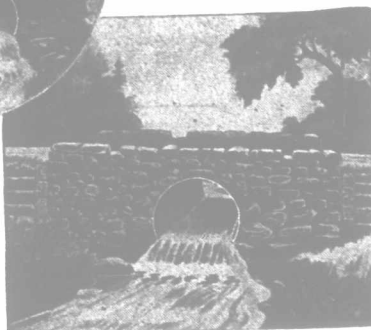
This triple-rib flange-lock principle, found only in Pedlar Culverts, not only adds greatly to the strength of the piping and makes a perfect joint—practically as good as if welded—but it also allows for expansion and contraction under cold or heat. Though a Pedlar Culvert, of any length, be frozen solid full of ice, it will not split nor spring a leak.

Send for Free Sample and Booklet 20—Address

State your probable needs and we will quote prices and discounts —



A structure like this, with Pedlar Culvert, won't wash out nor need repairs.



PEDLAR Perfect Corrugated Galvanized CULVERT

A few hours' work and a few dollars will put a modern and permanent culvert in place of a ramshackle bridge. Easily laid by anybody.

Made of Special Billet Iron, Extra Heavy

In every size of Pedlar Culvert, which comes in all standard diameters from 8 inches to 6 feet, we use nothing but the best grade of Billet Iron, specially made for us, of extra-heavy gauge (14 to 20 gauge, according to the diameter). This Billet Iron is curved into semi-cylinders—curved COLD, so there will never be any variation from exact dimensions; and it is then deeply and smoothly corrugated on a special press that puts a pressure of SIXTY TONS on every square inch of the metal. The corrugations, therefore, are uniform and very deep.

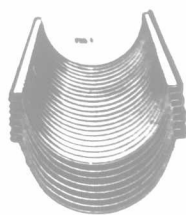
Galvanized After Being Pressed Up

When the corrugating process is done, the sections are galvanized by our exclusive process that covers the entire surface with a thick coating of zinc spelter. Every edge, every crevice, is heavily coated with this rust-proof, corrosion-proof galvanizing, not a spot is left unprotected. This is the only culvert galvanized after being shaped. Is absolutely Rust-proof.

Will Stand Incredible Strains

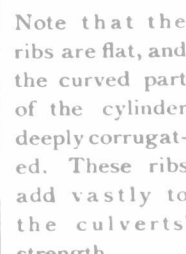
The heavy-gauge Pedlar Billet Iron sections, deeply corrugated and locked together without bolts or rivets by our compression triple-rib (this rib is flat—not corrugated), make a culvert that will stand enormous crushing strains and neither give nor spring. A thin cushion of soil on top is all the protection such a culvert needs against traffic; and no special precautions need be observed in laying it,—it will stand what no other culvert can.

Compact—Portable Easily Laid



Half-sections nested for shipment

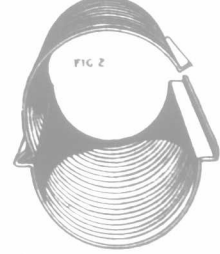
Pedlar Culverts are shipped in half-sections, nested—see Fig. 1. Saving freight charges and making carriage easy in roughest country. Quickly and easily transported anywhere.



Sections in course of assembling



Cinching the flange lock—no bolts, no rivets, no makeshifts



Sections in course of assembling

Unskilled labor, with a single tool, quickly clamps the flanges together, making a triple-fold joint that is tighter and better than any riveted or bolted joint can be.



BRANCH WAREHOUSES

MONTREAL, 321-3 Craig St. W.
OTTAWA - - - 423 Sussex St.
TORONTO - - - 11 Colborne St.
LONDON - - - - 86 King St.
CHATHAM - 200 King St. W.

GOSSIP.

HOW TO LEARN.

The National Stockman and Farmer tells the following good story to illustrate how much instruction it takes to get some men to change bad methods for good ones.

An American soldier in Porto Rico stood watching the native process of milking cows. First the cow's head was bound closely and firmly to a stout post, with about thirty feet of rope. Then

each foot was similarly fastened to thick stakes set in the ground for that purpose. With pail held carefully in one hand, the milker went slowly through the process of extracting the lacteal fluid with the other, keeping a watchful eye, meanwhile, on the still untethered tail.

"Does your cow kick?" said the Americano.

"No, senor," replied the polite Porto Rican.

"Does she run away?" again inquired the soldier.

"No, senor, no."

"Then why do you tie her up? Can't you milk her without tying her?"

"No, no, senor; no, indeed, cried the dismayed milker, frightened at the mere thought of such a thing.

"Let me try one," was the next query of the uniformed stranger, and one might safely wager he hailed from Ohio. A pail was given him and he went up to a meek-eyed bovine, took the pail between his knees, and with both hands

draw a pail of milk in less than half the

time the native spent. While this hitherto unknown feat was being performed, a half dozen men and boys gathered about expressing their astonishment in Spanish. The soldier handed over the pail of milk with the proud consciousness that he had contributed very materially to the development of his country's colonies. Imagine his feelings when he took in the milking yard, a few days later, to find every identical cow being put through the same process of tying up, and the milker still patiently squirting away with one hand. Verily, he thought, new ideas move slowly. But he was only one and the Porto Rican milkers were many."

The time it requires to get some farmers to adopt the silo, to buy a registered bull, to make a sanitary stable, etc., leads us to think, says Hoard's Dairyman in comment, that the Porto Rican disease is found in northern climates as well.

QUESTIONS AND ANSWERS. Miscellaneous.

SOUTHERN VERSUS NORTHERN PINE FOR SILO.

Which do you consider the better material for a stave silo, Southern or Northern pine? We can buy the former at \$29 per thousand, and the latter at \$35 per thousand. There are several stave silos contemplated for the coming season, and we are not at all sure which material would be most permanent. How would hemlock compare with above-mentioned kinds for this purpose? Do you know of any cheap preservatives to apply to counteract acid in silage? The people who advertise a ready-made silo, claim to use something of this kind.

T. H. M.

Ans.—See reply by J. H. Grisdale to questions asked by X. Y. Z. Of the two kinds of pine mentioned, we would recommend the white Northern as being more durable than the Southern red pine.

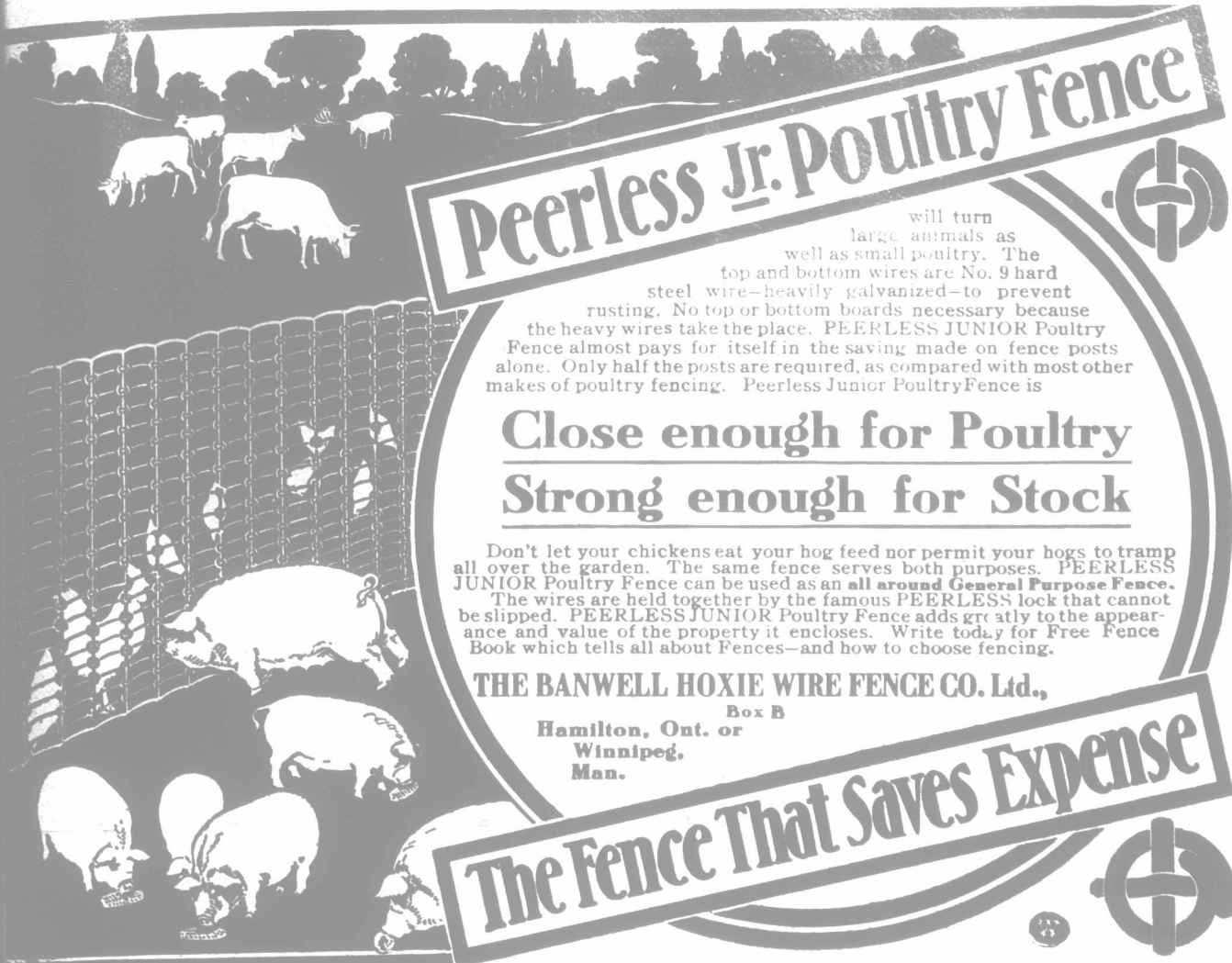
POTATO-PLANTING METHODS.

From which method of cultivation would you expect the better crop of potatoes, to receive the greatest benefit from the manure applied, and to avoid it showing the drills in the following crop of grain and clover? Land was in oats last year; plowed last fall. First method: Plow, harrow with spring-tooth harrow, make drills with plow, three feet apart, manure in drills. Seed cut large, dropped 16 to 18 inches apart, covered with horse hoe, six inches deep. When just coming up lightly harrowed, kept well cultivated; hand-hoed once; then well moulded with horse hoe. Second method: Land as above. Go over once with disk harrow or plow (which would you prefer?), then apply manure broadcast, disk-harrowed two or three times, make shallow drills, made with horse hoe, and covered with same. Seed and after cultivation as above.

I am thinking of trying the second method this spring, but have always raised good crops by the first. I believe the drills should be deep and the seed well covered. The second method seems to require less work, and the manure would be more evenly spread on the ground, but I am in doubts as to the crop.

F. D.

Ans.—It is necessary to know the nature of the soil and the general state of cultivation before definite instruction can be given. For average clay loam, well cultivated and reasonably rich in plant food, there should be good returns from potatoes planted according to the second method. But it should not be necessary to cover the seed over four or five inches. No plowing save that given in planting should be required in the spring. The disk-harrowing can be regulated according to weather and weeds. Perhaps a spring-tooth cultivator would do as good work and leave the surface smoother. With the disk, you are obliged to give double stroke to keep the land level. None but thoroughly-rotted manure should be used for spring application. If this could be put on before any spring cultivation is given, a double stroke with disk and then the use of the ordinary drag harrows will suffice until planting, unless the soil is very heavy clay. After planting, a light drag harrow, or a weeder, can be used to advantage once or twice before the potatoes appear, to conserve moisture and kill weeds.



Peerless Jr. Poultry Fence

will turn large animals as well as small poultry. The top and bottom wires are No. 9 hard steel wire—heavily galvanized—to prevent rusting. No top or bottom boards necessary because the heavy wires take the place. PEERLESS JUNIOR Poultry Fence almost pays for itself in the saving made on fence posts alone. Only half the posts are required, as compared with most other makes of poultry fencing. Peerless Junior Poultry Fence is

Close enough for Poultry Strong enough for Stock

Don't let your chickens eat your hog feed nor permit your hogs to tramp all over the garden. The same fence serves both purposes. PEERLESS JUNIOR Poultry Fence can be used as an all around General Purpose Fence. The wires are held together by the famous PEERLESS lock that cannot be slipped. PEERLESS JUNIOR Poultry Fence adds greatly to the appearance and value of the property it encloses. Write today for Free Fence Book which tells all about Fences—and how to choose fencing.

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

The Fence That Saves Expense

YOUR WASHING DONE FREE

WASH DAY, A JOY

when you have a "1900 Gravity" Washer in your home. Do let me tell you all about it. So many women have been saved the drudgery of wash day by using it that I won't be satisfied until every woman in Canada has one. It only takes six minutes to wash a whole tubful spotlessly clean, and without wear or tear—then it will wash the finest linen or the heaviest blankets. To prove my claims I will send without one cent of cost and prepay the freight, a "1900 Gravity" machine to any responsible woman for 30 DAYS' FREE TRIAL. Do your week's washings with it, then tell me how you like it. Write to-day and address me personally.

F. A. T. BACH, MANAGER, THE 1900 WASHER CO.,
357 YONGE ST., TORONTO, CAN. 2464

THE 1900 WASHER

This Scraper Cleans Disc Thoroughly.



That we have garnered a rich harvest of knowledge during our 70 years' experience is demonstrated in the construction of our "Windsor" Disc Harrow. Try as hard as you please and you'll not find a more strongly or wisely constructed harrow. The "Windsor" is built on the "out-throw" principle—to cut uniformly the length of both gangs in any soil you'll encounter in Canada. Try the "Windsor" on your land and just watch it pulverize your soil. Unlike ordinary harrows, the "Windsor" has scrapers that thoroughly clean its stiff, sharp, toughened steel discs. Wet, sticky soil, grass, roots and fibre are quickly removed from the discs by the strong, cutlery-steel blades on the scrapers. Built in 6-ft., 7-ft. and 8-ft. widths, and for use with two or three horses.

The "Lion" Disc Harrow is another example of "Frost & Wood Quality". An in-throw harrow for those who prefer that style. Two sizes, 12 and 14 discs. Both "Windsor" and "Lion" have substantial Bearings and Square Steel Axles, that run through the discs, keep them tight. No chance whatever for the discs to slip. No side draft on either machine.

Frost & Wood Co. Limited
SMITH'S FALLS, CANADA.

Ask our agent in your locality about Frost & Wood Harrows. Our Catalogue F. 11 explaining them in detail, is free if you write us.

DO YOU KNOW

THAT WORN-OUT LANDS MAY BE MADE PRODUCTIVE AND PROFITABLE BY THE JUDICIOUS USE OF THE RIGHT KIND OF FERTILIZER?

NOW IF YOU HAVE A PIECE OF LAND THAT WONT GROW ANYTHING BUT WEEDS, TALK WITH US ABOUT IT AND LET US SUGGEST THE RIGHT FERTILIZER. WE FEEL VERY SURE THAT WE CAN SHOW YOU HOW TO USE FERTILIZERS WITHOUT GREAT EXPENSE SO YOUR LAND WILL PAY. CONSULT US FREELY IT IS OUR BUSINESS TO KNOW ENQUIRIES FREELY ANSWERED. AGENTS WANTED FOR TERRITORY NOT TAKEN UP BY W. A. FREEMAN CO. LIMITED. HAMILTON, ONTARIO.

CANADIAN PACIFIC HOMESEEKERS' EXCURSIONS

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Manitoba, Saskatchewan, Alberta

Special Trains leave Toronto 2.00 p.m. on
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Second class tickets from Ontario stations to principal Northwest points at

LOW ROUND-TRIP RATES

Winnipeg and return \$32.00; Edmonton and return \$42.50, and to other points in proportion. Tickets good to return within 60 days from going date.

TOURIST SLEEPING CARS

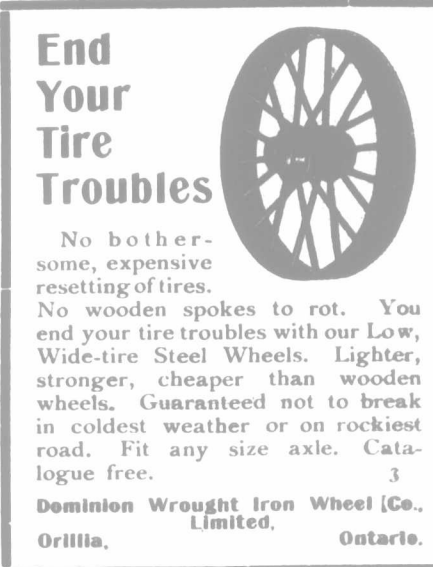
on all excursions. Comfortable berths, fully equipped with bedding, can be secured at moderate rates through local agent.

Early application must be made
ASK FOR HOMESEEKERS' PAMPHLET containing rates and full information.
Apply to nearest C.P.R. Agent or to R. L. Thompson, Dist. Pass. Agt., Toronto.

ONLY DIRECT LINE NO CHANGE OF CARS

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End Your Tire Troubles



No bothersome, expensive resetting of tires. No wooden spokes to rot. You end your tire troubles with our Low, Wide-tire Steel Wheels. Lighter, stronger, cheaper than wooden wheels. Guaranteed not to break in coldest weather or on rockiest road. Fit any size axle. Catalogue free.

Dominion Wrought Iron Wheel Co. Limited, Ontario.
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100 Men Wanted

to sell the
Columbia Hay Press



We guarantee it the best belt press made or no sale. Capacity, 50 tons in 10 hours. Write for full description and agency.

Columbia Hay Press Co'y,
KINGSVILLE, Ont.

When Writing Please Mention this Paper.

How To Buy Farm Implements

Choose implements strong enough to stand all hard usage—designed by long experience—built in the way that keeps repair-troubles at arm's length—priced low (value considered).

"Cockshutt" on a farm implement is a reliable insurance against that costly trouble of the farmers—break-downs in the fields, which always happen at the worst possible time. And the same name insures light draft, because 32 years' experience is built into the design, and special processes are applied in the making. Cockshutt moldboards, for example, are made of the best soft-centre steel, heated by natural gas and tempered in a peculiar way that

precludes the bare chance of soft spots or faulty surfacing. All the steel in a Cockshutt implement is

Cockshutt Implements are Trouble - Proof

tempered exactly right, and that is why Cockshutt moldboards take temper as hard as glass—polish like fine cutlery—scour in any soil—and make Cockshutt plows lighter in draft than any ordinary plow. Then, into every strain-taking part of any Cockshutt plow, is built enough strength to stand twice the hardest strain it will probably ever have to endure. You will understand about this better when you send for the Cockshutt literature. Sent on request.

How To Do Better Plowing In Half The Time!

Draws only a fourth harder than a walking plow (actual test) and plows two furrows at once—needs two horses only.



MAPLE LEAF
2-FURROW
WALKING GANG
PLOW

BY actual tests, in competition, this 2-furrow walking gang plow plowed two furrows 9 inches wide and six inches deep with but 25% heavier draft than a single-furrow walking plow, in the same soil and with the same horses and plowman. And it was heavy soil at that. To YOU this means that three horses and one man, with this plow, will do as much as four horses and two men with two one-share walking plows—and the plowing will be BETTER done, because only every other furrow is trod by the off-horse. That makes for easier harrowing and better tilth. On light soils TWO horses can do the work—the draft is so light.

The Cockshutt Line

built right to farm right, includes not only more than 120 styles of plows—ranging from light garden plows to huge 12-furrow engine gangs—but also all styles of seeders, cultivators and harrows. Write us for details of the kind of implements the business farmer ought to buy.

Staunch Frame

Its frame is a drop-forged I-beam of heavy high-carbon steel, with heavy malleable castings very solidly bolted up—the whole construction designed to combine great strength with little weight.

Adjustment

Loosen two bolts and turn two set-screws, and in a minute you can change the furrow-width from 7 inches to 10, or any width between—the very simplest and quickest width-adjuster there is. New pattern fine-adjustment ratchet changes the depth of cut by quarter inches, simply by a pull on the easily-reached lever.

Straightener

Wheels are always under driver's control; and our patent straightener device makes it easy for even unskilled plowmen to keep straight furrows. You cannot appreciate this valuable practical feature until you see the plow.

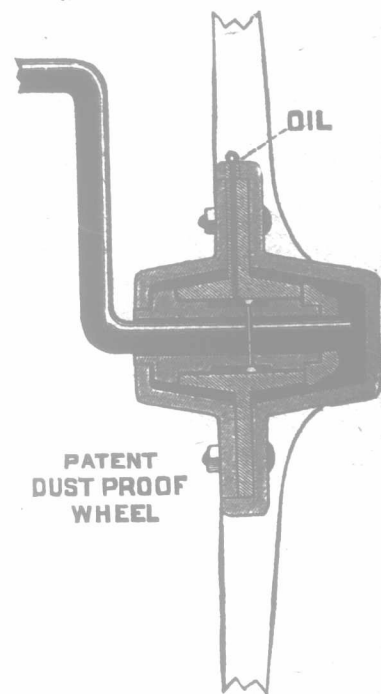
Clearance

A pull on a lever lifts the plows well clear of the ground—clearance ample for trashy or lumpy

land. The plow, however, can turn square corners without lifting from the soil, and will not change depth in turning.

Wheels Dust-Proof

Nothing less than the Cockshutt Patent Dust-Proof Wheel is good enough for you—because it is the ONLY perfect wheel. Fitted to all Cockshutt gang plows; dust and grit simply cannot get into



PATENT
DUST PROOF
WHEEL

it; oil cannot leak out of it; and the axles cannot spring nor weaken a little bit. Once oiled these wheels run silently and perfectly for days—another light-draft feature gained by reducing friction. Send for details of this practical device—it will pay you.

COCKSHUTT PLOW CO. LTD.

BRANTFORD, ONTARIO