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

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Vol XLVII.

LONDON, ONTARIO, JUNE 27, 1912.

No. 1031

The Next Best Thing to an "Imperishable" Roofing



PRESTON CAR AND COACH COMPANY'S PLANT.

This huge plant is covered with *Brantford Roofing*. Observe the location. It stretches out along the Grand Trunk track—lies *directly* in what the insurance companies call *the danger zone* of flying sparks and live cinders. Yet, fire companies quote *low* insurance rates on this immense plant, because it is covered with *Brantford Roofing*—the roofing that scientific fire-fighters call "*The Next Best Thing to an Imperishable Roofing*." Now, before you build that new barn, or, before you rip off that apology for roofing and buy new, YOU should know the plain facts about

Brantford Roofing

First, consider the truths the above photograph plainly tells. The directing officers of the Preston Car and Coach Company are shrewd, far-seeing business men. They do not take any chances. If they could have discovered a *more indestructible* roofing than *Brantford Roofing* naturally they would have used it—for the following reasons:

They knew that this big plant's safety and the safety of its contents depended *almost solely* on the *element-defying powers* of the roof which covered it.

They also knew that the roofing of their plant would be subjected to the unending attacks of roofing's *most relentless enemies*. And they deliberately chose *Brantford Roofing* after serious investigation.

Here are the basic reasons for the enduring qualities of *Brantford Roofing*. It will pay you to consider them well whether you are in the market for Roofing now or not.

The "base" of *Brantford Roofing* is long fibred, elastic wool soaked through and through with pure Asphalt—a mineral fluid that has withstood the ravages of the elements for centuries. It simply cannot be affected materially by heat or water, wind or weather.

There are three kinds of *Brantford Roofing*: Asphalt, with a silica sand finish, it wears like iron. Rubber has a smooth rubbery surface, but contains no rubber. And Crystal has a wear-defying rock-crystal surface.

N. B.—Cover that building of yours with *Brantford Roofing* and you'll sleep contentedly, let the elements rave and rage as they may. A postcard will bring you our big free book on the roofing question. It contains facts you should know.

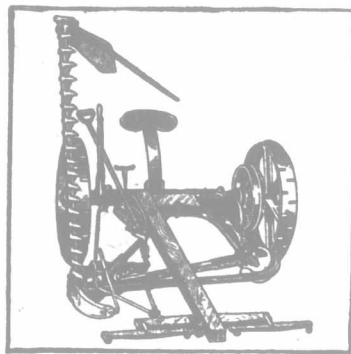
Brantford Roofing Company, Limited

Branch Warehouses | Winnipeg, 117 Market St.
Montreal, 9 Place D'Youville

Factory and Head Offices: Brantford, Canada

Dain Hay Tools Cut the Cost of Hay-making by One-half.

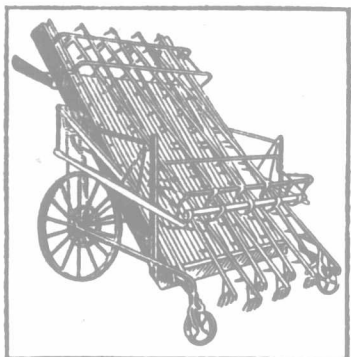
THERE'S money in Hay—if it does not cost too much to make it. The Dain Implements cut the cost of Hay-making to the lowest possible margin, because they are perfect in every detail. More than that they are built to endure—the farmers owning them declare that they are practically indestructible. It will pay you well to know all there is to know about *Dain Hay-making Helpers* before investing a dollar in any hay-making implement.



Here's the *Dain Vertical Lift Mower*—a machine that you couldn't smash under any sort of service. Before leaving our factories every *Dain mower* is subjected to a tremendous test—a test that would make a scrap iron of any ordinary implement. There's no lost motion about the Dain—the moment the horses move the knife begins cutting. The machine is built with surplus strength in every part, and so perfectly balanced that the draft is easy. Yet, we so build the Dain Mower that—in the rare event of an accident—an inexpensive part effects prompt repairs.

The *Dain All Steel Side Delivery Rake* is in a class by itself. Its triple set of teeth, turning slowly, put the hay in shape for curing without injuring leaves or stalks. It delivers the hay gently into a loose, fluffy, continuous windrow, so that the air and sun penetrate—it cures quickly and retains its full nutriment. Simply constructed and almost *break-proof*.

The *Dain Steel Frame Roller Bearing Loader* has always been considered the best and easiest loading machine on the market. Besides the many exclusive features which have made the Dain famous our new *Loader* is equipped with four sets of Roller Bearings, which decrease the draft to a minimum. But, get the details, they'll please you, and it will pay you to have them. Study the *Dain Line* before you outfit yourself with hay-making implements. You'll have better machinery and more money in the bank if you do so. Dain Implements are built to endure and to reduce friction—they are specially designed for simplicity, strength and money-making service.



N. B.—Write to-day and ask us to forward you complete details of any or all of the DAIN money-saving and money-making implements. Besides the implements mentioned, we manufacture the Success Roller, Bearing Manure Spreader, Hay Presses, Ensilage Cutters, etc.; and

"EVERY DAIN IS THE LEADER OF ITS KIND."

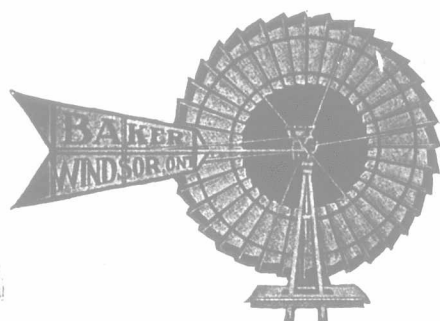
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DAIN MANUFACTURING COMPANY, LIMITED

For sale exclusively in Eastern Canada by JOHN DEERE PLOW CO. OF WELAND, LIMITED, WELAND, ONT.
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Are built for hard, steady work, and keep at it year in and year out.



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Our CALEDONIAN Calf and Pig Food is unusual value for this purpose. CANUCK DAIRY FEED is a strong, well balanced ration for milch cows. ALBERTA FEED is specially valuable as a Hog and Cattle Feed. For particulars and prices write direct.

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A FARMER'S POWER HOUSE ON WHEELS

Complete with Line Shaft, Truck, Pump Jack and Interchangeable Pulleys capable of 60 changes of speed.

An engine that carries its own line shaft, pulleys, belt tightener and hangers. The Gilson 60 Speed Engine is a complete power plant in itself. You can haul crops anywhere, attach it and get just the speed you want—the only engine of its kind made. Gives you 60 speeds like sixty—has sixty speeds. 14 H.P. up to 6 and 6 H.P. Engines up to 24 H.P.

WRITE TODAY. Write at once for our descriptive literature with full particulars.

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If the housekeepers of Canada will use

WILSON'S FLY PADS

persistently, this peril will be tremendously reduced.



"Go North Young Man!"

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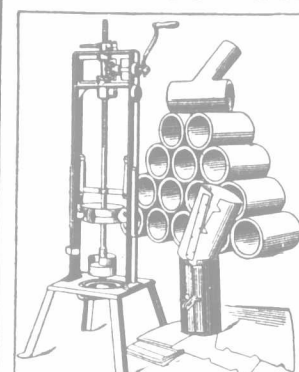
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For information as to terms, homestead regulations, special railway rates, etc., write to

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Director of Colonization
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HON. JAS. S. DUFF,
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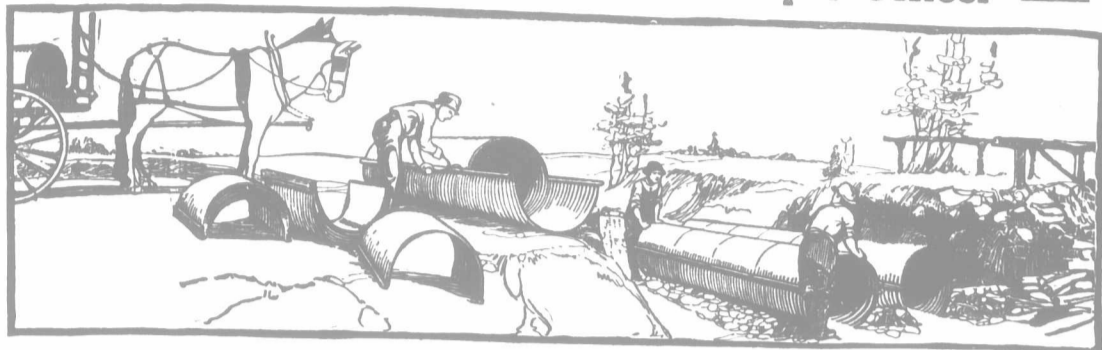


BUILD CONCRETE SILOS

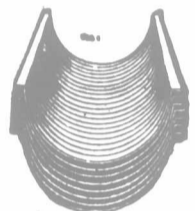
Any size with the London Adjustable Silo Curbs. Send for Catalogue. We manufacture a complete line of Concrete Machinery. Tell us your requirements. **LONDON Concrete Machinery Co., Limited.** Dept. B, London, Ont. Largest manufacturers of Concrete Machinery in Canada. 1

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A Sample of Pedlar Culvert and a Special Book about it to every Farmer or Reeve or Municipal Officer



EASILY-LAID Pedlar Corrugated Culvert made in non-rusting 'Toncan Metal' is handled "right at the job" and placed by a couple of men in a few hours' time. It makes a frost-proof and freshet-proof culvert—outclassing wood, masonry, concrete or brick. Strong enough to hold up a traction engine on the bare ground. Get our book. See Pedlar Culvert's uses for farms and roads. We send you a free sample, too. This is the best, strongest, deepest corrugated culvert ever made. Write for book.



These nested bundles are carried to the job by wagon—



and fit together like this—



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Remember you can use Pedlar Culvert on your farm—at the gate, in open drains, as well casing, etc. It saves time. Cannot wash out. Lasts years and years. Let us hear from you. Sizes—8 inches to 7 ft. in diameter. Get the free sample. See how strong it is. Write to-day.



Equip your ditches like this. Saves wagon, team and load.

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Send to-day for the Culvert Book and the free sample—nearest office below will care for you. Improve your highways and farms. Established 1861.

415



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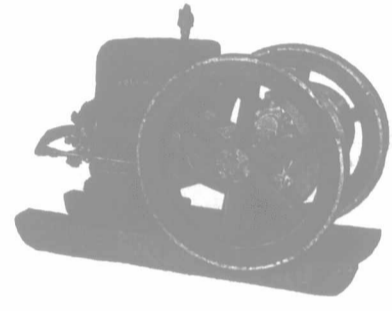
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Direct your enquiry to the Pedlar Place nearest you. They will answer you promptly and save you time.

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Extra Serviceable

These 8, 12 or 16 h.-p. engines are extra strong and rugged, because intended for use under the hard conditions often met with on the farm.

The engine illustrated is one of the famous

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No. 7 48-0, 7	No. 8 48-0, 8	No. 9 48-0, 9
lateral strands, 48 inches high,	lateral strands, 48 inches high,	lateral strands, 48 inches high,
22c.	25c.	26c.

Nine cross bars to rod, 3c. extra for twelve cross bars. If you want a strong fence, one that will turn the strongest animal on your place, steel-hard galvanized and rust-proof, order now. Money refunded if not absolutely satisfactory. Remit any way convenient to you, or ship C.O.D. Stretcher loaned free on deposit of \$5, which is refunded on return of stretcher, freight prepaid. Toronto is central, that means quick delivery. Save money—order now. Full line of lawn and iron fences. Gates. Cut Prices. Dyer, The Fence Man, Dept. C, Toronto

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THE farmer of today knows that chains, halters and wooden stalls in the cow barns are expensive, unhealthy, often dangerous makeshifts.

O.K. Canadian U-Bar Steel Stanchions

have replaced them in the modern barns of prosperous farmers. O.K. Canadian Swinging Stanchions are comfortable and easy for cattle—save time in tying cattle—no trouble to latch and unlatch—strong enough to stand rough usage. Used by the leading farmers and stockmen for years—because the best and most satisfactory stanchion on the market.

5 sizes—write for new catalogue. L

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Oldest Cedar Pole Firm in Business
Producers for 32 Years

MONROE, MICHIGAN

For Spraying

Fruit Trees, Shrubs, Bushes and Plants, there's nothing to equal

EUREKA SPRAYER

COMPRESSED AIR, FOUNTAIN SPRAYER

Requires but one pumping to empty entire contents of tank. Automatic lever valve stops flow of liquid while going from one plant to another. Easy, light, compact, tested to stand 5 times the pressure required to expel liquid. Two nozzles, with hose attachment for spraying small trees. Write for catalogue to THE EUREKA PLANTER CO., Limited, Woodstock, Ont.

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HIGH PRICES

FOR ALL EARLY VEGETABLES

Vegetable Growers and Market Gardeners, it will pay you to force your crops by using

HARAB PURE GROUND BLOOD FOR A TOP DRESSING

Made entirely from fresh blood cooked, dried and ground. Put up in excellent condition. Will decompose very readily in the soil and promote early, rapid growth. The best and strongest form in which nitrogen can be secured in an annual or natural fertilizer.

Analysis (NITROGEN 12 to 13%
PHOSPHORIC ACID 2 to 5%)

Harab Pure Ground Blood has no injurious after effects

Call on our agent, he will tell you about it. If you do not know him, write us direct, we will give you his name and address.

HARAB FERTILIZERS

Made in Canada by

The Harris Abattoir Co., Limited
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Pump Water, Saw Wood, Grind Grain, Churn

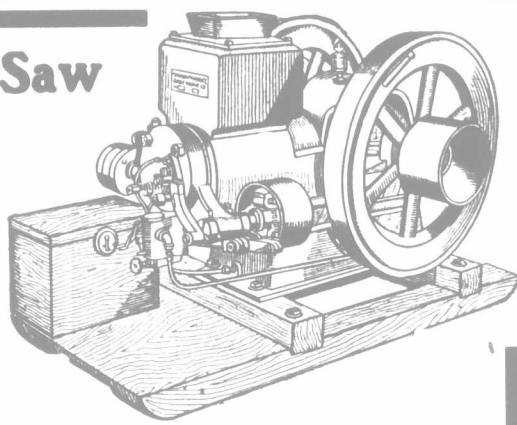
and do many other labor-saving tasks with the **Barrie Engine**. Will pay for itself quickly by saving valuable time for you. Strong, rugged construction. So simple a lad can run it. Sure in action. Economical in operation. Every farmer needs one.

Write for booklet.

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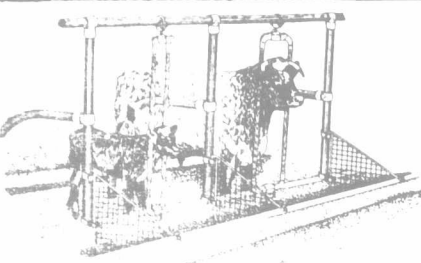
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Barrie Engines

Stationary or Portable; 3 to 100 h.p., for gasoline, distillate, natural gas and producer gas. Make and break or jump spark ignition.



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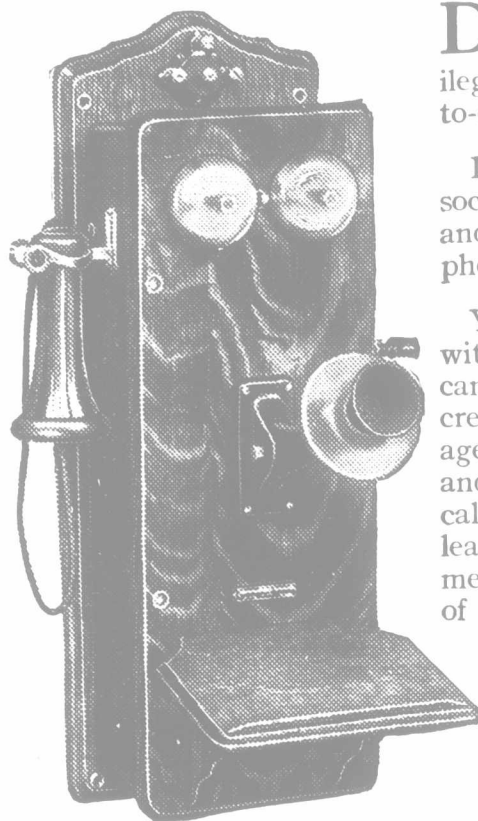
STABLE YOUR CATTLE THE SUPERIOR WAY

By doing so you will give them the greatest advantage in producing the maximum of the highest priced product. With SUPERIOR equipment you will have the greatest possible SANITATION, COMFORT, CONVENIENCE and DURABILITY in stable construction for very little expense.

If building or remodeling, write for our free book before you decide on your equipment. Drop us a card to-day. Agents wanted.

The Superior Barn Equipment Co.
Fergus, Canada

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DO your neighbors and yourself enjoy the privileges and benefits of an up-to-date telephone system?

It's more enjoyable, more sociable, more business-like, and safer, living in a telephone-served locality.

You are always in touch with your neighbors. You can talk business with the creamery, the implement agents, the stores, the bank and your lawyer. You can call the railway station and learn if an expected shipment has arrived. In time of sickness you can summon the doctor immediately. You can call your neighbors to assist you in case of a fire, an accident, or an unwelcome visit by tramps

If there is no telephone system in your locality send for our famous book entitled

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With this book, which shows by means of vivid pictures the necessity of rural telephones, you can quickly promote a local company, and enjoy the distinction of being known as the most progressive man in your locality.

Our Engineers will assist your company or any municipality requiring expert advice in planning con-

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SEND FOR FREE TRIAL OFFER

Inquire about our Free Trial Offer, whereby the quality of our telephones can be judged by your company without spending a dollar.

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Steamers leave Port McNicoll Mondays, Tuesdays, Wednesdays, Thursdays and Saturdays at 4 p.m. for

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Leave Port McNicoll 7 p.m. on sailing days. Connection with C.P.R. at Port McNicoll.

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Between all stations in Canada, Port Arthur and East. Good going June 28, 29, 30, July 1. Return limit, July 3. (Minimum Rate of 25c.)

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June 25, July 9 and 23, and every Second Tuesday until Sept. 17 inclusive.

WINNIPEG and RETURN \$34.00

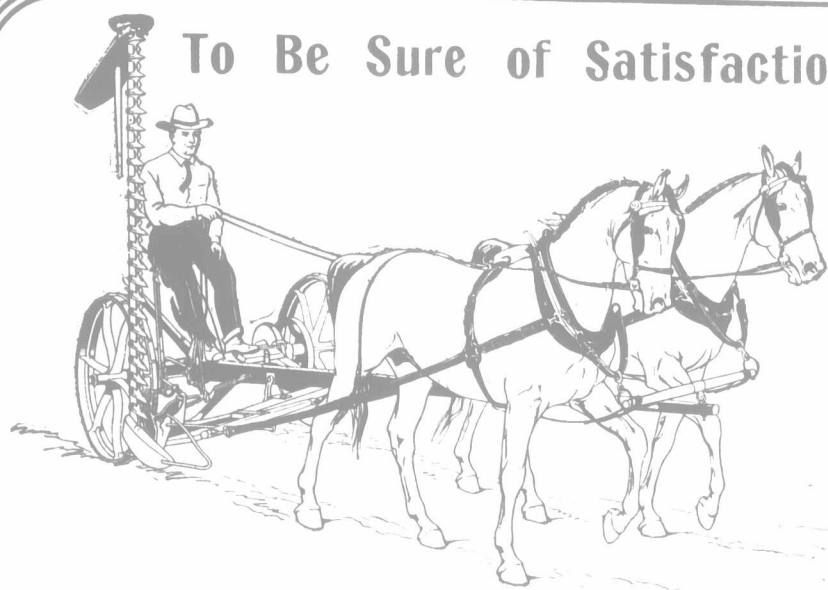
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THROUGH TOURIST SLEEPING CARS Ask nearest C. P. R. Agent for Homeseekers' Pamphlet

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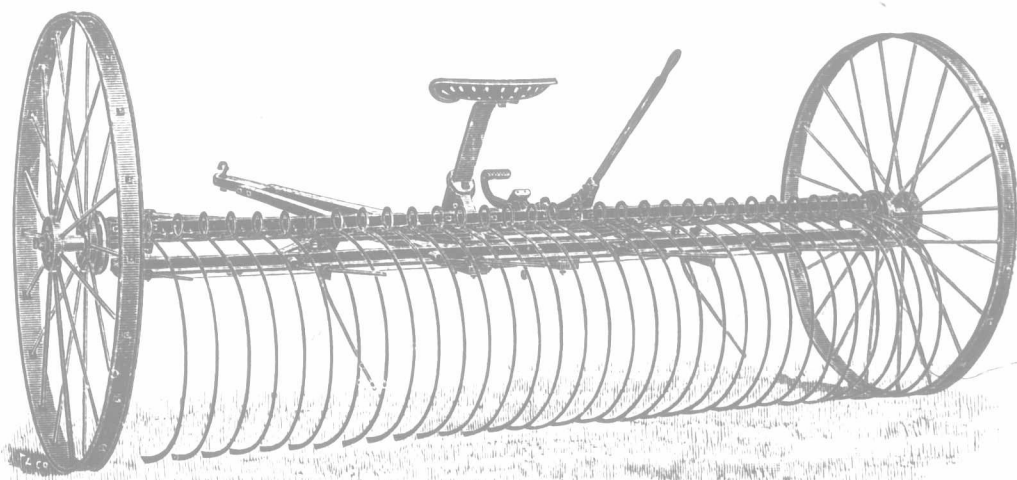
BOOKETS AND FULL INFORMATION FROM ANY C. P. R. AGENT



To Be Sure of Satisfaction at Haying Time
 Certainly Get a
**PETER HAMILTON
 MOWER
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 RAKE**

These machines are efficient, strong, simple and durable, because they are made on the right principles of the highest quality materials by master workmen.

The mower has power to spare, and will cut clean no matter how heavy or wet the hay may be. The draft is light and even. Our rake will gather up a big windrow, leaving no hay at all behind it, but without the teeth digging into the ground. Both machines are easy to operate, and the farmers delight in using them. See these machines and see our local agent.



The Peter Hamilton Co., Limited, Peterboro, Ontario

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AND UP-
WARD**
**AMERICAN
 SEPARATOR**

THIS OFFER IS NO CATCH. It is a solid proposition to send, on trial, fully guaranteed, a new, well made, easy running separator for \$15.95. Skims hot or cold milk; making heavy or light cream. Designed especially for small dairies, hotels and private families. Different from this picture, which illustrates our large capacity machines. The bowl is a sanitary marvel, easily cleaned. Shipments made promptly from **WINNIPEG, MAN., TORONTO, ONT., and ST. JOHN, N. B.** Whether your dairy is large or small, write us and obtain our handsome free catalog. Address:



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Ask your dealer for
RICE'S SALT

The old reliable brand. It is purer than any other make, and you get better satisfaction and value. Besides, you know it is made from Canada's purest brine.

FOR ALL PURPOSES

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A Twenty Horsepower
GAS AND GASOLINE ENGINE
 Practically new, for sale, cheap, on terms to suit. Would take lumber in exchange. Now in use at our factory.
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Federal grant
 of \$50,000
 used to im-
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All cash prizes increased 50 per cent.

Exhibition Association pays freight on exhibits coming over 100 miles. Reduced passenger rates and excursions on railways from five Provinces and two States.

New \$90,000 Machinery Hall erected for farm implements.

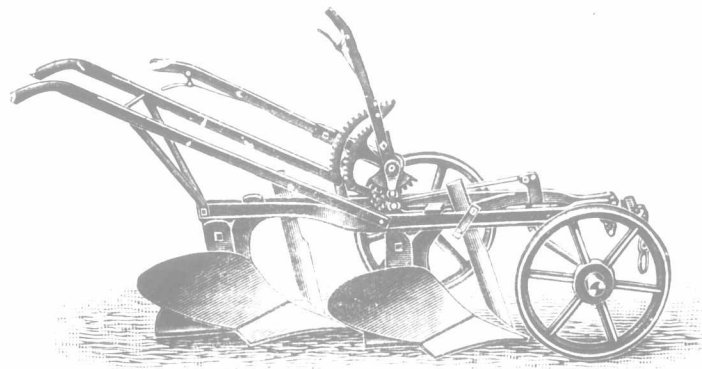
Entries from field crop competitions from every Province. Educational features along agricultural lines added. Novel attractions and amusements.

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Entries close August 20th

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Gang Plows, 3 sizes. Single Walking Plows, 4 sizes. Double and Single Riding Plows. Tinkler Plow Wheels. Drain Plows. Skimmers. Rolling Cutters, etc.

A one-cent stamp brings you our illustrated catalogue and prices, which will interest you.

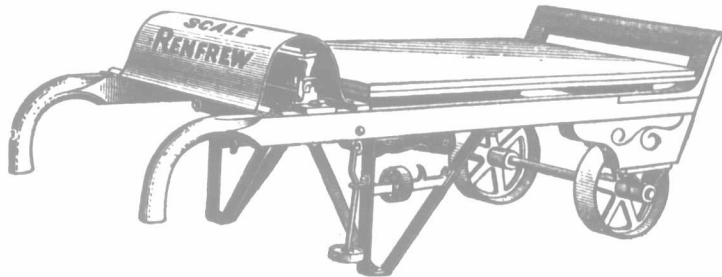
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"Wheel the Scale to what you want to Weigh"



**The RENFREW Handy
 Two-Wheel Truck Scale**

The Scale that is guaranteed by the Canadian Government

The Renfrew insures the farmer his full profit on everything he sells by weight—from one ounce to 2,000 lbs.

Simply wheel the Renfrew to what you want to weigh—it saves time and labor.

The Renfrew comes to you with Government certificate attached—an absolute Guarantee of Accuracy.

The Renfrew outlasts all other Scales—it is built for hard and unremitting service.

Write at once for our Booklet, "The Profit in the Last Ounce," which shows you how to get every cent of profit on produce you sell by weight using a Renfrew Handy Two-Wheel Truck Scale.

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 Renfrew, Ontario**

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Please send me free of charge the booklet, "The Profit in the Last Ounce."

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BELL PIANOS
BUILT TO LAST A LIFE TIME.

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

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

The **BELL PIANO & ORGAN CO., Limited**
GUELPH. ONTARIO

"Good as Gold"

ARE THE POLICIES OF THE **LONDON LIFE Insurance Company**

Head Office: LONDON, CANADA

Maturing 20-Year Endowments in the ordinary Branch show returns of \$140 per \$100 paid in premiums.

Full Insurance Protection in addition.

Ask for samples of Actual Results.

THE Stratford Extension Ladder

IT IS strong, serviceable, light, easily operated and durable, with wire-trussed reinforced sides.

If interested, write for booklet H, which tells all about this and other lines of ladders.

The **Stratford Mfg. Co., Limited**
STRATFORD, ONTARIO

DE LAVAL CREAM SEPARATORS

Are In a Class By Themselves

They cost but a little more than the cheapest, while they save twice as much and last five times as long as other separators.

They save their cost every six months over gravity setting systems and every year over other separators, while they may be brought for cash or on such liberal terms that they will actually pay for themselves.

Every assertion thus briefly made is subject to demonstrative proof to your own satisfaction by the nearest DE LAVAL local agent, or by your writing to the Company direct.

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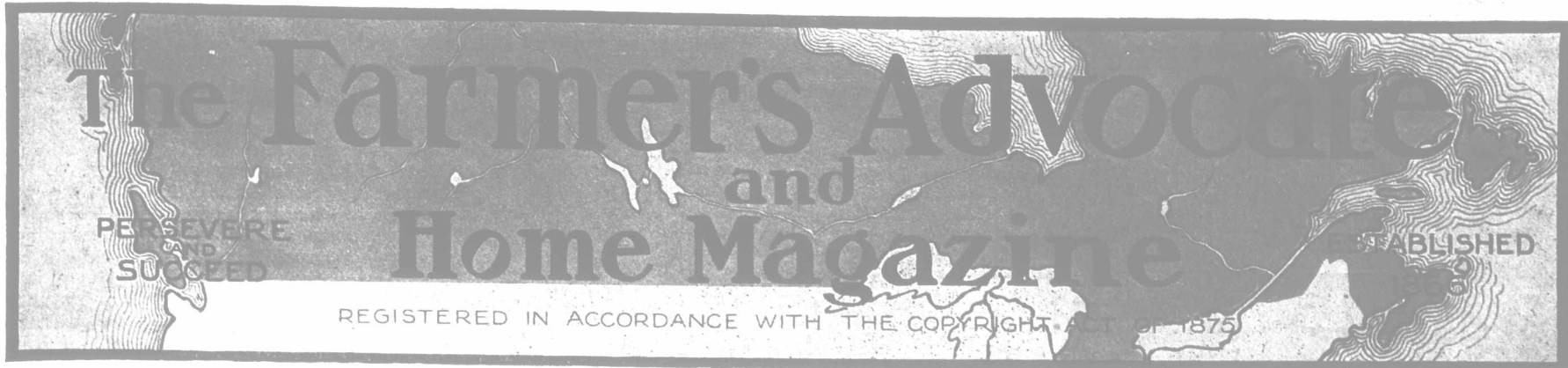
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No. 1031

EDITORIAL.

Of the Scot it is commonly said that he has an inwrought hatred of waste and a love of order. Good characteristics these for the Canadian farmer to make his own.

The side-delivery rake is a splendid implement on a farm, and is almost necessary where the hay loader is used, but it will not take the place of the dump rake, which is needed for the second raking and for gleaming grain stubble, where this is practiced.

There are, no doubt, far more young physicians being turned out from the educational institutions of the country than there are patients for. Wrong direction has been given to the education of many young men, and yet there is nothing more difficult to change than the old systems of education.— [U. S. Secretary Jas. Wilson.

In the published arrangement made for the disposition of the special Federal grant for the advancement of Ontario Agriculture, almost every interest seems to have been fairly well considered. In the final expenditure, however, it occurs to "The Farmer's Advocate" a considerable proportion of the money might well be devoted to some means whereby the serious losses accruing to farmers through the alarming growth of weeds would be more clearly realized, and effective measures taken to rid farms of these pests, and prevent the inroads of others. The skill with which the general plan has been wrought out will suggest naturally that, through several of the educational and other agencies at work a vigorous campaign that will enlist the co-operation of farmers for their own benefit, might likely be evolved. To perceive that there is urgent reason for it, one need but open his eyes on nearly any rural road in the land.

Cost of Making Hay.

"No crop that a farmer produces is made or marred in the curing and harvesting to such an extent as the hay crop," writes a dairyman correspondent whose hay loader and side-delivery rake have not been out of the implement shed for five years, as he does not think the best clover or alfalfa hay can be made without coiling. In this most readers will concur, though there will be many to contend that, in these days of labor shortage, expedition is of supreme importance, often saving hay from injury by rain, dew or over-ripeness. Where, however, there is only a moderate acreage of hay to be made, and a reasonably ample amount of help to care for it, we would strongly counsel the slower method. Haymaking is a less expensive job than most people suppose. At Weldwood, last year, we made about forty-five tons from thirty-two acres, at an average cost of about \$1.25 per ton for labor of men and teams. Every load but three or four was pitched from the coil, and most readers remember what a broiling summer we had. We used the side-delivery rake, and liked to coil from the windrow it left. Last season, with light hay and fast-curing weather, it took the place of the tedder, but we have bought a tedder for 1912.

Weeds.

Weeds, weeds, weeds to no end! This weed question is serious, and getting more so. A short rotation of crops helps greatly in the battle, but even where this is adopted, one has his hands full for a time in dealing with a dirty farm. Thistles fight with the spring grain. Twitch-grass, blue grass, bindweed, perennial sow thistle and the like make extra work, even in the hoe crops. Docks rear their unsightly heads aloft in the meadows, yellow mustard hides the grain in thousands of fields, and even dandelions do serious mischief, overrunning pastures. These, with hundreds of others, claim urgent attention during the growing season, when the corn and roots, and presently the hay, ought to monopolize one's thought and labor. What can be done about it all? We hardly know. Help is so scarce the majority of farmers cannot hire a man by the day for such work. Mainly, it must be done by men regularly employed on a monthly or yearly engagement.

Other than this, we can only offer a few somewhat hackneyed suggestions:

Sow only clean seed. One will get weeds enough with the best. It is well to send a sample of any small seeds about to be purchased, concerning which one may have any doubt, to the Seed Branch, Ottawa, for free examination and report.

Follow a short rotation in which manure is applied only on sod or before a hoed crop. The cultivation given the hoed crop will destroy many dangerous germinating weed seeds.

Plant large areas of corn in hills, and cultivate thoroughly with the two-horse riding cultivator, equipped with wide points. Watch for strange plants in the new seeding, and get them identified.

Clean out superfluous fence bottoms and other waste areas.

Spray mustard in the grain with copper sulphate, 10 or 11 pounds to the 40-gallon barrel.

Top thistles in the grain with a scythe just before the grain heads.

Mow the meadows early.

In all tillage operations, do thorough work, never leaving headlands or corners unfinished. Good old-fashioned, thorough tillage will go a long way to subdue weeds.

Lastly, brethren, persevere resolutely, determined to prevail, fighting the battle of courage and of faith.

Combine Perseverance with Enterprize.

Steadfast adherence to bed-rock facts and principles is necessary to sustained progress in farming. So many people are discouraged with a new crop or a new idea by adverse results of a season or two. Come a wet, cold summer, and enthusiasm for the corn crop is dampened. A hard winter turns many back from alfalfa-growing, while a few dry summers discourage thousands from extensive sowing of clover. Yet, there is nothing more certain than the endless variety of seasons. One form of adversity is sooner or later followed by another form, and the drifter usually turns from a certain crop about the year it is likely to prove profitable. One should maintain a broad outlook over the field of his occupation, ever alert for progress, but solid as the rock of Gibraltar in holding steadfast to the well-proven and the good.

Western Crop Outlook.

In a careful resume of the crop prospects in the Western Provinces for this season, which is rather later than last, "The Farmer's Advocate and Home Journal," of Winnipeg, says: "It is most unlikely that the season of 1912 will prove so unfavorable to grain-growing as last year, yet there are so many factors all tending to lower the yield or destroy entirely the crop that must be reckoned between now and harvest that it is entirely impossible to estimate the probable yield on any farm at the present time. Rain and cold weather, frost, hail, wind storms, drouth and hot winds are factors that may appear locally, or generally, and some of these will undoubtedly affect a greater or lesser number of farms this year, to the deterioration, or complete destruction, of the crop. This view of the present crop situation is taken, not from a pessimistic standpoint, but to draw attention to the uncertainty of final yield on any one farm, and the fact that even a definite estimate of the value of the crop cannot be taken until harvest is well under way. For this reason, farmers, especially those who have no other revenue than from their grain, should be slow in securing credit on the prospects of the present crop. Credit must be secured in many cases for the carrying on of necessary farm work and for the maintenance of the farm, but a lack of foresight is shown, however, where credit is stretched to the uttermost to purchase expensive machinery and unnecessary farm appliances, with nothing to meet such credit when due, but the present prospects of an average crop."

Have a Weed Bee.

One of the most alarming consequences of the shortage of men on the farm is seen in the spread of weeds. Not to mention pests generally regarded as more noxious, the unusual spread in many meadows is reported this season of curled dock (*rumex crispus*), sometimes called sour or yellow dock. After a heavy rain, it is most easily pulled. If allowed to ripen, it is carried in the hay to the barns, and the seed returns to the fields subsequently with the manure, thus laying the beginnings of another crop. By pulling, spudding or cutting, all such pests should be prevented from going to seed in the grain fields, meadows or pastures. If no other better plan of coping with this growing evil presents itself, why not try a co-operative weed bee? Hire all the boys in the neighborhood, and give an ice-cream social to conclude the proceedings of the afternoon.

Never do we remember seeing clover make more rapid and satisfactory growth than it has done this year, where there was anything at all in the spring. Some splendid fields are to be seen in bloom. Alfalfa, on the other hand, has not done so well. In many districts it was extensively killed out last winter, and even where it survived till spring, the long period of cold, wet weather has told against it, apparently conducting to the common alfalfa blight. This may not appear to any extent in the second cutting.

There are two ways in which persons become successful farmers—by imitation and by instruction, written or oral. Those who are wise will avail themselves of both.

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL
IN THE DOMINION.

PUBLISHED WEEKLY BY
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JOHN WELD, MANAGER.

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

Risks in plenty attend the breeding of horses, but, with present and prospective prices of good drafters, the business figures out a good average profit, just the same.

It is cruelty to animals to drive a horse which is used to having all four feet shod with one or more shoes off. Shoeing causes the feet to become more tender, and they are not able to resist the pounding on the road or hard ground, without bruising the soles, causing lameness.

During the whole of this spring's work we have fed our farm horses from five to eight pounds of alfalfa hay a day, and we never had them in as fine tone and health. We believe every farmer would find it to his advantage to mix his horse hay with at least 33 per cent. of alfalfa. Why not try the growing of alfalfa and timothy together.—[Hoard's Dairyman.

Axle grease is much cheaper than horse flesh, and is also a great saving upon the wear and tear of the wagons. Once a year is not enough to grease the wagon, although some farm wagons are expected to run easily all summer from a solitary spring application. Keep the wheels revolving on a thoroughly-oiled axle, and ease the load on the horse.

Few people, even though they are accustomed to hitching horses every day, follow the right system in the operation. The first portion of the work should be the fastening of the lines in the bit, and if a team is being hitched, the coupling together of the horses, followed by buckling the lines together and placing them convenient to the driver's seat. The breast straps holding the neck-yoke should be fastened next, after which pass to the holdbacks, and lastly the traces. The same is true of unhitching, only the various operations should be performed in directly opposite order; the traces should be unfastened first, next the holdbacks, after which the breast straps, and lastly, fasten and put up the lines. A little precaution taken in these operations will avert many accidents.

The Horse to Have.

The poet Burns had his ideas of horse flesh, which he thus expresses in addressing his auld mare Maggie:

The sma' droop-rumpl't hunter cattle,
Might aiblins waur't thee for a brattle;
But sax Scotch mile thou try't their mettle,
An' gar't them wbaizle;
Nae whip nor spur, but just a wattle
O' saugh or hazel.

Thou never braing't, an' fecht, an' fiskit,
But thy auld tail thou wad hae whiskit,
An' spread abreed they weel-fill'd brisket,
Wi' pith an' pow'r,
Till spritty knowes wad rair't an' risket,
An' slypet owre.

In cart or car thou never reestit;
The steyst brae thou wad nae fact it;
Thou never lap, and sten't, and breastit,
Then stood to blaw;
But just thy step a wee thing hastit,
Thou snoov't awa'.

Light Horses vs. Drafters.

"He used to have a good farm, but he went in for race-horses, and—" It is hardly considered necessary to finish that sentence. The significant "and" suggests it all. Farm neglected, growing up to weeds, most of the feed and pastures devoted to the support of unsalable colts, machinery rusting, debts accumulating, credit shrinking or cut off, proprietor on the road, on the speed-ring or at the races, keeping fast company, and too often dropping into habitual dissipation—it all stands out a distressing picture, familiar to the residents of many a district.

Without moralizing overmuch, it may be merely remarked that any side-line which takes a man away from his farm work much of the time, holding out the elusive hope of big speculative profits, instead of the fair earnings of solid, painstaking effort, reduces greatly his chances of success at straight farming, and when a farm ceases to be operated at a profit, it soon comes to be run at an annually increasing loss.

How different the case where heavy horses are bred! These fit in with the scheme of agricultural work, the colts soon becoming useful on the farm, while the brood mares are always ready to take their place in harness, except for a week or ten days after foaling. When the young horses are broken and ready to turn off at four or five years of age, they will have earned a considerable proportion of their keep, and the owner need not make records for them or frequent the race tracks to get in touch with buyers. Driven into market with a substantial load of produce, their appearance commends and advertises them. Heavy colts, too, are less liable to injure themselves by mischievous antics than those of hot blood, and are, on the whole, probably less prone to unsoundness. Taking everything into consideration, the case for draft-horse breeding on the farm is a strong one, with no visible probability of becoming unprofitable for years to come.

Motor trucks are all very well, but we notice they make poor headway in snow. So far, the development of mechanical traction, greatly swelling the aggregate of commerce, has seemed rather to increase than to diminish the demand for heavy horses. At all events, there are a great many in use in all our principal cities, and checks from long bank accounts are readily drawn for high-class geldings to replenish the stables.

It is strange what some breeders will do for the sake of saving a little time at service, or for a few dollars on service fees. A horseman called at this office a few days ago and informed us that, in spite of all that has been said against the practice of cross-breeding and the use of the inferior sire, many in his particular district still use the scrub, and cases are not infrequent this year where mares with three crosses of Clydesdale blood, whose filly colts, if they were bred to a pure-bred Clydesdale horse, would register, have been bred to grade stallions, or registered stallions of another breed. There are in this district some good registered stallions, but not enough, and there are still too many scrubs. This particular stallion-owner is firmly of the opinion that the Government should place further restrictions upon the scrub stallion, and encourage the universal use of pure-breds. It is a mistake which cannot be excused to cross-breed animals whose progeny, provided a pure-bred of their own breed were used, would register. Pedigree adds considerably to the selling price of any horse, and we haven't too many of the right class of pedigreed stock in Canada today.

LIVE STOCK.

In-breeding and Prepotency.

It is generally thought that an in-bred sire is always prepotent in a great degree, and one most desirable. "In case of horses," says T. B. G., in *The Farmer and Stock-breeder*, "the writer has known many instances where such a sire has been so; in fact, some of the best sires ever known amongst Shires have been in-bred, and in Thoroughbreds, also, the great stallion Wisdom, for example. But, on the other hand, in-bred bulls have been, in many cases, dismal failures, and their produce not worth rearing. This, of course, applies to the present day. In the days of Belindae it was different. There are many people who maintain that it is impossible to breed stock up to a definite standard and maintain that standard, without in-breeding. That was no doubt true sixty or seventy years ago when the field of selection was extremely limited, but it cannot apply now, when selection is practically unlimited. Having once fixed a certain standard of type by a system of in-breeding, it must be a case of careful selection and skillful mating to keep up that standard, but there is no necessity, nowadays, for selecting and mating only closely-related cattle. There is a wide range, and plenty of animals can be found in other herds, either unrelated, or, at any rate, very distantly related, that will answer the purpose for which they are required. Then, again, it is sometimes argued that in-breeding can be indulged in with impunity, provided the most careful selection is made in the mating of the animals; that is to say, by breeding only from those that show signs of the most robust constitutions, and that have no defects of any kind.

That theory may be all very well for a time, but what a constant weeding out there must be; so much so, that a herd bred on these lines can never increase, but must sooner or later dwindle away. In a very inbred herd the time is bound to come when, from sterility, weakness and other causes, the animals fit to breed from become fewer every year, and the wastage greater. In-breeding is just useful nowadays to establish some special feature, but whether that special feature is worth the sacrifice is another matter. Breeders often wish to bring out some special feature in their stock, and, by a few years of in-breeding and careful mating, they establish that feature, and when once established it is not necessarily lost by the judicious employment of fresh blood. On the other hand, the special feature often becomes more prominent. By a certain amount of in-breeding, it is thus possible to improve certain points in our stock; but, on the other hand, it is more likely to bring out undesirable characteristics, such as want of bone and size, sterility and delicacy of constitution. On the whole, therefore, in pedigree herds, it is best to guard against any system of in-breeding as far as possible, but in the breeding of commercial stock there can never be any justification for it whatever. The ideal of the producer of good store stock should be to produce animals with size, quality, hair and constitution, that will live where others will starve, and that will turn the food given to them to best account. This sort of stock will never be raised by a careless system of in-breeding, and so long as the sires used possess the characteristics which the breeder wishes to bring out in his stock, it matters not so much what their pedigrees are from a commercial point of view, so that they are unrelated, or very nearly so, to the previous sires used; and that brings up one little point, which is, the importance of breeders of commercial stock studying the pedigrees of the sires they use, otherwise they may inadvertently purchase a fresh sire which may be so closely related to the previous one as to do an infinite amount of harm if used too freely."

A Kicking Cow Case.

Sheriff Sym, of Perth, Scotland, recently issued judgment in a case of considerable interest to Old Country live-stock salesmen, farmers and dealers attending live-stock marts. The action was at the instance of Robert Henderson, Hillyland, Perth (Lord Dean of Guild of the city), against Alexander Macdonald, farmer, Glenlyon, and was for repayment of the price of a milk cow purchased by the "pursuer" from the "defender" at Macdonald and Fraser's auction mart at Aberfeldy, on 14th December last. The cow proved to be a "kicker," and the pursuer rejected it. Defender refused to take it back, and the cow was sold for whom it might concern. The ground of rejection was that, in accordance with established custom and uses of trade, if a cow sold as a milk cow turned out to be a kicker, the buyer was entitled to reject it, notwithstanding the usual conditions hung up in the mart. On consideration, his lordship's view was that there was no error; that the custom which was proved to be consistent with the law that the buyer must take the seller with all the defects which reason-

able examination will disclose, and with the warranty given and fulfilled. His judgment was for the pursuer, but with modified expenses. Whether auctioneers would need to modify those conditions, he could not there decide.

THE FARM.

Practical Ideas on Harvesting Alfalfa.

Editor "The Farmer's Advocate":

For the past few years I have been growing alfalfa hay only. I have found it to be so far superior in feeding value to all other kinds of roughage that, although some years ago I grew as high as eighty and ninety acres of timothy and red clover, I have gradually decreased the size of my old meadows, and all new seeding was made with alfalfa. We have now in the neighborhood of fifty acres of alfalfa, and expect to go on increasing this acreage as time progresses.

My system of handling the various hays is, briefly, as follows: Red clover I cut when nicely in bloom, raked a little on the green side, and coiled up, allowing it to cure in the coil. Timothy was usually left until the other hay had been safely stored in the barn, although, for the best hay, I think it should be cut soon after the stamens appear on the heads. This will give you a good palatable hay. I allowed it to wilt thoroughly before raking, and then used the side-delivery rake and the loader to load it with.

Alfalfa I will discuss more thoroughly, because it is, in my opinion, the coming hay crop in this Province. I cut it when the young shoots at the crown of the plant begin to show, as this indicates that new shoots will be sent up almost immediately after cutting, and thus insure a quick start for the second crop. I leave it in the swath, tedding if it is heavy until it wilts considerably, but before the leaves wilt enough to be crisp, then rake up and coil in high, slim coils. It is left in the coils for a few days to allow it to sweat out well, and the coils are opened out for an hour or so if at all damp, and then hauled to the barn. I have found this method of handling to lessen the danger of heating in the barn, and to give me a splendid quality of hay for feeding during the winter. The loss of leaves is kept very small, and this insures an excellent feeding value for the hay.

In referring to the machinery used in the making and storing of the hay, I will discuss the various implements as they are used. For the past number of years I have been using a six-foot-cut mower, and would not use a narrower one; in fact, on level land, a seven-foot cut would not be too wide. A tedder and dump rake are, to my mind, much superior to a side-delivery rake when handling clovers, especially alfalfa. The side-delivery, unless used when the alfalfa is hardly wilted at all, will knock off too many of the leaves, and materially reduce the value of the hay. When using the tedder, we do not allow the hay to wilt much before tedding, and then, after tedding, we let it wilt a good deal more before raking, although not enough to let the leaves dry up too much. Then, when the raking is done, the hay is fit to coil. When using the side-delivery rake, it is impossible to separate the operations of tedding and raking, and this is necessary if one is to get the best quality of hay. When growing timothy, I used both the side-delivery and the hay loader, and made very good hay with them when the weather was good. However, I think that, under average conditions, better hay can be made by the old-fashioned method of coiling. A dump rake is almost necessary, even with a side-delivery and loader to gather up the rakings that are bound to be left after the loader has gone along the windrow. I have discarded the side-delivery and loader since growing alfalfa, as they do not fit in with my ideas of the best way of handling the hay, and, also, our land is too hilly to make the loader a very satisfactory implement.

When unloading the hay, we use the slings after the first few feet in the bottom of the mow have been filled. The fork has not proved with us as clean and quick a way of unloading alfalfa as the slings, for it seemed almost impossible to get a good-sized fork load to stick together. We can unload a pretty big load in three draws, and, as the slings are center-trip, the hay lands in the mow in about the same way as it was loaded on the wagon, and mowing away is comparatively easy.

Waterloo Co., Ont.

Thinning Roots.

The season has continued its increasing roll, until it is again opportune to discuss the subject of root-thinning. Owing to the scarcity of labor and the amount of work required in the production of a root crop, roots have been, during late years, gradually losing favor in the eyes of farmers, and their place has been taken by silage. There are still, however, thousands of farms on

is absolutely necessary if the roots are to "bottom" well, and it is necessary to destroy weeds and hasten growth. Too much care cannot be used in thinning that a thorough separation is made and only one plant left in a place, as every time two or more plants are left together, the yield of the crop is materially lowered. Root-thinning is one of the branches of farm work at which it is essential that careful work be done. The old adage, "work well done is twice done,"

applies very well to this operation, for a good hoeing, if at the time of thinning, being careful to remove every weed, means, under ordinary conditions, a fairly clean hoed crop. While it is always advisable to give a second hoeing some time after the thinning, press of work often precludes this, or necessitates its being left rather late, so that weeds, if not killed at the first hoeing, get a good start, are difficult to remove, and injure the crop more or less, according to their numbers.

The first question is the size at which to begin thinning. Too many leave the roots too long, and press of other work gets the better of them, the plants are too large to thin easily, and are injured more than if they were thinned when smaller. Besides, the weeds get a chance to get a strong root-hold. Experimental work carried on some years ago at the Ontario Agricultural College with Swede turnips, showed that the largest crop of roots was obtained when the



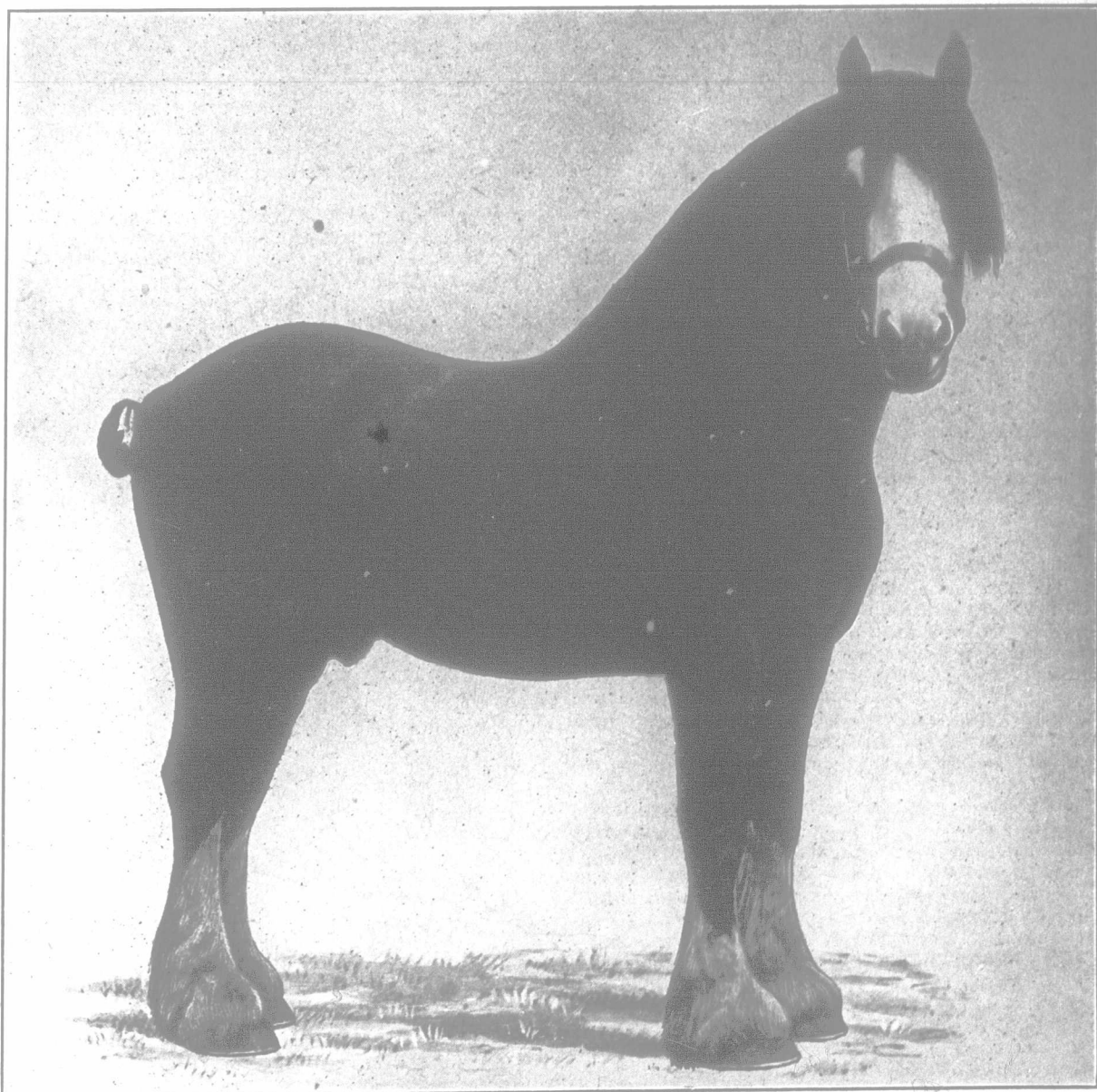
Eye-opener, by Sensation.

First-prize harness horse, 15.2 and under, at the Galt Horse Show. Owned by A. Yeager, Simcoe, Ont.

which roots form almost the entire hoed crop, and thousands more on which they are grown, perhaps in smaller quantity than formerly, in conjunction with the corn crop. For young stock, roots are almost indispensable, and a fair acreage is profitable on every stock farm.

Thinning is important from two viewpoints. It

the plants are too large to thin easily, and are injured more than if they were thinned when smaller. Besides, the weeds get a chance to get a strong root-hold. Experimental work carried on some years ago at the Ontario Agricultural College with Swede turnips, showed that the largest crop of roots was obtained when the



Scotland's Pride.

Sire Hiawatha, dam by Baron's Pride. One of the best breeding horses in Canada. A colt by him, rising one year, sold for \$450, and a filly rising two, for \$425. This horse is owned by S. J. Prouse, Ingersoll, Ont., who expects a record year with foals from his ten imported brood mares.

plants were thinned at the time when they had attained a height of about two inches. When the plants were left until they had reached a height of eight inches before thinning, the yield was about one-third less. The same is true with sugar beets and mangels. In thinning, it is good practice, especially with turnips, to knock the plant left over with the hoe. This does not aid growth, but it insures more careful thinning, as the man with the hoe is able to see the root easily, and can detect whether or not there are more than one left.

Next to be considered is distance apart. About ten inches has been found to give very large yields, but it is a question whether the extra yield is sufficient to pay for the extra labor in handling the larger number of roots than if they were left a foot or fifteen inches apart. The smaller roots usually contain a little more feed, compared with an equal bulk of larger roots, but they also carry in more dirt, require more time in thinning, and make much more handling at harvesting time, and the yield is very little more than when left a little farther apart. Quicker work can be done all round at twelve or fifteen inches apart.

Hoeing is particular work. It should not be done too deeply, baring the roots too much, especially with beets and mangels, which do not recover from such exposure as quickly as turnips. However, the hoeing must be done to a sufficient depth to remove all weeds. Every weed that is left means extra work later, and there is a chance that it may seed before the next hoeing. Do the work at the right time, and do it carefully.

It is important to keep the hoe clean and sharp. A sharp hoe also adds to the ease with which the work is accomplished, and it is more effective in both singling and killing weeds. A file at the end of the field is a useful tool to keep the hoe in good trim. A thin, keen hoe is required.

No Use for Loader or Side Delivery.

TIMOTHY.

Because of the fact that I specialize along dairy lines, timothy hay is a crop for which I have no use whatever, except only in a very limited quantity. I want only enough timothy hay to feed my work horses during seed time, and while doing the fall work, when an extra demand is made upon their strength.

For this purpose, I want hay fairly well matured and free from dust. To secure these ends, I allow the second bloom to fall before cutting. I cut in the forenoon, ted about noon, and coil in large, well-built cocks late in the afternoon. If the cocks are properly built, it is wonderful the amount of rain they will shed, without injury to anything but the top and outside. After the hay has been allowed to sweat thoroughly, which usually requires about two days, I open the cocks to the air and haul to barn. By thus allowing the hay to advance well on to maturity we get stored up in the plant the greatest amount of nutriment consistent with digestibility, and, by coiling and allowing to sweat in the cock, we avoid dust and bleaching, and secure palatability.

CLOVER.

I aim to cut my red clover when it is pretty much all in bloom, but before the bloom has started to turn brown. This may seem to many a trifle early, but there are two good reasons why clover should be cut green—yes, very green: (1) If clover be allowed to advance too far toward maturity, the stalks become woody and will not be eaten by the cattle, and the leaves, which are practically the only remaining part which is of value, are more likely to break off in the processes of harvesting, and become a total loss, whereas, on the other hand, if cut green, both these objections are overcome; (2) if clover be cut quite green, you can count with almost absolute certainty upon a second crop of equal—if not greater—bulk and weight as the first, and this second crop can be utilized with great profit and advantage for any of four different purposes, viz.: (a) To be allowed to ripen and cut for seed; (b) to be cut again for fodder; (c) to be utilized as pasture for dairy cows to supplement the original pasture, which by this time will have become too dry to induce a heavy milk flow—and just here let me say that, in my opinion, the after-growth from early-cut clover is less liable to cause cattle to bloat than is the after-grass from more matured clover, because the second crop partakes more of the nature of the first crop, and the first crop of clover rarely causes bloating; (d) then, lastly, but not necessarily least, the second crop, if desired, can often very profitably be plowed down as a fertilizer.

Now, these are my reasons for cutting red clover green, and, as to my method of handling, I want to say that it is more subject to variation than timothy-hay harvesting, because we usually have settled weather about the time timothy is

fit to cut, while the weather is more frequently than not "catchy" at the time red clover should be cut, which in this district is usually about the 20th of June. If the weather is suitable, I cut in the forenoon, preferably after the dew is off, allow to lie all the first day in the swath, without tedding (tedding would expose too great a surface to the dew the first night), then in the morning of the second day ted, and re-ted, if necessary, rake up just after dinner and haul to barn.

ALFALFA.

I aim to cut my alfalfa when one-tenth the bloom is on, if possible, but, as with red clover, the weather cannot always be relied upon at the time alfalfa should be cut first. One word just here with reference to my estimate of the value of alfalfa. From experience in the use of alfalfa hay as part of a dairy ration, I want to say that,

ding with care to avoid breaking off leaves, which is really a very important feature of alfalfa-curing.

Now, these are fair-weather methods. I don't think any man can lay down rules for curing and harvesting hay in catchy weather.

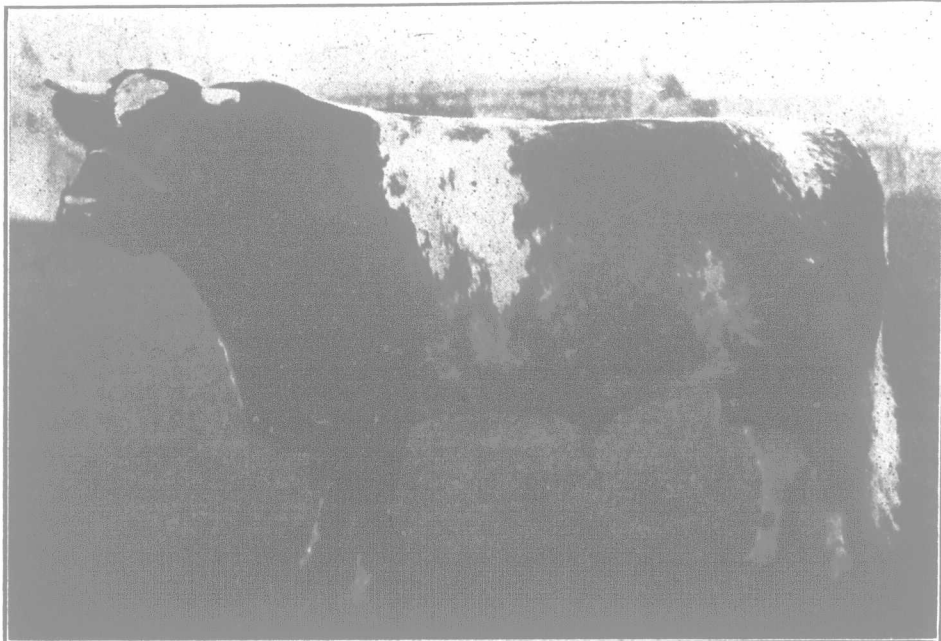
It is a heart-breaking experience to have a nice field of valuable alfalfa or red clover spoiled because of unfavorable weather, and I have often wondered if hay caps might not furnish a great measure of relief in such cases. If you, Mr. Editor, are in possession of any practical information on this point, you will greatly oblige me, at least, by adding hereto a foot-note giving details.

Now, as to machinery. In connection with the question of haying machinery, we are compelled to consider the farm-labor question. In this Province the operations of farmers are seriously

handicapped because of the lack of sufficient and efficient farm labor, and at no point does this lack touch the farmers so keenly as in haying operations. No crop that a farmer produces is made or marred in the curing and harvesting to such an extent as his hay crop is. Mr. Editor, I want to repeat that sentence, and I hope that every reader of this article will ponder it well: "No crop that a farmer produces is made or marred in the curing and harvesting to such an extent as his hay crop is." To cure and harvest hay so as to insure the greatest possible measure of nutritive value, palatability and digestibility, requires

good weather and lots of labor. We cannot control the weather, and apparently we cannot control the labor market, so in many cases we must resort to the use of fast-working machinery, such as the 7 and 8-foot mowers, the side-delivery rakes, hay loaders, tedders and horse forks. But, Mr. Editor, I am of the opinion that many farmers have too much of their land under hay crop. I had rather have a smaller quantity of properly-cured hay than a large quantity of hay cured improperly because of lack of help, or because of having been harvested by means of fast-working machinery.

In my judgment, it is absolutely impossible to properly cure hay without coiling, and, as it would be necessary to uncoil to use a hay loader, I would not use the loader, because there would be no saving of labor: and, in the case of clover and alfalfa, the loader would knock off too many leaves. If a hay loader be not used, then one might far better have a tedder than a side-delivery rake, because a side-delivery rake is not so effective in drying the hay as a tedder. I would avoid extremes in the matter of the size of mower. There are cases where the 7 and perhaps even the 8-foot cutter bar might be O. K., but under average conditions, I think the 6-foot cut the happy

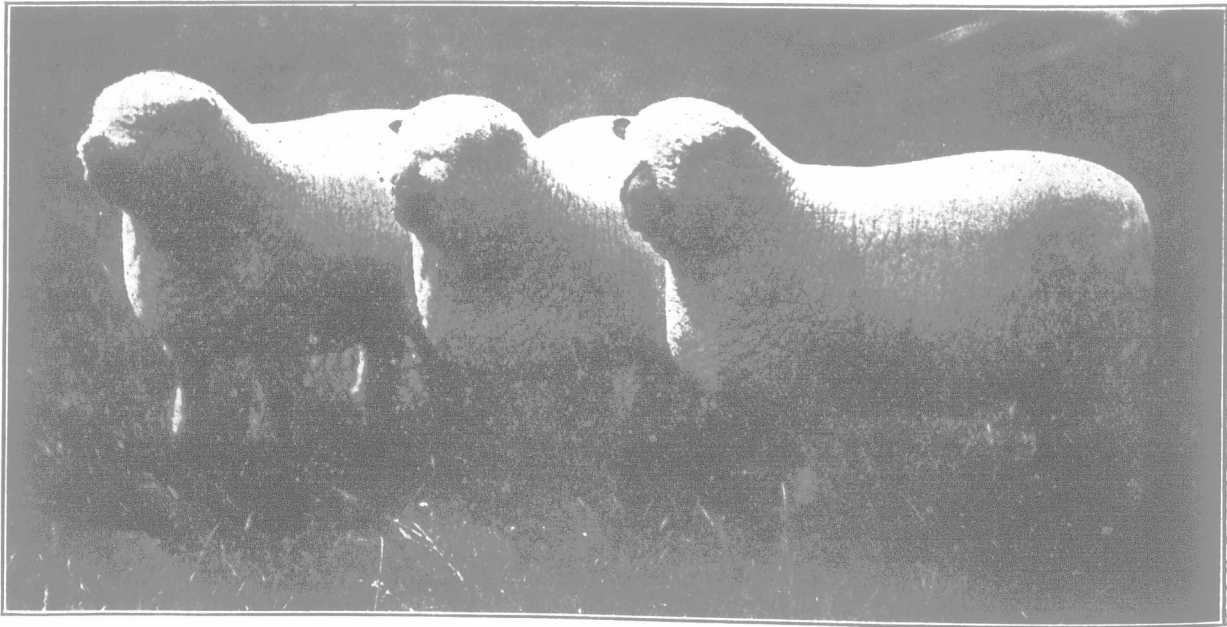


Pretender.

Champion Shorthorn bull at the Bath and West Show. Owned by Lord Tredegar.

as compared with other farm crops, alfalfa hay, if properly cured and cut at the right state, can hardly be overvalued. I am growing alfalfa hay successfully in a county (Dundas) that is supposed to be unsuited to that crop, but I am growing it on a part of my farm that is naturally though perfectly underdrained by means of a substratum of limestone quarry. I think that nothing but disappointment and loss awaits the man who attempts to raise alfalfa where the water-table rises too near the surface of the ground; but where natural drainage does not exist, it will pay any man well to tile-drain at least one field for alfalfa, if sufficient outlet can be had for effective tile drainage, as is the case on pretty nearly every farm in the country.

I cut my alfalfa in the forenoon, and before it has become too dry I ted and rake in small windrows. Alfalfa must not be roughly handled when dry, because, if so handled, all the leaves will drop off, and those leaves are worth, pound for pound, just as much as and more than bran. After the alfalfa has dried sufficiently in the windrow, I coil in medium-sized coils, and allow partial sweating in the coils, though this sweating need not be so thorough as with timothy hay intended for horses. Then I haul to the barn, always han-



A Winning Trio.

Best pen of Shropshire ewes at the Bath and West Show at Bath, the property of K. Milne.



Seeded to the Common Alfalfa.

The two plots in the foreground on which only a few plants are growing, are from four-year-old seeding of the common variety.

medium. I have a mower, a tedder, a dump rake, a side-delivery rake and a hay loader, and I am speaking from experience. Our hay loader and side-delivery rake are both as good as new, yet they have not been out of the implement shed for five years, just because I don't believe that strictly first-class hay can be made without coiling, and they cannot be used on alfalfa without great loss of leaves. For unloading, we use slings. It takes a little longer in the field, but the time lost here is far more than made up in the barn, where every stem is placed in the mow every time in four slingsfuls, and, furthermore, the labor of mowing back the hay is cut in two. It is very important that every slingful be torn apart and spread out evenly over the mow, in order to insure keeping well therein. Just one last point: In most barns where there is only one horse-car track in the peak, there should be one at each side, in order to lessen the heavy labor of distributing the hay. If the purline posts are in the way, take out the vertical purline posts and put them in on the slant at right angles to the rafters. I have done this, and find it lessens the labor of mowing back to a surprising extent.

Dundas Co., Ont. W. H. CASSELMAN.

[Note.—We have published descriptions of hay caps claimed to have been used with very satisfactory results. The specifications are very simple. Tear 40-inch common cotton sheeting into squares. Do not hem, but simply fasten a four to six-ounce weight to each corner. We got a dozen of these made, and tried them at Weldwood last year, but must confess we were disappointed. We could scarcely build cocks which they would cover satisfactorily, and the weights did not prevent the wind blowing many of them off. They are, at best, quite a bother to use and gather up, and we are not sure that they would turn a rain very successfully. On the whole, we hardly considered them a practical success.—Editor.]

Two Factors Which Control the Alfalfa Crop.

The two greatest needs to make alfalfa a success, according to Prof. C. A. Zavitz, of the Ontario Agricultural College, are clean land and the right kind of seed. These points cannot be impressed too strongly upon those growing or contemplating growing alfalfa. This crop is now becoming more widely known, it has passed the experimental stages, outgrown its infancy, and is now recognized as one of the most profitable, popular, and is one of the most talked of crops in the country. There is just a danger, as pointed out by Prof. Zavitz, that the country will rush pell mell into alfalfa-growing, without giving it a chance to prove that all which has been said in its favor is true, and thus ultimately the popularity of the crop would be injured, and farmers would not be so impressed with it. This would certainly be a detriment to the country's agriculture.

Alfalfa must have clean soil. The man who sows it on a dirty, poor piece of ground need not be surprised if it proves a failure. As good a method as any, in the estimation of Professor Zavitz, is to summer-fallow the land until about the middle of July, and sow the crop without a nurse crop of any kind. Good success has followed this method, and the results at "The Farmer's Advocate" farm, "Weldwood," go to confirm the statement. No matter when the crop is sown, whether it be with a nurse crop in the spring, or alone later, the soil must be clean and in good tilth. Blue grass will crowd out alfalfa, but alfalfa will never crowd out blue grass. Grass and weeds shorten the period of the crop, producing a good stand and mitigate considerably against it even the first season, and, if very thick, may succeed in killing it out entirely.

The old needs of high or underdrained soil, cutting at the proper time, or just when it is about one-tenth in bloom, inoculation, and the use of plump seed, must never be overlooked in alfalfa-growing; but, after all, lack of proper soil cultivation, and the use of the wrong kind of seed are greater dangers, and do more to injure the

crop than all others combined. Clean the soil before seeding to alfalfa.

Whether the alfalfa crop weathers one season, two seasons, three seasons, or a greater number of seasons, up to more than a decade, depends very directly upon the seed sown. It should not only be clean and plump, but it should be the right variety. The common alfalfa (*medicago sativa*) is not a very hardy plant in Ontario. In fact, as is shown in the accompanying illustration of a four-year-old plot at the O. A. C., it is practically a failure, only a few stocks now remaining of the original seeding. It is a significant fact that the seed used in this country is made up



A Single Plant of the Yellow-flowered Alfalfa (*Medicago Fulcata*).

This is the hardy wild plant with which the common crosses, producing the variegated.

largely of the common alfalfa brought in from the Western or Southern States. Seed coming from Wisconsin is often supposed to be good, and it may be, but most of it has originated farther south, in Texas or some other of the Southern States, and is not suited to our more severe winters.

There is another variety of alfalfa (*medicago fulcata*), a very hardy, creeping kind of plant, with a yellow flower. This is not a very suitable plant for cropping purposes, but has proved to be invaluable to cross with the common variety, in that a much hardier strain than the common is produced, with the upright habit of growth and a variegated flower. One of the best object-lessons

that could be imagined is to be seen on the experimental plots at Guelph. Plots of the common and variegated varieties, sown side by side, under the same conditions of tilth, show a vast difference in condition, as seen by the accompanying illustrations. Some of these plots have been down four years, and the variegated variety is showing a good stand nearly three feet high, while the plots of common have only a few scattered plants left.

There is also a great difference in the plots grown from seed of different origin. Eight-year-old plots of Ontario variegated still show a good stand, while plots from seed grown in Texas, Peru, Arabia and other warm countries, are entirely bare of plants. This is also well marked in the four-year-old plots. Seed from Turkestan produced plants which are standing well. Be careful, in buying alfalfa seed, to ascertain its origin.

The point is this: Be careful to get the variegated alfalfa. The Grimm variety and sand lucerne are variegated, and there is the Ontario variegated, which Prof. Zavitz has traced back forty years, and which is now hardy and stands the winters, and is producing crops almost, if not quite, equal to the former two varieties. It stands to reason that, after forty years of elimination of the weaker plants year after year, that a stronger plant must result. It is the survival of the fittest, and the straw is now hardy. Prof. Zavits hopes to make a tour of the sections of Ontario where alfalfa seed is produced, with a view to selecting fields of the Ontario variegated variety, and to obtain an option on the seed of these fields, the seed to be distributed among the district representatives of the Department of Agriculture for use in their particular sections.

It has been demonstrated, with other crops, that the strain of the seed has a very direct bearing on the crop which is produced by that seed, but never was anything more clearly convincing than the alfalfa plots at the Ontario Agricultural College. Given a suitable soil, clean and well cultivated, there is no reason why alfalfa will not prove a success, provided the right kind of seed is used. Do not use the common, southern-grown seed. Even that from such Northern States as Wisconsin is not the best for Ontario, and should not be sown. Get the variegated variety, by all means, and if you can secure Ontario variegated, good results should follow, as well as from the Grimm and Sand varieties. Nothing but clean, plump seed should be used.

A field should not be condemned as being unsuitable for alfalfa until the kind of seed used on it has been ascertained. It may be the fault of the origin of the seed. Northern-grown seed of the variegated variety is the kind to sow. The use on a large scale of the common southern-grown seed cannot but mean failure on many farms, and such will not be in the best interests of alfalfa-growing. Seed selection is the surest method of getting a crop which will winter satisfactorily in this country, and should be rigidly practiced.



A Plot of Ontario Variegated Alfalfa.

Note the difference between this and the other four-year-old alfalfa. This one is doing excellently.

Alfalfa Maxims.

Prof. L. R. Waldron, Superintendent of the Experiment Station at Dickinson, N. D., contributes these pithy alfalfa maxims to "Dry Farming." They are pretty sound, though the first one should have been qualified by the phrase, "not always by artificial means":

1. Alfalfa must be inoculated.
2. Alfalfa cannot stand wet feet.
3. Alfalfa needs a well-drained soil.
4. Alfalfa is a poor weed-fighter the first season.
5. Alfalfa does not thrive when not cut.
6. Alfalfa should be cut when one-tenth in bloom.
7. Alfalfa should not be cut too late in the season.
8. Alfalfa roots go deep.
9. Alfalfa is the prince of drouth resisters.
10. Alfalfa needs a deep, well-packed seed-bed.
11. Alfalfa does best on manured soil.
12. Alfalfa is best seeded without a nurse crop.
13. Alfalfa should be seeded with a drill.
14. Alfalfa should not be pastured until well established.
15. Alfalfa should not be pastured in the spring, when starting growth.
16. Alfalfa boards itself, and pays for the privilege.
17. Alfalfa adds humus to the soil.
18. Alfalfa sod plows hard.
19. Alfalfa sod produces good crops.
20. Alfalfa yields are large.
21. Alfalfa hay represents quality.

Stooling No Miracle.

In a review of the condition of the experimental grain plots at the Ontario Agricultural College, in last week's issue of "The Farmer's Advocate," reference was made to the showing of a fall wheat called Virginia Miracle. We had previously written the Department of Agriculture at Washington regarding a wheat of that name, said to have been originated by a Mr. Stoner from a remarkable individual plant found growing on his farm in a field of fall wheat. The following information has been received on the subject:

Replying to yours of the fifth instant, addressed to the Hon. Willett M. Hays, Assistant Secretary of Agriculture, and referred to this Bureau, I would say that the "Miracle Wheat," regarding which you inquire, was looked into some years ago, at a time when it was being exploited. It was found that comments upon it by H. A. Miller, Assistant Agriculturist in this Bureau, had been grossly distorted in such a way as to radically change the nature of a statement that he prepared regarding it after he had visited the farm of K. B. Stoner, at Fincastle, Virginia. For example, Mr. Miller stated that the yield on the Stoner farm had been from three to five bushels more per acre than that of other varieties grown there. In the published literature, this statement was changed to read, "Yields from two to three times the yield of other varieties grown on the same farm," etc. For your information, I enclose herewith a copy of a memorandum reporting the behaviour of the variety at Arlington Farm, in a test where it was contrasted with Fultz.

R. GULLING,
Chief of Bureau.

Dept. Agriculture, Bureau Plant Industry, Washington, D. C.

MIRACLE WHEAT AT ARLINGTON EXPERIMENTAL FARM.

The wheat was planted in rows one rod long, seed 12 inches apart in the row. This is the method said to give best results in stooling. Sown thus, the plants produced from 8 to 25 good heads. Planted in rows 12 inches apart, and the grain approximately one inch apart in the row, the stooling decreased to 8 to 10 heads. It is believed, if the grain were sown in 8-inch drills, under ordinary conditions, the stooling would be no greater than that of the other good varieties. The wheat had 100 per cent. winter survival, with excellent spring vigor. The plants were 53 inches tall, vigorous, with long leaves. There was 50 per cent. leaf rust and 50 per cent. stem rust; no smut. The wheat headed May 22nd, and ripened June 20th—seven days later than the earliest wheat, and from three to five days later than the average wheats. In yield, the rows, as compared

with Fultz, the check, were as follows: Miracle wheat, lowest yield per row, 7½ ounces; highest yield, 10 ounces; Fultz, highest yield per row, 20½ ounces. This would give, approximately, a yield of 33 bushels for the Miracle, and 66 bushels for the Fultz.

H. B. DERR,
Agronomist.

If any readers of "The Farmer's Advocate" have had experience with this or other new fall wheats being introduced, we would like to receive reports, giving the facts of actual experience with them, whether favorable or otherwise.

With regard to the stooling habit, it may be advantageous within certain limits, but the saving of a little seed in sowing is not the main factor in a large or profitable crop.

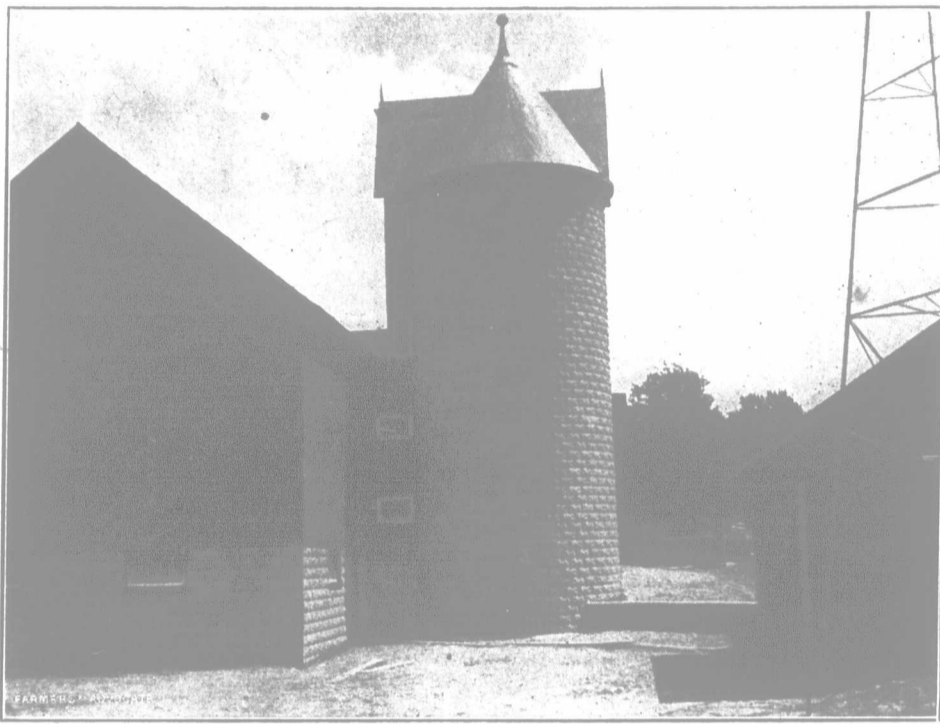
this becomes as real an asset as dollars minted by Holsteins from grass. So William Teskey thinks as he looks across the landscape and over his 23 grade cows that in the 1911 season brought cheese-factory returns to the amount of \$60.00 each, and the bunch included two heifers in their second year of milking, and six in their first year. Besides cream and butter used at home, no inconsiderable quantity, some 500 pounds of butter were sold, amounting to, say, \$125.00. From hogs sold, there was a return of about \$300.00, and from calves and other products, probably \$100.00. This season, the April cheese check from 18 cows and heifers amounted to \$268.15, and the May check \$345.03, for 33,015 pounds of milk produced by 22 cows.

It seems to be a fairly good grazing farm, though rolling, and grass is the staple summer food for the herd. White-cap Yellow Dent corn is the main winter-food reliance, and about 15 acres are grown for the cement-block silo, 40 ft. 2 in. x 15 ft. 5 in., which has been in use three seasons, and stands perfectly, without a check in its walls. The engraving shows what it looks like. As previously described in these columns, it was erected at a cost of about \$450.00, including a good metal roof.

The first year a mixture of flint and dent corn was grown, but it did not ripen properly

or evenly, and Mr. Teskey has settled down for the present to an early-maturing variety of White-cap. A bushel-and-a-half basketful (or what they will clean up) of good silage night and morning between two mature cows, is the standard feed, with clover or alfalfa hay at noon, and plenty of clean straw for bedding, from which the cows pick a good deal, as they can in the swinging stanchions with which they are tied. If any cows become thin in flesh, they are coaxed along by the addition of a little meal, composed of home-grown oats and barley and bran. About three tons has been the most mill feeds purchased in a year, the farm producing practically all that is needed for feeding.

The great secret of doing well with cows, says Mr. Teskey, is in the wintering. Keep them healthy, hearty and in good flesh, but not fat. It is idle to expect cows to give profitable returns if they are run down constitutionally when they go out on the grass. If they are in that state, what happens? Why, during the flush of pasturage, when they should be giving their best returns at the pail, they will take the grass to build themselves up for a month or so, and by that time dry weather will be on and the cream of the



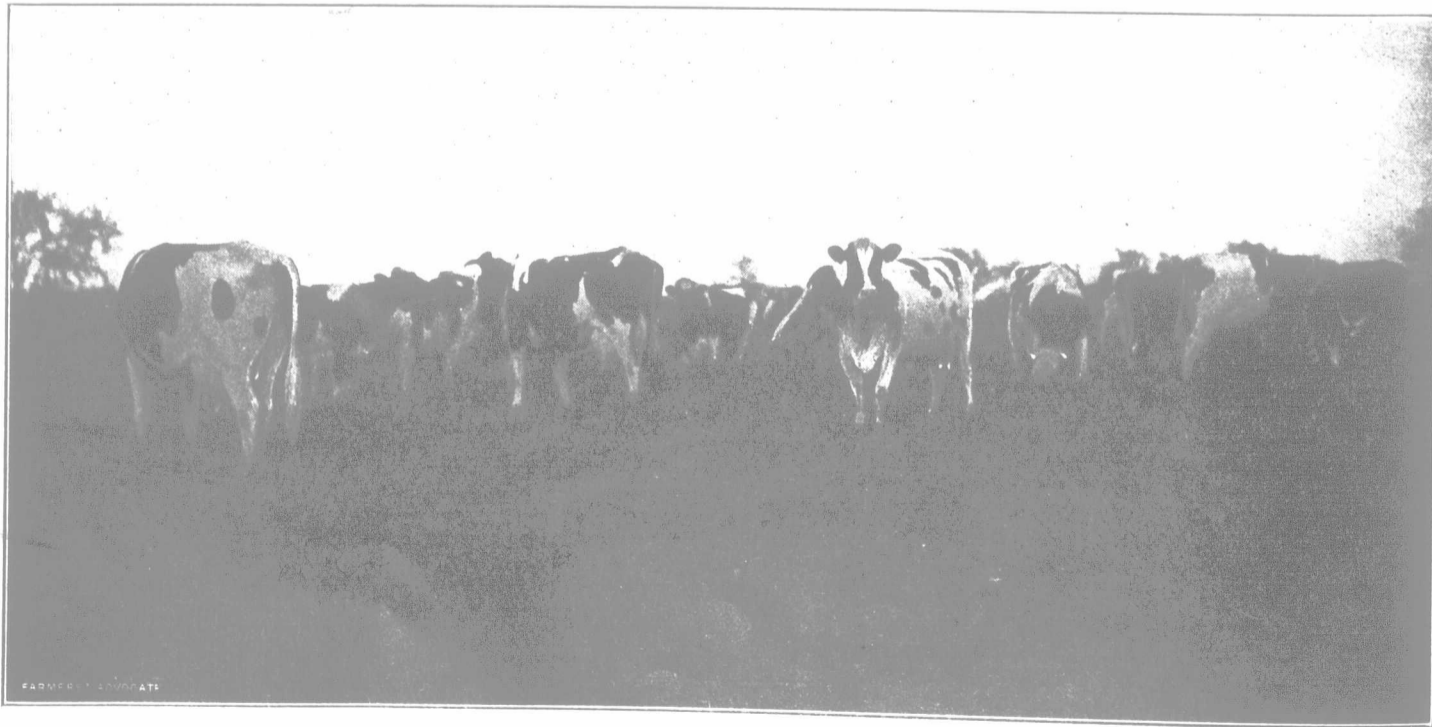
Mr. Teskey's Barn and Outbuildings.

Silo, stable, and milk-house below windmill and tank.

THE DAIRY.

A Dorchester Dairy Farm.

Under capable direction, the cow and the silo, corn and the legume, make an invincible farm quartet. "The Farmer's Advocate" lately came upon an apt illustration of the truth of this statement in what some might think an out-of-the-way quarter of South Dorchester Township, but in another sense it is very distinctly "in the way" of good farming. A farm of only 125 acres is rather small, a good many would think, but the race is not always to the swift nor the battle to the big-acreage men. Plenty of milk makes fat bank checks, but man does not live by milk alone, even though it be the best all-round food. There is the satisfaction that comes from the determined effort to do things right, working with daily recognition of the Divine order. Nor could one crave a more beautiful pastoral scene than these tree-engirded fields looking over the Elgin valley that lies eastward toward Oxford County. To any properly-balanced man



Part of Wm. Teskey's Dairy Herd at Pasture, Near Avon, Ont.

season gone. Then, the cows are treated with kindness and milked with regularity, as part of the day's work, not at any old time—after the load of hay is off, or something else finished. There is no flowing water in the fields, so they are watered morning and evening in the stable at milking time, and at noon in the tank supplied from a well by the windmill. If they do not come up for the mid-day drink, they are brought. Though water is supplied them in the stable, they are let out every day in winter for fresher air and exercise. For health and good milking, this is imperative. Mr. Teskey says he has observed that, on occasions when, because of rough weather the daily outing was skipped, instead of keeping up the milk flow, as might be supposed, there was an actual falling off. If practicable, Mr. Teskey would have the cows dry off for six weeks or two months before "coming in" afresh, so as to recuperate them for another season's milking.

Last year he began keeping individual cow records on sheets supplied by the Dominion Department of Agriculture at Ottawa, and is continuing the plan, because it is the only reliable way of knowing what the cows are actually doing. To weigh and record the milk of four cows would occupy at the rate of about one minute, and it pays. Under the steel windmill tower is a big elevated water tank, and beside it a covered shed for milk wagon. There are also wooden cooling tanks, into which the cans are lowered by a crank windlass or small derrick. A larger cement tank in the ground will shortly replace the wooden ones. On the wall alongside the stand is the spring scale and record book, all under cover. Sunday morning's milk is kept cool and sweet, and sent to the factory on Monday morning.

The interior of the stable was clean, though it was in the midst of the busiest farm period. Cobwebs did not festoon the ceilings. The mangers were not cornered up with musty fodder, straws did not obscure the water basins, and the manure gutters were not breeding places for flies. Lime had been freely used about the stalls.

At the time of our visit, early in June, some of the cows were milking up to 67 pounds per day, the lowest being a three-teated cow giving 34 pounds. At the auction sales, this sort of cow always milks "just as well" as one with four teats, but she doesn't, all the same. Mr. Teskey keeps a grade Holstein sire from his own best-milking cow, crossed with the best available neighboring male. With two or three "red, white and roan" exceptions, the herd is composed of grade Holsteins, and they all look like business. The only pedigree to which Mr. Teskey pays much attention is the pedigree of the milk pail and the scale. He raises a few heifer calves annually, but never hesitates to pay for a cow if he sees one likely to improve the standing of his herd. It is evident that a herd of this kind is chiefly the product of thinking put into practice. A fairly representative group of them on pasture appears in our illustration. As one might expect, Mr. Teskey has been following carefully the progress of alfalfa culture, as recorded from time to time in "The Farmer's Advocate," having his first cuttings last year, and had an excellent growth this year from 1911 seeding, 20 pounds per acre, with barley sown at the rate of 1½ bushels per acre. This spring, another field of beautiful rolling land, 10 acres, sown in the same way, shows a very fine catch.

Milk and It's Care.

Interspersed in the tirade against the methods of the milk producer, it is somewhat of a relief to hear now and then a word of adjuration to the milk consumer concerning his part of the responsibility for the care of the milk which he uses. There is no doubt whatever that a great deal of milk suffers serious deterioration in the households where it is consumed. It is not always the dairyman's fault if the milk sours too quickly or absorbs unpleasant flavors. A timely address upon the subject of milk and its care was delivered in Woodstock recently by Prof. H. H. Dean, at a meeting held under the auspices of the Oxford County Holstein Club. The speaker introduced his subject with a sample of milk which had been pasteurized by heating to a temperature of 160 degrees Fahrenheit, holding it there ten minutes, then cooling and putting in a sterilized bottle. Milk treated in this way should keep sweet twenty-four to forty-eight hours longer than unpasteurized.

COMPOSITION OF MILK.

The best scientific men in the world have been studying milk, and still they don't know very much about it. They do know, however, that it contains about 87½ per cent. water. Water is nature's great carrier of food to plants and animals. The best definition of milk is that given by Aristotle, "Milk is elaborated blood." It is made from the life giving fluid of the cow. Discussing the constituents of milk point by point, Prof. Dean remarked that it is practically a hopeless task to try to convince the average house-

keeper that the cream which rises on the milk doesn't measure its value. The fat which constitutes largely the cream furnishes only heat, and is really the least important part of milk from a nutritive point of view. We don't need much fat in milk, especially in the summer. Perhaps the most valuable element of milk is the casein. Casein furnishes the muscle for the animal body, and also nourishes the brain. The albumen is another nitrogenous compound very much like casein, and serving similar functions. The sugar is also valuable, being similar to cane sugar, although not quite so sweet. The sugar may be troublesome, for when the milk sours the sugar turns to acid. The simple means of preventing souring is to keep the milk cold. The bacteria then can't feed on the sugar. If the milk has been previously pasteurized, nearly all the bacteria will have been killed, and if the milk is cooled at once it will keep a considerable length of time. In addition to the elements above mentioned there is the ash material, which goes to build up bone.

MONO-SERVICE MILK BOTTLE.

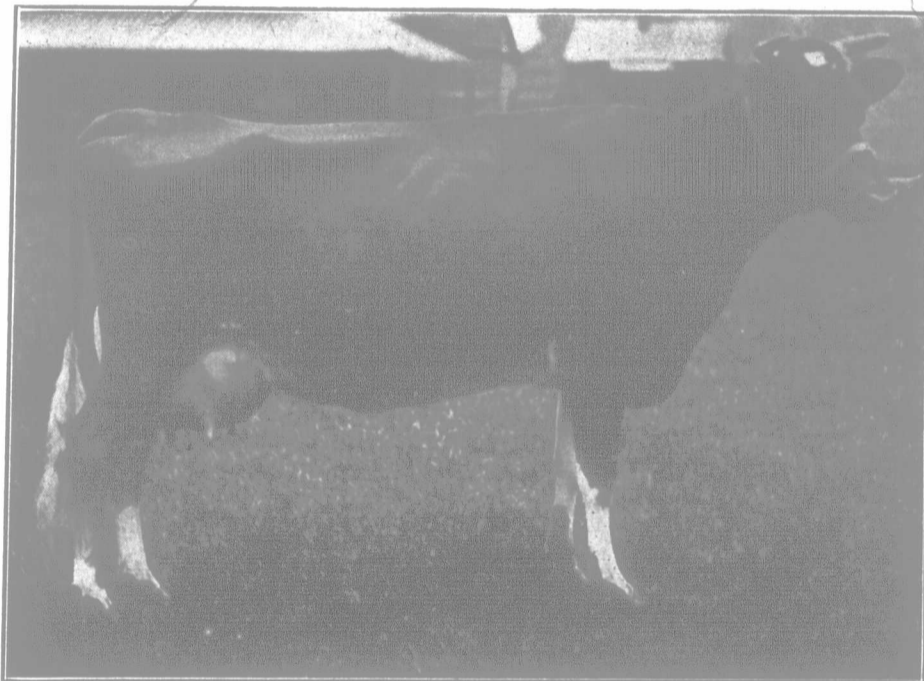
Touching upon the matter of distribution, the speaker quoted Dr. Sheard, formerly health officer of Toronto, by saying the milk bottle, as used in Toronto, was the greatest disseminator of disease in the city. Milkmen would sometimes take a bottle from one door and refill, without its having been properly washed. A mono-service paper milk bottle was exhibited and handled in various positions, upside down and otherwise, to indicate its serviceability. These bottles, as the name implies, are thrown away when once used.

MISTAKES OF THE HOUSEWIFE.

In using milk, housewives often make the mistake of emptying the milk first into a pitcher and then setting this on and off the table until used up. The proper way is to have a glass-stoppered bottle. Pour from this into the pitcher enough

improvement in ice-houses and tanks made by farmers in many parts. The short make in some parts is due to the shipping of milk to outside points, as Toronto and Ottawa. Spring crops are very late in most parts, much of the seeding not being done even until June 1st, but the improved weather conditions during the last few days will have made great changes. Fall grain varies much in different parts. In the Lindsay and Peterboro districts cows are not in as good shape as last year, but, with favorable conditions, the make will likely exceed that of 1911. The falling off in May this year in the Lindsay group is partly due to the feeding of milk to the calves for a longer period before sending it to the factory. In the Peterboro group, three new cooling rooms and a new cement-block cheese and butter factory, with cool-curing room and refrigerator, are largely responsible for an improved quality of product. Many patrons are using ice and cold water to a greater extent this year. The scarcity of feed in the Picton group is largely responsible for poorer cows and 20 per cent. decrease in the early cheese output this year. An increasing number of patrons are sending milk and cream to Toronto, so that, while the total output may equal, it will scarcely exceed last year. In the Cayuga group, while the make of cheese is slowly falling off, the output of butter has increased, and the trend of the industry here is steadily in this direction. In the Belleville district the cheese has been shipped too green this year, and the make to the end of May will run about fifteen per cent. less than in 1911. Dozens of new milk stands are conspicuous along the various routes this spring. In the Campbellford group, more ice has been stored than ever before, and more factories are in a position to handle their cheese properly after making. In the Kingston group, a number of ice-houses have been erected, thus insuring considerable improve-

ment in the care of milk. In the Almonte syndicate, about Smith's Falls, many patrons have put in ice and tanks this year. Farmers in the Gananoque district are milking more cows than in 1911. Around Carp, the influence of Ottawa is felt, and this city is drawing a considerable supply from thirty miles out, and factories are becoming fewer. In the Cornwall group milk has been coming in in excellent condition, and a very superior lot of fancy cheese has been produced in this district. The flavor and texture is reported almost perfect in many factories. Many put in ice last winter, and fewer cans of tainted



Hayes Cherry.

Guernsey cow; first prize at Bath and West Show, at Bath.

each time for use, and never put the milk in the pitcher back into the bottle. Milk should always be kept covered. Exposed in a pantry, milk will absorb all kinds of flavors. Keep the milk in the original package in which it came until used.

Eastern Ontario Dairy Conditions

Reports have been received from practically all the dairy instructors in Eastern Ontario, in reply to a number of questions sent out by the Dairy Branch of the Ontario Department of Agriculture. The replies point to a promising season. Cows generally went out in poor condition this year, and the make of cheese until nearly the end of May has been considerably lighter than last year, due partly to the late season. In some places last winter, owing to very high prices, farmers sold themselves short of feed, and will not be able to feed so well this summer. The poor season last year, followed by a severe winter and late spring, is showing its effects in many parts, not only in a lack of feed during winter and spring, but many new meadows are patchy. The high price of concentrates has also been a serious drawback. Wherever the silo is much in evidence, conditions generally are favorable. Meadows seem good generally, especially old ones, and, if favorable conditions ensue, the output this year should exceed last year's. The quality of cheese has been decidedly superior, several instructors reporting the finest cheese for last month their districts have ever turned out. This has been due to the cooler weather during May, and a very marked

milk are reported this season than in many years. In the Kemptville district greater interest is being shown by the producers in improved conditions, much better cooling facilities having been established. In the Brockville N. group patrons are taking a much greater interest in the care of their milk than ever before, and many tanks and ice-houses were installed for this season. In the Brockville group, the general opinion is that the output will exceed last year's, as the meadows, especially of alfalfa and other clover, are excellent. The quality throughout the Ottawa E. group is decidedly superior this year, largely due to the better quality of milk. Many new ice-houses have been built, and also several new silos, while many factories have been improved.

POULTRY.

Developing the Pullets.

The chicks should be moved out on the wide range when they are about eight weeks old, putting fifty to seventy-five youngsters in each colony coop or outdoor brooder that has been altered into a colony coop. The floor of the coop should be covered with half an inch of loam from the garden. About once a week, shovel out the loam in a wheelbarrow and wheel it to the garden, distributing the rich dressing where the tender roots of growing plants won't come in contact with it. A load of fresh loam is shovelled into the barrow, wheeled to the coops, and the floors covered again. A load will do two 3 x 6-foot coops.

When the chicks are moved out on the range, both pullets and cockerels are together. The cockerels should be separated from the pullets by the time they are three months old, the cockerels being yarded by themselves or moved off to fattening pens and fattened for market. The twenty-five to thirty-five pullets in each colony coop flock are left to grow to laying maturity, or close to laying, with the colony coop as their home, and finding their food in the outdoor food hopper.

It is quite common to find the first pullet's egg in one of these colony coops along in late August or during September, provided the chicks were hatched in March, April or May—depending on the breed or variety—and kept growing steadily. For example, it is comparatively easy to grow Plymouth Rock, Wyandotte, Rhode Island Red or Orpington pullets to laying maturity in the manner here described in five and one-half months to six months. This can be done with Leghorns in four and one-half months to five months—and with safety.

Remember that it does not pay to force pullets to early laying. By doing so, you will stunt their growth. Plymouth Rocks, for example, can be brought to lay at four and one-half to five months old, and Leghorns at three and one-half to four months old, but it is unwise to do this. In order for these fowls to do their best as "egg machines," they should develop large frames before they begin the trying process of producing "an egg a day." By the time the pullets begin to lay—dropping now and then an occasional egg—they should be moved into the laying houses.

The poultry house should be emptied of the old birds in September, the house thoroughly cleaned out and disinfected, the walls and ceiling whitewashed and the new generation of layers-to-be moved in about October 1st. This period varies in different sections, but along about October 1st is the usual time. There should be two dry-mash hoppers to each thirty or forty adult birds, these hoppers to be kept supplied with a reliable dry-mash mixture, and, as the hoppers become empty, they are re-filled. There should be dry mash in the hoppers all the time. Twice a day, morning and mid-afternoon, a scratching food of whole and cracked grain should be thrown into deep, dry litter on the pen floor, and the birds now get healthful exercise scratching and searching for the grain. The amount of exercise induced is at the discretion of the attendant. The deeper and more open the scratching litter, so that the grain sinks into it out of sight at once, the more the birds will have to scratch and dig for it.—[Cyphers Company Service Bulletin No. 2.]

Late Chicks, Yarding Fowl, Etc.

Editor "The Farmer's Advocate":

There has always been a great difference of opinion as to whether late chickens are worth the trouble of rearing or not, and many experts differ on the subject. Of course, much depends on the location of the poultry-keeper, and also on the particular kind of demand associated with the district in which he lives and the market to which he sends his stock. If a man goes in for egg production, he will have to consider the time it takes each breed to mature, and also whether they are sitters and non-sitters. Light breeds should never be hatched earlier than April or May, else they will moult the same season as hatched; whereas heavy breeds, like the Buff Orpington, cannot be hatched too early. Should the production of table chickens be the aim, it is quite possible that late chickens, if properly cared for, will be quite profitable. I have had them hatch as late as the first weeks in July, and had good profits from them. They are not so large in the fall as the earlier hatches will be, but their cost of keeping has been much less. May and June are generally good months for rearing chickens. There is an abundance of animal and vegetable food, which are the two chief factors in the rapid development of the growing chick. The days are usually long and warm, which reduces the risk of loss considerably. So far this season, however, the problem of raising chicks has been rather difficult in Eastern Ontario, owing to the excessive rainfall and continued cold weather, so that breeders of the lighter breeds, such as the Leghorn, will have the advantage of being able to delay the hatching season somewhat, and suffer no loss thereby in the egg production later on. Almost any of the lighter breeds, if well cared for and fed on suitable food, should be ready for laying when five or six months old.

There is often difficulty experienced, in late spring or early summer, in hatching. Chicks are

or appear to be weaker, and unable to get out of the shell, while very often the germ dies before the tenth day. This trouble is felt much more in artificial incubation than natural, but it probably arises owing to the condition of the breeding stock, which, as a result of a season's heavy laying, are getting run down, and require rest for a time. Some of the troubles prevalent during the hatching season can be averted if the atmospheric conditions are studied. This applies to both hens and incubators. When the weather is very dry, a small panful of clean water should be placed under the egg tray in the incubator; and if the hen's nest be not placed directly on the ground, a little water should be sprinkled on the eggs during the last few days. Insects on the hen will be a source of much trouble in many cases, and, when not attended to, I have heard of hens leaving their nests solely on account of the insect pest. Where incubators are used, care must be taken not to let the machines get too high in temperature, especially in the daytime, when the sun's rays heat up the atmosphere.

Poultry-keepers who yard their fowl find trouble with the lighter breeds flying out of their pens. I had a flock of Leghorns one year, and found it almost impossible to keep them in bounds. As a last resort, I tried wing-cutting; that is, clipping the wing on one side, so as to upset the balance in an attempt to fly. If the wing of a strong-flying wild bird is cut this way, it will fly around in small circles, its tail rudder being insufficient for straight steering against so much wing-power on one side. If both wings are cut, the bird will be able to fly, although not so strongly. There is no occasion to cut right across the wing, and it should not be done, for two reasons, one because it is unsightly, whereas, if only the long flight-feathers at the far side of the wing from the body be cut, the stumps fold underneath the feathers in the front of the wing, and the cut part is not seen when the bird is at rest. If the feathers are cut right across the wing, there is an unsightly gash across the bird's side, and the cold is let in enough to cause the bird serious discomfort, if not positive injury in cold weather. The feathers, of course, grow again after the moult, but probably will not have to be cut the second time, as the hens are quieter in their second year, and it is usually the pullets which are the offenders. Cockerels of any breed rarely try to fly out. Occasionally a fowl learns the trick of climbing up the wire like a parrot, and the only way to prevent this is to turn the wire at the top toward the pen.

For rearing chickens in the early part of the year by the natural method, a double coop is best. The best kind I have seen is made in two parts. It is about four feet long, by twenty-one inches deep, eighteen inches high in front, and fifteen inches high behind. It is divided into two parts, one twenty-one inches long, and the other twenty-seven inches long. The ends, back, top and front of the smaller compartment are made solid; the top, which is made in two parts, and the door in front, being hinged to allow of its being cleaned more easily. The partition and the front of the longer compartment are fitted with laths two inches wide and two inches apart, the center one in each case being made movable to form a door. Such a coop, placed with its back to the wind, affords sufficient shelter for a hen and her brood, as well as allowing for a scratching shed for the chicks apart from the hen, and especially useful in wet weather, as they can still have all the exercise necessary without getting in the wet.

NOTES.

In mixing soft foods, all stickiness should be strictly avoided. Hens do not like anything that sticks to their beaks.

Get rid of your young cockerels when they are three or four months old. The older they get, the more it takes to feed them in proportion to their gains.

Don't overcrowd. Flocks in smaller numbers pay better than the larger numbers. It is not a question of simple proportion.

When purchasing the initial breeding stock, the poultry-keeper must not allow himself to be influenced by thoughts of cheapness. The future success of his venture depends upon the quality of his stock-birds, and if the ultimate aim is to produce birds which will command a higher figure than ordinary market prices, sound quality is absolutely essential in the original breeding stock.

Don't neglect to provide grit and lime within easy reach of the fowl. They need it now quite as much as in winter, and very often are not able to get enough without having it supplied by their caretaker. One writer says: "Grit, more grit, and grit again," or something to that effect. The grit question cannot be too strongly emphasized. It means health, strength and vigor for your flock. C. C. S.

GARDEN & ORCHARD.

A Plant Cancer.

Bulletin 235, Bureau of Plant Industry, just issued by the U. S. Department of Agriculture, is entitled, "The Structure and Development of Crown Gall—A Plant Cancer. The bulletin, fully illustrated, is devoted to showing the various ways in which a common growth on plants is like malignant human tumors. Curiously enough, in all the years of cancer research and out of all the effort put forth to discover the cause of this mysterious disease, it has never occurred to investigators that there might be an analogous disease of plants which would throw light on its origin. Tumors in plants range in size from a half-inch or less in diameter to a half-foot or more. The name commonly applied to them is crown gall, but they grow on various parts of the plant. They occur on fruit trees, berry bushes, rose bushes, ornamental trees, etc., and are very common throughout the entire United States, and also in the Old World. Some of the facts brought to light by the Department studies are these: Crown galls consist of an overgrowth of the plant tissues themselves, and in general appearance are not unlike cancers, and are destructive to the individuals harboring them. Like breast cancers, these growths send out roots into the deeper, sound tissues, and upon these roots secondary tumors develop, so that, when excisions are attempted, if any portion remains, a new growth develops, exactly as in cancer; also, the secondary tumors developed from the strands or roots have the structure of the mother tumor. For example, when a primary tumor has developed on a stem, the roots of this tumor often enter the leaves, and there develop secondary tumors, which are not distorted leaves, but have the structure of stems; the tumor then destroys the leaf, developing as a morbid, perishable stem. Other likenesses are pointed out. The Department has discovered that these plant cancers are due to a micro-organism, which has been cultivated pure, and with which they can be produced at will. The bacteria have been isolated both from the primary and from the secondary tumors. The organisms occur inside the cells, and under its stimulus the mechanism of abnormal growth is accomplished.

THE FARM BULLETIN.

Between the Seeding and Hay.

By Peter McArthur.

This morning I went out—but not for a walk. Going for a walk would have been altogether too purposeful for such a hazy, lazy day. I just put one foot ahead of the other and dawdled along. The mood I was in was like the one that inspired Gelett Burgess to write:

"My feet they haul me round the house,
They hist me up the stairs;
I only has to steer them and
They rides me everywhere."

Last night a series of thunderstorms had gone over and around, and the sky was curtained with "clouds returning after the rain." But in spite of the clouds the morning was hot, and thunder was muttering in the distance. All nature was incredibly fresh and green, and the air was heavy with damp perfumes. At the edge of the woods I found a little patch of wild strawberries, and for the next few minutes life was very good, though it would have been still better if the berries had been already picked and waiting for me, spread temptingly on a broad leaf. Drifting into the woods, I found a grassy bank that was reasonably dry, and sprawled down on it luxuriously. It was exactly the time and place to remember Carman's immortal spring song—the most glorious thing of its kind in the language:

"Let me taste the old immortal
Indolence of life once more;
Not recalling, nor foreseeing,
Let the great slow joys of being
Well my heart through as of yore!
Let me taste the old immortal
Indolence of life once more."

It gave me something of a thrill to remember that it was almost on that identical spot I had read the poem for the first time twenty years ago, and had vibrated to its wonderful rhythms. The poet had sent it to me in manuscript as soon

as he had written it. Some time afterwards I bought it from him for a soulless corporation, it made me feel ashamed to remember how pitiful a price had been paid for such a masterpiece. Remembering that corporation changed the vagrant current of my thoughts, and with a sigh, such as a contented man breathes when about to do his duty, I took a copy of a Saturday paper from my pocket, and read Sir Edmund Walker's eulogy on the Canadian banking system. "Under the shade of melancholy boughs" I read it carefully—and didn't care a hoot. It was altogether too peaceful a day to get worked up about anything. Cattle were munching the lush grass across the line fence, the breeze was purring among the leaves, flies were humming murmuringly somewhere near-by, and I should have fallen asleep if a mosquito hadn't lit on my ear and started prospecting for a meal. That reminded me that dinner must be about ready, and I got up and started to walk energetically towards the house. Those wild strawberries had made me hungry, and I suspected that there was a strawberry short-cake hidden somewhere about the place. Of course, I was late for dinner, but what else could you expect on a day like this. "Time was made for slaves."

And now that the orchard has escaped the leaf-curl worm, the bud-worm, the oyster-shell scale, the aphids and all manner of blights and fungi, it is threatened with the worst blight of all—the blight of politics. Personally, I am willing to grant the credit for the bountiful stand of fruit to the Conservative Government, under whose benign influence the trees have been pruned, scraped, sprayed and fertilized, but this generous attitude does not seem to please any-

pose that, after all, Governments are a good deal like people, and that they are fond of apples. I have often heard them accused of being hungry for office, and, after having had a good mess of office, perhaps they would like some fancy apples for dessert. But I hardly know how to go about the presentation. There are, no doubt, lofty ceremonials that should go with such an act, but I am woefully lacking in knowledge of high etiquette. Still, I think I know the "arbiter elegantiarum" of Parliament Hill, and I shall drop him a line privately to ask him how to proceed. But, all nonsense aside, I have had excellent evidence that the work of the Department of Agriculture, as demonstrated for me by Mr. Clement, is eminently practical and useful. I have been shown in a simple and unforgettable way how an orchard should be attended to so as to get the best results, and unless something entirely unforeseen occurs, the results in this orchard will be all that anyone can desire. Of course, I wish they had some way of changing the abundant crop on the trees of Benjamin H. Davis, Esq., into fancy Spies, but I don't believe that could be done, even if I had a well-oiled pull with the party. But the yield of Ben Davises under scientific treatment promises to be such that I do not think I'll ever bother raising turnips in the ground again, seeing it is so much easier to raise them on trees.

This is the time of year, above all others, when the farmer is disposed to worry, if he is of the worrying kind. In his wonderful partnership with Nature for the production of crops, he has done his share in many of his fields, and everything is in the hands of the other member of the firm.

The bumble-bees are once more prospecting around the window-frames and door-frames, looking for likely places to locate their summer homes. Occasionally one gets into the house and begins buzzing in a window, and then there is excitement. As the order has gone forth that bumble-bees must not be killed, the job of putting them out naturally falls on him who issued the order, and I think there are easier jobs than tenderly removing an indignant bee that is jabbing in every direction with its sting, and apparently using the worst kind of bee language. Even after you have successfully thrown a handkerchief over him—or is it her?—you have to take up the bundle with caution, for, according to my best recollections, a bumble-bee's sting is long enough to reach through old-fashioned full-cloth, and when it strikes flesh it feels about as long as a prong of a barley fork. So far there have been no accidents, and all the vagrant bees that have intruded into the house have been saved for a life of usefulness in the second-crop clover.

Our Scottish Letter.

I suppose it is because one is advancing in life—but time seems to be on the trot in an accelerated fashion, and obituary notices are among the most frequent efforts these days. Since I last wrote, the Reaper has been very busy here among men well known in one walk or another to Canadians. Prominent among these is William Taylor, of Park Mains, Renfrew, well-known in the Clydesdale world as the owner of Sir Everard 5353, and one of the most popular men in the West of Scotland. He passed away about a fortnight ago, and Scotland is very much poorer by his demise. Mr. Taylor was a Glasgow man, born and



Dr. O. M. Malte.
Recently appointed Dominion Agrostologist.



E. S. Archibald, B.A., B.S.A.
Appointed to the new position of Dominion Animal Husbandman.



O. C. White, B.S.A.
Assistant Dominion Field Husbandman.

one. The Liberals say it was a good apple year, anyway, and that I should have had a crop without all the work that has been done. The Conservatives, on the other hand, want to know what party I belong to, anyhow. They know I did not exert and pull through the usual channels, and yet I have the Department of Agriculture helping me out with my orchard. How do you explain it? Huh? Since this sort of thing started, my favorite seat has been on a nice, comfortable, round rail on top of the fence. I refuse to be drawn by either party. As a matter of fact, I have an old-fashioned notion that, after the storm of an election is over the Government represents all the people, and that one man has just as much right to its benefits as another. But not so the vast majority of the people. They seem to be obsessed with the idea that, unless they have a pull with the party in power, they couldn't get reliable advice about nursing young pigs through the teething period. If the political blight should strike my trees, and affect them as badly as it does many people, they would probably drop all their apples and give up in despair. But I am on the fence in this matter, and I want it distinctly understood that if I find anyone trying to introduce politics into that orchard, I shall make faces at them, and perhaps throw clods.

There is another thing that is beginning to trouble me about the orchard. If the fruit turns out as well as it promises, should I send the Government a barrel of fancy Spies or juicy Pippins? One likes to reciprocate favors, and certainly I have been well used so far. I sup-

All he can do about his oats, wheat, barley, hay, apples and such things at this time of the year is to watch them grow. If he has put seed into well fertilized, well-drained ground, he has done his share, and must possess his soul in patience when the weather is too cold or too dry or too wet, or when the high winds are scattering his fruit. I can understand now why farmers are accused of being such persistent grumblers. The business man or workman has his enterprises under his own control practically all the time, and at all times can be doing something to further his interests. As he works under a roof, the weather means nothing to him, but to the farmer the weather means everything, and he has absolutely nothing to do with it. He is at the mercy of the sun-spots—they are said to affect the weather—as well as all kinds of bugs and blights, and in most cases he can do nothing but look on. Of course, the scientists are doing much to help us control the insect pests and diseases of crops, but there is still a wide margin where we are entirely helpless. While I do not defend worrying and grumbling about things that are beyond our control, I no longer wonder at it. With the vast majority of people it is not simply profits, but the actual living, that is at stake, and a shower too many or one too few may make a world of difference. There is no doubt about it, the farmer must be a philosopher, and take things as they come, even if he is a scientist and does his best in his part of the work.

bred. He early evinced a predilection for rural pursuits, and in 1877, when scarcely 23 years of age, became tenant of Park Mains. He was about 56 years of age when he passed away—perhaps a little more. An out-and-out gentleman and sportsman, Willie Taylor, was popular as a man, as a judge, as a horse-owner and exhibitor. He was quite as much at home in the hunting field as in the Clydesdale show-ring. He kept a fine herd of dairy cattle, was a good judge of sheep, and in every respect carried out the best traditions of the efficient Scottish farmer. He did a big Canadian trade in Clydesdales, and, apart from the Montgomery firm, in one or two seasons, he did the biggest trade of any of the Clydesdale men.

Two notable men connected with the implement trade have also passed away. These were William Wallace, of John Wallace & Sons, Ltd., Glasgow, and William Elder, of Elder & Sons, Ltd., Berwick-on-Tweed. Both gentlemen were well known in Canada. They held the agencies for the Massey-Harris products in their respective districts, and doubtless their value was well known to the principals of that great firm. Mr. Wallace's firm also held the agency for the Oliver chilled plows, and he, as well as other members of the firm, were frequently on tour in Canada and the States. Mr. Wallace was a magistrate of the City of Glasgow, and held in great esteem in the community. Mr. Elder was an older man. He had built up a big business from small beginnings, and was greatly honored in the Border district, in which his firm chiefly operated.

Another aspect of things is presented in the honoring of W. S. Ferguson, Pictstonhill, Perth, an eminent breeder of Aberdeen-Angus cattle and

Border-Leicester sheep. Mr. Ferguson has been a splendid exponent of the agricultural interests. He has judged cattle at Chicago International, at Guelph, and at Buenos Ayres. He has been a great traveller, his wife and he having toured round the world, and he has the gift of ready speech, so that all who know him get the benefit of the information he has gleaned. He has been a "bonnie fechter" in the agricultural interest, and whoever may have faltered in the day of battle, Pictstonhill could always be relied on to show fight. He never allowed the agricultural flag to be trailed in the mire, and his fellow countrymen have honored him by presenting him with his portrait in oils. The presentation took place at a largely-attended function in the City of Perth, when his friends and neighbors attended in large numbers to do him honor.

Yet another personal item may be mentioned, and then we pass on to other topics. In the examinations for the National Diploma in Agriculture, remarkable success was achieved by three sons of W. T. Malcolm, Dunmore, Stirling, a successful breeder of Shorthorns. Two of these boys were first and second, and took their diploma with honors, while a third, who is much younger, also took his diploma in the same competition. These lads were trained in the West of Scotland Agricultural College, but undoubtedly their thorough acquaintance with the practice of agriculture on their father's farm enabled them to profit in a unique degree by the teaching imparted in the College. They already had a good working acquaintance with the "How" of agriculture before they began to study the "Why," and this combined attainment enabled them to profit in an unique measure by the instruction conveyed of a technical and scientific character in the college. So far as I can remember, this is the first occasion on which such a remarkable record has been made in these examinations by boys trained on the farm.

Apropos of agricultural education, a good deal of feeling has been excited by an appointment recently made to the Strathcona Fordyce Chair of Agriculture in Aberdeen University. The appointment has been given to James Hendrick, F. I. C., the lecturer on Agricultural Chemistry in the College. This appears to many to be little short of an outrage. The occupant of an agricultural chair should be an agriculturist, not a chemist, and, no matter how high a man's attainments as a chemist may be, they ought never to be regarded as qualifying for an agricultural chair. The agricultural members of the governing body are up in arms against the appointment, which, however, appears to be irrevocable. Mr. Hendrick is a first-rate man in his own sphere, but the idea of making a chemist the head of an agricultural college is not regarded as at all defensible. I do not know how such an appointment would be regarded in Canada, but I cannot suppose that Guelph was ever made what it is by placing over it a man distinguished solely by scientific eminence in a department closely allied to agriculture. So far, in Scotland, after 20 years' experience, we have not yet succeeded in getting the purely agricultural community to view favorably the teaching of the agricultural colleges. The bucolic mind is still sceptical of any enduring advantage likely to accrue to the farming community from this expenditure of men and means, and one way in which their suspicions may be disarmed is by placing at the head of colleges men who have won their spurs not as chemists, but as agriculturists. It is because this Aberdeen appointment is so inconsistent with this ideal that it has excited so much adverse criticism.

DAIRY MATTER—AYRSHIRES AND MILK RECORDS.

During the past week, the British Dairy Farmers' Association have been touring in the South-west of Scotland, visiting, also, some places in the West, including the Agricultural College and Dairy School at Kilmarnock, and finishing up in Edinburgh. Last year the conference was held in Holland, and some account of what was there seen was given in one of these letters. The places visited this year have included farms and herds like those of the Duke of Buccleuch and Queensberry, at Thornhill; the Royal Crickton Institutions at Dumfries; Sir Robert Buchanan-Jardine's Galloway herd at Castlemilk, Lockerbie; Sir Mark J. McTaggart Stewart's Ayrshire farms and dairies in Wigtownshire, and Lord Rosebery's farms and herds at Dalmeny, in Midlothian; also creameries like that of the United Creameries, Ltd., at Dunragit; the Co-operating milk-collecting depots at Stewarton, in North Ayrshire; the milk-record herd of Ayrshires at Netherton, Newton-Mearns, in Renfrewshire; but possibly, what most of all impressed the visitors was the bacon-curing factory of Messrs. Kirkpatrick & Sons, in Thornhill, Dumfriesshire. This is a miniature Union Stock-yard. About 500 pigs are dealt with every week. Every part of the animal is utilized in one form or another, and the whole business is carried on under the most up-to-date conditions as regards cleanliness and the saving

of labor. The pigs are not slaughtered at the factory, as is the case in the Chicago packing-houses; they are killed at the farms where they are purchased, and there eviscerated. The carcasses are taken to Thornhill by rail, as it is found the bacon "keeps" much better when this is done than when the hogs are taken by rail alive to Thornhill and slaughtered there. The major portion of the trade is done in what is called, in Scotland, Ayrshire rolled bacon, and, as this is a peculiarly toothsome morsel, there is always a big demand for Kirkpatrick's rolls.

Another feature of dairy economy which greatly impressed the visitors was the growth of the keeping of milk records in Scotland. The plan was only begun on a public basis in 1903. Its author and protagonist was the well-known John Speir. In the first year, only 300 Ayrshire cows and heifers were tested; last year, 18,000 were on the lists, and were officially tested by public-appointed testers during the season. The result of this work has been greatly to increase the value of Ayrshire cattle for dairy purposes. They have still an uphill fight to maintain in many markets with the Holstein-Friesian breed, but the Ayrshire is forging ahead, and, while we do not hope to establish records, we do expect to weed out the unprofitable cows and to build up our herds with cattle showing profitable records of daily production. Sales have recently been held which abundantly testify to the value of cattle whose milk records can be proved. The herd built up within the last two years by the late Andrew Mitchell, at Lochfergus, was dispersed three weeks ago, and 177 head of Ayrshires of all ages and both sexes made the splendid average of £21 2s. 2d., one bull with a milk-record dam selling for 200 gs., or £210, to an Ayrshire lady who is building up a herd on a milk-record basis. Another dispersion sale took place a week later at Auchinbainzie, Thornhill, when an old-established herd, with a fine reputation for soundness of constitution, was sold, 114 head of all ages and both sexes making an average of £22 16s. 3d.

Some of our English visitors cannot be convinced of the merits of the Ayrshire. They pin their faith to the Shorthorn as the great general-purpose cow, and they are quite right. But they forget that three Ayrshires can be kept for two Shorthorns, and that the Ayrshire can live, thrive and make money for her owner on pasture and under conditions in which the Shorthorn would starve. Square miles of land in Scotland would be out of cultivation were it not for the Ayrshire. She is distinctly the cheesemaker of the small farmer's cow, and if a man cannot live by Ayrshires, he cannot live by any breed of cattle in the world. The milk-record cow is not a mere milking machine; she is a first-class, sound-constituted animal. We are not out to create records; we are determined to raise the average by weeding out the cattle which are only passengers, and neither add anything to revenue nor yet keep themselves. The two outstanding features of dairying in Scotland at present are this milk-record scheme and the development of the co-operative dairy system among farmers in North Ayrshire. These are both purely commercial undertakings, and they are doing much to advance the dairying interest in this country.

"SCOTLAND YET."

Turner's Ayrshire Sale.

The dispersal of the Springbank herd of record-breaking and R. O. P. official Ayrshires, owned by A. S. Turner & Son, of Ryckman's Corners, Ont., at the farm on Tuesday, June 18th, brought forth a few surprises in the matter of prices. The world's champion two-year-old heifer, Briery 2nd of Springbank, now in her four-year-old form, established a world's record auction sale price for an Ayrshire cow, by going to the bid of Wm. Hunter, of Grimsby, for a United States breeder, for the splendid price of \$1,750. A 3-months-old daughter of hers went to the same bidder for \$700, and a yearling daughter went to R. R. Ness, of Howick, Que., for \$630; while, to the same stables at Howick went Briery of Springbank, the dam of the above-mentioned champion, for \$1,000. Seldom has it been our privilege to attend a sale where the cattle were brought down in such nice condition, and the crowd in attendance, while not a large one, was a representative Ayrshire gathering, many being present from Quebec and from several States of the Union. All told, there were 72 head sold for a grand total of \$15,365, an average for the lot, which included a number of calves, of \$213.40. Thirty-four in milk, a number of which were two-year-old heifers, brought \$9,745, an average of \$286.60. Twenty-seven heifers, from calves up to 2 years, brought \$1,122.50, an average of \$163.80. Ten young bulls, from calves up to one year, brought \$637.50, an average of \$63.75. The stock bull, Imp. Lessnessock Forest King, went to R. R. Ness for \$500. Prices realized, in the opinion of

the breeders with whom we spoke, were considered most satisfactory. The auctioneer, Andrew Philips, of Huntingdon, Quebec, was in fine form, and in the short space of three hours dispersed to many points of the compass under two flags what had taken the Messrs. Turner over 15 years of careful and judicious breeding, systematic culling and official testing, to get together. Following is a list of all those selling for \$100 and over, with the name and address of the purchaser:

Scotland Princess 2nd, calved 1906; R. Ness, Howick, Que.	\$ 475
White Floss, 1900; Wm. Hunter, Grimsby, (for a United States breeder)	450
White Floss 2nd, 1903; D. A. McFarlane, Kelso, Que.	200
Whitevale Lady, 1903; John McKee, Norwich, Ont.	375
Sybella of Springbank, 1905; John Sherwin, Cleveland, Ohio	425
Briery of Springbank, 1906; R. R. Ness.....	1,000
Jemima of Springbank, 1906; R. R. Ness....	360
Alice of Kerwood, 1904; John Sherwin	400
Briery 2nd, of Springbank, 1908; Wm. Hunter, for U. S. breeder	1,750
Buttermaid of Craiglea, 1908; John Sherwin	300
Floss of Springbank, 1908; R. R. Ness.....	300
Springbank Lily, 1910; John McKee	300
Springbank Phyllis, 1911; R. R. Ness.....	630
Briery Queen of Springbank; Wm. Hunter, for U. S. breeder	700
Nora, 1906; John Sherwin	200
Scotland Princess 2nd, 1901; H. C. Hamill, Boxgrove, Ont.	175
Peach of Ingleside, 1905; R. R. Ness	175
White Violet, 1899; D. A. McFarlane	175
Dolly, 1902; John Sherwin	200
Buttercup, 1905; John Sherwin	200
Grace, 1907; John Davis, Jordan, Ont.....	100
Alice of Springbank, 1907; John Davis.....	100
Alice of Kerwood (not catalogued); J. Waffler, Wheeling, West Virginia	105
Flora of Needpath, 1903; John Sherwin....	200
Flora of Metcalfe, 1899; Robert Hanna, Barton, Ont.	150
Grace of Wellington, 1906; R. R. Ness	145
Beauty of Craiglea, 1908; John Sherwin....	200
Princess of Springbank, 1908; D. Thompson, Cainsville, Ont.	100
Jemima of Springbank, 1907; Laurie Bros., Malvern, Ont.	175
Lady Jemima of Springbank, 1908; D. A. McFarlane	120
Edith of Springbank, 1908; John Sherwin	225
Canadian Girl of Hickory Hill, 1907; Laurie Bros.	110
Helena of Springbank, 1908; D. A. McFarlane	180
White Floss of Springbank, 1909; R. R. Ness	225
Queen of Springbank, 1909; H. C. Hamill....	150
Lady 2nd, 1909; John Sherwin	175
Pansy of Springbank, 1909; Wm. Dolson, Glanford, Ont.	150
Rose of Springbank, 1909; R. Hanna	125
Springbank Rosebud, 1910; Wm. Hunter, for U. S. breeder	175
Springbank Duchess, 1910; Geo. Kendrick, Ancaster, Ont.	150
Springbank Daisy, 1910; Geo. R. Wales, Beverley, Mass.	150
Princess May, 1910; Geo. R. Wales	190
Stately of Springbank, 1911; Geo. R. Wales	155
White Primrose, 1911; E. D. Hilliker, Burgessville, Ont.	100
Pearl's Floss of Springbank, 1911; R. Hanna	155
Flossy of Springbank, 1911; James Darke, Hamilton, Ont.	150
Flora of Springbank, 1911; J. Jones, Allenberg, N. Y.	105
White Pansy, 1911; J. Jones	100
Speck 2nd of Springbank, 1911; John McKee	150
Beulah of Springbank, 1912; John Waffler	100
Buttercup of Springbank, 1912; Wm. Hunter, for U. S. breeder	145
Buttermaid of Springbank, 1912; John Waffler	125
Jemima Queen of Springbank, 1912; John Waffler	100
Dominion Boy of Springbank; W. Vallean, Percy, Ont.	150
White Prince, 1911; John Wilson, Simcoe, Ont.	100

What is said to have been an unparalleled situation in the history of the Wellington Rifles regiment, developed before the recent annual military camp at Goderich, Ont. Every company was short of men, and one, the Erin Company, refused to go out at all. Two explanations are given for this refusal to obey orders. One is that the pay granted by the Government is not commensurate with the other that the men were too busy with the work on the farms.

Horses and Cattle Sold at Ormstown, Que.

Following our report, in last week's issue, page 1134, of the successful sales of pure-bred stock, on June 14th, under the auspices of the District of Beauharnois Stock-breeders' Association, we give herewith the list of sales and purchasers.

CLYDESDALES.
Following is a list of the Clydesdales sold at the Ormstown, Que., sale, June 14th, 1912:

Consigned by R. J. Ness, Howick, Que.:
Nell Bowie (imp.), 4 yrs.; J. O. Sherwin, Cleveland, Ohio \$ 475
Lady Bowie (imp.), 3 yrs.; A. Burpee, Burton, N. S. 475
Dusky Maid (imp.), 3 yrs.; A. Burpee 375
Bell Grierson (imp.), 3 yrs.; P. Ryan, Brewster, N. Y. 300
Mildred of Allan Fern (imp.), 2 yrs.; R. Anderson, Riverfield, Que. 300
Lincluden Maggie (imp.), 2 yrs.; George White, White's Station 355

Consigned by D. Pringle, Huntingdon, Que.:
Polly of Winton Hill, 2 yrs.; John Calhoun, Dundee, Que. \$ 375

Consigned by D. J. Greig, Allan's Corners, Que.:

Pair of draft mares; Macdonald College, Que. \$ 600
Pair of geldings; John McDiarmid 600

HOLSTEINS.

Consigned by Neil Sangster, Ormstown, Que.:
Madam Dot 3rd's Princess Pauline De Kol; Macdonald College \$ 260
Sally Snow; F. E. Came, St. Lambert, Que. Mayflower De Kol; Arch. McNeil, Ormstown, Que. 175
Pauline Posch; Alex. Younie, Brysonville, Que. 130
Rhoda's Queen 2nd; Robert Howden, St. Louis Station, Que. 300
Midlummer of Ormstown; John McEwan, St. Louis Station 245
Indulge Posch; F. E. Came 125
Blackbird of Ormstown; R. G. Dunn, Melbourne, Que. 105
Mayflower Posch; Dr. J. McNeil, Franklin, Que. 135

Average, \$165. \$ 1,650

Consigned by John J. Alexander, St. Louis Station, Que.:

Lady Vera du Vere; John McRae, Howick, Que. \$ 155
Clinton Etilka De Kol; J. J. Alexander... \$ 155

Consigned by J. J. Tannahill, White's Station, Que.:

Maud of Riverview; Jas. Sangster, Ormstown \$ 130
Princess Ena; Dr. McNeil 152
Baroness Mercedes 2nd; J. McRae 155
Laura Daisy De Kol; M. McRae, Hemmingford, Que. 100

Average, \$134.25. \$ 537
Sixteen cows realized \$2,497; average, \$156.

AYRSHIRES.

Cows.

Consigned by R. R. Ness, Howick, Que.:
Old Hall Beauty 6th (imp.); P. Ryan, Brewster, N. Y. \$ 1,100
Palmerston Lady Mary (imp.); Brantford Farms, Groton, Conn. 500
Longside Violet 2nd; P. Ryan 500
Irena; Macdonald College, Que. 300
Lady Flora 2nd; A. A. Sagendorf, Spencer, Mass. 350
Barcheskie Winflower (imp.); John H. Faker, Buffalo, N. Y. 325

Average, \$512.50. \$ 3,075

Two-year-old Heifers.

Sherwalton Mains Beauty 3rd; P. Ryan... \$ 1,100
Redhills Nameless Charm; Brantford Farms 1,100
Morton Mains Pherenicus; Brantford Farms 900
Auchlochan Moonshine; A. A. Sagendorf... 325
Netherhall Kate 22nd; W. F. Kay, Philipsburg, Que. 400
Netherhall Blossom 10th; A. A. Sagendorf 325
Morton Mains Chlorissa 2nd; John Brown, Howick, Que. 325
Gladstone Maid; John H. Baker 325
Beauchan Periwinkle; A. A. Sagendorf... 600

Average, \$600. \$ 5,400

Yearlings.

Branchan Joan; John Sherwin, Cleveland, Ohio \$ 400
Branchan Bramble; W. F. Kay 425
Red Hill Guy Lass; J. K. Jones, Utica, N. Y. 375

Whitehall Snowdrop 4th; John Sherwin... 275
Craigbrae Snowflake; John Sherwin 350
Beauchan White Rose; A. A. Sagendorf... 525
Beauchan Princess; Hector Gordon, Howick, Que. 500
Beauchan Nora; W. F. Kay 300
Beauchan Violet; John Sherwin 300
Whitehall Sarah 4th; John Sherwin 285
Oldhall Beauty 11th; P. Ryan 475
Oldhall Dandy 10th; P. Ryan 550
Oldhall Cherry 10th; Hector Gordon 500
Whitehall Primrose; Brantford Farms... 500
Whitehall Dairymaid; Brantford Farms... 500
Threave Snowdrift; Mrs. F. D. Erhardt, Berlin, N. H. 400

Average, \$402. \$ 6,435

Bulls.

Hobsland King of Hearts; J. A. Bibeau, Ste. Anne de Bellevue \$ 550
Auchenbrain Sea Foam; J. K. Jones 475
Finlayston Santoy; McMillan & Leggat, Trout River 375
Craigbrae Lord Rosebury; John Sherwin... 500

Average, \$475. \$ 1,900

Consigned by Hector Gordon, Howick, Que.:

Cows.
Monkland Snowdrop 4th (imp.); McIntyre Bros., Sussex, N. B. \$ 525
Stockerton Primrose 3rd (imp.); Brantford Farms 1,000

Average, \$762.50. \$ 1,525

Three-year-olds.

Barcheskie Lily 13th (imp.); Jas. Benning, Williamsport, Ont. \$ 275
Palmerston Hyacinth 3rd (imp.); Brantford Farms 400
Stonehouse Fancy; Brantford Farms 600

Average, \$425. \$ 1,275

Two-year-olds.

Lily of Beith; Brantford Farms \$ 250
Kirkland Nellie Bly; John Brown, Howick, Que. 175

Average, \$212.50. \$ 425

Bull—2 years.

White Hall Fell Trader (imp.); P. D. McArthur, North Georgetown \$ 325

Consigned by P. D. McArthur, North Georgetown, Que.:

Cows.
Cherrybank Eva 2nd; J. B. Barrett, St. John, N. B. \$ 250
Queen of Elm Shade; J. H. Baker, Buffalo, N. Y. 250
Darling Daisy; J. K. Jones, Utica, N. Y. 150

Average, \$217. \$ 650

Two-year-old.

Cherry Bank Queen; J. B. Barrett \$ 275
Dalpeddar Lady Taylor; J. K. Jones 275

Average, \$240. \$ 550

Yearling Bulls.

Cherrybank Milkman Again; R. R. Ness... \$ 100
Cherrybank Victor; John McFarlane, Howick, Que. 60

Average, \$80. \$ 160

Consigned by John W. Logan, Howick, Que.:

Cows.
Miss Hall; J. K. Jones \$ 325
May of Maple Wood; E. S. Gifford, Auburn, Me. 150
Morton Mains Belle (imp.); J. Jones, Auburn, Me. 425
Sunnyside Ardyne 1st; Brantford Farms... 400

Average, \$425. \$ 1,300

Yearlings.

Sunnyside Belle 3rd; Brantford Farms \$ 300

Yearling Bulls.

Sunnyside Good Time 2nd; Brantford Farms \$ 150
Sunnyside Imperial Chief; J. K. Jones 75

Average, \$112.50. \$ 225

Consigned by McMillan & Leggat, Trout River, Que.:

Cows.
Miss Vernie; R. R. Ness \$ 150
Springbrook Marguerite; J. McIntosh, Auburn, Me. 250
Canada's Duchess; Hector Gordon 300
Lessnessock Brownie; R. R. Ness 400
Maggie of the Briers; J. K. Jones 275

Average, \$255. \$ 1,375

Two-year-old Heifers.
Springbrook Jeanette; Wm. Hunter, Maxville, Ont. \$ 200
Springbrook Winnie; Wm. Hunter 275

Average, \$237.50. \$ 475

Yearlings.

Springbrook Bridesmaid; Macdonald College \$ 185
Springbrook Mina; Macdonald College 175

Average, \$180. \$ 360

Bulls.

Auchenbrain Good Gift, 5 yrs.; Hector Gordon \$ 475
Springbrook Comrade, yearling; John Brown 65

Consigned by J. P. Cavers, Ormstown, Que.:

Cows.
Susan; D. J. Greig, Brysonville \$ 100
Violet 3rd, 2 yrs.; John Brown 90
Fancy of Ormstown, 1 yr.; Macdonald College 100

Average, \$96.66. \$ 290

Bull.

Ormstown Lad; John Brown \$ 85

Consigned by S. A. Cleland, Hemmingford, Que.:

Cows.
Jenny of Maple Hill; E. S. Gifford \$ 115
Gem of Maple Hill; John Macfarlane, Howick, Que. 75
Dolly of Maple Hill; Macdonald College... 200

Average, \$130. \$ 390

Consigned by James Bryson, Brysonville, Que.:

Iola of Point Round, 3 yrs.; R. R. Ness... \$ 280

Bulls, 1 year.
Free Trader of Point Round; S. McColl, Auburn, Me. \$ 60
Sir Thomas of Point Round; R. R. Ness... 60

Average, \$60. \$ 120

Consigned by D. A. McFarlane, Kelso, Que.:

Edith McNab 2nd of Elm Shade; Macdonald College \$ 125
May of Kelso; John Brown 100

Average, \$112.50. \$ 225

Bull, 6 months.

Rosebud's Monarch of Kelso; S. A. Cleland \$ 65

Consigned by D. T. Ness, Howick, Que.:

Yearling.
Buttercup of Millbrook; Hector Gordon... \$ 75

Consigned by Duncan McEwan, St. Louis Station, Que.:

Two-year-old.
Silver Queen; Hector Gordon \$ 150
Minnie of the Briers; Hector Gordon 125

Average, \$137.50. \$ 275

SUMMARY.

23 cows realized \$ 8,267 Av.—\$380
8 three-year-old cows 2,010 250
19 two-year-old heifers 7,210 380
20 yearling heifers 6,900 345
2 bulls over 2 years 800 400
13 young bulls 2,600 200

85 \$27,785 \$327

Coming Show Dates.

Royal Show, Doncaster, England—July 2-6.
Highland and Agricultural Society Show, Cupar—July 9-12.
Royal Aberdeen Agr. Society, Aberdeen—July 18.
Calgary Industrial—June 28-July 5.
Canadian Industrial, Winnipeg—July 10-20.
Regina Exhibition—July 29-Aug. 3.
Inter-Provincial, Brandon, Man.—July 20-26.
Saskatoon Exhibition—Aug. 6-9.
Inter-Provincial, Edmonton—Aug. 12-17.
Canadian National, Toronto—Aug. 24-Sept. 9.
Dominion Exhibition, Ottawa—Sept. 5-16.
Western Fair, London, Ont.—Sept. 6-13.
Vancouver Exhibition—Aug. 10-17.
St. John, N. B. Provincial Exhibition—Sept. 2-7.

What Good Roads Mean.

In the Scholars' Competition, instituted by the Canadian Highways Association, for prizes donated by W. J. Kerr for the best essays on "What Good Roads Mean to Canada," the gold medal went to S. Cieman, of Toronto; the silver-gilt medal to Albert Watson, of New Westminster, B. C., while David Teviotdale, Edmonton, Alberta, and Christine Lanoville, South Vancouver, B. C., tied for third place, each being awarded silver medals by the judges. Seventy other competitors were awarded silver pins.

P. E. Island Notes.

At this date, June 17th, the crop is all in, except a few late turnips. There was a good growth during the latter part of May, but since June came in the weather has been cold, and growth slow. Pastures, in some cases, are thin, and this is also true of second-year hay meadows, but there are many fine fields of clover in evidence on the new meadows. Grain has come up finely. There is a fine appearance of fruit of all kinds, and there is promise of an average crop of apples, especially. Experts have been travelling through the country, giving illustrations in spraying, and, as a result, many more orchards this year will receive attention in this matter. Expert stockmen are also travelling through the country lecturing and holding stock-judging classes. An expert on poultry is holding a series of meetings to advance our poultry interests, especially along the line of getting our eggs to market in better condition. Prices in all kinds of farm produce are booming, except potatoes, which have dropped 30 per cent. in price lately. Beef cattle never were so scarce here, and local butchers find great difficulty in supplying their customers. The big meat dealers in Charlottetown are importing beef cattle from Toronto, as our best cattle are practically all disposed of.

The dairy business in the co-operative factories is being pushed. The high prices of last year, and the promise of higher prices this season, will stimulate dairymen to supply greater quantities of milk than usual. During a recent visit to our Branch Experimental Farm, we found things looking well, and the work of putting in the experimental plots just about completed. Many more comparative tests in all kinds of cereals are being carried on this year, and the plots of grain, at the time of our visit, were showing a good growth, and evidenced great care, and precision in planting. The alfalfa plots sown last year had made a fine growth, and will have had their first cutting by this time. The very good success of alfalfa at this Station is inducing many of our best farmers to experiment with it, and we hope yet to see it extensively and profitably grown here.

This Station, on account of the excellent results obtained by Supt. Clark, is beginning to attract the attention of farmers, and is inducing them to visit it and see for themselves the success that has resulted from improved methods in the cultivation of some valuable plants that were not thought possible or profitable on Island soils. The vegetable garden, and arboretum, with its variety of trees and shrubs, and the profusion of flowers surrounding the residence and along the walks, is something worth going miles to see.

A poultry plant will be added this season, which will be managed on the "colony-house" principle, which will be an education to our farmers in the profitable management of poultry—a growing and most lucrative business that will bear much greater extension.

American Holstein Association Annual Meeting.

The 27th annual meeting of the Holstein-Friesian Association of America was held at Syracuse, N. Y., June 5th, with a personal attendance of 351, while 1,671 were represented by proxy. The total membership was reported as 5,160, an increase of 812 over the previous year. The appropriations for the year include \$5,500 for prizes at fairs and dairy shows; \$15,000 for prizes for records made under the Advanced Registry system, and \$15,000 for the work of the literary committee. An increase of \$5,000 in the appropriation for prize-money was granted. The secretary's report showed that the total business of the year amounted to \$104,007, and a balance of \$49,807 was remitted to the treasurer. Officers elected were: President, A. A. Hartshorn, Hamilton, N. Y.; First Vice-President, W. A. Matheson, Utica, N. Y.; Second Vice-President, John B. Irwin, Minneapolis, Minn.; Secretary and Editor, F. L. Houghton, Brattleboro, Vt.; Treasurer, Wing R. Smith, Syracuse, N. Y.; Superintendent of Advanced Registry, Malcolm H. Gardner, Delavan, Wis.

Late Seeding in Leeds Co.

The prospects for a bountiful harvest are very poor, indeed, in this part of Ontario, owing to the unfavorable weather conditions which have existed all spring; and though now slightly improved, still it is almost too late to benefit us, as far as the grain crop is concerned. We have had so much rain, the dry day, with sunshine, being indeed the exception. Many of the farmers in this locality have not yet finished seeding—cannot get on the land. In a drive across country on June 16th, I saw acres with the water lying on it, a regular barren waste; cannot be cultivated for some time, even if dry weather continues. There is still a great deal of planting to be done. Hay crop promises to be fair, especially

on the upland. Pastures are exceedingly good, but for the winter feed the farmers are basing their great hopes on the hoed crop.
Leeds Co., Ont. "SUNBEAM."

Milk Measuring Stick Illegal.

Last week's issue of "The Farmer's Advocate" contained an article exposing a device sold in one section of Eastern Ontario for weighing milk by a measuring stick. Since its publication, the following correspondence was received from the Department of Inland Revenue, Ottawa, which, it will be seen, has taken prompt and commendable action for the protection of any others who might be imposed upon:

Editor "The Farmer's Advocate":

I beg to enclose herewith copy of a circular letter, which has been sent to the Inspectors of Weights & Measures throughout Ontario, in connection with the "Eureka Measuring Stick," by which you will see that it is not a legal measure under the Weights & Measures Act, and its use for trade purposes is illegal. Inspectors will confiscate any found in use.

WM. HINSWORTH.

Acting Deputy Minister.

Department of Inland Revenue, Ottawa.

EUREKA MEASURING STICK.

To Inspectors of Weights & Measures:

Sir,—I beg to advise you that certain parties are selling a graduated stick called the "Eureka Milk-weighing Scale," and accompanied with a pamphlet advertising the same to be an accurate and quick means of weighing milk. As this instrument has not been and cannot be admitted to verification, you are advised to warn all agents and dealers offering the same for sale, and to seize all such "sticks" found in use for purposes of trade, making your report under Section XI. of the General Instructions.

WM. HINSWORTH.

Acting Deputy Minister.

Topical Fruit Notes.

The fruit season opened this year over two weeks later than last year, and the first shipments of strawberries of any extent were made by the dealers on June 17th. The samples of early varieties, such as Michels, were poor, as usual, and were not able to displace the American berries on our larger markets. The Williams and later varieties, however, are turning out excellently, and should please the trade, if the growers will take pains to fill their boxes well. Raspberries are coming along well, in spite of winter freezing, and will produce over a medium crop. With other fruits, additional information from different parts of the district points to a medium crop only.

The express companies have put on their special fruit-schedule, and promise to increase their efforts to give more satisfactory service. In this regard, the Dominion Express seem more ready to meet the requirements of the fruit-growers than other transportation companies.

Pre-cooling is being talked of once more. This question, for some reason, had dropped into the background—probably from lack of organization on the growers' part to press their claims, and from apathy on the part of the Government officials to push the matter if they considered it of sufficient importance. Anyhow, it seems that another year will pass without anything being done.

* * *

The peach crop in some sections of the district has shown up better than anticipated, and thinning is being done on some varieties that have loaded more heavily than others.

Thinning fruit is a problem of importance in orchard management. It is primarily a regulating process, and, where practiced, is done with a threefold purpose in view, namely, to improve quality by lessening the quantity; to secure annual crops by not devitalizing the tree one year at the expense of another; and to relieve a strain on the tree, and thus promote longevity. There is no doubt that our markets are getting too much poor fruit, one of the causes being due to overbearing, and it is time that our poor fruit is reduced to a far greater extent. Neither is there any doubt that a heavy crop will devitalize a tree, which will not stand a severe winter as well as a tree that has borne very little. Thus, I think, is also an explanation of why so many of our plums which were laden with blossom this spring failed to set their fruit. Such trees

likely had a heavy crop last year, and this year had not strength enough to set their fruit. Those trees with us which did not bear last year, in spite of unfavorable weather at blossoming time, have this season from medium to heavy crops. To enlarge on the point of improvement of quality, we can also call thinning a grading process, as the fruit harvested is more likely to grade up better, thus also securing economy where grading is practiced.

Early thinning seems to give best results, say three or four weeks after the fruit sets. The amount or extent of thinning should be controlled by the age and vigor of the tree and branch, the amount of fruit set, and the susceptibility to diseases, such as soft rot of plum or peach.

In the Niagara district the thinning of peaches is practiced to quite an extent, but other fruits are neglected. In peaches, the practice is extended mainly to heavy-bearing, white-flesh varieties, such as the Leamington, because the best grades of white-flesh peaches are comparatively cheap, and there is little demand for the poorer grades, whereas there is a good demand for the poorer grades of the high-priced, yellow-fleshed peaches. For commercial purposes, from four to five inches is a good distance to thin peaches. The cost depends on the size of the tree, crop, and cost of labor. One man ought to thin ten to twenty average trees in one day, at \$1.50, and do a good job. Pears often could be thinned with profit, and so could some of the heavy-bearing, larger varieties of plums, such as Burbank and Pond's Seedling.

W. R. D.

Cut Worms and Army-worms.

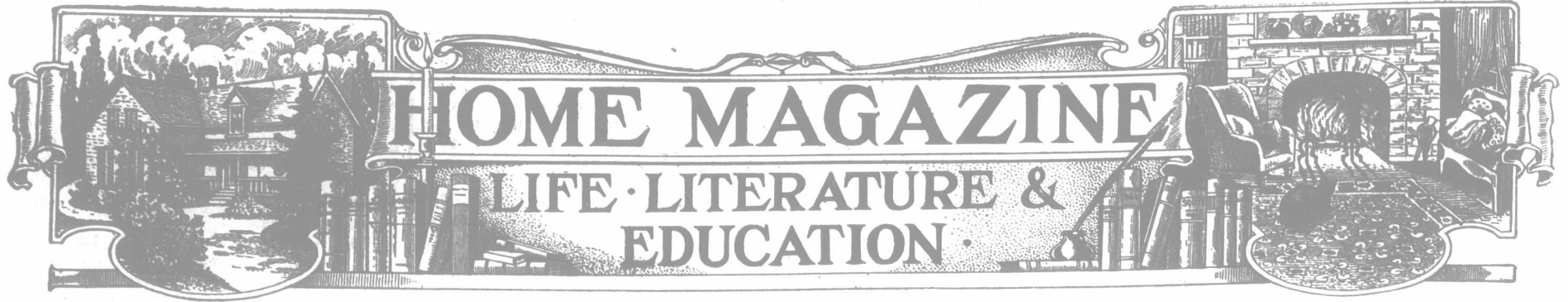
Two species of caterpillar, the cutworm and the army-worm, have been considered by the officials of the Experimental Farms to be of sufficient interest to the crop-growers in Canada to warrant the preparation of a bulletin upon them for public distribution. These two common enemies of crops are credited with causing every year damage amounting to a large sum of money, reaching, in some seasons, hundreds of thousands of dollars. They are both night feeders, and are most destructive early in the season, when vegetation is tender and, therefore, easily eaten off. Clean cultivation and the encouragement of birds are recommended as factors in the control of cutworms. The distribution of poisoned bran and fresh clover is also advised, where practical, whenever the worms are detected. To check the progress of army-worms on march, furrows with holes dug at intervals, are said to be effective. This illustrated bulletin of 29 pages, No. 3, of the Division of Entomology, and No. 70 of the Experimental Farms, was prepared at the request of the Dominion Entomologist, by his Chief Assistant, Arthur Gibson. It is published by direction of the Hon. Martin Burrell, Minister of Agriculture. Copies may be obtained by applying to the Publications Branch, Department of Agriculture, Ottawa.

Crops Late in York County.

Spring crops are looking well in King Township, York Co., Ont. Fall wheat was badly killed in many places, but some good fields are heading out. New meadows were somewhat winter-killed, old meadows are looking well. Have had much rain and little sunshine; more needed to bring the crops forward; will be late in this section. The root crop is very late in getting planted, on account of extreme rainfall. Wheat will be two weeks late, unless weather turns warmer.
York Co., Ont. S. LEMM.

An admirable report, in booklet form, on the Canadian Seed-growers' Association and its work, including a dozen instructive illustrations, revised constitution, by-laws and regulations, has been issued by the Secretary, L. H. Newman, Canadian Building, Ottawa. It contains a lucid discussion of what is meant by good seed, the choice of variety, changing seed, and plant improvement. The advantages of membership in the association, and the conditions attached to the registration of seed for sale, are fully set forth, together with a list of valuable articles and publications dealing with the subject. A post-card request to the secretary, Mr. Newman, will secure to anyone a copy, gratis, of this excellent volume.

W. J. Kennedy, Professor of Animal Industry at the Iowa State College, has been appointed superintendent of the Agricultural Extension Department at that institution, to succeed P. G. Holden, deceased.



The Sergeant's Tale, or How the Major Saved the Baby.

(By "Remount," Essex Co., Ont.)

At the time when the event occurred which I am about to relate, the "Great Lone West" was practically unknown to many people living in the Eastern Provinces. Its reputation was most unsavory. No highway of steel brought it into close touch with older settlements. Tales of depredations committed by lawless characters, unchecked by any Governmental powers; hardships endured by those who had ventured to make it their home; havoc wrought by hordes of insect invaders, bringing in consequence a state of starvation and hardship difficult to understand; war, rapine, massacre and bloodshed by redmen or their half-blooded relatives far overbalanced any good pronounced regarding its fertility.

The terrible events connected with the slaughter of settlers in Minnesota was still fresh in the minds of those who had lost friends, relatives and property at that time. The rebellion of Louis Riel, with all its blood-curdling details, had recently become historical data. Many associated with him in his mad attempt to overthrow the Government and establish a Metis republic had found refuge from justice in Uncle Sam's domain, there awaiting an opportunity to rekindle the still glowing embers of opposition to the powers at Ottawa. The warlike Sioux, irritated by treatment received at the hands of adventurers, who intruded, unchecked, upon their reservation rights, led by a notable chief called Sitting Bull, went forth again upon the warpath, bringing as a result death to many persons and destruction to much property in the western Dakotas and Montana. While their depredations were confined entirely to the United States, yet they had many strong sympathizers on Canadian soil, and it was hard to determine what would result from any successes which might attend their operations. Therefore, Canadian authorities realized the necessity of exercising extreme caution and constant vigilance in repressing any evidences of warlike tendencies, thus averting calamities similar to those of 1870. To secure this end the mounted force organized after the Rebellion to police our "Great West" was augmented, while a number of outposts were established especially along the boundary.

About this time I connected myself with the force, and was, with a number of others, stationed in a small fort not far from the boundary, on a trail leading northward from Fort Benton. Our duties were manifold,—collecting customs dues from freighters, maintaining order and enforcing law amongst nomadic peoples, keeping guard against the intrusion upon Canadian territory of any warlike bands, and restraining any filibustering outfit seeking to assist the Indians. While our duties were somewhat arduous and unpleasant, yet there was sufficient change and excitement to relieve the monotony. Our isolated position, so far as direct communication with the civilized world was concerned, rendered the news which we received meagre and often unreliable. This was especially true regarding proceedings at the seat of war immediately south of us. The intense sympathy of half-breed freighters was manifested by their reluctance to relate any successes by U. S. troops and their elation over reverses. However, we ascertained that the Indians were gradually being driven further and further into the mountain fastnesses of South-western Montana. Here during a rigorous winter they maintained a stubborn resistance.

For some months, owing to severe weather, hostilities almost ceased, but were renewed on the opening of spring and

pushed with greater vigor. It was thought, by U. S. authorities, that their refreshed and strongly reinforced troops, now led by an experienced Indian fighter, would speedily bring the war to an end. But they failed to estimate the difficulties to be encountered or the shrewdness of the foe. With all his skill, Miles was unable to bring about a general engagement. As spring advanced they retreated still further into the almost inaccessible regions of the Big Horn mountains and there established a large encampment in one of nature's strongholds. Here the bold yet cautious Miles pursued them, hoping to force a battle. However, the indiscretion and overbearing of an under officer brought about a disaster, the nature and extent of which cast a gloom over the Republic, and materially delayed proceedings. News of Custer's defeat and the destruction of his troops was received by Sioux sympathizers with rejoicing, and the Metis boasted loudly regarding the prowess of their dusky relatives. But their joy was short-lived. Although momentarily checked by the shock, the infuriated soldiers, thirsting for revenge, pressed forward with greater impetus.

But several hundreds, with a few women and children, led by Sitting Bull and his associate, Crazy Horse, fled to Canada, seeking safety. Word of this unexpected turn in affairs was brought by a friendly freighter, filling our little company with anxiety. Extra precautions were now taken to secure our own safety and also prevent any possible outbreak on the part of hot-headed sympathizers. The utmost vigilance was likewise observed to prevent any surprise. Guards were doubled during the night, while none left the fort except on urgent business, and then never singly.

Happily for our welfare the fort stood upon high ground, commanding an extensive view of the surrounding country. Several days of anxious suspense were passed before a scouting party brought word regarding the approach of a band belonging to the fleeing Sioux, who had crossed the border some distance from our position.

What their intentions were we could not ascertain. Soon the sentry gave notice of their drawing nigh. Every eye was strained to catch a glimpse of the fugitives. They were a forlorn, dejected-looking outfit, mounted upon sorry-look-

until spring, or at least until other assistance would be forthcoming. So far as lay in his power this was granted, but any aid rendered was slight, since our stock of provisions was limited and could not be replenished for some months. The following day another demand was made but refused. This apparently incensed the hungry horde, and mutterings of a coming storm reached our ears. All told we numbered less than a score, while the Indians were several hundred in number and well armed. They knew we had sufficient food to satisfy their wants for a time, and what could be easier than the storming of the post and overcoming our small force? But their chief hesitated, not desiring to bring about an open rupture with Canadian authorities, against whom he held no grievance. However, his desperate, half-starved followers were hard to restrain, and a scheme was suggested to make their demands imperative.

The night following the refusal passed quietly, and morning brought no evidence of coming calamity. Our usual garrison duties were performed, and a few warriors came to barter for food and then left. The little maiden had been seen chattering away to them in her childish glee, but no attention was paid, since she had the freedom of the enclosure, going out and in whenever she so desired, without any thought of danger. The confidence placed in her associates within the barracks was extended to the redmen also. She exhibited no fear, nor manifested any partiality, no matter what might be their nationality or color. Hitherto the Indians had treated her with exceeding kindness, thus allaying any fear her mother might have had for her welfare.

However, this morning she was missing. A careful search over the different buildings failed to reveal her whereabouts. The now thoroughly alarmed mother ran hither and thither calling for her darling, but no answer. Every available man joined in the search, but their efforts were futile. Meanwhile it was noticed by some that the Indians avoided the searchers and remained away from the post. Through a friendly native we discovered the reason. Our pet had been carried away a prisoner and was being held as a hostage until their demands were granted. The mother was almost frantic, while a gloom like a funeral pall rested upon the garrison. The question each one asked was, "How could her release be effected?" To attempt it by force would be sheer folly, and might result in her being removed from the district, or worse. Several of the most experienced men suggested entering negotiations looking to her release. This was acted upon, but the Indians, emboldened by what they had accomplished, refused any terms except surrendering all stores. To grant such terms was impossible, and so negotiations ended for that time.

Night found her still a prisoner, and the mother almost distracted. Sleep departed from our eyelids. Very few sought places of repose. We were now prepared for any act of treachery. The long night passed, and when morning broke negotiations were renewed, but the deputation were informed that unless the proposition of the Indians was met the babe would die at sunset. This statement was kept from the now prostrated mother. Her father, brave man as he was, almost succumbed beneath the stroke. He might have averted the calamity, but only by being disloyal and deserting his post. Would help not come from some quarter? This was the silent prayer of many hearts.

The sun had passed the noonday mark when the chiming of bells upon the frosty



Roses.

From a painting by Mrs. Mary H. Reid, A.R.C.A.

While these events were taking place our little garrison was augmented to its full capacity. A brave, cautious and experienced officer was placed in charge. With him came a young wife and child; the latter a blue-eyed, flaxen-haired maiden, of some five summers, who speedily won the affection of every man and became a general favorite in the barracks.

Another summer rolled around, and almost without warning, winter, with more than usual severity, was upon us. Although, since the Big Horn victory, reverses had continually befallen the Indians, they still heroically maintained the unequal conflict, avoiding actual engagements, but harassing the troops by their usual tactics. Winter coming on they apparently thought that the soldiers would, as formerly, retire to shelter until spring, and thus ceased to exercise their usual vigilance. Taking advantage of this attitude the resourceful Miles swooped upon them suddenly, completely surprising and demoralizing the Sioux warriors. The greater number were cap-

ing steeds, scarcely able to bear up under their emaciated riders, whose tattered blankets scarce sufficed to protect them from the biting blast. Slowly they filed past the post toward some bluffs lying north of us. A more miserable appearing company it is hard to imagine. The general appearance of both horses and men indicated the terrible hardships through which they had passed. So far as could be discovered they had no evil intentions in crossing the border; but, as there was no telling what a half-famished desperate band might do, we maintained our usual caution, allowing but few to enter the stockade at any one time. Having erected their tepees they made known their wants. Provisions were scarce in the encampment, and it took no small amount to supply them. Foraging and hunting parties soon returned empty handed, since even that which might be supplied by friends or secured in the chase was speedily consumed. Their condition grew more desperate each day. A deputation waited upon our commander, soliciting provisions to tide them over

air betokened an approaching conveyance. In a few moments the Major of our troop and his driver appeared. A cheer of welcome was suppressed for the mother's sake. Existing conditions were soon revealed, and patiently we awaited an expression of his opinion. For a few moments he paced rapidly to and fro in front of the guard-room, then pausing suddenly said, "She must be saved at all cost." Quickly but coolly he detailed his plan; quietly we waited for orders. "Captain," he said, "call out your men." Immediately they responded. With a wave of his hand he commanded attention. Instructions were quickly imparted. The stillness was intense. The following policy was to be pursued: Every man of the little company, fully armed, was to be placed in the blockhouse over the gateway, which permitted a view of the Indian encampment, and it was also loopholed on three sides. He proposed to go alone to the tent of Sitting Bull, and by a bold personality rescue the child. If his plan miscarried certain death awaited us all. We knew that the war spirit had been aroused on the part of the Indians. For several days a number had worn their war-paint, while during the night could be heard the almost constant beating of the tom-tom, accompanied by the shrill, lloodcurdling "ki yi" of the braves, but it was only when their act of treachery occurred that we had begun to realize our dangerous position. Yet every member of the garrison recognized the apparent foolhardiness of such a plan as that proposed by our brave commander. The captain began to expostulate but was silenced by the remark, "Time permits of no delay."

The sun was little more than a hand-breadth above the horizon, when, after giving the command to forget him and defend ourselves in case he were attacked, dressed in full uniform, with revolver in his hand, he stepped forth from the main gateway, which closed behind him with an ominous click. His last words were, "If you see me fire, blaze away. It is your only hope of salvation, and that a slight one. Never mind me; I will take care of myself." Majestically he strode along as if there were no danger near. Fearfully we watched his receding form as he passed to what appeared certain death. The Captain's wife knelt in prayer for his safe-keeping and return.

Quickly he drew near to the first group of teepees, through which he must pass to reach his destination. We observed the Indians scanning his approach closely, while here and there individual rifles were raised but lowered again without firing. With every such move we instinctively grasped our weapons and closed our eyes that we might not see him fall. He disappeared from view among the teepees, and with nerves tightly tensioned we quietly awaited results. Would he effect a rescue or would he be too late?

Like a huge ball of fire the sun was disappearing beneath the western horizon when we beheld the scarlet tunic reappearing. The war-bedecked Indians fell quietly back, forming what might be termed an avenue of ardent admirers. Through which the Major came, bearing the child in his arms, her little arms around his neck, while her disordered curls spread over his shoulders. Proudly he bore himself as he approached the gateway. No undue haste characterized his actions. Coolly as if returning from a visit he walked, while his face gleamed with the same spirit of determination observed when he was setting out upon his errand of mercy.

As he reached the gate our restrained feelings gave way to shouts of rejoicing. Cheers rent the air, while tears flowed freely from many eyes. The mother was almost hysterical with joy. Pressing the child to her bosom, she gazed upon her saviour with looks that spoke, more eloquently than words, her thanks. Instinctively we gathered around our hero. Forgetting official distinctions we gave expression to our feelings, while the Captain, grasping the Major's hand, poured out his heartfelt thanks. Hastily withdrawing himself he exclaimed, "Every man to his post!" then, calling his servant, gave orders for supper to be prepared as unconcernedly as if nothing unusual had occurred.

Such was the Sergeant's story. So far as known the actors in that dramatic scene have passed away, and the objections once raised against its publicity are removed, therefore no offence can be given by its publication.

The Windrow.

There is, truly, nothing new under the sun. Recent excavations made by archaeologists at Pompeii have brought to light a "thermopol," or kind of grog-shop, within which were tables, chairs, and many amphora, some of glass, some of bronze. "Most of the amphora are tilted over," says Mr. Hartt, "seeming to indicate that some decanting process was going on when the cataclysm overwhelmed the city. The boiler looks as good as new, even retaining the little chain that attached its cover to it. Above the boiler is a bronze lantern, supported in its place against the wall by two exquisite statuettes. A small ivory box in one corner of the room is full of silver coins,—the day's receipts. And the archaeologists report that when they opened the boiler they found water in it that had been there since the year of our Lord 79."

piece of hard work might be given to one person, and he would pray that it should be done swiftly and easily. One might be called to suffer, and at the first cry of pain the suffering would be gone. We should all grow lazy and selfish, never learning patience, courage, or trust. Our school-days on earth would be all play; and we should step out into the greater opportunities of living, beyond the Veil, untrained, weak in body and spirit, dead failures as men and women.

Whatever God's promises about prayer mean, they certainly don't mean that He is weakly indulgent. He will give us the best that we are capable of receiving. We shall never be able to say, when we look back, that He answered our prayers to our harm. But prayer is always a mystery. If God loves us enough to give us what is best for us, why should we interfere with His plans by even expressing our desires? Does not the

force the hand of God. It is not a frantic effort to change His wise all-seeing Will to our will. If it were, we should be daringly foolish and impertinent to pray at all.

But the Bible is God's Word, His message to the world, and the Bible tells us to pray. Over and over again the command is repeated, and its value is proved by innumerable instances. Think of Hezekiah's case, for example. He was "sick unto death," and Isaiah came to give him this solemn message: "Thus saith the LORD, Set thine house in order: for thou shalt die, and not live."

That seemed final, and the prophet left him. But Hezekiah knew that the Eternal God was his dwelling place and that underneath were the everlasting arms. Within those arms he was as safe as a child held close to a father's heart. He turned his face away from earthly helpers and "prayed unto the Lord." Before Isaiah reached home, God sent him back to tell the king that God had heard his prayer and would heal him. On the third day he should be well enough to return thanks in God's house.

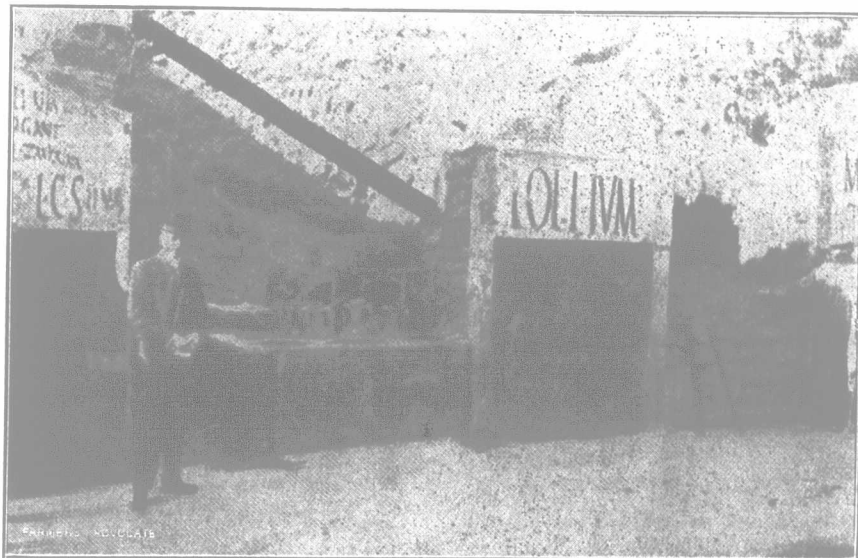
I have mentioned this case out of many, because it shows that prayer sometimes seems to change the Will of God to man's will. Certainly, it is only seeming. God's Will was Hezekiah's recovery, and yet that recovery entirely depended on prayer. Does that seem contradictory to you? God's Will is that a farmer should be prosperous, and yet the farmer will not be prosperous if he leaves his plowing and sowing and harvesting undone. God's Will is that each child of His should be good and happy, and yet it would ruin anyone if goodness were forced on him, if he did not have to fight many stern battles with besetting sins.

Is prayer of any vital use? It is folly to ask that question of people who have little or no practical experience of prayer. You don't go to a doctor to find out the best way of farming, nor to a farmer for the treatment of a cancer. Ask the people who have prayed for years, and they will tell you that they can't get along without prayer. They know that God does not always answer prayer as He answered the prayer of Hezekiah. The kind of answer He will give is for Him to decide. They always keep the trustful petition, "Thy Will be done," as a safe foundation for their special requests. They know their Father can be trusted. They put the matter into His hands, explaining their desires, but trusting Him not to give anything that will hinder their eager climb up the mountain of holiness.

The result must be peace. There is no possibility of the message failing to reach Him. The petition goes straight to the Father's heart, and the child is satisfied that all will be well. St. Paul says: "The Lord is at hand. In nothing be anxious; but in everything by prayer and supplication with thanksgiving, let your requests be made known unto God. And the peace of God, which passeth all understanding, shall guard your hearts and your thoughts in Christ Jesus."

Give up the practice of prayer and you will certainly drift farther and farther away from God. Sometimes He is forced to withhold the good gifts He wants us to have, because we have neglected to ask for them. He wants our joy to be complete, therefore He commands us to keep always beside Him, talking over every difficulty and every plan with Him. The father of the prodigal son wanted his son to have the best robe, the ring, and the kiss of welcome, but to send them after the wanderer would have only encouraged him to stay away from home.

Peace comes from trustful prayer, not from the wild petition to have our own way at all costs. God, Who loves us enough to give us the greatest conceivable Gift—the Gift of His own Son and Holy Spirit—may be safely trusted to give us all lesser good things. We really want the best gifts, those which will make us strong and glad in spirit, and God is eager to give us these. But, if we do not want these gifts enough to take the trouble to ask for them, then it would only injure us to give them. The best teachers will not help children overmuch with their lessons, even though their progress might be more rapid with more help. Rapid progress is not always thorough, and God knows we have all eternity to grow in. That is the reason He is so patient with our many



How Pompeii Gave Notice of Elections.

The inscriptions on the wall outside the bar, uncovered by recent excavations, show requests for votes at an election not later than 79 A.D., the date of the city's destruction.

Hope's Quiet Hour.

Prayer the Source of Peace.

The Eternal God is thy dwelling place, And underneath are the everlasting arms. —Deut. 23: 27 (R. V.).

"No need for me to know the secrets hid Between the leaves of the unopened years; 'Tis not my part to lift the casket's lid, Or seek to analyze the smiles and tears God treasures there; He knows I am secure, Within His arms I can His choice enjoy, endure."



A Roman Bar in "The Street of Abundance," Pompeii.

By permission of Literary Digest.

God has made so many promises about answers to prayer, and yet anyone who has really prayed for years has found out by experience that prayer is not a magic wand, bringing down instantly exactly what the petitioner thinks he needs and wants most. What an upset world this would be if God were unwise enough to trust us with absolute power. A

those women whom Jesus loved—if they are not thankful to Him for the short pain of His apparent neglect, which has encouraged millions to trust on when all hope seemed to be gone. If He had not forced them to wait, this world of troubled men and women would have been unspeakably poorer.

The first thing, then, for us to remember is that prayer is not an attempt to

failures, so ready to set a blotted, ruined copy over again. But the failures and the ideals must be brought constantly for his inspection, or we shall make no progress. We must be careful never to leave our Father out of our plans. But, when a matter is laid before Him, in simple, practical words, it is a great sin to worry. Now, don't imagine that I never worry. It is so easy to say, "Don't Worry!" but we all have to fight our way into peace. Again and again the worry creeps into our hearts, just because we have not perfect faith in the "everlasting arms," in whose shelter we are safe. Lesson after lesson we are given, and still our faith is weak when trouble faces us. Like the women at the tomb, we worry about the stone which we know is too heavy for us to roll away. We come up to the stone of difficulty, having endured a great deal of unhappiness before we have any business to endure it, and the difficulty has either vanished or else extra strength is given to overcome it. This happens so often, that perhaps we learn the lesson of peace at last. Then our worries—large or small—are told to God; and we stand prepared to endure in His strength, if He shall see that endurance of trouble is better in the end than removal of it. Leaning on God is the only secret of a lasting peace that I have any experience of—peace in the midst of storm, safety in the midst of danger, restfulness in the midst of work, light in the blackest darkness. That is a peace worth infinitely more than the perishable, worrying riches or enervating comforts which we are so eager to gain. Let us thank God every day, at least as much for the prayers He seems to be refusing as for those He is plainly granting. Perhaps, in a few months, or years—certainly on the other side of death—we shall thank Him from our happy hearts because He worked for us far more wisely than we could have understood, giving us more than we asked or thought. By trustful prayer we put all that concerns us into our Father's hands, and peace is the priceless result. Why do we burden our hearts and blot out the sunshine, when we can—if we will—rest always on the everlasting arms?

"God holds the key of all unknown,
And I am glad;
If other hands should hold the key,
Or if He trusted it to me,
I might be sad.
What if to-morrow's cares were here
Without its rest?
I'd rather He unlocked the day,
And, as its hours swung open, say,
'My Will is best.'"

DORA FARNCOMB.

The Beaver Circle.

OUR SENIOR BEAVERS.

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

A Pair of Friends.

(By Alix Thorn.)

There's a brown plume waving over
Nodding heads of fragrant clover,
With a straw hat bobbing gaily
Close beside it, soon you'll see,
Underneath the plume is Rover,
Dearest dog you can discover,
Ready for a tramp or frolic,
And the straw hat means, that's me.

If you hear a sudden crashing
In the alders, then a splashing,
Watch the ripples ever widening
Till they reach the willow tree—
Then you'll know it's good old Rover,
While that fish-pole stretching over,
That a sunburned hand is holding,
Well, that fish-pole means, just me.

But when shadows come a-creeping,
And a star it's watch is keeping,
Down the road the dust is rising,
Hurries past a burdened hee,
See our Rover, slow returning,
Westward red the sunset's burning,
And the boy that's trudging homeward,
Tired, but happy, guess that's me.

A Hint for Your Garden.

Dear Beavers,—Do not overlook any plan that will coax the birds to your garden. They will help you ever so much, you know, by eating the flies, bugs, and caterpillars that are trying to destroy your plants. One way of encouraging birds to stay about is to put up drinking vessels for them. Be sure to have these shallow, so that there will be no danger of the birds drowning in the water, and place stones here and there in the dishes, letting them come just above the surface of the water, so that your little feathered friends may have something to stand on when they stop to drink.

The best place for a bird's drinking-dish is on top of a post set up for the purpose. About a foot below the dish a sheet of tin should be fastened so that it will extend out all about the post to prevent meddlesome cats from ascending to pounce upon the birds.

If you have no mice about the place, and keep pussy just for a pet, tie a little bell to her neck. That will warn the birds when she comes too near. Pussy is very lovable, you know, but she can't be depended upon to leave the birds in safety.

Senior Beavers' Letter Box.

Dear Puck and Beavers,—Allow another interested reader to contribute a few lines to the Beaver Circle. We have taken this paper for some time, and find it very interesting from time to time. As yet I have not seen any letters from anyone near here; in fact, I know none of those who have written.

I live on a farm of two hundred acres, and were any of you to visit this part of the country, I think you would be sure to agree that it is most beautiful just now (written May 29th). The apple orchards are all in bloom, and at a distance look like great snowbanks. The perfume fills the air far and near, and here and there a tinted lilac-bush lifts its head among the apple-tree whiteness, and under foot the great green mantle is spread over all the earth. Who could not enjoy life in the country, surrounded by nature on every hand?

Spring is here again with all its duties. Gardening and out-door cleaning are almost completed, and I am busy trying to raise some chickens. They are very late this year, as I cannot get hens to care for the eggs. I will have about fifty or more in about a week if nothing happens them. I have been thinking of trying an incubator this year, and perhaps may yet. Some of the other Beavers may be busy with chickens, too.

We have a pony that I can drive, and I take my brother and sister to and from school. I will close now, hoping to see this in print, and that it does not fall a prey to the w-p. b. Bye-bye just now.

M. GRAHAM

(Age 14, out of school).
Cromarty, Ont.

Dear Puck and Beavers,—I have written twice before to the Beaver Circle, but failed. As I was reading the Circle in "The Farmer's Advocate" I came across a letter written by some Beaver that had tried once and failed; she said to "try, try, again," so I am trying.

My sister had a great experience today. We had a calf. He was used to my mother around him, and we seemed strange, and he broke the post he was tied to and went all over the stable with a post hanging on the chain around his neck. I went after a neighbor boy, and my sister untied the chain from around his neck and was waiting for us to come back. At last we got him out of the stable; then he got into the granary and jumped into a bin of oats, then

the neighbor boy caught him and tied him up.
LILLIBELLE GRAHAM
(Age 12 years, Book Sr. III.).
Middlemiss, Ont.

Dear Puck and Beavers,—Although I live on the wide prairies, I am going to make my first attempt in writing to the Beaver Circle. My father has been a subscriber to "The Farmer's Advocate" for about three years. We used to live in Ontario, but this last spring we moved to the West; nevertheless, we have a dog and a cat to make fun for us. I go to school here, but in Ontario I did not. I am in the Entrance Class. I like the prairies, but Ontario is a much more beautiful place to live in. The climate of Saskatchewan is fine.

I have always thought of writing before, but never did get at it. We would not know what to do if we failed to get "The Farmer's Advocate."

I fear my letter is too long and will be thrown in the w-p. b. so I will close

ELIZABETH GARRETT

(Age 15, Grade VIII.).

Estevan, Sask.

Dear Puck and Beavers,—I enjoy reading your letters so much, and find them all so good, that I thought perhaps some Beaver might be interested by my letter. I am going to describe to you a very historical spot.

We live at a place called The Pines, because there are so many pines there. It is a very good location, in a fine farming district, and about a mile from where the U. E. Loyalists built the first Methodist Church in Canada, and the home of the late Sir John A. Macdonald. I will tell you what this church is like now as best I can. It is a large building of frame, and shows how liberally lumber was used in the olden days. It has two rows of three windows on each side. These are full of small panes of glass, and covered with small, board doors. The doors are two big ones in the front. A fence is around it, and a dock at the bay. Last year a grand reopening took place, at which about one thousand were present, and everywhere was crowded, even to the gallery. Many speakers were present, among whom was Dr. Carman, President of the Bay of Quinte Conference. The seats in the church were just benches (stationary) and the pulpit was one about the same as the first erected there. For collection, the old boxes were passed around. They were on sticks, and the boxes were about five inches square.

Well, I will close, hoping Puck will not send this to that awful w-p. b.

May I come again?

MARY DICKSON

(Age 12, Book IV.).

The Pines, Ont.

Certainly, come again, Mary.

Dear Puck,—As I have just been reading some of the letters in the Beaver Circle, I thought I would write to you, also. I have a great many letters to write, as I have many friends whom I correspond with. I used to live in Ontario, in Princeton, then I moved to Cookshire, in Quebec, and from there to Adamsville, where I am now. I have only lived here about six weeks. It is ever so pretty here; the scenery is beautiful. The Yamaska River flows right past our door. I do wish some of the Beavers would write some stories. If they like it as well as I do, I should certainly think they would. I wrote one story to this corner, and I may send another if you would care to print it. I like to get new riddles very much, as I am going to put them all down in a book and see how many I can get, as you can always answer friends with a riddle book. Has the Beaver Circle any club pin or badge of any sort? If they have, can you buy one? I have never seen anything about them, but have noticed that some of the other corners have them. How many, I wonder, would like to have them, too? It would be nice to buy them; we could have a Beaver on them, couldn't we? I saw in to-night's "Advocate" that Ashael Beaman said he was a bookworm. I am also one. I have a bicycle, and I enjoy riding very much. This, however, would not be as nice as having "Rosie," Florence Miller's pony, do you think? I love horses, and would spend all my time with them. I shall be glad to

every kind, fishing, boating, riding, playing baseball, etc. We have a dog named Lassie, and a cat called Yola, also a kitten, Dodo. Well, I will stop, with a few riddles.

Plant a kitten and what will come up?
Ans.—Pussy willow.

Plant a preacher and what will come up?
Ans.—Jack in a pulpit.

What will a father say to his son John in the morning?
Ans.—Johnny jump up.

What will a goat do in an old lady's china shop?
Ans.—(Butt-her cups) but-tercups.

What is an unpopular girl called who goes to a ball?
Ans.—A wall-flower.

What is a popular girl called who cannot go to the ball?
Ans.—A blue-bell.

What is used by a teacher to punish her pupils?
Ans.—Cat and nine tails.

What is it that is gay, but a ferocious animal?
Ans.—Dandelion (dandy lion).

I think this is all I can think of now. These are all names of flowers. I got them at a party where they had a flower contest, and these were some of the riddles we had in it. I thought someone might like to make a riddle book, too.

P. S.—Will Puck please tell me if club pins can be got?

I wish James McQuarrie would tell us about British Columbia.

Will some of the Beavers kindly send some new riddles?

Is there any chance of having a story contest, and how many of the Beavers would like it? Forgive me for writing such a long letter.

HELEN PARRY (age 14).

Adamsville, Que.

We have no Beaver Circle pins yet, Helen, as no one in the office has time, at present, to attend to sending anything of the kind out. Perhaps we shall have a story competition some day before very long.

Dear Puck and Beavers,—This is my first letter to the Beaver Circle. I am eleven years old, and in the Senior Third book. I have about half a mile to go to school, but, as it is a private road, it is not always good in winter. I have four sisters and no brothers, and I am the second oldest. I would like to join your Club, and if any of the other members would like to write to me, I should be pleased. As my letter is getting rather long, I will close.

M. LORNA RODGERS

(Age 11, Sr. III.)

Rosetta, Ont.

Dear Puck and Beavers,—My father has taken "The Farmer's Advocate" for a number of years and would not be without it. When we get the papers, I always look for "The Farmer's Advocate" and read the letters. I live at Fraxa Junction; it is not large enough for a post office. It was not always Fraxa, but Orangeville Junction, but as Orangeville is only four miles distant, I think they did well to change it. I go to school, which is at a distance of four and a half lots, but I have lots of company, and it does not seem very far. I like my teacher, and I think everyone does, too; her name is Miss Stewart. She came to our school at Christmas. Well, Puck, will you let me join your Garden Competition? I think it is a very interesting subject,—don't you, Beavers? I have in my garden, pansies, asters, carnations, marigolds, sweet peas, hydrangea, cabbage, carrots, parsnips. I will try to do my best with them. If my letter is not good enough, throw it in the w-p. b., for I can come again. I think I have written a long enough letter for this time.

RUBY TRIMBLE.

Orangeville, Ont.

Your number on the Garden Competition list is 27, Ruby. What a long time your letter had to wait before finding room!

Dear Puck and Beavers,—This is my second letter to the Beaver Circle. As I did not see my other one in print, I thought I would write another one. We have four horses; one is a colt two years old. I have a dog that I yoke up. There is a boom near my place. I go to school every day. I have a mile and a half to walk. My cousin and I are going to make a log camp this summer. Good-bye.

WILLIE BUSTIED

Cross Point, P. Q. (Age 11 years).

OUR JUNIOR BEAVERS.

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

Junior Beavers' Letter Box.

Dear Puck and Beavers.—This is my first letter to the nice little Beaver Circle. I am going to tell about my pets. I have a dog; we call him Kaiser. He will draw me all over on my sleigh in winter; in summer he draws me in a cart which my father made for me. I also have two cats named Snowball and Nigger. I tried to teach them some tricks. I taught them all I knew.

We have nine little pigs, and when I am near I get some clay, wet it a little, and give it to them to eat. They like it very much.

My father has taken "The Farmer's Advocate" for some years. He likes it very much. I shall close now, hoping my letter will escape the w.-p. b.

ISABEL CRUICKSHANKS
(Age 10, Book III.)

R. R. No. 1, Ossian, Ont.

Dear Puck and Beavers,—I thought I would write to the Circle. I enjoy reading the letters. I have had the whooping cough for two months, and could not go to school, but started after Easter holidays. I am in the Junior Third book, and have nearly two miles to walk to school, so I think when I get my education I earn it. Don't you think so, Beavers? I like my teacher very much. Her name is Mrs. Fluher. We live on a farm in the County of Lincoln, Township of Gainsboro. Will close, wishing the Circle every success.

FAY STRONG (age 10).

Rosedene, Ont.

Dear Puck,—I live on a farm. We keep geese, turkeys, chickens, and I have three guinea hens of my own. My brother has taken "The Farmer's Advocate" for about three months. We like it fine. I have another little brother. We go to school. We like our teacher fine. Her name is Mrs. Rowe. I am in the Senior Second. I guess I will close with a few riddles.

What goes through the woods and through the woods, and never touches the woods? Ans.—Jackknife in a man's pocket.

What makes more noise under a fence than a pig? Ans.—Two pigs.
Clarke, Ont. MAY RABY.

Dear Beavers,—My sister, my cousin and I, went fishing. We left home about half-past one, and got down to the creek about two o'clock. We had two fishing poles. I had one and my sister and cousin had the other, and took turn about fishing. When we started for home we counted our fish, and we had twenty. On our way home we went into a neighbor's and got a drink of water. When we got home our mothers cooked some fish for our supper. My father has taken "The Farmer's Advocate" for years.

OLIVER ROBSON (Part II. Book).
Telfer P. O.

Dear Puck and Beavers,—The school which I go to had a picnic at Springbank. We had our dinner at home and went to London and got in about half-past twelve and did some shopping. We took the street-car down, and had a basket. We watched them play ball, and I got on the merry-go-round, and then met my friend and we went and got some chocolate candy. We then ate our lunch and watched them play ball till dark, and then took the street-car back to London and came home. It was one o'clock when I got home, and I was very tired. My father has taken "The Farmer's Advocate" for five years.

ROSEY ROBSON (age 12, Sr. II.).
Telfer P. O.

Dear Puck and Beavers,—My grandmother takes "The Farmer's Advocate," and I like reading the children's letters, so I thought I would try and write one. I have two brothers and one sister; I am the eldest, I am just ten. My father lives on a farm. Our farm is near the lake. We go bathing in the summer. We are just a mile from the village. We

have no school near our place; I have to board away from home. I will close, hoping this will escape the w.-p. b., and wishing the Beavers every success.

HILDA WOODS (Book III).
St. Ferdinand, Que.

How to Act — Deportment

NO. IV.

(What to teach the boys.)

Have you ever heard it said that training in regard to good manners seems to "show" more in men than in women? Possibly this is true. A woman may be dainty, stately, irreproachable in all that pertains to the social code, yet she has fewer opportunities to exert the evidences of her training than has the man. He must needs be the cavalier, the one who is to bestow the little attentions that inevitably mark the man trained in manners; to the woman falls the part of receiving those attentions graciously and naturally.

woman, who recognizes a woman in passing,—this as a token of respect to the friend's friend. (2) A man must always raise his hat when taking leave of a woman with whom he has been talking, or when performing the slightest service, such as answering a question or picking up a parcel, for a woman whom he does not know. If a woman who is a stranger to him should ask him a question he should also take off his hat. (3) While ascending or descending in an elevator a man is expected, if women be also in the elevator, to take off his hat and keep it off until he steps out. (4) It is customary for men to take off their hats while a hearse is passing in a funeral, when a man of very high rank passes, when the National Anthem is being sung after any out-of-door meeting.

A man, when necessary, should open a door, and hold it open, that a woman or women may pass out.
He should always permit women with whom he may be walking to precede him.

etiquette demands that they should wear coats during meal-time, no matter how hot the day may be.

If a man should meet a woman in a narrow hotel hall or corridor he should step aside, raising his hat as she passes.

A man should never smoke pipe, cigar nor cigarette while walking or driving with, or talking to a woman. Only a boor would do so.

If a man meets a woman on the street and wishes to talk to her about anything, he should turn and walk back with her, not keep her standing there.

A man should not first offer to shake hands with a woman, but should wait for her to take the initiative. On entering a house he must, of course, as must all others, advance to greet the hostess before speaking to anyone else in the room.

A man should not take a box of candy to the theatre or concert-hall, or to any public place to which he has escorted a woman. It is considered in very poor taste to munch away in public, and to offer candy to a woman in such a place would be to put her in a very embarrassing position.

A man should arise to his feet when a woman enters, for the first time, the room in which he is sitting, and he should remain standing until she has been seated.

When escorting a woman to the dining-table, a man, if he offers his arm (this is customary in some houses), presents the left one. Arrived at the table, he moves the chair back that she may sit down. Before helping himself to any dish, he offers it to her first; when she has taken what she wants, she should pass it back to him.

There are many other occasions, which cannot be specified here, on which a man can do the "right thing at the right time." Let him remember to be not neglectful to perform any little service that he can for women or old men who may be near him, and he will seldom be found wanting; but let him remember, also, that whatever he does must be done quietly, unostentatiously, and naturally. So may he prove that he knows how to act as a gentleman should. Flaunting, even of good manners, cannot be other than vulgar.



"Jack, the Baby, and I."

Little Nora Thompson, Derwent, Ont., her baby brother, and dog, Jack.

To be sure, then, that your son will act, when he grows up, as a gentleman must, begin the training of him while he is still but a boy,—yes, before he has discarded his Fauntleroy collars.—You remember, do you not, what a darling, what a most perfect little gentleman "Little Lord Fauntleroy" was?

And now—just to refresh your memory—here is a list of the things that the boy must learn to do, that you must teach him to do, since upon you may rest, more than you may think, the responsibility for forming his manners. Of course he may learn much by observing when he begins to go out as a young man; but then, he may not be observant. At any rate, why send him out handicapped by the necessity of constantly keeping on watch. Teach him how to act out of the house as well as inside of it. He will thank you for it every time he catches sight of a man who does not know how to act, and will feel thankful doubly, in his heart of hearts, that his own manners, at least, can throw no discreditable reflection upon his mother or his home.

Manners do not count for everything, but they count for much. It is just as easy to act nicely as to act boorishly, then why should not the better path be taken?

But we have wandered from the list: Some young men seem to be in doubt as to when they should raise their hats.—And, just here, the hat should be politely "raised" from the head, not taken off with a flourish, nor merely pointed at, as is the custom of some well-meaning but badly instructed youths. Most young men nowadays understand that they are expected to raise their hats when recognizing an acquaintance, whether the acquaintance be a lady, or a man who is older or to whom deference should be shown. Beyond this, however, there seems to exist some confusion? May this set the matter clear: (1) A man should invariably raise his hat, if walking with a friend, whether man or

whenever it is impossible that they should walk side by side, except in such cases as may make it necessary to reverse the rule, for the sake of protecting those whom he is escorting. For instance, in a very close crowd he may walk ahead to make the way easier for the lady, who then follows him closely.

When entering any public place of meeting with a woman, the man escorting her should let her follow the usher, he coming last. If there are no ushers and it is necessary to find a seat, he should go first.

A man should remember that it is very vulgar to talk or laugh loudly, or to do anything that is obtrusive in a public place. If he wishes to express his pleasure in regard to any part of a programme, he should clap his hands gently, but never stamp his feet on the floor or act boisterously in any way. A man invariably sits on the aisle side in church or theatre.

When walking on a sidewalk with a woman the man, as a rule, keeps to the outside. When walking with two women he observes the same rule; he should never take up a proud position between the two, as though he considered it an honor for the women to walk close to him.

It is not necessary, in those days of bright street-lighting, that a man should offer his arm to a woman, unless she be very old or an invalid. To walk arm-in-arm is considered rather bad form in America.

If a man wishes to send a gift to a woman to whom he is not engaged, he is limited, if he wishes to be quite correct, to flowers, books, candy, and music.

In going up-stairs, a man should walk beside a woman. If the stairs be too narrow, most authorities on etiquette hold that he should precede her, thus taking an exception to the almost invariable rule "women first."

Teach boys that they must not wear their hats or caps in the house, also that

The Ingle Nook.

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

Take a Holiday.

Dear Ingle Nook Friends,—While sitting here trying to think of something seasonable that might do for the topic of our Ingle Nook introductory chat to-day, my thoughts flew, quite of themselves, to anticipation of the fortnight's holiday that I expect to enjoy before long. I am not planning for any wonderful trip this year; the greater part of the two weeks will be spent just wandering about old scenes, sitting under the old trees about which I played as a child, loitering by old brooks over whose stones I once waded barefoot,—best of all, chattering with old friends, fewer each year, for the lure of the West has called many, and others have gone on a still longer journey.

But it will be a peaceful, restful and altogether pleasant holiday, I hope, a change from the four walls of a tiny room and an outlook upon roofs and yet more roofs, with never a tree in sight, and never a bird save the ubiquitous English sparrow, which, somehow, I never can learn to like,—it is so mussy, and has such a disagreeable chirp, and is so very officious in driving away our native birds from its vicinity. I have heard "Old Country" folk express affection for it, and perhaps this is not to be wondered at,—to them there are old home associations bound up with the saucy little fellow; but I always feel sure that if those same folk stay long enough in this country to feel at home here, and study our American birds

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enough to be really acquainted with them, they will understand why we resent their being driven away by any aggressive stranger.

The music of them!—our own white-throats, and meadow-larks, and bobolinks, and hermit thrushes, and song-sparrows, and thistle-birds, and swallows, and cat-birds, and warblers by the score. I hope you know at least a few of these both by song and by appearance; to be able to recognize them by name makes them seem so much more like old friends. Just here, I was fortunate enough to hear, last winter, a lecture by the most noted bird-lover in Western Ontario. He had spent some months of the preceding summer studying the birds of the Old Country, and he said this, that although, because of their numbers, there appear to be more varieties of birds there, there are not really nearly so many species as in Canada, nor are the individual bird-songs, as a rule, nearly so sweet. Our native American birds, like our native flowers, are, almost invariably, shy and retiring. Before the onrush of civilization the very sweetest and daintiest of them, the shy wood-thrush, the bell-voiced white throat, shrink, with the fragile hepatica and timid wood-violet, to the few haunts still spared them by the axe of the woodman and the plowshare of the farmer; but there, if you know the wood-secrets, they are ready to give you their own sweet welcome. Learn to sit still and use your eyes and the most retiring of the wood-birds will draw near to you; learn to refrain from pulling the wild-flowers, and still more and more of them will lift their sweet faces to greet you in the coming years. I never can understand the mania that some people seem to have for tearing up the wild-flowers wholesale. Home they come, with great armfuls of limp, bedraggled blossoms from which the beauty has all gone, and which, even were they not wilted, would need the setting of "wood-land and sky" to give them their true charm. Next day out goes the whole collection on to the dump, and that is the end of it,—so many flowers just wasted, so many the fewer seeds left to grow up into new beauty in the woodland glades the next year.

Why would it not have been enough to enjoy the flowers where they grew, and to pluck say just one tiny spray as a memento of the pleasant ramble? Why do people eternally need to "grab, grab, grab"—for one can call it nothing else. Our native flowers are disappearing from the face of the earth just because of this selfishness—in many places they have gone never to return. Unless there be a change soon we shall have no hepaticas, no foam-flowers, no cardinal flowers, no dicentras ("ladies and gentlemen"), no aquilegias ("columbines"), no native orchids,—nothing but blue-weed and ox-eye daisies, and "Canada" thistles, and a score more of such plants, coarser, more aggressive, all foreigners; these we shall, no doubt, have in plenty, notwithstanding the strenuous efforts taken to get rid of them.

But I surely started out with the intention of speaking of holidays, and begging you, for your own sake, to take one now and again. I have a dear friend, an artist, who seems to be obsessed with a mania for working all the time. She often looks tired, so tired. I am sure, quite sure, that she would be the gainer could she be persuaded to let things go, once in a while, and just drift, but that is the problem—how to convince her of the fact. And how very many housewives there are who are just like her in this respect. Everything must be "done up" to the last stitch and speck of dust, not the slightest detail must be neglected,—and so the holiday never comes.

Dear friends, even railway engines have to be "rested" occasionally, then how can the fine, complicated mechanism of the human body go on eternally without change or rest? It has been proven by educationists that students do better work on the whole if given frequent intervals of absolute rest or play; don't you think it only reasonable to conclude that the same may be true of the housewife? At any rate the earth will still turn if some little detail of the housework be postponed for a day or a week. As a very sensible little woman whom I know once remarked: "The nice thing about housekeeping is that if you can't get a thing done one day you can do it the next; it doesn't really matter."

System is all very well—one can't get along without it, to a certain extent, but there is such a thing as becoming a slave to it,—and it is very foolish to become a slave to anything. By all means have system, but don't forget to keep it elastic enough to be stretched on occasion,—elastic enough to give you some liberty. If you don't the chances are that you may become more and more narrow instead of more and more broad-minded, as you should be as you grow older. Don't keep in the rut; it grows deeper with constant wear.

* * * * *

In the winter leave the family mending, which you usually do on Wednesday night, until Thursday night, in order that you may attend that lecture or concert; the mending will keep, but the lecture will not. In summer,—now we are coming to it!—At no time in the year should system be kept as elastic as during the summer.

It is going to be dreadfully hot to-day, and the kitchen will be like an oven. Moreover, this is wash-day, Monday. But—John is working in the back-field to-day, near the woods; to-morrow he will be through there and will be in the hayfield near the house. . . . Now, why not "let the washing go" until to-morrow and bring a bit of change into the programme?—The house is mussy after Sunday, too? Let it go; the earth will still turn. Pack up a big basket with good things,—lettuce from the garden, a potato salad, the cold meat and other odds and ends left over from Sunday. Let little Jack help you to carry the basket, give Ted the tea-kettle, and Mollie something else,—then off you go to the woods. Do you think John will enjoy his dinner the less out there under the trees? Do you think the children would be happier at home?

Don't stew over the held-over washing. Lie on your back and look up into the green depths of the ten thousand leaves; listen to the birdsongs; let Mollie set the table on papers—there will be few dishes to wash—and let your eyes and soul be filled with the pretty picture little Jack makes as he builds a crackling fire between stones and sets the kettle thereon to boil. Don't be surprised if he says, "Camping out is jolly, isn't it, mother?" Just try it.—If you don't work the better on Tuesday because of the little rest and outing, I am a false prophet.

* * * * *

There will be the Sunday-school picnic, and perhaps another picnic or two down by the beach, and an invitation to spend a day with a friend, and perhaps an opportunity to take a trip to Toronto exhibition. "Make time" for them all, if you can. Just forget things, and give yourself up to the pure joy of living once in a while. Keeping too much to one's self makes one "queer," as often as not; don't try it. Don't be foolish and run all to pleasure-getting, but take the chance for a change when you reasonably can. You will go back, then, to the heavier things of life, and do them all the better for the variation.

The Canning Season.

The principles underlying the process of canning, whether of vegetables or fruit, are, as you know: (1) To kill all bacteria and yeasts that might multiply in the cans and so cause putrefaction or fermentation. (2) To seal the cans so tightly that no germs can enter from the air without.

The bacteria within the fruit or vegetables are killed by the intense heat of boiling, although vegetables must, as a rule, be boiled much longer than fruit; those clinging to the cans or sealers must be killed by sterilizing the vessels. Fill the sterilized sealers while still hot with boiling-hot fruit, piling it over the top so that no air spaces may be left, put on the sterilized lids and rims (sealers whose tops snap down, are still better), then when the jars are cool set them away in a cool place, and the chances are that you will have no spoiled fruit to worry over.

Instead of stewing the fruit first, you may put it in the hot jars, pour hot syrup over, then, leaving the tops (not rims) on loosely, boil the jars in a kettle or boiler of water until the fruit is sufficiently cooked,—a method that preserves the shape of the fruit perfect-

ly. Of course, in this case you must set the jars in a rack, or separate them by padding of hay or excelsior so that they cannot knock against one another and break. When the fruit is cooked, fill up each jar with hot fruit from one of the jars, put on the tops again, and screw down the rims.

If you choose, instead of putting the jars in a boiler of water, you may place them in the oven and bake the fruit,—a method much liked by those who employ it. Pack the fruit into the jars, fill up with hot syrup, set them in a pan containing about two inches of water, put on the tops loosely (just the glass tops), and set them all in the oven, which should be just moderately hot. When cooked—in from 10 to 20 minutes, depending on the kind of fruit—remove, fill up each jar from one of the jars, and screw down the tops. Set the jars on a folded towel to cool gradually, and tighten the tops before setting them away.

In short, the method is immaterial, so far as the "keeping" qualities of the fruit are concerned,—the principle in each case is the same—the applying of sufficient heat to kill all germs,—sealing to be done while the fruit is boiling hot.

Whatever the method employed, the rubbers should be dipped in boiling water before putting them on the sealers.

When canning, just enough sugar should be added to sweeten the fruit nicely for the table, but if one chooses, one may omit it altogether until the time comes for using the fruit. The small quantity needed for "canned fruit" does not help the preservation in the least, and is only put in at first for convenience.

Yeasts and bacteria, on the other hand, find it impossible to develop in rich syrups, hence, jams, jellies, marmalades, and rich preserves, keep well without sealing, the only precaution needed being to cover the top with something to prevent the growth of moulds, e. g., melted paraffine for jams, jellies, and marmalades, rounds of paper dipped in brandy for preserve.

An expert in canning, by the way, says that the strongly-flavored fruits, such as cherries and plums, are much more delicate if treated as follows: Pack the fruit into sealers, fill with cold water, set in a boiler of water and bring to a boil. Now pour off the liquid and use it for making bottled fruit juice, refill the sealers with a syrup and water, and finish cooking. The cherry juice poured off may be mixed with currant juice, half and half, and made into jelly.

Some hold that preserve made without cooking retains better the flavor of the fruit than that which has been boiled. The method is this: Crush the fruit, mix well with sugar, using a pound of sugar for each pound of fruit, let stand over night in a crock or granite vessel, closely covered, and put into sterilized jars next morning. This method is very good for shredded pineapple, strawberries, raspberries, peach pulp, etc.

Sterilizing.—Before sterilizing all sealers should be thoroughly washed with soap or washing-soda and water, then well rinsed. To sterilize, simply place them in a boiler of cold water, placing them on a rack or with bits of something clean between to keep them from jarring, let come to a boil, and boil steadily for fifteen or twenty minutes.

Slip the glass tops and rims in beside the sealers.

CANNING TABLE.

[Time to boil, with amount of sugar to a quart jar.]
 Cherries, 5 minutes, 6 ounces sugar.
 Raspberries, 6 minutes, 6 ounces sugar.
 Plums, 10 minutes, 8 ounces sugar.
 Strawberries, 8 minutes, 8 ounces sugar.
 Rhubarb, 10 minutes, 10 ounces sugar.
 Grapes, 10 minutes, 8 ounces sugar.
 Peaches, whole, 15 minutes, 4 to 6 ounces sugar.
 Currants, 6 minutes, 8 ounces sugar.
 Tomatoes, 25 minutes.
 Extending the time given will do no harm. The minimum is given.

EXTRA HINTS ON CANNING.

It is a risk to use rubbers a second time. The cost of new ones is small, and it is better to be sure than sorry. Never use iron, tin, or brass, when doing up fruit or pickles, as the acid may combine with the metal in a dangerous way. Use graniteware or enameled vessels. When filling jars with hot fruit, place



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them on a folded towel wrung out of hot water. This helps to prevent breakage.

When jars have cooled, rescrow down the covers, as the glass contracts in cooling. Keep fruit in a cool and dry but not damp place.

A syrup for Preserve.—Dissolve 2 lbs. sugar in $\frac{1}{2}$ pint water. Boil a few minutes, skimming until clear. Add the beaten white of an egg to clarify. Boil quickly and skim well.

OUR CHEERY SCOTCH LASSIE.

Dear Junia,—Here comes the wee Scotch lassie once more for a little chat, as we are all delighted with our paper, and can hardly wait for each paper's time to come, even to the little folk, all cling to "The Farmer's Advocate" to look at. I am sending you a few recipes, which might help some poor little girl starting housekeeping, or at least exchanging her work from school-teaching to housekeeping, as I did, and trying to renovate a little cabin for some little chap.

Cottage Pudding.—One cup of (brown or white) sugar, 1 cup sweet milk, 1 egg, 3 tablespoons of butter or drippings, 1 teaspoon soda, 2 teaspoons cream of tartar, 1 teaspoon vanilla or lemon, flour to make a batter. Cook in a hot oven. (You can slice a few apples into center of pudding, that is, put a layer of batter, then your apples or stewed rhubarb, and then cover with batter. This is a delightful little pudding for tea. Serve with sauce or sweetened cream, when hot.

Spice Cake.—One cup brown sugar, 1 egg, butter size of an egg, 1 cup sweet milk, 1 teaspoon of each of the following, mixed in flour: soda, vanilla, lemon, cloves, allspice, ginger, cinnamon, 2 teaspoons cream of tartar, 1 cup raisins, flour to make a stiff batter. I often put in a cup of currants also, and it will take the place of a fruit cake.

I see that one of our readers has bother keeping on her paper on her walls. If she would try giving her wall a sizing of glue first, then make cold-water paste, just cold water and flour, and wet the wall with paste, then her paper also, she'll find a perfect job, as she can paper without a wrinkle, and paper will not crack same as if boiled paste was used, and her paper will stick fast.

Hoping I have not taken up too much of your valuable time and paper, I am yours, sincerely,

WEE SCOTCH LASSIE JEAN.

P.S.—Would like if any of the Ingle Nook readers had a pattern of crochet quilt, would she mind sending it to me, or to your paper, so I could get it. I have one pattern; would like another.

LETTER FROM HURON COUNTY.

Dear Editor,—I was reading a letter written by M. S. in May 23rd issue of your valuable paper, and I could not help answering it.

I should like to know what part of Ontario M. S. lived in. I am sure she could not have been much out in the world, as she is so hard on the farmers.

I, too, have lived all my life on a farm, and I like it fine. Where I live we have the telephone in the house, and the mail comes to our door, and our houses are furnished as nicely as any city houses. There are very few houses for miles and miles around here which have not telephones, musical instruments, and also water installed in their houses, and quite a number have nice lawns and flowers around their houses. I have yet to find a kitchen floor with cracks in it a half an inch wide, and where the woman has to carry her washing machine up a flight of stairs.

The farmers are not such a dirty class of people as they were pictured in M. S.'s letter; they are as clean as any other people, that is if they live in a civilized country.

I have no doubt fifty or sixty years ago the farmers were not so prosperous, but nowadays farmers are up-to-date business men, and it is not fair to say they are selfish, for, as a rule, you will see both houses and barns in splendid condition, and a great many labor-saving devices for man and woman. I consider I am far ahead of the city people, living a happy farmer life in Huron county.

As for "Western Lassie" saying we people were unsociable, and blaming us for sending their family out West, I would say, if people are sociable, they will

they will soon make a host of friends without going West to find them.

HURON CO. CONTRIBUTOR.

CUCUMBER PICKLES, BUTTERMILK PIE, CITRON PRESERVES, CANNING TOMATOES.

Dear Junia,—I, too, have come for information. Would you tell me how to preserve citron? Also, can it be cured, I mean dried, so that it may be used in cake? I would also like to know how to can ripe tomatoes for soups, etc. I will write two recipes which I use, and which I consider very good.

Ripe Cucumber Pickle.—Pare and scrape the insides from seven large, ripe cucumbers, cover with water to which has been added a tablespoon of salt, and soak over night. In the morning, take 1 quart vinegar, 1 lb. white sugar, 1 tablespoon each of cloves, cassia, and pepper; add the drained cucumbers, and just boil for about two minutes. Bottle.

Buttermilk Pie.—One cup raisins, 1 cup sugar, 1 cup buttermilk, yolk of 2 eggs. Bake in one layer like custard pie. Beat whites of eggs with 1 spoon sugar, and add just as pie is about done. Brown lightly.

Now, if your patience is not exhausted, would you tell me where to put an initial on pillow-slips? The edges are worked in button-hole stitch, and I wanted an initial.

Col. Co., N. S.

I liked the preserved citron, as my mother used to make it, better than any other that I have ever tasted. To make it, slice the citron, remove the seeds, pare off the rind, cut the remainder into cubes, and put into a granite kettle after weighing. Allow 1 lb. granulated sugar for each lb. citron, put the sugar over the citron and let stand over night. Next day cook slowly until the citron is clear and the syrup thick and honey-like. You may add slices of lemon, or a few bits of ginger-root if you choose.

If this seems too rich, try the following: Prepare the citron as above and allow the same proportion of sugar. Make a syrup of the sugar and some water,—say, 1 cup water to each pound of sugar. When this is boiling, add the citron and boil until done, adding lemon or preserved ginger, or ginger-root. The syrup is not so thick as in the first recipe, hence the preserve is not so rich.

I have not been fortunate enough to find a recipe for candied citron. Perhaps one of our readers can send one.

Place the initial on the pillow-slip at the center of the end, three or four inches in from the button-holed edge.

I almost forgot the tomatoes.—Tomatoes for soups, etc., are very easily canned. Choose perfectly sound, ripe ones, and peel them; the easiest way to do this is to put them in a wire basket or colander to which a handle has been fixed, and dip them into boiling water, then peel quickly with a sharp knife—the skins will almost rub off. Now cut the tomatoes in bits and stew them in their own juice in a granite kettle for 25 minutes. Less time may do, but it is better to be safe. Add salt and pepper (white) to season. While boiling hot, put into sterilized jars prepared as in the article above on "Canning," being careful to heap the tomatoes above the top of each sealer before pressing the lid down. Screw the lids down at once.

This is the easiest method, but others will be given later, in an article on canning vegetables.

By the way, a writer for an American magazine states that she strains the tomatoes after stewing, reheats the juice, and then seals it. She finds, she says, that this keeps better than tomatoes canned the ordinary way. Personally, I have never had any trouble with canned tomatoes,—never a can spoiled. I was always careful, of course, to use perfectly new rubbers, and to sterilize the jars very thoroughly.

The Scrap Bag.

ROMPERS.

Don't worry over ironing pinafores, and dresses, and underwear, for the tiny tots during hot weather. Make rompers of cotton crepe or seersucker (which do not need ironing) for the babies of three years and under, whether boys or girls; and for the little boys who are not yet in their dark bloomers to

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be worn instead of undershirts and drawers by the little girls who have passed romper stage. These garments may look odd just at first, but they are really just the right thing for hot-weather play-days; a fact that many city women have found out long ago. The little ones are so comfortable, too, when not over-burdened with clothes. Last summer I used to pass, every day, a lawn upon which played the two children of a prominent physician. Not a tack had they on, apparently, but rompers, sun hats, and sandals, and never did children look sweeter, happier, or cooler. The fashion is one that country folk would do well to follow.

IRONING IN HOT WEATHER.

Turn an old pan over the irons and less fire will be required to keep them hot.

TO WASH A SWEATER.

To wash a white wool sweater.—Shake the dust out, then drop the sweater in slightly warm soft water and rinse. Next put it in suds made with white soap and borax, and wash well with the hands. If there are any spots that are much soiled, rub soap on the hands and rub the spots, but do not rub soap directly on the sweater. Rinse through two or three waters, always using soft warm water; a little bluing may be added to the last one if desired. Press the water out, place the sweater in a pillow-case, and suspend somewhere for three days, then put on a sheet in the sunshine to finish drying.

POWDER FOR PERSPIRING FEET.

Powdered orris root, 1 ounce; boric acid (powdered), 1 ounce; powdered starch, 1 ounce; powdered zinc oxide, 1 ounce; oil of eucalyptus, 1 drachm. Mix together.

MOSQUITOES.

To banish mosquitoes from a room, close it and burn some Persian insect powder, leaving it to smoulder an hour or two. To mitigate the pain of mosquito bites, apply sweet spirits of nitre or spirits of camphor.

POISON IVY.

To cure poison ivy sores, apply at once a 1-per-cent. solution of potassium permanganate, hot. It may be necessary to bathe the poisoned portion in this for half an hour or more. If the skin is unusually thick, make the solution somewhat stronger.

Recipes in Season.

Cherry Salad.—Stem and pit a pound of perfect cherries, place a blanched almond in each, and set on the ice to chill. At serving time, arrange on a pad of freshly-picked cherry leaves, and dress with lemon juice and powdered sugar.

Cherry Cup.—Stew 1 quart cherries until soft and press them through a sieve. Sweeten and put over the fire in a granite pan. When the pulp boils up, thicken with 1 tablespoon cornstarch blended in a little cold water, and cook until creamy, then remove from the fire and allow to cool. When serving, put a few drops of lemon juice into each cup. This is nice with cake.

Cornstarch Trifle.—Fill a glass dish with slices of sponge cake with jam or jelly between each two. Now make a custard thus: Blend 1½ tablespoons cornstarch with 1 pint milk and boil for 8 minutes, stirring all the time. Take off the fire and stir in yolk of 1 egg and 1 tablespoon sugar. Cook for 2 minutes, then pour over the cake. Sprinkle chopped nuts over the top. Beat the white of the egg stiff with a little powdered sugar and pile roughly on top. Serve cold.

Sponge Cake.—Beat together 3 eggs and 1½ cups sugar; add ½ cup water and a pinch of salt, then beat in 1½ cups flour with which 1 teaspoon cream of tartar and ½ teaspoon soda have been sifted. Beat all well, and bake slowly.

Nut Cake.—Cream together 1 cup sugar and ½ cup butter; add 2 well-beaten eggs and ½ cup milk; beat, then beat in 2 cups flour sifted with 1 teaspoon cream of tartar and ½ teaspoon soda. Add 1 cup chopped and flavored nutmeats, and bake at once.

"The Farmer's Advocate" Fashions.



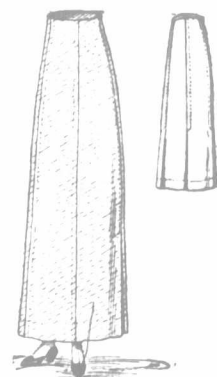
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BULLETIN 33

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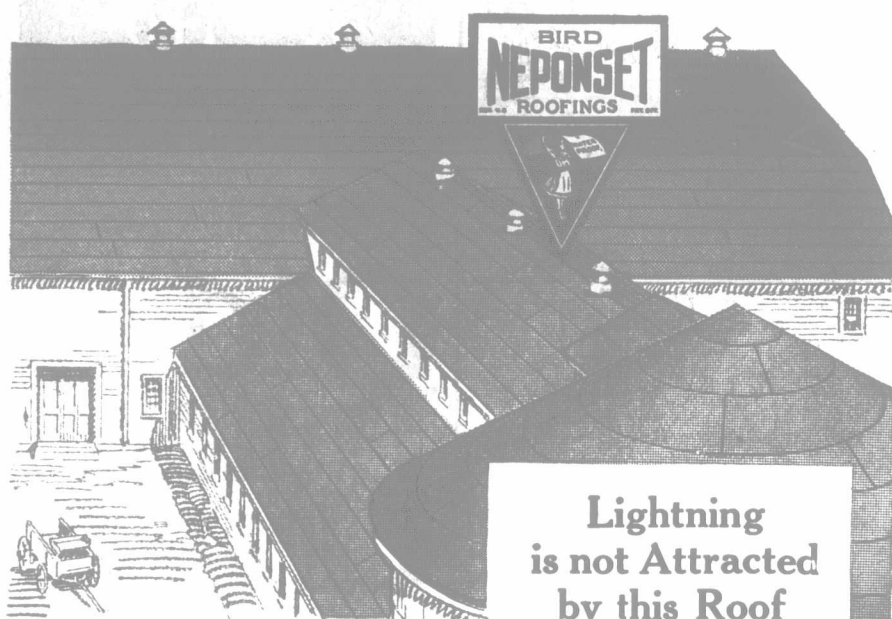
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(Continued from last week.)

CHAPTER XXVII.

On the Track.

Never for a moment did Marguerite Blakeney hesitate. The last sounds outside the "Chat Gris" had died away in the night. She had heard Desgas giving orders to his men, and then starting off towards the fort, to get a reinforcement of a dozen more men: six were not thought sufficient to capture the cunning Englishman, whose resourceful brain was even more dangerous than his valour and his strength.

Then a few minutes later she heard the Jew's husky voice again, evidently shouting to his nag, then the rumble of wheels and noise of a rickety cart bumping over the rough road.

Inside the inn, everything was still. Brogard and his wife, terrified of Chauvelin, had given no sign of life; they hoped to be forgotten, and at any rate to remain unperceived: Marguerite could not even hear their usual volleys of muttered oaths.

She waited a moment or two longer, then she quietly slipped down the broken stairs, wrapped her dark cloak closely round her and slipped out of the inn.

The night was fairly dark, sufficiently so at any rate to hide her dark figure from view, whilst her keen ears kept count of the sound of the cart going on ahead. She hoped by keeping well within the shadow of the ditches which lined the road that she would not be seen by Desgas' men when they approached, or by the patrols, which she concluded were still on duty.

Thus she started to do this, the last stage of her weary journey, alone, at night, and on foot. Nearly three leagues to Miquelon, and then on to the Pere Blanchard's hut, wherever that fatal spot might be, probably over rough roads: she cared not.

The Jew's nag could not get on very fast, and though she was weary with mental fatigue and nerve strain, she knew that she could easily keep up with it on

a hilly road, where the poor beast, who was sure to be half-starved, would have to be allowed long and frequent rests. The road lay some distance from the sea, bordered on either side by shrubs and stunted trees, sparsely covered with meagre foliage, all turning away from the North, with their branches looking in the semi-darkness like stiff, ghostly hair, blown by a perpetual wind.

Fortunately, the moon showed no desire to peep between the clouds, and Marguerite, hugging the edge of the road, and keeping close to the low line of shrubs, was fairly safe from view. Everything around her was so still: only from afar, very far away, there came like a long, soft moan, the sound of the distant sea.

The air was keen and full of brine; after that enforced period of inactivity, inside the evil-smelling, squalid inn, Marguerite would have enjoyed the sweet scent of this autumnal night, and the distant melancholy rumble of the waves: she would have revelled in the calm and stillness of this lonely spot, a calm, broken only at intervals by the strident and mournful cry of some distant gull, and by the creaking of the wheels some way down the road: she would have loved the cool atmosphere, the peaceful immensity of Nature, in this lonely part of the coast: but her heart was too full of cruel foreboding, of a great ache and longing for a being who had become infinitely dear to her.

Her feet slipped on the grassy bank, for she thought it safest not to walk near the center of the road, and she found it difficult to keep up a sharp pace along the muddy incline. She even thought it best not to keep too near to the cart: everything was so still that the rumble of the wheels could not fail to be a safe guide.

The loneliness was absolute. Already the few dim lights of Calais lay far behind, and on this road there was not a sign of human habitation, not even the hut of a fisherman or of a woodcutter anywhere near; far away on her right was the edge of the cliff, below it the rough beach, against which the incoming tide was dashing itself with its constant, distant murmur. And ahead the rumble of the wheels, bearing an implacable enemy to his triumph.

Marguerite wondered at what particular spot on this lonely coast Percy could be at this moment. Not very far surely, for he had had less than a quarter of an hour's start of Chauvelin. She wondered if he knew, that in this cool, ocean-scented bit of France, there lurked many spies, all eager to sight his tall figure, to track him to where his unsuspecting friends waited for him, and then, to close the net over him and them.

Chauvelin, on ahead, jolted and jostled in the Jew's vehicle, was nursing comfortable thoughts. He rubbed his hands together with content, as he thought of the web which he had woven, and through which that ubiquitous and daring Englishman could not hope to escape. As the time went on, and the old Jew drove him leisurely but surely along the dark road, he felt more and more eager for the grand finale of this exciting chase after the mysterious Scarlet Pimpernel.

The capture of the audacious plotter would be the finest leaf in Citizen Chauvelin's wreath of glory. Caught, red-handed on the spot, in the very act of aiding and abetting the traitors against the Republic of France, the Englishman could claim no protection from his own country. Chauvelin, had, in any case, fully made up his mind that all intervention should come too late.

Never for a moment did the slightest remorse enter his heart as to the terrible position in which he had placed the unfortunate wife, who had unconsciously betrayed her husband. As a matter of fact, Chauvelin had ceased even to think of her: she had been a useful tool, that was all.

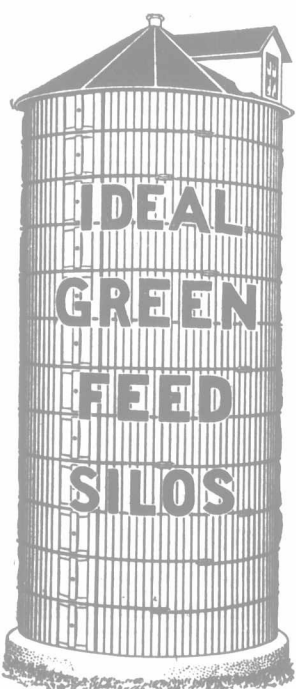
The Jew's lean nag did little more than walk. She was going along at a slow jog trot, and her driver had to give her long and frequent halts.

"Are we a long way yet from Miquelon?" asked Chauvelin from time to time.

"Not very far, your Honour," was the uniform placid reply.

"We have not yet come across your friend and mine, lying in a heap in the roadway," was Chauvelin's sarcastic comment.

"Patience, noble Excellency," rejoined



Are Sweeping the Silo Field

Orders and inquiries are coming in faster than ever before.

Canadian dairymen are coming to realize the advantages of the Silo and appreciate just how much better the **Ideal Green Feed Silo** is than any other make.

Here are some of the points of superiority which make these Silos so popular:

Material: Canadian Spruce especially selected for our own use.

All lumber is saturated with a solution which prevents rot and decay and reduces the tendency of the staves to swell or shrink and adds two or three times to the life of the Silo.

Hooped with heavy round iron hoops every 30 inches apart.

Only malleable iron lugs are used.

All doors on the Ideal Green Feed Silos are self-sealing.

Doors are only 6 inches apart, can be removed instantly and are always air tight. The roof is self-supporting; built without rafters.

Dormer window facilitates filling Silo clear to the top. All sizes furnished.

Write for Our New Silo Catalogue To-Day.

DeLaval Dairy Supply Co., Ltd.

LARGEST AND OLDEST SILO MANUFACTURERS IN DOMINION.

173 William Street, MONTREAL
14 Princess Street, WINNIPEG

Junior Clerks Wanted FOR A CANADIAN BANK

Young men 16 to 19 years of age, and of good character wanted. Prefer those who have had a year or more in high school. Salary at start \$300. Increases yearly if satisfactory. Living allowance to junior clerks in large cities away from home \$100. Living allowance to all appointed to branches west of Lake Superior \$200.

Apply in own handwriting, to Inspector, Room 1,002, Lumsden Building, Toronto.

the son of Moses, "they are ahead of us. I can see the imprint of the cart wheels, driven by that traitor, that son of the Amalekite."

"You are sure of the road?"

"As sure as I am of the presence of those ten gold pieces in the noble Excellency's pockets, which I trust will presently be mine."

"As soon as I have shaken hands with my friend the tall stranger they will certainly be yours."

"Hark, what was that?" said the Jew suddenly.

Through the stillness, which had been absolute, there could now be heard distinctly the sound of horses' hoofs on the muddy road.

"They are soldiers," he added in an awed whisper.

"Stop a moment, I want to hear," said Chauvelin.

Marguerite had also heard the sound of galloping hoofs coming towards the cart and towards herself. For some time she had been on the alert thinking that Desgas and his squad would soon overtake them, but these came from the opposite direction, presumably from Miquelon. The darkness lent her sufficient cover. She had perceived that the cart had stopped, and with utmost caution, treading noiselessly on the soft road, she crept a little nearer.

Her heart was beating fast; she was trembling in every limb; already she had guessed what news these mounted men would bring: "Every stranger on these roads or on the beach must be shadowed, especially if he be tall or stoops as if he would disguise his height; when sighted a mounted messenger must at once ride back and report." Those had been Chauvelin's orders. Had then the tall stranger been sighted, and was this the mounted messenger, come to bring the great news, that the hunted hare had run its head into the noose at last?

Marguerite, realizing that the cart had come to a standstill, managed to slip nearer to it in the darkness; she crept close up, hoping to get within earshot, to hear what the messenger had to say.

She heard the quick words of challenge—

"Liberte, Fraternite, Egalite!" then Chauvelin's quick query:—

"What news?"

Two men on horseback had halted beside the vehicle.

Marguerite could see them silhouetted against the midnight sky. She could hear their voices, and the snorting of their horses, and now, behind her, some little distance off, the regular and measured tread of a body of advancing men: Desgas and his soldiers.

There had been a long pause, during which, no doubt, Chauvelin satisfied the men as to his identity, for presently questions and answers followed each other in quick succession.

"You have seen the stranger?" asked Chauvelin, eagerly.

"No, citizen, we have seen no tall stranger; we came by the edge of the cliff."

"Then?"

"Less than a quarter of a league beyond Miquelon, we came across a rough construction of wood, which looked like the hut of a fisherman, where he might keep his tools and nets. When we first sighted it, it seemed to be empty, and at first we thought that there was nothing suspicious about it until we saw some smoke issuing through an aperture at the side. I dismounted and crept close to it. It was then empty, but in one corner of the hut there was a charcoal fire and a couple of stools were also in the hut. I consulted with my comrades, and we decided that they should take cover with the horses, well out of sight, and that I should remain on the watch, which I did."

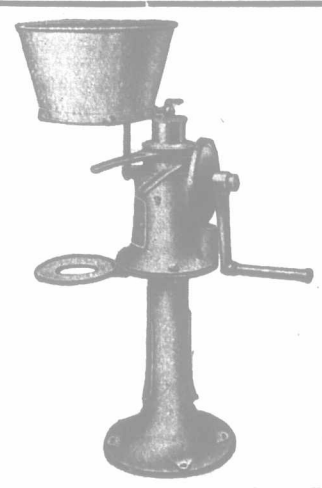
"Well! and did you see anything?"

"About half an hour later I heard voices, citizen, and presently two men came along towards the edge of the cliff; they seemed to me to have come from the Lille Road. One was young, the other quite old. They were talking in a whisper to one another, and I could not hear what they said."

One was young, the other quite old. Marguerite's aching heart almost stopped beating as she listened: was the young one Armand?—her brother?—and the old one de Tournay—were they the two fugitives who, unconsciously, were used as a decoy, to entrap their fearless and noble rescuer?

THE "PREMIER" CREAM SEPARATOR

The World's Latest and Best. The Machine that Does the Work.



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"PREMIER"

before you buy a Cream Separator. Turn it, wash it, use it, then decide if IT SKIMS CLEAN AND PLEASES YOU, AND IS WORTH THE PRICE.

Book of users' letters sent on request.

THE "PREMIER" WILL BE SENT TO YOUR FARM FOR THE ASKING TO PROVE ITS VALUE.

The Simplest Construction Known. Our Guarantee Goes with Each Machine.

The "Premier" Cream Separator Company

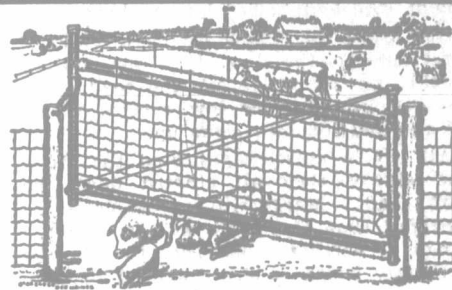
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199 Princess St. WINNIPEG, MAN.

147 Prince William St. ST. JOHN, N. B.

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HAVE gates that hang true, open and shut easily, lift over snow in winter; that keep back breachy stock; that will not burn, rot, blow down, sag, bend or break; that last a lifetime; that are guaranteed against all defects. In short, have



Clay Gates are made to many styles and sizes—a gate for every purpose. They can be raised to let small stock through, yet keep back cattle and horses.

Clay Steel Farm Gates

on your farm. Made of high carbon steel tubing of large diameter and heavy wire fabric. May cost more, but worth more.

Clay Gates are sent for 60 days' free trial, that you may prove them before buying. 20,000 sold last year on these terms. Send to-day for illustrated price list.



I guarantee every Clay Gate to be free from defects in material or workmanship. I will replace free of cost any parts, or the entire gate, giving out for such reasons.
H. RALPH STEELE, Manager.

CANADIAN GATE CO., LTD., 34 Morris St., GUELPH, ONT.

"The two men presently went into the hut," continued the soldier, whilst Marguerite's aching nerves seemed to catch the sound of Chauvelin's triumphant chuckle, "and I crept nearer to it then. The hut is very roughly built, and I caught snatches of their conversation."

"Yes?—Quick!—What did you hear?"

"The old man asked the young one if he were sure that was the right place. 'Oh, yes,' he replied, 'tis the place sure enough,' and by the light of the charcoal fire he showed to his companion a paper which he carried. 'Here is the plan,' he said, 'which he gave me before I left London. We were to adhere strictly to that plan, unless I had contrary orders, and I have had none. Here is the road we followed, see . . . here the fork . . . here we cut across the St. Martin Road . . . and here is the footpath which brought us to the edge of the cliff.' I must have made a slight noise then, for the young man came to the door of the hut and peered anxiously all round him. When he again joined his companion they whispered so low that I could no longer hear them."

"Well?—and?" asked Chauvelin, impatiently.

"There were six of us altogether patrolling that part of the beach, so we consulted together and thought it best that four should remain behind and keep the hut in sight, and I and my comrade rode back at once to make report of what we had seen."

"You saw nothing of the tall stranger?"

"Nothing, citizen."

"If your comrades see him, what would they do?"

"Not lose sight of him for a moment, and if he showed signs of escape, or any boat came in sight, they would close in on him, and, if necessary, they would shoot: the firing would bring the rest of the patrol to the spot. In any case they would not let the stranger go."

"Aye! but I did not want the stranger hurt—not just yet," murmured Chauvelin, savagely, "but there, you've done your best. The Fates grant that I may not be too late . . ."

"We met half a dozen men just now

who have been patrolling this road for several hours."

"Well?"
"They have seen no stranger either."
"Yet he is on ahead somewhere in a cart, or else . . . Here! there is not a moment to lose. How far is that hut from here?"

"About a couple of leagues, citizen."
"You can find it again?—at once?—without hesitation?"

"I have absolutely no doubt, citizen."
"The footpath to the edge of the cliff?—Even in the dark?"

"It is not a dark night, citizen, and I know I can find my way," repeated the soldier firmly.

"Fall in behind then. Let your comrade take both your horses back to Calais. You won't want them. Keep beside the cart, and direct the Jew to drive straight ahead; then stop him, within a quarter of a league of the footpath; see that he takes the most direct road."

Whilst Chauvelin spoke, Desgas and his men were fast approaching, and Marguerite could hear their footsteps within a hundred yards behind her now. She thought it unsafe to stay where she was, and unnecessary too, as she had heard enough. She seemed suddenly to have lost all faculty even for suffering: her heart, her nerves, her brain seemed to have become numb after all these hours of ceaseless anguish, culminating in this awful despair.

For now there was absolutely not the faintest hope. Within two short leagues of this spot, the fugitives were waiting for their brave deliverer. He was on his way, somewhere on this lonely road, and presently he would join them; then the well-laid trap would close; two dozen men, led by one, whose hatred was as deadly as his cunning was malicious, would close round the small band of fugitives and their daring leader. They would all be captured. Armand, according to Chauvelin's pledged word, would be restored to her, but her husband, Percy, whom with every breath she drew she seemed to love and worship more and more, he would fall into the hands of a remorseless enemy, who had no pity for a brave heart, no admiration for the courage of a noble soul, who would show nothing but hatred for the cunning antagonist who had baffled him so long.

She heard the soldier giving a few brief directions to the Jew, then she retired quickly to the edge of the road, and covered behind some low shrubs, whilst Desgas and his men came up.

All fell in noiselessly behind the cart, and slowly they all started down the dark road. Marguerite waited until she reckoned that they were well outside the range of earshot, then she, too, in the darkness, which suddenly seemed to have become more intense, crept noiselessly along.

(To be continued.)

News of the Week.

The dock strike in England has collapsed.

At Goderich, as at Niagara, the regiments in camp have been short of men.

The Legislature in Saskatchewan has been dissolved, and elections will be held on July 11th.

Two airmen met death in France on June 19th, through the collision of their biplanes during a mist.

A deputation of between six and seven hundred men from Northern Ontario, waited upon the Ontario Government on June 21st, to ask for the construction of good roads and more railways in the North country.

The Chinese Premier, Tang Shao-Yi, resigned on June 18th, giving as his reason discouragement over the evident want of confidence on the part of foreign Powers; later, the six great Powers, Great Britain, the United States, Germany, France, Russia, and Japan, agreed to the terms of the loan of \$300,000,000 asked by the Chinese Republic.

HAD DYSPEPSIA FOR TEN YEARS

COULD NOT KEEP ANYTHING ON HER STOMACH

Dyspepsia is caused by poor digestion, and to get rid of this terrible affliction, it is necessary to place the stomach in a good condition. For this purpose Burdock Blood Bitters has no equal.

Mrs. Norman A. MacLeod, Port Bevis, N.S., writes:—"For the last ten years I suffered dreadfully with dyspepsia, and I could not keep anything on my stomach. I tried several kinds of medicines, but none of them seemed to do me any good. At last a friend advised me to try Burdock Blood Bitters, which I did, and after using five bottles I was completely cured. I would advise any one troubled with stomach trouble to use B.B.B. I cannot recommend it too highly."

Burdock Blood Bitters is manufactured only by The T. Milburn Co., Limited, Toronto, Ont.



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.

EGGS—S.-O. White Leghorn, heavy layers and prize winners, 75c. per 15. A hatch guaranteed; \$3.50 per 100. Geo. D. Fletcher, Binkham, Ontario, Erin Sta.

JULY SALE—2,000 baby chicks; 10,000 hatching eggs; 500 yearling hens; 50 yearling males. Chicks, \$20.00 per 100; eggs, \$1.50 per 15. \$7.00 per 100; hens, \$1.50 to \$2.00 each; males, \$3.00 to \$5.00 each. B. P. Rocks, White Wyandottes, R. C. R. I. Reds and S.-O. White Leghorns. Write to-day for illustrated catalogue. L. R. Guild, Box 16, Rockwood, Ontario.

\$6.41 PER HEN—Write for our beautiful fully illustrated catalogue. Photos from life. B. P. Rocks, White Wyandottes, R. C. R. I. Reds, S.-O. White Leghorns. Eggs: \$1.50 per 15; \$2.75 per 30; \$7.00 per 100. L. R. Guild, Box 16, Rockwood, Ont.

SINGLE COMB BROWN LEGHORNS! Eggs for hatching, \$1.00 per 15. Bred from good laying strains.

WM. BARNET & SONS, LIVING SPRINGS Fergus station, Ont., G. T. R. and C. P. R.



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

TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

EXPERIENCED FARM HAND WANTED—Good wages to first-class man; no other need apply. W. P. Sparling, Anderson, Ont.

FARM FOR SALE—North half of Lot 1, Con. 2, Innishl, consisting of 100 acres, all cleared; first-class grain farm; soil, clay and clay loam, well fenced and watered; hip-roof bank barn, 46x92, with shed attached; frame house, good orchard; within one mile of Cookstown, where are 3 churches, good school and market. Terms to suit the purchaser. If not sold, will rent in the fall. Orlando Lewis, Box 31, Cookstown.

FARM FOR SALE—180 acres, 1st concession Delaware, 3 miles from Southwold Stn., 14 miles from London. Excellent grain and dairy farm; well watered; 6 acres apple orchard; brick house and suitable outbuildings. Apply: Joseph Weld, "Farmer's Advocate," London.

FARM FOR SALE—114 acres, being lot 4, Con. 7, Darlington; one of the best grain farms in the township; 1 1/2 miles from Village Tyrone, in which are school, church, post office, grist mill, blacksmith shop, grocery stores, etc.; 4 acres young orchard just starting to bear; 5 acres hard wood; good big farmhouse containing 12 rooms; barn 36x100 ft., with good stone stabling underneath; good driving-shed 24x40 ft.; henhouse, sheep-pen, all in good repair. Well watered, well fenced, clean and in good state of cultivation; no improvements to make. Plowing possession after harvest; full possession December 1st. Cheap for quick sale. Apply to John Noble, Tyrone; David Noble, Orono; or A. E. McLaughlin, barrister, Bowmanville, Ontario.

IMPROVED FARMS FOR SALE in the famous County of Wellington, near Ontario Agricultural College. Jones & Johnston, Guelph.

ONE HUNDRED AND TWENTY ACRES—Splendid buildings; convenient to city. Farm and crop must be sold. A bargain. D. Barlow, Guelph.

VANCOUVER ISLAND, BRITISH COLUMBIA, offers sunshiny, mild climate; good profits for men with small capital in fruit-growing, poultry, mixed farming, timber, manufacturing, fisheries, new towns. Good chances for the boys. Investments safe at 6 per cent. For reliable information, free booklets, write Vancouver Island Development League, Room A, 23 Broughton Street, Victoria, British Columbia.

WANTED—Cash paid for Military Land Grants in Northern Ontario. Please state price and location. Box 88, Brantford.

WANTED—An experienced girl for general housework; no washing. Wages, \$25.00 month. Write at once. Mrs. E. A. Wells, R. No. 1, Eden Bank Farm, Chilliwack, B.C.

WANTED—Position as farm manager. Two years' experience at O. A. College; ten years' experience in breeding and exhibiting Shorthorns, Clydesdales and Standard-bred horses; best of references. Box Y, "Farmer's Advocate," London, Ontario.

WANTED—By practical farmer and two sons, farm to run on shares, or would take position as farm manager. No objection to going West. Best of references. Apply: Box W, "Farmer's Advocate," London, Ont.

WANTED—Reliable man to work on farm. Permanent position if satisfactory. For further particulars apply with references to: J. W. Millar, Box 24, Burk's Falls.

150 OR 200 ACRE FARM FOR SALE—Lot 31, Con. 8, London Township. Well fenced; thorough drainage; good orchard. For particulars apply: Joseph Robson, Van-neck, Ontario.

Hay Tools, Litter & Feed Carriers, Stanchions, etc.

All our goods are guaranteed. Try them, you are running no risk.

R. DILLON & SON
South Oshawa, Ontario

PARK'S Milk Substitute For Calves

We would like to get the business attention of the readers of this journal to this genuinely first-class preparation.

We recognize that the object of every feeder is to get the best results at the least comparative cost.

Unless this Milk Substitute is given a trial, our efforts to meet these requirements will fail, to the extent of the neglect of each, to take advantage of the following offer, viz.: That we will fill the order of any responsible party on the condition that the article need not be paid for unless found satisfactory in every respect.

We have testimonials that it is superior to linseed meal and other high-priced substitutes.

Sold in 100-lb. bags at \$2.50, f. o. b.

Park-Graham Milling Co.
17 River Street, Toronto

Shipments of Clydesdales from Glasgow for Canada on June 8th, numbered 47, consigned to H. O. Wright, Winnipeg, Man.; W. J. McCallum & Bro., Brantford, Ont.; Wm. Anderson, Springbank, Alta., and G. B. Hughes, Dergelfa, B. C.

The Machine that is different from all others

THE "MELOTTE"

Every Melotte Guaranteed by us.

The "MELOTTE" has replaced many thousands of other makes of Cream Separators, and is always purchased by those who know its value.

The Reason Why:

Lasts Longest. Does its work best. With least power and gives genuine satisfaction. Therefore the "MELOTTE" is the cheapest cream separator to buy.

For Proof Ask a Neighbor

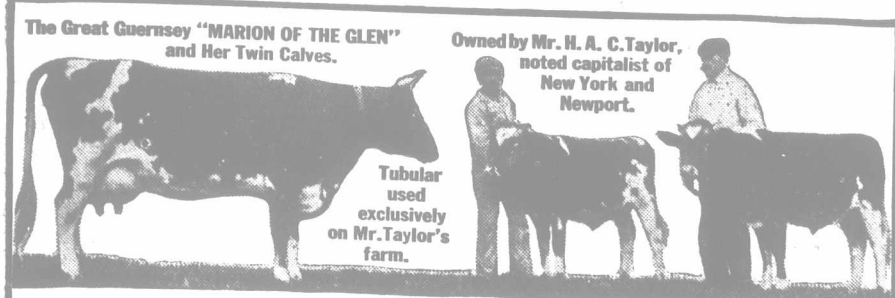
Names of satisfied users in your neighborhood given you for the asking. Write us.

Has the Largest Sale in the British Empire

R. A. LISTER & COMPANY, LIMITED,
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58-60 Stewart Street
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STUART A. LISTER,
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What You SEE You KNOW



That is why we show you these two pans. We want you to SEE and KNOW the difference between the World's Best Cream Separator and less modern machines.



The full pan contains the disks taken from one of the thousands of separators which have been replaced by Tubulars. They tire a woman and try her patience; they rust, wear loose, eventually give cream a metallic or disky flavor, and waste cream in the skimmed milk.

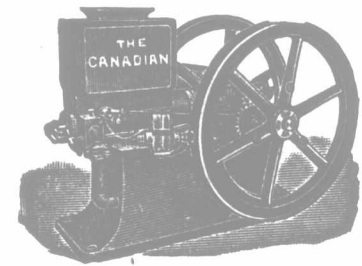
The other pan contains the only piece used inside the marvelously simple, wonderfully clean skimming, everlastingly durable

SHARPLES Dairy Tubular Cream SEPARATOR

What a difference! Take your choice, of course, but remember that mistakes are unpleasant and costly and must eventually be corrected. Why not ask those who have discarded other separators for Tubulars? Their advice is valuable; they have paid good money for experience—they know the difference.

Write for a full, free trial. Other separators taken in part payment for Tubulars. To get prompt attention, ask for Catalog 193

The Sharples Separator Co.
Toronto, Can. Winnipeg, Can.



THE CANADIAN

Our numerous customers exclaim that the CANADIAN Gasoline Engine IS THE LEADER

because it is the most reliable, simple, durable and economical engine on the market. Why not benefit by the experience of those who are using the CANADIAN Engine. Made by

The Canadian-American Gas & Gasoline Engine Co., Ltd.
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FROST & WOOD CO., LTD., Smith's Falls, Ont.
Exclusive selling agents for Eastern Ontario, Quebec and Maritime Provinces.

BIG QUALITY CLYDESDALES

We have them on hand imported this year, Stallions and Fillies, many of them winners, the best blood of the breed, with size, character and quality. There are none better and no firm can sell cheaper.

R. NESS & SON, Howick, Que.

Clydesdales, Imp., Just Arrived Our new importation has arrived safely, and we are now in a position to supply the trade with stallions from 1 year old up to 4, with more draft character, big, strong, flat bone, and better breeding than any other firm in the trade. Prices and terms as favorable as any other importer in Canada.
BARBER BROS., GATINEAU PT., QUEBEC, NEAR HULL.

Shire Stallions and Mares, Shorthorn Cattle (both sexes); also Hampshire Swine. Prices reasonable.

Porter Bros., Appleby, Ont., Burlington Sta. Phone.

CLYDESDALES (Imported) CLYDESDALES

SPRING HILL Top Notchers. Stallions, mares and fillies. 65 per cent. guarantee with stallions. Every mare guaranteed in foal. Ages, 3 years old and upwards.
J. & J. SEMPLE Milverton, Ontario, and La Verne, Minnesota

CLYDES, SHIRES, PERCHERONS

Now offering 8 imp. Clydesdale fillies, rising 3 years; 1 imp. Clydesdale stallion 12 years, a good one, and several stallions 2 and 3 years; one Shire stallion, sure foal-getter; two black Percheron stallions, 6 and 8 years, and one Thoroughbred stallion. All will be sold at bargain prices.
T. D. ELLIOTT, Bolton, Ont. Long-distance Phone.

IMP. CLYDESDALE STALLIONS AND FILLIES

In my late importation of Clydesdale stallions and fillies I have exceptionally choice breeding idea draft characters; as much quality as can be got with size, and I can under sell any man in the business. Let me know your wants.
GEO. S. STEWART, Howick, Que. L.-D. Phone.

Mount Victoria Stock Farm, Hudson Heights, P. Q.

We have for service this season the champion imp. Clydesdale stallions, Netherlea, by Pride of Blacon, dam by Sir Everard; also Lord Aberdeen, by Netherlea, and the champion Hackney stallion, Terrington Lucifer, by Copper King. For terms and rates apply to the manager.
T. B. MACAULAY, Prop. ED. WATSON, Manager.

We still have on hand a few good winners and breeding of the best blood in Scotland. Prices and terms the best in Canada.

John A. Boag & Son, Bay View Farm, Queensville, Ont.
On the Toronto & Sutton Radial Railway Line. Long-distance Phone.

ORMSBY GRANGE STOCK FARM, Ormstown, P. Que.

My fall importation, which will be the largest yet made by me, will be personally selected, will arrive last week in September. Good colors, heavy bone, best of pedigrees and reasonable prices. Wait for them if you want good ones.
D. McEachran.

QUESTIONS AND ANSWERS. Veterinary.

WEAK IN SHOULDERS.

Pigs of about 100 lbs. weight are pasturing on lucerne and fed buttermilk and ground wheat. They appear to have a pain back of their shoulders. They squat down in front until they touch the ground, and some of them fall down.

R. I.

Ans.—This appears to be a partial paralysis, probably caused by too much ground wheat. Purge each with 4 ounces Epsom salts, change the pasture to red clover or ordinary grass, and feed shorts instead of ground wheat for a couple of weeks.

V.

INDIGESTION.

Cow bloated and seemed to be choking. Her ears got thick, and her hide seemed to grow tough and thick. We bled her and gave her salts.

E. R. L.

Ans.—This is evidently a case of chronic indigestion, with occasional bloating. If not better now, purge with 2 lbs. Epsom salts and 1 ounce ginger. If bloated, add to this 3 ounces oil of turpentine. Follow up with 2 drams each of gentian, ginger and nux vomica three times daily, and feed lightly, gradually increasing the amount of food as digestion improves.

V.

BURSAL ENLARGEMENT.

Yearling Standard-bred colt was turned out to pasture. In two or three days his hind pasterns became swollen and he went lame and stood knuckled. My veterinarian had him placed in a box stall and we applied a liniment three times daily for ten days. The swelling has subsided, but he still knuckles, and there are small puffs like windgalls at fetlock joint. I have turned him out again.

J. K. C.

Ans.—We would advise repeated blistering. Get a blister made of 1 1/2 drams each of biniodide of mercury and cantharides, mixed with 2 ounces vaseline. Clip the hair off all around the joint. Tie so that he cannot bite the parts. Rub the blister well in once daily for two days. On the third day apply sweet oil and turn him on grass. Oil the parts daily until the scale comes off and the hair grows. Repeat the blistering every four weeks as long as necessary. The colt is, no doubt, congenitally weak on pasterns and fetlock joint, and the present condition is hard to treat successfully, and, of course, liable to recur.

V.

Miscellaneous.

RESPONSIBILITY FOR DOGS KILLING SHEEP.

Who is financially responsible to the owner of sheep killed by dogs? Is it the owner of the dog, when known, or the township in which sheep were killed? Dog tax is collected.

G. L.

Ans.—The owner of the dog, when known, is responsible. When not known, the council of the municipality pays two-thirds value.

GRAVEL, CEMENT AND STONE.

How much gravel, stone and cement will be required for a wall 19 x 28, 5 feet high, 1 foot thick?

A. M.

Ans.—1. You would need about 4 1/2 cords gravel and about 18 barrels cement, providing no stone were worked in. Whatever number of cubic feet of stone you work in (say three loads), will reduce the gravel by an equal number of cubic feet and the barrels of cement by about one barrel for every 32 feet of gravel saved.

SEEDING WITH BUCKWHEAT.

Would you advise seeding down with buckwheat? I have a field plowed out of meadow last fall, and as season is almost too late for oats, on account of wet, must seed down with some kind of grain.

J. K. C.

Ans.—If we had a field which we wished especially to seed down, and could plant no nurse crop but buckwheat, we should not hesitate to seed with it. Some have claimed good results from seeding with buckwheat. We would not sow the buckwheat very thick.

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A Safe, Speedy, and Positive Cure
The safest, Best BLISTER ever used. Taken the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or bluish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
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Removes Bursal Enlargements, Thickened, Swollen Tissues, Galls, Filled Tendons, Sprains, Swellings, Bruises or Strains, Spavin Lameness, Always Pain. Does not blister, remove the hair or lay up the horse. \$1.00 a bottle, delivered. Book 1 1/2 free.
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HERE'S a fair and square proposition to every man who owns, breeds or works horses. We offer to tell you how to cure a horse of lameness—absolutely free. We offer you without one cent of charge, the advice of one of America's leading specialists on the lameness of horses. Many a good horse, temporarily lame, is sold for almost nothing, because the owner does not know how to go about getting rid of the lameness. Don't let your horse suffer—don't sell him for a few dollars—ask us to tell you how to remove the lameness safely, surely and quickly. See illustration of horse below and read paragraph, "Free Diagnosis."

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No matter how long your horse has been lame, or what the nature of his lameness, you can absolutely rely upon Mack's \$1,000 Spavin Remedy. We know of many cases where horse owners have paid out big fees and had valuable animals tortured with "firing," "blistering" and other good-for-nothing methods and as a last resort tried Mack's \$1,000 Spavin Remedy, and were amazed at the painless, positive, quick and permanent cure. It does not leave any scar, blemish or loss of hair—absolutely no mark to show that the animal has ever been lame. Safe to use on any horse, old or young. It's the surest remedy money can buy, and it's the only spavin remedy in the world that is absolutely guaranteed by a

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Write for a sample of this bond and other valuable information about lame horses. Mailed free upon request.
Your Druggist Will Obtain Mack's \$1,000 Spavin Remedy For You—
If you ask him. Price \$2.50 per bottle. If he refuses, remit \$2.50 to us and we will see that your order is filled without delay.
No matter where, when or from whom you buy Mack's \$1,000 Spavin Remedy the price is the same. Every bottle is absolutely guaranteed, and is accompanied by our \$1,000 Warranty Bond, which insures you that your money will be refunded if the remedy fails to do all we claim for it, as stated in our guaranty.
Do not accept a substitute, for there is no other remedy like Mack's \$1,000 Spavin Remedy—nothing so powerful and sure to cure. It stands supreme as a remedy in all forms of lameness.
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FREE DIAGNOSIS COUPON



On picture of horse mark with an X just where swelling or lameness occurs, then clip out coupon and mail to us with a letter, telling what caused the lameness, how long horse has been lame, how it affects the animal's gait, age of horse, etc.
We will tell you just what the lameness is, and how to relieve it quickly. Absolutely no charge. Write today.
Free Book—"Horse Sense"
Send us the Free Diagnosis Coupon, get absolutely free a copy of our book "Horse-Sense." Describes and illustrates diseases of horses' limbs, shows correct name for every part of horse and tells valuable facts every horse owner ought to know.

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imported and Canadian-bred, from one year up to 5 years; also a pair of Canadian-bred stallions, rising three years. Young cows with calves by side, and heifers well on or in calf. Children's ponies, well broken and quiet, from 11½ to 14 hands.
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Young stock, both sexes, for sale at reasonable prices.
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I am offering several choice and particularly well-bred Clydesdale fillies from foals of 1911 up to 3 years of age, imp. sires and dams. Also one stallion colt of 1911, imp. sire and dam. These are the kind that make the money.
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QUESTIONS AND ANSWERS. Miscellaneous.

LIGHTNING RODS.
1. Are lightning rods on a barn any protection from lightning?
2. Should you advise the use of lightning rods on a barn? G. C.

Ans.—1 and 2. Yes; if properly constructed. They must be placed deep enough in the ground to reach moisture at all seasons.

ENCOURAGING HAIR—MARE AND FOAL QUERIES.

1. Is there anything that can be put on a horse's tail to thicken the hair?
2. Should mares be served when they are full of grass, or should they be gaunted up before service?
3. Foal one week old passed blood with its water and was constantly straining. Got better in a couple of days. What was the matter? W. H.

Ans.—1. Get an ointment made of 1 dram powdered cantharides, mixed with 2 ounces vaseline, and rub a little well in once daily.
2. It should not matter. Breed under ordinary conditions.
3. As the foal recovered, the trouble could not have been serious.

SOW THISTLE.

1. Do you think it possible to kill sow thistle?
2. Will salt kill it? Would you advise using it?
3. If salt is used, what kind and how thick should it be used?
4. Would you advise leaving the field in pasture to avoid more spreading over the field and farm? A. E. G.

Ans.—1. If possible, break up the field and cultivate thoroughly as a summer-fallow one summer. Follow the next summer with a hoed crop or rape sown in drills and cultivated until it gets too rank to permit of further cultivation.
2. On patches, salt might kill it. A heavy application of manure on it is also recommended, or covering with tar paper.
3. Use common salt, very thick.
4. No; cultivate thoroughly and get rid of it.

BUILDING PAINT AND OTHER QUERIES.

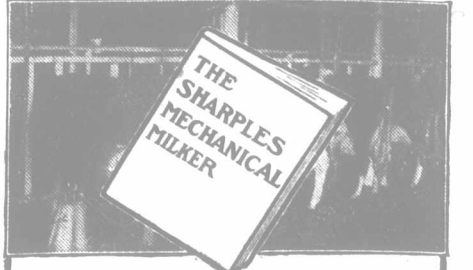
1. A new barn is 45 feet wide, posts 16 feet long, and the usual hip roof. About how many square feet is in the end?
2. How many square feet will a gallon of hand-mixed oil paint cover? Siding is planed hemlock; two coats.
3. How much more paint will be required when lumber is old?
4. Roof is metal shingles. How many wires, No. 9, would make a cable to connect with ground?
5. To whom should I apply for information about an examination for a stationary engineer? R. G.

Ans.—1. Between fourteen and fifteen hundred feet.
2. This depends upon the material, the paint, and the painter. No definite rule can be laid down.
3. Weather-worn old lumber would require much more paint.
4. Nine, twisted together.
5. The Provincial Department of Agriculture.

FALL CROP FOR HUMUS.

I have ten acres sown to oats and seeded down with clover and timothy. The land is clay loam and is lacking in humus, consequently the oats have come thin and weak, and the clover is not likely to be of much account owing to the insufficiency of the nurse crop. I should like to harvest what oats mature, and if practicable, to disk the field afterwards and sow something that would mature quickly, so that I could plow it in as a green manure. Kindly let me know what would be best for the purpose, and how much I should sow to the acre? The land was sown to wheat last year when I took the farm. The crop was poor, and the clover seeded down did not catch.

Ans.—Owing to the continuous wet season, it is quite likely that the clover will come on far better than you expect it to. If it does, you might sow a little more timothy with it and leave it for hay, as the clover would help the soil greatly. If not fit to leave for this purpose, try rye, at a bushel per acre, or rape, at 5 or 6 lbs. per acre.



If You Keep 20 or More Cows We Want You to Have This Free Book

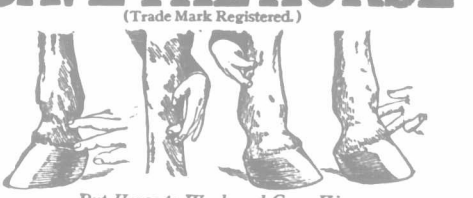
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Read What Our BOOK and Treatment Does For This Man in 4 Days

Westboro, Mass., Feb. 7th, 1912. I am using my first bottle of Save-the-Horse. Last Friday my horse strained his shoulder speeding on ice; it was a task to get him home; and today he jogged as usual and insisted on playing.
From a dead lame horse to a sound jogging one inside four days seems almost unbelievable, yet it certainly is a fact. Where one can have the benefit of your book not one moment of valuable time need be lost. I shall retain the contract certificate, yet am well satisfied.
Very truly, Everett L. Smith.

SAVE-THE-HORSE PERMANENTLY CURES Bone and Bog Spavin, Ringbone (except Low Ringbone), Curb, Thoroughpin, Splint, Shoe Boil, Wind Puff, Injured Tendons, and all lameness, without scar or loss of hair. Horses may work as usual.
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For the cure of Spavins, Ringbone, Curbs, Splints, Windgalls, Capped Hock, Strains or Bruises, Thick Neck from Distemper, Ringworm on Cattle, and to remove all unnatural enlargements.



This preparation (unlike others, acts by absorbing rather than blistering). This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin, or money refunded, and will not kill the hair. Manufactured by Dr. Frederick A. Page & Son, 7 and 9 Yorkshire Road, London, E. C. Mailed to any address upon receipt of price, \$1.00. Canadian agents:

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MOLASSINE MEAL is a food and replaces other food stuffs. It will keep all animals in good health. Prevents and eradicates worms.

HORSES will do more and better work, keep in better health and will not chafe from the harness so much when fed on Molassine Meal. Is equally suitable for heavy draft horses, hunters and race horses, and will bring Show Animals to the pink of condition quicker and better than any ordinary methods of feeding.

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Remember the name—don't get mixed up with other preparations. The ORIGINAL and GENUINE MOLASSINE MEAL bears this trade mark on every bag.



Order from your nearest dealer but be sure and get the genuine. Be sure that the trade mark is on the bag, as above.

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Please send me your free souvenir (Fountain Pen, Pocket Pencil or Match Box) also full particulars regarding Molassine Meal.
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Herd established 1855, flock 1848, have a special good lot of Shorthorns of either sex to offer of various ages; also a grand lot of Leicester sheep of either sex—a few imported ones to offer.

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Have some SHORTHORN HEIFERS two years old from cows giving 50 pounds milk per day, and in calf to my stock bull, Senator Lavender.

Grand young LEICESTERS from imp. Wooler of Sandy Knowe, champion at Toronto, and imp. Royal Connaught.

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Present offering: Three choice yearling bulls. Young cows in calf. Yearling heifers: Clippers, Minas, Wimples, Julias, etc. Inspection solicited. Prices moderate. Phone connection.

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Shorthorns and Swine—Am now offering

a very choice lot of cows and heifers, safe in calf, and some choice young bulls for the fall trade; also Berkshire and Yorkshire pigs; showyard material.

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At present one nice red bull 12 months old (of the Bellona family) for sale at low price. Heifers of breeding age all sold.

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Herd headed by the two imported bulls, Newton Ringleader, =75783=, and Scottish Pride, =36106=. The females are of the best Scotch families. Young stock of both sexes for sale at reasonable prices. Telephone connection.

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Present offering is five choice young bulls, from 7 to 22 months old, reds and roans, out of good dual-purpose dams, and sired by our champion Scotch Grey bull 72692. Visitors find things as represented. Good cattle and no big prices.

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Fletcher's Shorthorns—(Imp.) Spectator =50094=, and choice heifers for sale.

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Erie Sta., C. P. R.

When Writing Mention Advocate

QUESTIONS AND ANSWERS. Miscellaneous.

THOROUGHbred.

Kindly explain through your valuable paper what is meant by the word Thoroughbred? So many people are under the impression that every horse that will register is a Thoroughbred?

W. J. M.

Ans.—This has been answered time and again through these columns. The term "Thoroughbred" is only rightly applied when speaking of a particular breed of horses. A registered animal of the Clydesdale, Shire, Hackney, or other breed, is not a Thoroughbred, but a purebred.

HORSE COUGHS—SILO MATERIAL AND VENTILATION.

1. I have a horse six years old that took a cold about five weeks ago, and he has had a bad cough ever since. I am afraid it will turn into heaves, as the cough is getting worse. Will you please advise treatment?

2. Would you recommend cedar for silo?
3. What kind of ventilation would you advise for cow stable 33 x 48 feet?

J. S.

Ans.—1. The symptoms indicate heaves, which, if well established, cannot be cured, but if alteration of the structure of the lungs and air cells has not taken place, it may be possible to arrest the trouble by the following treatment: Feed first-class hay in small quantities. If working, feed liberally on good oats, dampen all he eats with lime water, and give every morning a ball composed of 1½ drams powdered opium, 2 drams of solid extract of belladonna, 1 dram camphor, and 20 grains digitalis, with sufficient oil of tar to make plastic. Roll in tissue paper and administer.

2. It might do all right, but would be rather expensive. Why not use cement?

3. The Rutherford system is good, or a combination of the Rutherford and King systems is satisfactory. Arrange intakes at or near the floor, and direct the current of air upwards. The total area of intake should be at least fifteen square inches per head of cattle or horses stabled, and the outlets twice as large. The outlet shaft should proceed to the peak of the building, and be built tight, and never be less than eighteen inches across. Two layers of board should be used, or matched stuff.

Present Special Offering

- 20 High-Class Scotch Shorthorn Heifers
- 10 High-Class Young Shorthorn Cows
- 5 High-Class Scotch Shorthorn Bulls

At moderate prices, including Marr Missies, Emmas, Cruickshank Nonpareils, Duchess of Glosters, Village Girls, Bridesmaids, Butterflies, Kinellar Claretas, Miss Ramsdens, Crimson Flowers; also a number of the grand old milking tribe, which have been famous in the showing.

ARTHUR J. HOWDEN & CO.
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Shorthorn Bulls and Clydesdale Mares

If you are in the market for a young bull, write us for particulars, or, better still, come and see them. We have 13 young bulls, from 8 to 14 months old, of good breeding and quality. We also have four imported Clydesdale mares, safe in foal.

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Bell phone. Burlington Jct. Sta., G. T. R., ½ mile from farm

SHORTHORNS

Have now a choice lot of young bulls to offer; also with something nice in heifers. Catalogue of herd and list of young animals on application.

H. CARGILL & SON, Proprietors, Cargill, Ont., Bruce Co.
JOHN CLANCY, Manager



10 SHORTHORN BULLS 10

If you are looking for a young bull to head a purebred herd, or one to cross on grade cows to raise first-class steers, I have them to suit all customers at very reasonable prices. They are reds and roans, and one extra good white show calf; ages from 9 to 14 months, nearly all sired by imported bulls and from the best Scotch families of cows. Will be pleased to furnish breeding and prices.

Claremont Stn., C. P. R., 3 miles. JOHN MILLER, Brougham P.O., Ont.
Pickering Stn., G. T. R., 7 miles.

Scotch Shorthorns

FOR SALE. Imported Bandsman, a grand individual and an extra sire; one 10 months imported bull calf, a Marr Flora; 30 choice cows and heifers in calf; at reasonable prices. Farm ¼ mile from Burlington Jct. Station.

MITCHELL BROS., Burlington, Ont

THIS IS A GOOD TIME, AND I HAVE A GOOD PLACE, TO GET A HIGH-CLASS SCOTCH SHORTHORN BULL CALF by my great Whitehall Sultan sire, or a young cow in calf to him, to start a herd that will be ribbed. SHROPSHIRE RAMS AND EWES, too, at low prices. CHILDREN'S PONIES, A CLYDESDALE FILLY, such as I can send you, is one of the best things any man can buy. Just write me and say as nearly as possible what you want, and I will surprise you with prices on goods that are genuine. ROBERT MILLER, STOUFFVILLE ONTARIO

Scotch Shorthorn Females for Sale

I am offering at very reasonable prices, females from one year to five years of age. The youngsters are by my grand old stock bull, Scotch Hero (imp.) =55042= (90065), and the older ones have calves at foot by him, or are well gone in calf to him. Their breeding is unexcelled, and there are show animals amongst them. A. EDWARD MEYER, Box 378, GUELPH, ONT.

SALEM SHORTHORNS

Headed by (Imp.) Gainford Marquis, undefeated in Britain as a calf and yearling, and winner of junior championship honors at Toronto, 1911. Have on hand two yearlings and a number of bulls under a year for sale at reasonable prices.

J. A. WATT, Salem, Ont. Elora Sta., G. T. R. and C. P. R.



NOTHING in cheese making is more important than **salt**ing the curd.

The flavor—even color—smoothness—keeping quality and market price—all depend on the way the curd is salted, and on the salt used.

WINDSOR
CHEESE SALT

Makes Prize Cheese

It gives a smooth, rich flavor to the cheese—dissolves slowly—stays in the curd—and makes the cheese keep as good cheese should.

Windsor Cheese Salt is cheapest in the end because it goes further.

73C



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Holstein Cattle
The most profitable dairy breed, greatest in size, milk, butter-fat and in vitality. Send for FREE illustrated descriptive booklets
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QUESTIONS AND ANSWERS. Miscellaneous.

PROBABLY CROP-BOUND.

What is the cause of my hens getting so crop heavy? The crop is very large and full, almost touching the ground, yet they pick around trying to eat; seem well every other way. I feed wheat and oats as hard feed, and once a day I give soft feed, which has quite a little flour in it, which makes it kind of sticky. Some tell me it is indigestion. Please give cause and cure.

A SUBSCRIBER.

Ans.—It is difficult to state what has caused the trouble. The symptoms are those usually associated with crop-bound. The only thing to do is to give the birds say a teaspoonful or a dessertspoonful of castor oil or raw linseed oil, and knead the crop well, so that the oil will get mixed with the clogging material, whatever it may be. Ordinarily they will come out all right with this treatment.

SALE OF CATTLE.

Mr. J. agrees to sell 11 head of cattle to a cattle-buyer for \$385, which was accepted by both parties, but the cattle-buyer did not pay any deposit on the cattle, as he had a witness with him to prove the sale was made. But the next day J. sells the cattle again to another buyer for \$400.

1. Has a deposit got to be paid on cattle when a sale is made?
2. Can the first buyer sue for damages for the loss he sustained by not having enough cattle to fill his car?

Ontario. A SUBSCRIBER.

Ans.—1. Yes; where the price is \$40 or more, unless the buyer accepts at least one of the cattle, and actually receives the same, or signs some note or memorandum in writing of the bargain.

2. No; assuming, of course, that there was no such acceptance, or written and signed memo., as above mentioned.

MISCELLANEOUS QUERIES.

1. How much salt and plaster mixed together would be required to sow an acre?
2. What benefit has it to the land?
3. Is it too late to sow the salt and land plaster on the mangel field? The mangels are up, and are sowed on the flat.
4. Would it be all right to sow salt and plaster on a field that was seeded with alfalfa this spring, or is it too late now?
5. Is salt and plaster good to sow on a potato field?
6. What is good to cure scours in a young colt just foaled?
7. Would it be any benefit to sow sulphur with lime and plaster? If so, how much?
8. Would the recipe for canning green peas be all right for canning green beans?
9. I have a piece of timothy sod to plow up as soon as hay comes off. Would sowing rape as soon as plowed, to be plowed under this fall for manure, be any advantage? Field for potatoes next year.

Ans.—1. About 200 lbs. salt.
2. Land plaster, gypsum, or sulphate of calcium, is not, strictly speaking, a plant food, but it has some value in that it renders some of the phosphates and potash in the soil available to the plants. Common salt does not contain any of the constituents usually considered essential to the growth of plants. It is also supposed to promote the decomposition of potash, lime, and magnesia already in the soil, making them available for the crops. Salt is also believed to brighten and stiffen the straw.

3. The best time to sow this material is as a top dressing soon after the crop is sown. It should do no harm, although it is late now.
4. It is getting rather late now. The greatest effect with gypsum is noticed in clover and legumes.
5. Land plaster is believed to be of some value for potatoes.
6. Give 40 to 60 drops of laudanum in the dam's milk every four hours. Colts with scours are hard to treat. Keep warm. Do not allow to lie down on damp, cold ground, and keep in on wet days and cold, damp nights.
7. Mangels require some sulphur, but enough is usually present in the soil.
8. Yes.
9. Yes.

RID YOUR CATTLE OF THE FLY PEST

With the warm summer days come the yearly torture of domestic animals by flies, mosquitoes and other insects. Prevent this useless suffering by buying

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You know that animals cannot be healthy when devoured by insects; you know how quickly hogs decline in weight when they are troubled with vermin; by preventing suffering to your cattle you not only perform an act of humanitarianism, but insure perfect health to your animals, and profit by it in the end.

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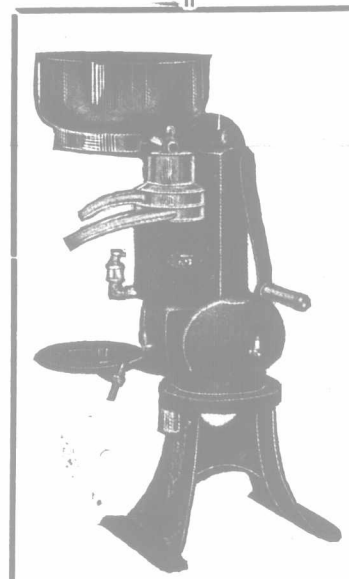
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HUEVELTON, N. Y.

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Manure: The Use of Fresh vs. Rotted 531
 Manure Spreader: Various Uses of the 1017
 Maple Sugar: Over a Billion Pounds of 480
 Maple Syrup Standard 373
 Mice: The Injurious Meadow 972
 Municipal Reform 322

New Ontario Raising: A 222
 Nitrogen-Enrichment of Soils 1128

Oats: Awned and Awless 480
 Oats for Seed: Hulled 180
 Oat-growing: Some Points in 635

Pioneer: A Forceful Kent County 971
 Pipe for Distributing Corn in Silo 838
 Plank-frame Barn, 40x60 274
 Plank-frame Barn: Another 221
 Plank-frame Barn with Ordinary Pitch Roof 420
 Plank-frame Enquiries: Other 478
 Plank-frame for a Narrow Barn: Light 320
 Plank-frame without Basement 180
 Plank-frame without Truss Construction 477
 Potatoes: Dried 222
 Public Libraries: Farm Section in 787
 Pumping Problem: A 417

Red Clover Seed: Methods of Separating Buckhorn from 222
 Renters: A Chance for 318
 Roads: Government 478
 Root Cellar Under Barn Approach 884
 Roots: Thinning 1165
 Rotation and Fertility 1129
 Round-roofed Barn: Details of 634
 Rural Economics: A Study in 10, 47
 Rural School Fairs 789

Sawdust: Tamp Posts with 684
 Scottish Letter: Our 8
 Seed Branch: Changes in 883
 Seed Corn: Poor 632
 Seed Corn: Does Yours Germinate Well? 740
 Seed Corn Test: A 740
 Seed Corn Testing 789
 Seed Corn Trade 581
 Seed-growing: Canadian 318
 Seed-growing: Cultural Conditions for 479, 531
 Seed Plots Profitable: Special 8
 Shingles Soaked in Crude Petroleum 221
 Silage: Settling and Preservation of 133
 Silo: A Cheap 419
 Silo: Cost of a 53-foot 319
 Silo: Satisfactory Cement 578
 Silo at Weldwood: Construction and Cost of 178
 Silo with Seven-inch Wall 685
 Silos: Eight-foot 786
 Silo-filling Problem: The 48
 Six Renewal Hints 133
 Soil Bacteria and Evaporation 790
 Soil Water Investigation 223
 Spreaders: Co-operate in Buying 1129
 Stables at Weldwood: Remodelling 685
 Stooling No Miracle 1168
 Straw: Measuring in Stack 48
 Straw House: Plank Frame for 529
 Straw Shed on One-hundred-acre Farm 371
 Stock Watering Tank: Our 788
 Sweet Clover Valuable: Thinks 789

Time: A Fair Estimate on 1017
 Time Card: Another 478
 Time Records at Weldwood 89
 Top-dressing Wheat 49

Underdrainage 634

Walnut Land and Chippawa Homes 416
 Water Glass for Cement-concrete surfaces 48
 Water Supply at "Weldwood" 787
 Water Tank: Round Cement 632
 Weed Seeds in Feed Stuffs 320
 Weeds: The Damage Done by 224
 Weeds Menace: How 1017
 What Makes Soils Productive? 274
 Wheat: Growing the \$1,000 Prize 224
 Wheat Shortage in France 973
 Wick: Trim the Corners of the 91
 Wild Farmers I Have Known 417
 Wild Oats: Controlling 786
 Wireworms 636
 Wireworms: Feeding 787
 Woodpile: The Farmer's 181

GARDEN AND ORCHARD.

Apples of Quality 374(a)
 Apples by the Pound and Oranges by the Bucket 421
 Apple-growers: A Book for 93
 Apple Trees: Pollination of 49
 Asparagus 374

Brown-tail Moth Ravages 483
 Brussels Sprouts: Success with 741

Cancer: A Plant 1170
 Canning Combine's Selling Contract 741
 Crop Rotation in the Garden 227
 Cold-storage: Instead of 534
 Co-operation and Fruit-growing 424
 Cutworms 742

Disease in Potatoes from Europe 638

Exhibition Apples for London 792

Fruit Injured in Essex 424
 Fruit-Shippers' Association: Organization of Co-operative 422

Grape-storage Experiments: California 93

Haldimand County Fruit-growers Organize 638
 Hotbed on the Farm: A 228
 Hotbeds and Their Use 374(a), 423

Insects Attacking Vegetables 841, 887, 927
 Insects and Fungi: Classifying 689

Lambton Peach Belt: The 483

Mushroom: A Monster 229
 Mushrooms 183
 Mushrooms: Monster 424

Nova Scotia Fruit-growers 276

Onions: Try 94
 Onion Maggot: The 690
 Orchard: Arrangement of 275
 Orchard Competition: To Hold a 93
 Orchard Notes 94
 Orchards of Five or Ten Acres 13

Peach Crop: Killing the 928
 Planting Suggestions: Nova Scotia 94
 Plum Curculio: Controlling the 1059
 Pollenizing Spies 14
 Potato Canker 928
 Potato-growing Contest: A 743
 Potatoes: Early 228
 Potatoes: Lime-sulphur Not Satisfactory on 1019
 Potatoes Scarce in the States 183
 Potatoes: Sprouting for Early Use 689
 Propping Fruit Trees 628
 Pruning: Summer 1019
 Puff-ball: Some Canadian 741

Scions 14
 Spray Calendar 583
 Spraying Fruit Trees 584
 Strawberries: How to Grow Good 742

Tender Fruits 14
 Tiling Garden Land 228
 Tobacco: Forty-six Carloads of 482
 Tobacco Culture in Canada 422
 Tolman Sweet Stocks for Spies and Kings 12
 Tomato Seed Selection 742
 Tomatoes: Varieties of 689
 Tomatoes for the Canning Factory 582
 Top-grafting: Hints on 689

Topical Fruit Notes:
 12,741,792,842,886,927,1019,1059,1096
 Grapes: Varieties of 49
 Pears: Varieties of 93
 Plums: About 136
 Peaches: About 227
 Lime-sulphur 585
 Many Peach Buds Winter-killed 974
 Trees: Laying Out the Ground for Setting 791

Varieties of High Quality: Select Only 13

Vegetables: Planting and Growing 423, 482, 533
 Vegetable Culture 324
 Vegetables in the Young Orchard 586

HORSES.

Breeding: Regular, Necessary to Success 923
 Breeding Light Horses 44
 Breeding: Local Horse Societies 1090
 Brood Mare: The 315
 Brood Mares: A Lack of Good 88

Clipping Horses 414
 Colt: Care of the 7
 Colt: Hand-feeding a 785
 Colt Trouble: A Prevalent 576
 Cost: Keeping Down the 1012

Drafters: The Need for More Good 130
 Duty Removed from Canadian Percherons 923

Education Counts 1127

Farical Horse-judging: Reminiscences of 837
 Foal: Developing the 836
 Foals: Rearing 1014
 Foals: Uniformity in 1055
 Forage or Mold Poisoning 474

Grain: Feeding, to Horses 881
 Grass for the Horses 966

Hay: Wasting Good 315
 Horse Dont's 1127
 Horse: How to Improve the 969
 Horse: My Friend the 631
 Horse: The, to Have 1164
 Horsemen: Good Advice for 784
 Horse Trade: Our 369
 Horse: What Constitutes the Standard and Thoroughbred 682
 Horse-breeding: Co-operation in 881
 Horsemen: A Few Rules for 735

Is the Attention Rightly Divided? 922
 Itchy Legs 524

Kindness Rather than the Whip 968
 King's Plate: The 1013

Light Horse: Still a Place for the 218
 Light Horses vs. Drafters 1164

Mare at Foaling, and the Care of Colt: The 967
 Mare at Time of Service 923
 Mares for Service: Half Rates on 869, 475
 May Foals: The Advantages of 1056
 Medicines: Administering to Animals 1013
 Medicinal Doses: Measuring 785
 Mistake: My Most Profitable 44

Navel-ill Prevention 524

Overdraw Reining: Tight 682

Pedigree: The Value of the Extended 270
 Percheron Importations 735

Romance of Spraying 1095
 Roots for Horses 175

Sensible Suggestions: Some 836
 Shoe Boil 474
 Shoulders: Sore 478
 Shying and Other Faults 1056
 Sore Shoulders Have Been Cured: How 969
 Speed Counts: Where 219
 Spring Tonic: That Annual 524
 Stallion: Size and Weight in the 414
 Stallion: Should the, be Subject to Inspection? 271
 Stallion: To What, Shall I Breed? 969
 Stallion Act: The Ontario 369

Teams: Hitching Tandem 881
 Teeth: Horses' 219
 Thoroughbred as a Sire for Half-breds: The 175
 Thoroughbred Stallions: Aid to 630

Veterinary Prescriptions for Farm Use 577, 682, 735, 785, 882, 968

Wintering Idle Horses and Colts 44
 Wintering of Idle Horses: The Economic 45
 Working the Horse 1090

HOME DEPARTMENT.

Agriculture in Ontario Schools 747
 Ants 984
 Auction: The, A True Story 1031

Bread 940
 Buffalo Carpet Beetle 1065
 Butter: Packing 940

Calf Path: The 24
 Crochet: Terms in 888

Flower-garden Competition Again: The Pearson 849

Garden: The Story of My 843

Havergal: Frances Ridley 752
 Home, Sweet Home: Re 382
 House-fly: The 985
 House-fly: The Terrible 805
 How to Act—Department 982, 1028

Invalids: Cookery for 433

June Wedding: The 1102

Laird o' Cockpen: The 21
 Literary Society Prizewinners, 1911-12 1188, 1139
 Little Trips Among the Eminent:
 J. M. W. Turners 235
 Whistler 283
 Hans Holbein 933
 Hogarth and His Immediate Predecessors 979
 Sir Joshua Reynolds 1025
 Richard Wilson 1062

Milk Chocolates 809
 Muscle-forming Foods 749

Nursing:
 Measles, Whooping Cough, Mumps 57
 Scarlet Fever 801

Papering 698
 Poor Voter on Election Day: The 58
 Prizewinners: Literary Society, 1911-12 1188, 1139

Sand Dunes of Prince Edward County, Ont. 892
 Soft Soap: Making 61

Titanic: The Sinking of the 802
 Tubal Cain 286

Unrecognized Heroes: From 237

Valentine Party Suggestions 192

Water Supply for Country and Village Homes 101
 Women's Parliament: Something About Our 1099

ILLUSTRATIONS.

Table listing various articles and illustrations with page numbers, including 'A Better Investment', 'Alfalfa: Yellow-flowered', 'Drummond Cup Winners of 1911', 'Marriage Contract: The', and 'Stock-watering Tank at Weldwood'.

Farmer: A Bigger Slice for the..... 477
 Feed Passage in Center 177
 Feeders: What is Wrong with Our? 1016
 Feeding Cattle: On the Scarcity of. 370
 Flock: System with the1056

Gestation Periods of Farm Stock:
 Approximate 477
 Grass: Give the, a Chance..... 786

Hogs Go West 883
 Hogs: A Mineral Condiment for..... 318
 Hogs: Corn and Alfalfa First for
 Fattening 526
 Hogs: Crippled and Uncrippled 723
 Hogs: Feed for Pasturing1091

In-breeding and Prepotency1164

Judges Should be Breeders 838

Lambs in Spring: The 577
 Litters: Handling Early 525
 Live Stock Pedigree Act 684
 Live-stock Shipping: Co-operative... 88

Milking Qualities: Foster1016

Noticing the Little Things 131

On the Right Track 578

Pasture: Development Depends on... 970
 Pig: Stick to the..... 578
 Pigs: Feeding 578
 Pigs: Free Range for the.....1057
 Pigs: Some 272
 Pigs: Stiffened 632
 Pig Feeding: A Question in..... 221
 Pregnant Ewes: Feeding the..... 220

Rack Feeding: Alberta 220
 Rape as a Pasture Crop 970
 Rations from Single Plants 736
 Rifle, Spade and Silence..... 475
 Root Feeding: Heavy 220

Salt: Keep, Before Stock..... 274
 Sandy Fraser's Mistakes 130
 Sanitary Stabling of Cattle: Prof.
 G. E. Day on 46
 Scottish Letter: Our882, 1014
 Sheep: A Small Flock of, on Every
 Farm 415

Sheep: Need Twenty Million..... 132
 Sheep: The Scavengers of the Farm 924
 Sheep and Dogs 317
 Sheep Destroyed: Indemnity for..... 525
 Sheep Notes from Australia 526
 Sheep-raising: The Stability of..... 632
 Shelter and Feed Lots 416
 Shorthorn Breeders Aiming at Dual-
 purpose Standard 272
 Shorthorns: Milking, for Ontario...1092
 Silage: Frozen 130
 Silage: What it Has Done, and Can
 Do1016

Silage for Cattle to be Finished on
 Grass 415
 Sire: Do Not Part with Tried 220
 Steer Feeding at Guelph 273
 Steer Feeding at Quebec 273
 Stock-breeding Incidents: A Chapter
 of 923
 Swine: Buildings for 8
 Swine: Mineral Food Requirements
 of 786
 Swine Problems: Seasonable 370

Top Notchers Pay 684
 Tuberculosis: The Conflict with..... 683
 Tuberculosis the Cause of Loss..... 176
 Two-year-olds: Money in 317
 Tying Cattle while Feeding 177

Weight for Age of Cattle 317
 Weight of Marketed Hogs Drops..... 318
 Where Fitting Counts 130
 Where Results Clash 970
 Wool: A Farmer's Ideas on.....1091
 Wool: Better Ways of Handling Our
 Wool: Canadian Farmers are Los-
 ing More than \$1,720,000 Annu-
 ally on1015
 Wool Handling: Advice on.....1127
 Wool: How it is Handled in Canada 316
 Wool Marketing in the United States:
 Co-operative 475
 Wool Prices Advance in England.....1015

POULTRY.

Amateur: Hints for the 425
 American Pen Leads: An1059

Beginner: Advice to 481
 Breeds: The Battle of the 226
 Breeds of Fowls for the Farm..... 926
 Broody Hens926, 1058

Case-count versus Loss-off..... 11
 Chicks: Feeding Young1018
 Chickens: Raising 791
 Chicks: Keep the, Growing1113
 Chicks: Late, Yearling Fowl, etc.....1170

Egg-bound: Treatment for 533
 Eggs: Bad1059
 Eggs: Gather the, Regularly.....1018
 Eggs: Marketing 740
 Eggs: Why Not Trade Your?..... 841
 Eggs for Hatching 586
 Eggs in Winter 374
 Eggs that Do Not Hatch.....182
 Egg Record: A Good 740
 Egg-laying Contest 587
 Egg-laying Race at Storrs 136

Flock: A Profitable 638
 Flock Easily Cared for 523
 Fowls: How to Tell the Age of.....1018

Geese on the Farm 790

Hens: To Make Them Lay..... 135
 Hen Race: The Great 689
 Housing Poultry 12

Incubation and Rearing: Artificial... 791
 Incubators and Brooders 687
 Incubator Chickens: Rules for Rear-
 ing 790
 Incubator Experience 841
 Independent of the Spouse 374

Laying and Breeding Stock 92
 Laying Days and Holidays 374
 Laying Hens: Care and Feeding of 689

Marketing Poultry 12

Orchard, Poultry and Bees1113

Parasites of Poultry: External..... 92
 Poultry Fattening in England.....1058
 Poultry Hints: Some 926
 Poultry Houses: Movable 323
 Poultry Housing in British Colum-
 bia 136
 Poultry Notes1059
 Poultry Manure: Value of..... 790
 Poultry Organization: An Inter-
 national 586
 Poultry Pointers 974
 Poultry Practices: Bad 973
 Poultry Profits: More 638
 Pullets: Developing the.....1169

Taking it Easy in Winter 425
 Turkey-raising 482
 Turkeys1130

Vegetables for Poultry1019

Water: Cool, for the Fowls1130
 Watering Poultry in Cold Weather... 324
 Winter Eggs481, 790
 Winter Egg Production 226
 Winter Egg Production: Another
 View of 425
 Winter Egg Production: Heterodox
 Views on 226
 Winter Poultry Problems 586

QUESTIONS AND ANSWERS.

Miscellaneous.

Abortion 657
 Abortion: Contagious.....455, 509, 662
 Abundance Oats 762
 Address: Mr. Caesar's 355

Agalactia 500
 Agalactia in Mares.....1135
 Air Pressure Water System1117
 Alberta Oats for Seed 864
 Alfalfa75, 301, 659, 670, 813, 1113
 Alfalfa After Peas 707
 Alfalfa: Cultivating for 606
 Alfalfa: Growing1043
 Alfalfa: Hardy 356
 Alfalfa in Orchard 457
 Alfalfa on Fall Wheat: Seeding..... 210
 Alfalfa on Hillside 669
 Alfalfa on Old Sod 791
 Alfalfa on Rye in Spring..... 38
 Alfalfa: Seeding250, 661, 998
 Alfalfa with or After Wheat 907
 Alsike for Seed 906
 Apiary Queries 76
 Apples for Temiskaming: Hardy..... 395
 Apples Rot 514
 Apricot Doesn't Fruit 905
 Arbor Vitae Killed by Cutting..... 556
 Arsenate of Lead1042
 Artichokes 34
 Assessment 448
 Assessment of Bush Land 957
 Attorney: Signing by 300
 Auctioneer's License 995
 Automobiling by Mail 207

Babcock vs. Oil Test1002
 Baby Beef 454
 Bad Quarter 428
 Baled Hay Wanted 247
 Barn Capacity 202
 Barn Plan 693
 Barn: Remodelling 449
 Barn: Small 995
 Barnyard Drainage 120
 Batteries: Dry, and Cold.....1148
 Beans 764
 Beans: To Prevent Lodging 903
 Bean, Corn and Potato Queries..... 554
 Bedbugs 395
 Bees Swarming1002
 Beef: Drying 298
 Beef-ring: Eighteen-share210, 297
 Beef-ring Chart461, 908
 Beginner's Queries 613
 Belgian or Clyde 715
 Bird: Sick 428
 Bit for Colt 663
 Blackberries 722
 Blind and Destitute1151
 Blue Devil1044
 Bond: Cost of 306
 Boundary: Building1151
 Boundary Line 712
 Bran: Feeding 557
 Bran vs. Swedes 514
 Breed Queries 469
 Breeding: Book on 815
 Breeding Bull1044
 Breeding Mares455, 512, 948, 1023
 Breeding Mare and Care of Colt..... 999
 Brewers' Grains: Silo for 717
 Brewers' Yeast 203
 Buckwheat815, 1113, 1152
 Buckwheat and Other Queries 461
 Buckwheat on Muck Soil1116
 Buckwheat: Time to Sow 210
 Budding and Grafting1082
 Bull: Constipated 954
 Bull: Impounding1078
 Bull: Sale of 73
 Bumblefoot1075
 Bursal Enlargement 156
 Butter from Butter-fat 664
 Butter: White Specks in 350
 Butter of Antimony 261

Calks 165
 Calves Died 166
 Calves: Feeding 821
 Calves: Raising with Little Milk... 453
 Canadian Challenge Shield 773
 Carbon Bisulphide for Weevils..... 772
 Carrier vs. Blower 453
 Carrots: Growing 820
 Casein and Casein Tests 25
 Castrating Colts 907
 Castrating Lambs 33
 Cattle: Stabling 559
 Cellar for Silo 670
 Cement 26
 Cement Base Posts 604
 Cement Floors115, 717
 Cement for Walls and Floor 618
 Cement Foundation 457
 Cement Paint 958
 Cement Wall610, 798, 823
 Cheese 670
 Chimney Flues 402
 Churning: Difficulty in301, 349
 Cistern: Capacity of 157
 Clipping 768
 Clover: Seeding to 454
 Clover Seeding Killed 952
 Clydesdale Stallion 998
 Clydesdales: Registering 209, 509

Cockerels Die 462
 Colt Chews Wood 514
 Colt Died1153
 Colt Knuckles 864
 Colt Scours 604
 Colt Sweats 444
 Colt: Useless 868
 Colt: Working 768
 Colt's Mane 33
 Contract of Hiring 977
 Corn121, 716, 1028
 Corn and Silo Questions 208
 Corn: Buying to Feed 208
 Corn Crib 657
 Corn: Cutting977, 1048
 Corn for Silo 765
 Corn: Growing 76
 Corn-growing: Fertilizer for 349
 Corn: Planting 554
 Corporate Seal 957
 Cottonseed for Steers 306
 Couch Grass 456
 Cow 824
 Cow: Ailing 666
 Cow Chews Bones, Wood, etc. 71
 Cow Chills 156
 Cow Falls to Conceive 609
 Cow Loses Teat1115
 Cow Pox Probably 773
 Cross-breeding 554
 Crossing Closed 715
 Curb 301
 Cutworms 710
 Cyclone Frame 71

Dairy Inspector1158
 Debt: Enforcing Payment of..... 977
 Dehorning 958
 Diarrhea: White 398
 Distemper: Horses Have 358
 Disk: Double Cutaway 664
 Ditching 164
 Ditching: Trespass by 553
 Ditching: Award, Unsatisfactory...1154
 Docking Ewe 815
 Docking Lambs 618
 Dog Has Fits 616
 Dog Killed 914
 Dogs and Sheep 29
 Dower 950
 Draft, Tension and Power Queries... 914
 Drag-saw 457
 Drain: Poor 813
 Drainage1072
 Drainage by Pumping 164
 Drainage Outlet 616
 Drive House: Building a.....553, 765
 Dry Battery: Renewing 668
 Ducks: About1115
 Ducks Die1118
 "Durham" and "Shorthorn" 356
 Duty on Eggs 255
 Duty Rates 119

Early-potato Queries 766
 Eczema304, 1076
 Eczema: Treatment for 305
 Eggs: Abnormal 868
 Eggs for Hatching 911
 Eggs: Size of 203
 Eggs: Soft-shelled 693
 Eggs: Thin-shelled512, 556
 Electricity: Generating 352
 Electric Generator: Cost of 663
 Engine vs. Windmill 662
 Engineer's Papers 912
 Estate: Closing 950
 Estate: Winding Up 848
 Evener: Length of 768
 Evening Primrose 866
 Evergreens 446
 Executors and Witnesses to Will.... 30
 Eyes: Defective 247

Farm: Interests in300, 513
 Farming on Shares 248
 Farm Help 257
 Feather Pulling798, 817
 Federal Taxation 500
 Feeds to Buy 30
 Feeding 306
 Feeding Advantages 78
 Feeding Cows and Pigs 604
 Feeding Horses and Cows 819
 Feeding and Hoe Crop Queries..... 708
 Feeding Poultry 610
 Feeding Problems 612
 Feeding Silage1114
 Feeding Values 447
 Feet: Contracted 761
 Fence: Insufficient1072
 Fence: Legal 913
 Fence on Road1082
 Ferrets26, 156
 Fertilizer: Applying 166
 Fertilizer for Corn 77
 Fertilizers: Corn and Potato 607
 Fertilizers: Sowing 770
 Fertilizing 456

Maple Industry: The Situation in the	535	Plank-frame on Low Wall	15	School Inspectors' Help	426	Teachers' Convention: The Ontario	745
Meat Inspection: United States Government	25	Pony Men Meet	231	Scottish Letter: Our	375, 1171	The Most Trustful Man on Earth	587
Méger: An Illuminating	1019	Potash Syndicate: A New Name for the	55	Season: Backward, in Eastern Canada	1134	Thoroughbreds: Would Encourage the Breeding of	232
Middleman: Cutting Out the	795	Potato-growers Warned	977	Seeds: Liability for Selling Unwarranted	534	Tilbury and the Corn Show	232
Migration: Instinctive	374(b)	Potato Planting: New Method for	1060	Seed-growing: Canadian	280	Tilsonburg Holstein Sale: The	55
Milk Measuring Stick Illegal	1174	Potatoes and Eggs are Plentiful: Where	976	Seed Peas and Potatoes from Northern Ontario	98	Toad: Let the, Live	1020
Mistake: A Profitable	98	Poultry Producers' Association Annual Meeting	1134	Seed Time and Harvest	138	Toronto Shorthorn Sale: The	279
Mistake: My Most Profitable	50, 51	Poultry Professor at Macdonald College: New	185	Seeding and Hay: Between the	1170	Turner's Ayrshire Sale	1174
Mistakes: Few Writers Discuss Their	15	Presentation to Dr. Rutherford	639	Seeding: Late, in Leeds Co.	1174		
Monteith Demonstration Farm: The	1060	Prices Still Soaring	534	Sermon: A Sensible	890	U. S. Crop Conditions and Prices	1134
Municipal Reform	99	Prince Edward Island Transportation	534	Shady Road with Double Driveway	426	Varieties: Limiting	974
National Live-stock Convention: The	327	Prince Edward Island: Backward Season in	143	Shed: There is Profit in	281	Vegetable Crop Competitions	485
New Brunswick Farmers and Dairy-men	588	Profit is Not All	14	Sheep and Swine also Barred	888		
Northern Ontario Development	426	Provincial Circles: In	1022	Sheep-breeders Meet: Dominion	279	Warning: A	889
Nova Scotia Agricultural Associates	1060	Puffballs in New Zealand: Big	536	Sheep-breeding: To Promote	931	Weeds and the Seed Law: Bulletin on	693
Nova Scotia: Notes from	374(c), 692	Quack Grass: Benefit of	928	Shire Men in Session	231	Weight of the Christmas Number	55
Nova Scotia Agricultural College Growing	792	Quail: Caring for, in Winter	374	Shore: Death of Frank R.	54	We Let Them Do It	374(b)
Nova Scotia Farmers: Important Convention of	233	Quail: Protect the	536	Short Courses in Seed and Stock Judging: January	15	Western Ontario Garden Settlement	485
		Quebec Breeders Meet	278	Show Dates: Coming	1173	Wheat: Weak, How to Help It	797
O.A.C.: More Land for the	426	Racing and Pacing Association: Proposed Canadian	279	Skating	50	Wheat-growing Comparisons: Some	798
O.A.C. Examination Results	931	Research Problems: Canada's	374(b)	Smut: Treatment for	534	Why He Goes West	139
O.A.C. School Graduates	639	Red Clover: Mechanical Polonizer for	138	South Ontario Notes	889	Why Prices are High	690
Onions: Over 300 Acres, in Pt. Pelee District	1096	Rivalling the Rich	536	South Perth Notes	51	Winter Visitor: A	230
Ontario Crops and Live Stock	693	Roads: What Good, Mean	1173	Spraying	974	Wire Fences and Trunk Roads: Favors	796
Ontario Horse-breeders	231	Roads and Road Systems	426	Spring Rush: The	928	Woodstock Holstein Sale	113
Ontario Plowmen's Association	233	Roadhouse's (Mr.) Record and Experience	485	Stallion Enrollment in Prince Edward Island	930	Wool Propaganda: Our	1097
Ormsdown Sale: The	1134, 1173	Rural Mail Improvement	589	Standard-bred Men Meet	231	Wool in England: Prices of	1073
Ormsdown Spring Show	1135	Rutherford: Keep Dr.	185	"Start Something"	843		
		Sandy's Spring Medicine	797	Successors to C. C. James	327	York Co.: Late Crops in	1174
Parcel Post Bill: The Proposed U.S.	930			Swim: Let the Boys	137	York County Notes	1060
P. E. Island Letter	692			Swine-breeders in Convention: Dominion	276	Yorkshire Breeders Stronger Financially	277
P. E. Island Notes	1174			Tackell's Holstein Dispersal: W. A.	1133		
Periodical Cicada	1021			Tariff Commission	185		
Pioneer: A Day with a	794			Teachers: Reforming the	798		



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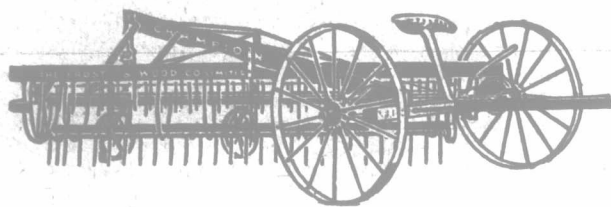
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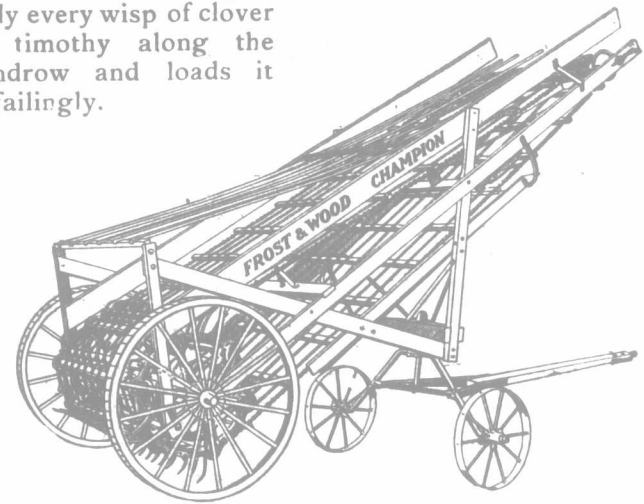
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