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THE FARMER'S ADVOCATE

AND HOME AND MAGAZINE

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

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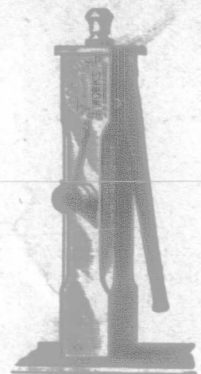
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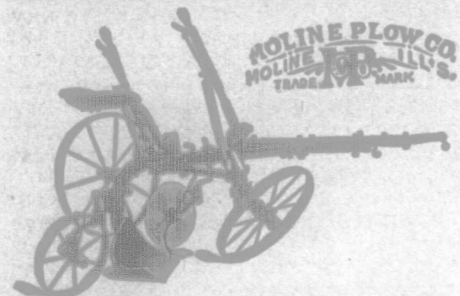
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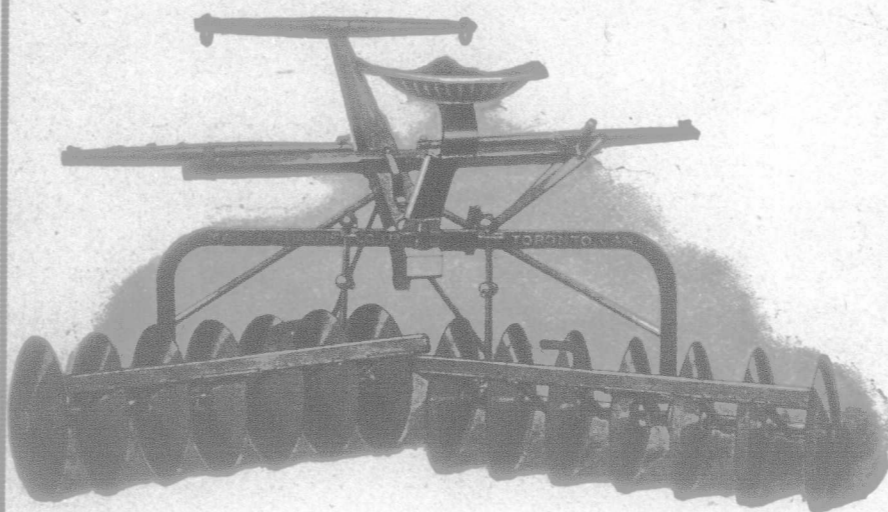
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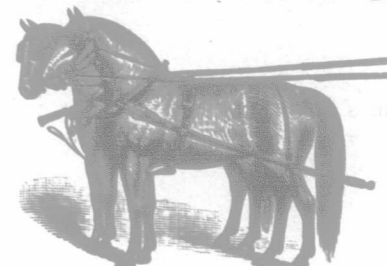
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VOL. XXXIV.

LONDON, ONT., AND WINNIPEG, MAN., JUNE 5, 1899.

No. 479

Fencing.

Fencing is becoming more and more a serious problem in this country. Many of the leading farmers, realizing the necessity of having their farms fenced, are settling the problem by putting up good permanent boundary fences. On extensive grain farms where a system of rotation with grass is being adopted, the divisional fencing, in order to utilize the grass for pasture to best advantage, is a serious drawback. We have seen the following plan adopted on some large farms: Permanent boundary fences being erected, one-quarter of the farm was seeded down and fenced with a light temporary two- or three-strand barb wire fence, put on light posts; then when the next adjoining quarter was in grass and ready to be pastured, one-half of this temporary fence was pulled up, and with a team of horses drawn round and the posts driven again on the new line. In sections of the country where wild hay is depended on, it is advisable to fence the hay meadows to keep stock out of them. Mr. Matheson, of Stonewall, speaking at the stock breeders' convention last winter, said that while a large hay meadow of his had remained unfenced, cattle had pastured on it, cutting it up badly in wet seasons and eating down the aftermath after haying, with the result that year by year the crop got poorer and more filled with skunk-tail grass; but since he had fenced all stock out of the meadow he had got a good crop of hay every year, and the skunk-tail grass had disappeared. He contended that the seed of the skunk-tail grass blowing across the country lodged in the tracks made in the soft sod by the cattle and found favorable conditions for growth in this partly-cultivated ground, whereas it would make no headway on the clean, uncut sod. He also considered that allowing the aftermath to remain unpastured helped to protect the grass roots and insured a good crop the following year.

Elsewhere in this issue Mr. Ivens describes his method of erecting a cheap and efficient fence.

Weed Killing.

The season for fighting weeds is with us once again. Weeds have the peculiar fashion of adapting themselves to circumstances, and generally the worse the weed the more readily does it adapt itself. Be the winter severe or moderate, the spring late or early, still weeds grow, and often when least expected they make the most determined effort. One of the best methods of fighting noxious weeds is education. Hundreds of farms have got more or less infected with weeds of some of the worst varieties simply from lack of knowledge of the weed or of its nature and characteristics. In the way of disseminating information a great deal has been done during the past few years by the press, the departments of agriculture, Farmers' Institutes and agricultural societies, and also through the schools by the course of nature study that has been introduced in Manitoba.

This year a new machine to assist the farmer has been very extensively introduced—many carloads of weeders having been sold this year, and we feel confident that wherever they are used with ordinary intelligence they will give a good account of themselves. One of the most effective agencies in keeping land clean under our present system of wheat farming must, of course, be the summer-fallow. And no time should now be lost in getting the first plowing done before the weeds get too far advanced. The plowing can't be done *too well*—it will pay a hundredfold to cut and cover everything and not skin over the ground. And when the land is plowed, that is not all, for it's a poor fallow that only kills the one crop of weeds that is plowed under. The object should be to conserve moisture and germinate all the seeds, if possible, that are in the soil, and as they germinate kill them. This, of course, necessitates surface cultivation, and unless

this can be given, and given as often as required, there is little use undertaking a fallow. Where land is so light, or so lacking in root fiber that it is liable to drift with surface cultivation, it should be seeded down with some of the cultivated grasses as soon as possible, and when the soil is filled with root fiber it can be surface cultivated with no fear of blowing away.

In some sections, as in the rich loam lands of the Portage Plains, fallows cause too rank a growth of the first succeeding crop, and for that reason late-sown green crops are largely used in preference. The system generally followed being to treat the land similar to a summer-fallow during the early part of the season, germinating and killing as many weed seeds as possible, and sowing late with oats or barley, or some other crop intended for feed. The barley can be sown very late and still produce a good paying feed crop, and with a great many varieties of weeds is ready to harvest before the weeds have matured seed. Of course, growing feed barley almost necessitates the keeping of live stock to convert it into a profitable market commodity, and this brings us back once more to the necessity of more stock-raising on the farms of the West.

Butter Exhibits for the Summer Fairs.

The time has again come round to think about your exhibit of butter for the summer fairs, and especially for the great Winnipeg Industrial, which opens on the 10th of July next. Do not be discouraged by want of success on former occasions. Judging butter is not as easy a matter as judging in a horse race. In the latter case there is little room for dispute as to which is the winner. In butter, on the other hand, with twenty samples, all probably as good as can be made, there is an element of luck in securing prizes, dependent somewhat on the taste of the judge. The spirit that should actuate intending exhibitors of butter should be, therefore, not so much a desire to carry off prizes as to assist in placing before the world a good sample of the product of our Manitoba dairies.

In offering suggestions to exhibitors it may be pointed out that exhibits should be early on the ground. It is unfair to yourself to have your packages hustled into the building on the morning of opening. All exhibits should be in position at least two full days before the opening, in order to get firm before coming under the trier. It is therefore to be hoped that the railway companies will provide facilities for getting all butter exhibits forwarded and delivered not later than the evening of the 7th of July, and that the Exhibition Board will have the first icing of the building completed by the evening of the 4th at latest, seeing three days under ice is not too long to reduce the temperature of the building to a safe degree.

Exhibits in stone crocks should not be encouraged, as the crock, while nothing can be better for packing to use at home or to supply a city customer for winter use, can never become a staple package, seeing it lacks the essentials of cheapness, lightness, and immunity from breakage. Another point that may be adverted to is the practice of showing partially-filled packages. In the trade a package is liable to a dockage of one-half cent per pound if not properly filled, and there is no doubt a judge would throw off a couple of points or more when dealing with a lot of butter that came within two or three inches of filling the tub. The tubs should be filled within a quarter of an inch of the brim, a circle of new bleached cotton or parchment paper laid over the surface, and the tub filled up flush to the top with wet salt.

Again, any kind of filigree work on the surface of a package is objectionable. The work of the mud-pie artist does not catch the fancy of a judge that knows his business. In every case he will give the preference to an even, perfectly smooth finished package. Even in one-pound bricks the taste of the trade is for a plain finish, without device of any kind. All lettering or ornament should be on the wrapper. Both for packing and keeping, the plain rectangular pat is preferable to the deeply embossed one.

The next great Industrial in Winnipeg will bring to witness the products of the Province a very large cosmopolitan crowd. Let us show that in butter, the most delicate and valuable product of the farmer's art, Manitoba is in the van.

W. M. SCOTT,
Winnipeg. Manager for R. A. Lister & Co., Ltd.

A Cheap Serviceable Fence.

The question of a grass rotation for Manitoba farming having been discussed in your columns a good deal lately, I send you a few notes on fencing, the cost of which is one of the objections to grass growing. A few years ago I saw in an agricultural paper a short description of a style of fence said to be in use on some of the western ranches, the main feature of which was to put the posts four rods apart instead of one, and then put small poplar sticks about 1½ or 2 inches in diameter every rod between the posts to keep the wires the right distance apart and the right height from the ground. These sticks are not let into the ground, but simply stood on top of it, and should be 4 ft. 8 in. long if the top wire is to be 4 ft. from the ground. I have been using this style of fence for four years and find it answers the purpose just as well as if the posts are a rod apart, and makes a great saving when cedar posts have to be bought at 12 cents to 16 cents each. I use two strands of barb wire where there is no grain on the outside of the fence; three where there is grain. As to the lasting qualities of posts, I am a little doubtful about cedar. My oldest cedar have been up seven years and some of them show more signs of rot than they ought to show in that time. I have poplar posts that have been up thirteen years and are still standing. They were peeled and the bottom half well charred in a fire. I do all my posts that way. Elm posts are not so good as poplar. Ash and oak and tamarack, I believe, are all good, but have not used them. Corner posts should be set three feet deep at least and well rammed, especially at the bottom, and braced by good stiff poles about ten feet long, resting in a notch in the post about the height of the top wire and against a stake or stone in the ground. If these braces are too short, when the wire tightens it will lift the post. For digging holes the best tools I have found are a drainer's spade with a long, narrow blade, and a long-handled shovel to take out the loose dirt. Posts less than 4 in. in diameter can be driven with a heavy maul by punching a hole with a crowbar and putting a little water in it. My plan is to load posts, water barrel and tools into the wagon, take a quiet team, and set the posts all up as I go. Posts that are driven should be rammed a little at the top and well banked up. For stretching wire there are many different plans. The one I like best is to take a sleigh, lay two logs 10 or 12 feet long and 10 or 12 in. in diameter on it, notch them to fit over back bunk, notch them about two feet in front of back bunk to lay a crowbar in, and nail a few boards across the front to carry spools of wire, box of staples, etc. Put the crowbar through a spool of wire, staple the end of the wire to end post and drive ahead for 300 or 400 yards; then hook a chain round the reach and throw it over the spool and move up till the wire is tight enough. The weight of the sleigh will hold the wire about the right tension. Have a board with notches sawn in the edge of it at the heights of the wires, put the wire into the notch, stand the board against the post, and staple the wire on. One man can do this as well as two. It is not necessary to put braces against every post the wire is stretched at, only at the corners and gates. Put the top wire on first. After the wire is all on take the wagon again and staple on the stretchers or sticks previously mentioned. Where there is a hollow between two posts put in a stake six feet long driven into the ground. For gates, three or four strands of barb wire put from one of the posts to a loose head fitting into wire loops on the other post and three light stretchers across it does well enough. Gates should be made a rod wide to let a binder pass through. Where three strands of wire are used the stretchers can be woven in by putting the middle strand one side of the stretcher and the top and bottom strands the other side.

Wallace Municipality, Man. CHAS. E. IVENS.

Montana Stock Growers' Association.

The fourteenth annual meeting of the Montana Stock Growers' Association was held at Miles City, Montana, in April. The Association is in a prosperous condition, having enrolled 147 new members during the past year, making a membership of 335. Through the efforts of the Association great benefit has accrued to members in the tracing of stray cattle. The officers are: President, John M. Holt, Miles City; 1st Vice-President, John Harris, Fort Benton; 2nd Vice-President, H. R. Phillips, Miles City; Secretary-Treasurer, W. G. Preuit, Helena.

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN
THE DOMINION.

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Territorial Legislation.

A lively discussion took place in the Territorial Legislature on the passing of the estimate for "\$1,500 to conduct experimental agricultural work in the Territories." The scheme for which this grant is to be devoted has been already outlined in these columns. It was stated that about \$800 would be required for the experiment station to be started near Calgary to demonstrate the possibilities of irrigation. The member for West Calgary (Opposition) made a vigorous protest against the selection of site that had been made, but the member for East Calgary heartily endorsed the scheme. The estimate was finally passed by a large majority; Mr. Bone, who is to have charge of the station, being spoken of in terms of highest praise even by the chief opponents of the measure.

On an item of \$1,500 for the destruction of gray or timber wolves, a lengthy discussion took place, the member for Prince Albert asking for some aid in the destruction of the prairie wolf or coyote. He said the injury done by the coyote was increasing, but a comparatively small grant would do much toward their destruction, as they were only bad in sections, sometimes in one section and sometimes in another. He thought even a bounty of 50c. a pelt would be a great help. The Minister pointed out that the timber wolf was a very serious menace to the stock interests, that the stock-growers were willing to contribute \$1 for \$1 out of their own funds for what assistance the Government would give. He considered that any aid the Government could give in the way of bounty on coyotes would not amount to anything; for instance, 50c. a head would only allow for eighty coyotes in each district, which would simply have no effect, and would cause endless annoyance in administering the fund.

One member from Alberta said that \$100,000 would be a moderate estimate of the damage done by timber wolves in the range country. They destroyed not only cattle, but horses. He had lost from ten to twenty-five colts a year by wolves. Colts were safe from coyotes. Another member favored a bounty on coyotes, and would like to see an amount not less than \$25,000 for that purpose.

For the publication of a brand book a sum of \$1,200 was voted, it being the intention to publish 1,000 copies, to be sold at a nominal charge.

Eighteen thousand dollars was voted for the collection and distribution of agricultural and vital statistics.

Origin of the Galloway.

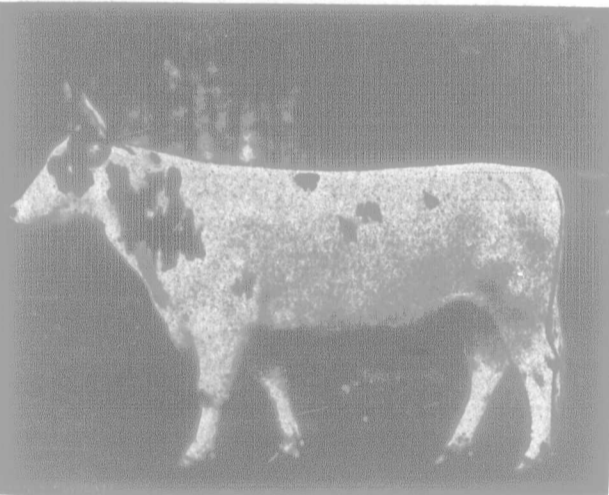
This breed resembles the Aberdeen-Angus so very closely that Galloways have been known to win in the Aberdeen-Angus classes at shows. This, of course, reflects adversely on the judges, though the two breeds undoubtedly have much in common. They are both black, and both have a polled head, and, as their names indicate, they are both of Scottish origin.

But their origin is nevertheless entirely different, as different, indeed, as it could possibly be. The Galloway differs from the Aberdeen-Angus in the shape of the head, which in the former is flatter on top. The Galloway has a head of moderate size, with large, hairy ears and very full eyes. The head is short and wide, with a broad forehead and wide nostrils.

The head is a most important point in the Galloways, and no breeder will use a bull whose head does not come up to the mark. They differ from the Aberdeen-Angus in having an abundant coat of soft, velvety hair (often inclined to curl) over the head, neck, and shoulders. The black color is not infrequently tinged with red, and red Galloways were not uncommon in the early years of this century.

The origin of the breed is not quite certain. All breeders are agreed that the West Highlander is the origin of the Galloway. Such a statement will doubtless seem strange to many because the West Highland cattle are such strong-horned, shaggy beasts. Yet there is very little doubt about the matter. A cross may have been used to get rid of the horns, and the horns may have been got rid of without the introduction of alien blood. All breeds, somehow, will produce sports without horns, and by using a bull come by in this way a lot of polled cattle will soon be obtained. In the early part of the century West Highland cattle were not so carefully bred as they are now. Pedigree was not kept, and perhaps alien bulls were not infrequently used, which might account for the fact that numbers of polled animals could be got amongst them. By selecting these the Galloway breed seems to have been got up.

As the name implies, Galloways have their home in the south-west of Scotland. They originally belonged to the district of Galloway, comprising Wigtownshire, Kirkcudbrightshire, and Dumfri-



AYRSHIRE BULL, KOHINOOR.

Champion at Glasgow, Kilmarnock, and Ayr, in 1899.
BRED BY AND THE PROPERTY OF MR. J. HOWIE,
HILL HOUSE, GALSTON.

shire, but the breed has now spread over a much wider area, and at present they are bred a good deal in other parts of Scotland, in England, and Ireland. They have also been exported to foreign countries.

Many who breed their own cattle for beef purposes prefer the Galloway to the Angus. Some think they stand the winter better on account of their abundant coats of soft hair. Others greatly prefer the Aberdeen-Angus on account of their larger size. The Galloway is bred entirely for beef, and its origin gives little hope for milk. The West Highlanders have been kept for very many years on rough land in a semi-wild state, so that their milking powers have never received much attention. With such a foundation, the Galloway could not be expected to be much of a milk producer.

The West Highlanders are noted for the remarkable care they take of their calves. A West Highland cow will leave her calf in a tuft of ferns or some place of concealment in the morning, where it will lie quietly all day till she returns in the evening to nurse it. She will roam over miles of mountain during the day, and return at the proper time to look after her young. This makes them a valuable breed in South America, where cattle have to go miles to water.

Irish Agriculture.

In the British Parliament Mr. Gerald Balfour has introduced a bill for the establishment of a Department of Agriculture and Technical Instruction in Ireland. He explained that the measure would concentrate in one department the functions now performed by the Government in Ireland. It provides machinery and funds for work similar to that of the Congested Districts Board, and machinery for technical instruction and the development of

agriculture and other industries. An income between £160,000 and £170,000 a year would be provided for the department, in addition to certain sums annually provided by Parliament. Out of this income £55,000 would be devoted to technical instruction of an urban character. £10,000 to sea fisheries, and the rest to rural industries. The Department was to be assisted by an Agricultural Board and a Board of Technical Instruction. The bill was read a first time.

Medicine Hat Stock Growers' Association.

To the Editor FARMER'S ADVOCATE:

The fourth annual meeting of the Medicine Hat Stock Growers' Association was held at Medicine Hat the 6th of May. There was a good representative attendance. And the President, in his opening address, congratulated the Association upon its financial condition, and the rapid increase of the cattle industry in the district, showing distinctly the great benefits to be derived from an organization of cattle-growers.

This Association was formed in March, 1898, and consists of a president, two vice-presidents, and a secretary-treasurer, and an executive committee of twelve members who conduct the affairs of the Association. It has now 104 members on the books, and is steadily growing. The increase of the cattle industry in the Medicine Hat district is shown by the books of the Government Stock Inspector, which record shows that in 1896 the number of beef cattle exported was 902, while in 1898 the number increased to 4,131 head, with 520 animals slaughtered for home consumption. The Medicine Hat stock district comprises 11,500 square miles of prairie, watered by springs, creeks, lakes, and three large rivers—the Red Deer on its northern boundary, the Milk River on the south, and the South Saskatchewan in the center. The grasses of the district are well adapted to stock-raising, and consist for the most part of buffalo grass on the bench lands (affording a short, sweet bite for cattle), and marsh and blue joint in the lakes, river bottoms and hay lands. The climate of the district is very equable and well suited to cattle-growing. The past winter the cattle have done well, and no losses are reported. Beef has been shipped to market off the grass at intervals all winter, the last on March 27, '00. A representative of the FARMER'S ADVOCATE was shown some dressed beef in a butcher's shop at Medicine Hat yesterday, and could not believe it came off the prairie grass, and pronounced it equal, if not superior, to much of the stable-fed beef in the Winnipeg market.

The election of officers for the ensuing year resulted as follows: President, Mr. Thos. Tweed; 1st Vice-President, Robt. D. Porter; 2nd Vice-President, W. T. Findlay; Secretary-Treasurer, J. H. G. Bray; Auditors, John Cooper and T. H. Tipney. Mr. Bray received the nomination of the Association as stock inspector for Medicine Hat district.

It was decided to start the annual round-up of the Association from Medicine Hat on the 25th of May, Mr. Hammond being engaged as captain, Messrs. Porter, Cooper and Bray as committee on horses for the round-up, and the proportion of men to cattle for the round-up was fixed at one man to 500 head, and horses to carry man. The next annual gathering will be held at Medicine Hat in April of next year. J. H. G. BRAY,
Secretary Medicine Hat Stock Growers' Association.

Crop Rotation.

To the Editor FARMER'S ADVOCATE:

In my letter on summer-fallowing, which appears in your issue of May 20th, I think, perhaps, my reasoning may not be quite clear. As to seeding down with or without a nurse crop, I could hardly say which is the better. I have never seeded down without a nurse crop, and have had fair results with wheat. Here in the southern part of Minnesota winter rye is in great favor as a nurse crop, as it is harvested so early that it gives the grass a fine chance to grow in the fall. As to manuring, I would manure once in four or five years, or once during each period of rotation. This should be quite sufficient in a prairie Province. In reference to the hay crop, generally speaking the second year is the best, but in many districts where wild hay is abundant and easy to secure farmers will object to having their land in cultivated grasses any longer than necessary, as they look upon it as almost idle when they can get hay off wild land; and as the main object is to restore the root fiber to the soil, this is accomplished very well in one year. Where wild hay and pasture are not plentiful, however, I would advocate taking off two crops of hay, or pasturing it the second year. The rotation I purpose following here will be something like this: About quarter of the farm will be put in corn the first year, second year cropping with some kind of grain and seeding along with it clover and timothy; the third year should get two crops of hay, then pasture it the next year till fall, when it will be broken up and the same rotation started again with corn. We will aim to give it one coat of manure during each term of rotation. In this way I expect to restore fertility to a farm that has been rented out for about fifteen years.

Southern Minnesota.

W. J. YOUNG.

Farmers' Institute Meetings.

Mr. McKellar, of the Department of Agriculture, has completed the following very extensive series of Institute meetings for the last week of June and first week of July. The whole Province is pretty thoroughly covered, and there are a number of excellent agricultural lecturers on the list. It is also announced that Prof. J. W. Robertson, Dominion Dairy Commissioner, will address the Brandon Farmers' Institute on June 6th, speaking on "The Selection of Seed." Dr. James Fletcher, Dominion Botanist and Entomologist, will address meetings at Boissevain and Deloraine on June 14th and 15th respectively, and will make a personal inspection of the section where the locust was found last year. Dr. Fletcher will then hold a series of meetings in the Territories, beginning at Moosomin on June 19th. Below is a list of the speakers, with places and dates of meetings:

GROUP 1.—C. C. Macdonald, Dairy Supt., and A. G. Hopkins, V. S. "Dairying, Diseases of Animals, and Stock Feeding":

Bird's Hill.....	June 26, 2 p. m.
Pipestone.....	" 28, 2 "
Reston.....	" 28, 7 "
Cypress River.....	" 29, 2 "
Holland.....	" 29, 7 "
Glenboro.....	" 30, 7 "

GROUP 2.—A. P. Stevenson, Nelson, and Rev. W. A. Burman. "Trees, Small Fruits, and Noxious Weeds":

Baldur.....	June 26, 7 p. m.
Summerset.....	" 27, 2 "
Belmont.....	" 28, 7 "
McGregor.....	July 4, 2 "
Austin.....	" 4, 7 "
Carberry.....	" 5, 2.30 "

GROUP 3.—S. A. Bedford, Experimental Farm, Brandon, "Rotation of Crops, Grasses, etc.": N. B. Hagar, Thorold, Ont., of the John Battle Estate Cement Works, "Cement Concrete in Farm Buildings":

Oak Lake.....	June 26, 2 p. m.
Elkhorn.....	" 27, 2 "
Virde.....	" 28, 2 "
Arrow River.....	" 29, 2 "
Hamiota.....	" 30, 2 "
Birtle.....	July 1, 2 "
Shoal Lake.....	" 3, 2 "
Strathclair.....	" 4, 2 "
Posen.....	" 6, 2 "

GROUP 4.—Prof. G. E. Day, of the Ontario Agricultural College; D. A. Stewart, of Pilot Mound. "Breeding and Feeding of Live Stock"; "Crop Rotation":

Killarney.....	June 26, 7 p. m.
Cartwright.....	" 27, 2 "
Crystal City.....	" 28, 2 "
Pilot Mound.....	" 28, 7 "
Manitou.....	" 29, 2 "
Morden.....	" 30, 2 "
Nelson.....	July 1, 2 "
Kildonan.....	" 3, 7 "
Neepawa.....	" 4, 2 "
Portage la Prairie.....	" 5, 7 "
Rosser.....	" 6, 2.15 "

GROUP 5.—C. Braithwaite, Provincial Weed Inspector; S. Larcombe, Birtle. "Noxious Weeds and Farm Gardening":

Little Mountain.....	June 26, 7 p. m.
Balmoral.....	" 27, 7 "
Stonewall.....	" 28, 2 "
Beausejour.....	" 28, 7 "
Selkirk.....	" 30, 2 "
Emerson.....	July 1, 7 "
St. Jean Baptiste.....	" 3, 2 "
Morris.....	" 3, 7 "

GROUP 6.—Isaac Usher, Queenston, Ont.; S. J. Thomson, P. V. S., Carberry. "Concrete Cement in Farm Buildings"; "Diseases of Farm Animals, and Stock Feeding":

Wawanesa.....	June 26, 7 p. m.
Blyth.....	" 27, 2 "
Souris.....	" 28, 7.30 "
Hartney.....	" 29, 2 "
Melita.....	" 30, 2 "
Bradwardine.....	July 3, 2 "
Oak River.....	" 4, 2 "
Rapid City.....	" 5, 2 "
Minnedosa.....	" 6, 2 "

GROUP 7.—Geo. Harcourt, Winnipeg; Rod. McKenzie, Brandon:

Dauphin.....	June 26, 7 p. m.
Glenlyon (Gilbert Plains).....	" 27, 2 "
Gladstone.....	" 29, 7 "
Woodlands.....	" 30, 7 "

Dr. Jas. Fletcher:
Boissevain..... June 14, 7 p. m.
Deloraine..... " 15, 2 "

Prof. J. W. Robertson:
Brandon..... June 6.

"I have been a reader of the FARMER'S ADVOCATE for nearly thirty years and owe it for many useful hints and helps; in fact, my debt to it far exceeds the trifling amount I pay as subscription. I look on it as an old and valued friend, and as such it deserves anything I can do for it at any time."
THOS. A. SHARPE, Agassiz, B. C.

The Brothers Colling.

The early history of Shorthorn cattle has recently received considerable attention in England, and several contributions on the subject have appeared in the agricultural journals. The publication in the current volume of the Journal of the Royal Agricultural Society of an ably written article on this subject, by Mr. Cadwallader J. Bates, of Langley Castle, Northumberland, a relative of the late Thos. Bates, of Kirklevington, has led to an animated discussion of the part played in the development and fixing of the type of the improved Shorthorn by the Colling Brothers, in the latter part of the last century. In this connection we reproduce the following review and criticism by Mr. John Downing, in a letter to the London Live Stock Journal:

"I must say that I felt greatly disappointed on reading the memoir of Charles and Robert Colling which has been contributed by Mr. Cadwallader Bates to the Journal of the Royal Agricultural Society. I know that this feeling is shared by many breeders of Shorthorns.

"Ever since we became at all versed in Shorthorn lore we have regarded the Brothers Colling not only as persons gifted with a high order of intellect as applied to the breeding of Shorthorns, but beyond that we have considered that they, more particularly Charles, were invested with genius in that pursuit. We are now told by Mr. Bates that those elevated views of ours as to these noted breeders are erroneous, and that we must dismiss them from our minds, inasmuch as he thinks that the Collings were merely 'the collectors and preservers of the best remaining specimens of an ancient breed that would otherwise have disappeared.' This, taken strictly, means that the Collings left Shorthorns as they found them, and surely this is a grave injustice to their memory. Against this we hold that their labors and their genius entitle them to be regarded as great benefactors, not only of this nation but of the whole civilized world. It is true that they did not



CHARLES AND ROBERT COLLING.

actually found a new breed, but what like were cattle of this breed when Charles Colling began his work, and in what condition were they when he left them? When a pupil with Bakewell he found that Shorthorns were despised by that high authority on breeding.

"Mr. C. J. Bates says that he 'collected and preserved, a remark that would fitly apply to a man who would collect specimens of china which were not at the period very much appreciated.

"Now, we hold that when Charles Colling proceeded to breed Shorthorns he adopted a system which no other breeder of those cattle had ever embraced; that he held views and put them into practice as to size, quality and method of breeding which had never previously been held by any breeder of Shorthorns; that he, accordingly, stood alone; and that by the results of his system he was lifted head and shoulders above any breeder who had hitherto appeared.

"Robert Colling's private opinion was, Mr. Bates tells us, that the best breed of cattle might be produced by crossing good Kyloes with Shorthorn bulls, but his Kyloe cows were not good, and Shorthorns were found more profitable. The same authority says that Robert Colling's idea of the merits of cattle when he began breeding depended entirely on their size. He afterwards altered his views and followed the example set by Charles, and used his sires. Of the celebrated White Heifer that traveled, it must be remembered that Favourite was both her sire and her grandsire. Again, Robert's noted bulls Phenomenon and Wellington were got, the one by Favourite and the other by Comet. It seems beyond doubt that the verdict of breeders who examined the two herds was that the Bampton herd was never so good as that at Ketton. At the same time, it is beyond dispute that Robert, when he settled down to work on the lines laid down by Charles, showed fine judgment and bred a herd of very great merit.

"And now, reverting to the reference made above to Charles Colling's proceedings, we ask, what were the early Shorthorns?

"At the period when Charles Colling was forming his herd, size was regarded as the great desideratum, but he never held that opinion of its value.

"It appears, however, to be a settled fact, supported by the highest contemporary authority, that Charles Colling's success was mainly owing to his love for good handling and his firm belief in quality. In this matter his position was unique, and Mr. C. Bates tells us that 'the idea (that is, Charles Colling's idea) that the merit of cattle did not depend so much on size as on compactness of frame, smallness of bone, and a readiness to feed, came as a revelation even to a near neighbor of that veteran stickler for pedigree, William Was-tell.'

"From all this, as well as from the unusual system of inbreeding which he pursued, it would appear clear enough to most people that Charles Colling, instead of being a mere collector and preserver of specimens, was a revolutionist and a very extraordinary person among the breeders of his day. He bought Hubback for £8, and sold Comet for £1,050. He showed an ox and a heifer at Darlington in 1798, and Mr. C. Bates informs us that 'no animals had ever before been seen so good at that age.' It was twelve years afterwards, in 1810, that the great sale of Shorthorns at Ketton surprised the world with its amazing average of £161 8s. 5d. for 47 head.

"Who will venture to say that when Charles Colling began to breed Shorthorns that any such bulls as Favourite and Comet had ever been seen? Were such prices as those realized at Ketton ever previously thought of? They were not.

"When Charles Colling began his operations, the breed was one of varied styles, of rough points, and of useless size. It was known only in a very limited district, and even in that district some people preferred the Holderness. But when Charles Colling had made all these wonderful improvements in Shorthorns, at which his neighbors were so much astonished, he was wise enough not to 'let his light lie under a bushel.' On the contrary, he sold the Durham Ox to be sent through the country—the famous steer went even to London and educated the public, until his career was ended at ten years old. In this way he compelled, as it were, public attention to direct itself to the wonderful value of the cattle he had succeeded in producing. Hence the large attendance at, and the widespread interest in, the sale which was advertised to be held at Ketton on October 11th, 1810—a red-letter day in the history of Shorthorns.

"Mr. Cadwallader Bates refers to the inscription upon the testimonial, the silver-gilt cup which was presented to Charles Colling by a large number of eminent breeders from three counties. He objects to the inscription approved and adopted by those breeders, who in it expressed their opinion that Charles Colling was the great improver of the Shorthorn breed of cattle. He seems to think that Robert was as well entitled as Charles to such a compliment, that Robert might properly have resented the language of the inscription, but that the nobility of his nature prevented his doing so. Robert did not, however, hesitate to sign the testimonial, thereby admitting that Charles was the great improver whose example he had so successfully followed.

"In regard to this, it seems well to bear in mind one fact, and that is that although Robert Colling had Hubback for one year in his possession he was quite unable to see any merit in the bull, and that he sold him to Charles for £8. When Hubback arrived at Ketton, Charles told his wife that he was 'better than any bull he had ever seen.' Charles used Hubback for four years.

"Furthermore, it is interesting, in relation to the opinions held by contemporary breeders of the claims of the Brothers Colling respectively to fame, to quote Mr. Thomas Bates, the distinguished relative of the author of the article in the Royal Journal. 'The Druid' writes: 'Mr. Bates considered Mr. Charles Colling to have been the most thorough judge of cattle of his day, and, in fact, the originator of the improved Shorthorn. He thought that his brother Robert's fame as a breeder was entirely due to the superior judgment of Charles, whose bull Favourite was the undoubted fountain-head of pedigrees and the source of their distinction, being the sire of Comet, Ketton, etc., etc., as well as of the famous old cow Princess and her daughter, the favorite cow the dam of the first Duchess.'

"I trust that these few particulars of fact will help to maintain the position of Charles Colling safe on the high pedestal which has been assigned to him by several generations of Shorthorn breeders, who have always looked back with pleasure upon the luminous example set by him who dwelt upon the rising ground at Ketton."

Summer Fairs.

Portage la Prairie.....	July 5th and 6th.
Emerson.....	" 6th " 7th.
Winnipeg Industrial.....	" 10th to 15th.
Brandon.....	" 18th " 21st.
Virde.....	" 25th and 26th.
Regina.....	" 25th " 29th.
Minnedosa.....	August 2nd.
Carberry.....	August 3rd and 4th.
Neepawa.....	" 8th " 10th.

Oak Lake Plowing Match.

A plowing match will be held on June 21st on the farm of Donald Cameron, two miles east of Oak Lake, under the auspices of the Farmers Institute and Agricultural Society.

The Output of the Territorial Creameries for 1898.

The following table showing the output of the creameries of the Northwest Territories contains some interesting figures. Many of the creameries have produced very small total quantities. Some, of course, are new factories only started late last season, others are in localities not very favorably situated. The prices realized for the butter have been uniformly high, showing that the product has been of good average quality, but there is a tremendous discrepancy in the prices realized by the patrons. In this respect, however, there is a decided improvement over the prices of 1897 in nearly every case. The cost of making is still too high at many creameries, and the managers should endeavor to get the cost down if they hope to make the industry a success. At Qu'Appelle the directors are this year adopting a new plan for gathering the cream. They propose to do away with the paid gatherers and divide the district up into sections of eight or ten patrons, and then have each patron take his turn in drawing in all the cream of his section. This plan may work, and would doubtless considerably reduce the cost, but whether it would be satisfactory to have a new man sampling the cream every day or not is another question:

	No. Patrons.	Milk.	Cream.	Pounds of Butter-fat.	Average Price Realized.	1898 Net Price to Patrons.	1897 Net Price to Patrons.
Saskatoon	3	15	94,551	18.92	14.92		
Indian Head		6	3,994	20.00	16	13.43	
Yorkton		91	35,413	18.26	16.26	9.90	
Moose Jaw		39	37,990	20	16	14.04	
Whitewood		85	44,308	19.07	12.1	10.50	
Regina		49	25,450	19.05	15.05	13.65	
Salcoats		76	18,779	18.15	11.25		
Maple Creek		15	12,362	20.06	15.06	12.72	
Churchbridge		70	22,223	18.85	12.20		
Gretna		77	42,838	19.04	14.04	11.50	
Moosomin		47	14,523	18.55	13.55	12.68	
Prince Albert	2	29	12,338	18.51	12.96	12.95	
Red Deer	19	57	33,540	19.84	15.84	14.70	
Wolsley	30	5	2,927	18.76	13.78	13.69	
Wetaskiwin	50	8	3,031	20.08	15.08	13.60	
South Edmonton	12	36	12,329	18.80	13.80	12.53	
Qu'Appelle		66	26,188	18.70	12.54	13.52	
Innisfall	45	60	38,161	20.40	15.40	13.91	
Calgary	30	29	14,176	20.25	16.25	15.40	

Mange in Cattle.

At the recently held annual meeting of the Western Stock Growers' Association, held at McLeod, there was considerable discussion on the question of mange in cattle, and a resolution passed regarding it. The following letter is being circulated by the Association among the ranches:

"At the recent annual meeting a discussion took place as to the existence of mange upon the ranges. The discussion originated from a report of Veterinary Inspector Wroughton, of the N.-W. M. Police, to the Dominion Government, to the effect that he had discovered the true acra of parasitical mange upon several animals in different districts. The specimens secured by Dr. Wroughton were forwarded to the Analyst of McGill University, Montreal, and pronounced by him to be what Dr. Wroughton claimed they were. The existence of a disease, the appearance of which is not unlike that of the genuine mange, and which is popularly called "buffalo itch" or "Texas mange," has long been recognized in this country, but it now seems possible—in fact, very probable—that many of the cases that are looked upon as such, and consequently non-contagious and comparatively harmless, may be in reality cases of the true contagious mange. Recognizing the grave importance of checking and, if possible, stamping out this contagion, the members present at the annual meeting passed the following resolution, your active co-operation in carrying out of which is earnestly requested:

"That this Association views with alarm the prevalence of mange upon the ranges of this country, and to stamp it out the members of this Association recommend that at the coming round-ups all animals found affected by this disease be separated from healthy animals and delivered over to their respective owners, who shall take said affected animals to their home or ranch and subject them to proper treatment, and that the co-operation of the N.-W. M. P. be asked to carry this resolution into effect."

"I am forwarding you by this mail a copy of the Dominion Government's pamphlet on 'sheep scab,' the treatment of which is very similar to that of cattle mange. Either of the two solutions mentioned therein are recommended, and they are both cheap and efficacious. When using them the skin should be first brushed as clean as possible, removing loose hairs and scabs, and then with a good stiff hair brush rub in the wash thoroughly over every part of the animal. It may be well to point out that animals affected by mange are prevented from being shipped for exportation, and for this reason they should be attended to as early as possible in the season."

"The two following mixtures will be found both cheap and efficacious:

Impure carbolic acid phenic	Lbs.
Quicklime	1
Carbonate of soda	3
Soft soap	8

"When mixed they form a thick paste of soap which, when dissolved in the proportion of one pound to eight gallons of water, will make a

solution which should be put into the dipping vat tepid, allowing two gallons for each sheep.

"The following is also recommended:

Flour of sulphur	Lbs.
Quicklime (newly slacked)	10
	3

"Boil in 10 gallons of water; keep mixed by constantly stirring till a clear dark orange solution is produced.

"Make up the bath to the necessary quantity by mixing one gallon of this solution with three of hot water.

"A second and usually a third dipping is necessary in most cases."

Our Scottish Letter.

THE CLYDESDALE AND AYRSHIRE SHOWS.

During the past few weeks the agricultural community here have been chiefly interested in shows. The four great Western shows have been held at Castle Douglas, Kilmarnock, Glasgow, and Ayr, and an opportunity has been afforded for estimating the quality of Clydesdale horses and Ayrshire cattle. With reference to Clydesdales, nothing much that is new can be said. The feature at all shows has been the success of the produce of Messrs. A. & W. Montgomery's stallion Baron's Pride (9122). He has secured first prizes with his stock in almost all possible classes. He won the family prize at Kilmarnock. As an illustration of the success which has attended the use of this sire, we may mention the female championship at Castle Douglas and Ayr went to his daughter Empress. At Kilmarnock his son Elator secured the male championship, and his daughter, the two-year-old filly Jeannie Deans, won the female championship. At Glasgow the champion in all was his son Casabianca, and the champion female his daughter Lady Victoria. The produce of Baron's Pride have gained all the championships but one at the spring shows, and this by no means exhausts the tale of his successful stock. At Ayr, in competition for Ayr cup, the first prize females all paraded, and of five, four were daughters of Baron's Pride, viz., Mr. Webster's Lady Pride, Mr. Thos. Smith's Empress and Jeannie Deans, and Mr. Guild's Topsy Pride. One of the best of yearlings got by him was exhibited at Glasgow. She is owned by Mr. Henry B. Marshall, and is a typical Clydesdale, standing on short legs, with the best of quality. Another grand yearling is Mr. Guild's Topsy Pride—of a different type, more upstanding, with beautiful action, and there are others after him too numerous to mention. Then a half-sister of Baron's Pride named Lady Raffan, whose sire was the well-known Sir Everard, was first in the brood mare class at Glasgow. She was bred in the north of Scotland, and is undoubtedly one of the best Clydesdales bred in the part of the country for many years. Baron's Pride himself was bred by Messrs. R. & J. Findlay, Springhill, near Glasgow, and gained first prize at the H. & A. S. Show at Aberdeen in 1894. He is a horse with wonderfully good quality of legs, in this particular being practically invincible.

One of the most interesting ties of the year is between his two daughters, Empress and Lady Victoria. Both were bred by Mr. Wm. Nicholson, Bombie, Kirkcubright, and the dams are respectively mother and daughter. An interesting fact regarding the dam of Empress is that she was purchased as one of a large number of fillies intended for exportation to Germany. The committee of German experts who came over to select the animals rejected her because she was not rough enough, or, as they expressed it, strong enough for them. The Messrs. Montgomery, who had the contract, were by no means sorry the Germans refused to take this particular filly, and they sold her almost forthwith to Mr. Nicholson. In due time she produced a filly foal by MacGregor, and while the old mare is dam of Empress, the champion at Castle Douglas and Ayr, the younger mare is dam of Lady Victoria, the champion at Glasgow. It is an interesting fact that the most successful exhibitors of Clydesdale females this year are two English gentlemen. The owner of Empress is Mr. Thomas Smith, Blaen Point, Chester. In the final at Ayr, this gentleman owned three of the competitors, viz.: the first prize brood mare, Belle of Fashion; the first prize three-year-old mare, Empress; and the first prize two-year-old filly, Jeannie Deans. The other English gentleman who has been very successful is Mr. Herbert Webster, Morton House, Fencehouses, the owner of Lady Victoria, and also of Lady Pride, the first-prize yearling at Ayr. Lady Pride is a great handsome four-year-old dark brown mare, with capital hind legs and great substance. With some she was a favorite for champion honors, but on the whole I think the award made in favor of Empress the more defensible. Lady Pride is perhaps less feminine-like than is popular. She is certainly a magnificent mare, but is just rather masculine in appearance in front, being possibly more like a gelding than a mare. All the same, her kind are exceedingly scarce, and she deserves her victories. Mr. Crawford's Casabianca, the Glasgow premium horse, and the champion at the Glasgow show, is perhaps the weightiest and most powerful looking of all the produce of Baron's Pride. He is a horse of great weight and strength, and we anticipate for him a distinguished career at the stud.

AYRSHIRES AT THE SHOWS.

Amongst the Ayrshires this year, first place has to be given to Mr. Hugh Duncan, Langalchorad,

Bute. A few years ago, Mr. Alex. Cross, of Knockdon, who owns one of the finest herds of Ayrshire cattle in the country, won the championship at the Highland with a cow named Beauty of Holehouse. This cow was bred by Mr. Robert Woodburn, Holehouse, Galston, and was a beautiful brown, with very little white intermingled. Mr. Hugh Duncan, who is an enthusiast, was determined to have a bull calf from her, and paid Mr. Cross a stiffish price for her bull calf of that year. This bull calf has bred very well indeed for Mr. Duncan; and this year, for a group of cows we question if he could have been beaten. At Bute Show, which was held this week, and where there is keen competition in the three-year-old class, Dr. Duncan simply swept the boards with gets of the Knockdon bull. At Glasgow and Ayr he was also well forward with three-year-old queys after him, and we doubt if any breeder this year could touch Mr. Duncan for a group of that age. Amongst milk cows of an older race, Mr. Robert Sillars, Whiteside, Monkton, secured the championship at Glasgow with Juniper 4th, a cow which won the Ayr Derby last year; and Mr. Hugh Todd, Harperland, Dundonald, exhibited a first-class cow named Nelly IV. in aged class at Ayr, where she beat the Glasgow champion. The Ayr Derby for three-year-old queys is the great event in the Ayrshire world; and this year first prize, and also the championship of the Ayrshire section, were secured by Dr. Wm. Howie, Burnhouses, Galston, with a cow named Drummy II. Mr. Howie inherited a splendid herd from his father, but it appears to us that it has in no way suffered in his hands; indeed, during the past few years the Burnhouses herd, which for a time was not heard much about in the showyards, has recovered itself, and for the past two or three seasons has practically been leading the Ayrshire classes. A brother of Mr. Howie's, Mr. Jas. Howie, of Hillhouse, Kilmarnock, is this year leading in the bull section with a white bull named Kohinoor. This bull secured the championship of the section, both at Glasgow, Kilmarnock, and Ayr. He is a very straight animal, with fine lines, and showing a lot of breeding. Mr. Andrew Mitchell, Barcheskie, Kirkcubright, as usual is very hard to beat in the female section, especially in queys and stirks. He has several particularly good animals not likely to be excelled in their age. For its area, possibly the Island of Bute contains a larger number of high-class Ayrshires than any other district in Scotland. At the show which was held this week there was an excellent display of dairy stock. Mr. Hugh Duncan, already referred to, was, of course, practically invincible, but several other breeders made for themselves an excellent position. This applies particularly to the Mid-Ascog herd of Messrs. R. & J. McAlister; the Meikle Kilmory herd of their brother, Mr. Jas. McAlister; and the Little Kilmory herd of Mr. Chas. Duncan, brother of Mr. Hugh Duncan. Visitors in search of Ayrshire cattle from the Dominion cannot do better than spend a day on the Island of Bute. Mr. Wylie, from Montreal, has recently been here, and in company with Mr. Ness has made a prolonged tour. He has shipped a number of good cattle during the past ten days, and I trust they will do something to maintain the reputation of Ayrshires in Canada. I suppose you will shortly be sending back produce of these cattle to us in the shape of cheese and butter, but so long as you buy the cattle we cannot grumble.

Mr. Ness is one of the oldest shippers of Clydesdales from this side. He has taken with him three superior horses, specially well bred and up to good weights. Mr. Ness was born in this country, but emigrated when very young, and has been long settled in Howick, in the Province of Quebec. He appears to be on excellent terms with his French neighbors, and is one of the best judges of Clydesdale horses who comes from Canada.

"SCOTLAND YET."

The Demand for Agricultural Education.

Throughout all English-speaking countries a reviving of intelligent public interest in agriculture is apparent. This has manifested itself in various ways, particularly in the last few years, in the demand for agricultural education. Recognizing the trend of events, we find the authorities in Ontario, Manitoba and the Maritime Provinces of Canada introducing the subject of agriculture in the public school course, while in some of the States, such as New York and Indiana, it is being dealt with in the form of what is called "nature teaching."

The United States Secretary of Agriculture, Hon. James Wilson, however, points out in his annual report, a copy of which we have just received, that there is still nothing being done in most of the common schools of the States to cultivate a taste for and lead the mind to enquire into and store up facts regarding nature so that the young farmer may be directed into the path that leads to education concerning his future life work. He points out that the great prerequisite is the education of the teacher, and he suggests the special training of teachers at the State Teachers Institutes and normal schools. He points out that the greatest difficulties in the way will be to overcome the conservatism of local boards managing country schools, and the securing of competent teachers. But we are satisfied that once the need for and advantage of such teaching in the public schools is fully realized by the people generally, as it already is by those who have taken careful stock

of the educational signs and tendencies of the times, these obstacles will gradually pass away.

We notice by the *Otago Witness*, one of the leading journals of New Zealand, that the question of agricultural education is coming to the front in that distant part of the British Empire, the demand being made for a really good and practical text-book on agriculture, to be made a compulsory item in the syllabus of all the country schools. The writer, however, insists that it be intelligently taught, as a mere perfunctory cramming of technical terms would be of little use and would put it on the same footing with many subjects already taught. He argues that it is the duty of the State to give the rising generation of farmers the opportunity to acquire such knowledge of the principles of agriculture as will improve their chances of success.

We are glad to observe that Ireland, long distracted with a variety of troublesome questions, is now devoting more attention to the means necessary to raise the standard of Irish agriculture to a higher plane. The following from the *Farmer's Gazette*, which is itself doing a grand work in spreading agricultural knowledge, fairly represents what is taking shape in the minds of the more intelligent men of that country on the subject:

"It is to the rising generations in our schools that we look for the great changes which we foresee as possible in our Irish agricultural systems. The foundations upon which the improved agricultural practices of the future must be built up can only be laid in our schools, and in order to enable these foundations to be properly laid, our teachers must be properly trained. It is, to a large extent, because of the lack of proper training under which the majority of our teachers have labored in the past that agricultural education has come to be regarded with so much disfavor in many parts of the country. For this, of course, the teachers are not to blame—the fault is not theirs so much as that of the system under which they are obliged to work. Will it be believed that in the great Central Training College in Dublin, at which such a large percentage of our young teachers are trained from year to year, the 'Professor' responsible for the agricultural portion of the College curriculum is a gentleman who has been for years a teacher in the City of Belfast, and who has had absolutely no practical experience of the subject which he teaches! This sort of thing must be done away with, and an up-to-date system of agricultural education adopted, if we are to have any 'alteration' in the 'spirit' with which offers of instruction by the Board of National Education are received by practical farmers throughout the country."

We must congratulate the *Farmer's Gazette*, which is one of the most progressive of Irish periodicals, upon the fact that it has thus resolutely taken up the cudgels in so good a cause, and we trust it will not lay them down until the great reform for which it is battling has been brought about.

The Proposed Nova Scotia Agricultural College.

According to the Act passed at the recent session of the Nova Scotia Legislature, the Government is authorized to purchase a site for an agricultural college and experimental farm and for ordinary farming operations, and to erect the necessary buildings, at a cost not to exceed \$20,000. It is to be equipped and conducted so as to impart a theoretical and practical education in agriculture, horticulture, and arboriculture. Power is conferred to appoint not less than two professors, one of whom shall be principal, who in turn will have power to appoint a farm instructor and manager, under the direction of the Provincial Secretary for Agriculture (now Mr. Chipman), and employ such further assistants as may be necessary for properly carrying on the farm operations and experiments. With the establishment of this institution the grant towards the Provincial School of Horticulture will cease. The location of the college is left to the discretion of the Government, and up to the present time, we understand, no steps have been taken.

Do Sheep Degenerate in Canada?

The discussion on another page in this issue, by a valued contributor, of the alleged deterioration of sheep in this country, and the necessity and possibility of originating and fixing the type of a Canadian breed of sheep more suitable to the country and its climate than the English breeds, opens a subject which admits of difference of opinion at least, if not total disagreement. If we admit the premises of our correspondent that the English breeds of sheep do degenerate in Canada, that the necessity and the fact of repeated importations is proof of this and is the main object of importation, then there is little room for argument; but, for our own part, we are not by any means prepared to admit that proposition, and are of the opinion that importations are made so largely as they are more especially as an enterprise and an advertisement, knowing as we all do the undue importance that is attached to the fact of importation as a means of improvement of our flocks as compared with selection from the best of home-bred animals. While many of the best that can be bought, and many of the prizewinners at the leading shows, are imported, it is also true that many are imported which are not qualified to improve the flocks of this country, and of which it

can truly be said, "They left their country for their country's good."

The statement that "the immediate effects of our climate on imported animals are reduced vigor and failing flesh" can only apply in the case of those animals which have been forced by high feeding and the use of artificial food into an abnormal state of fatness for show purposes and are turned out to shift for themselves on arrival in this country, on scanty fare and without any grain feeding to supplement, it may be, a bare pasture. On the other hand, we have seen field-kept English sheep imported in thin condition improve rapidly on short fresh pasture when landed here, and continue to improve and develop as long as they were afforded reasonably good fare.

The success which Canadian-bred sheep, in the hands of skillful handlers, have met with in the showing in competition with imported sheep is a pretty good answer to the question of degeneration, not infrequently winning as they have the highest honors. In the great competition at the World's Columbian Exhibition, in several of the classes of long-wools, and middle-wools as well, the most and the best of the prizes were won by Canadian-bred sheep.

The writer has known cases of long-wool rams bred in Canada being forced by high feeding to weigh 400 pounds and up to 450 pounds each, ewes to 350 to 375 pounds at maturity, and yearling rams at eighteen months to 350 pounds. Of course, it may be said that these had the benefit of the blood of immediate imported ancestors. True, they had on the sire's side, but their maternal ancestry traced through many generations of Canadian-bred animals—in some cases for thirty to forty years; and while they proved a great success from the point of view of show sheep, there is no evident reason why they might not have reached as good results if they had been bred from selected Canadian-bred sires of the same breed. Take the Leicesters, the first of the English breeds imported to Canada, as an example. It is the deliberate opinion of competent judges that sheep of this breed, forty years from the original importation, shown at our exhibitions are superior to those shown at the leading English shows. The best prizes in this class at the Toronto Industrial last year went to sheep tracing to importations forty years back, and in the first prize pen was a ewe which weighed 385 pounds, on the word of her owner, a reliable man, and the same ewe, though fitted for show purposes for four years, had in the last three years produced nine lambs. In the breeding of this ewe, none but Canadian-bred sires had been used directly. It would be difficult in this case to find evidence of degeneration. The fact of importation amounts to little in the building up of an ideal flock if the imported animals used are not characterized by individual excellence in constitution, quality, and conformation. As a matter of fact, many inferior rams have been imported, and high prices have been paid for them simply because they were imported, and with the hope that the fact of having used an imported sire would enhance the value of the offspring and improve the character of the flock; but in many such cases the result has proved very disappointing, and the breeder has been convinced that it would have been wiser to have made a suitable selection from a home-bred flock.

It appears to us that Mr. McCaig makes entirely too much of the effects produced by the difference in climatic conditions, to the disadvantage of Canada. We are fully persuaded, from personal observation, that as a rule sheep suffer vastly more from exposure to cold and wet in England than in Canada, from the fact that here they are almost invariably provided with shelter from storms during the winter season, while in England the great bulk of the sheep have to lie out in all sorts of weather without any shelter, which means at times drenched skins and a wet blanket of wool in winter for weeks at a stretch; and when folded on turnips, standing in mud nearly knee deep, without a dry place to lie down, and subject to changes of temperature occasionally so sharp that sometimes long-wooled sheep have been found by the shepherd in the morning fastened to the ground by the frost, requiring to be released by chopping them out with an axe; and who has not read harrowing tales of snow storms so violent in Scotland and in parts of England as to cover whole flocks completely out of sight, so that they have only been discovered by the instinct of the faithful collie. On the other hand, we have experienced summer weather in England nearly as hot as that of some of our most extreme July days.

It seems to us a stretch of imagination to assume that sheep under average conditions suffer in Canada from cold in winter or from heat in summer. With the warm covering provided for them in their coat of all wool they need only the common shelter afforded by a roof and a single-boarded shed to keep them in perfect comfort in the coldest weather we ever have, provided the sheep are fed a decent allowance of hay and either roots or a light feed of grain. The experience of sheep owners is that sheep thrive better in our driest and hottest than in wet summers, notwithstanding that grass is more plentiful in the latter case.

Although the growing of roots successfully for winter may not be as uniformly possible in this country as in England, yet it is a fact that the leading breeders of pedigree stock, and very many farmers engaged in feeding beef cattle and in

dairying in all the Provinces, rarely fail to secure good crops of turnips or mangels; and with a fair supply of roots it is easily possible to keep our sheep in thriving condition throughout our winter.

The only advantage England has over Canada in raising sheep is that her shepherds have had long experience in the care of sheep, and their whole time is devoted to that special line of work. Besides this, in many sections green crops are sown at different periods, on which the sheep are huddled, fresh portions being enclosed every few days, while the ground on which they have fed and which has been manured by their droppings is plowed for some other crop.

For winter feed in England turnips are largely grown, and are fed off upon the land, while dry feed—as hay and grain—is fed in racks and troughs in the fields. There is little doubt that if the same attention were given to feeding and providing a constant supply of green food, sheep would hold their own quite as well in this country as in England; and there is no doubt in our mind that by the cultivation of vetches, peas, corn, rape and roots a regular and constant supply of succulent food may be provided the year round. The labor involved in such a course may be said to practically prohibit it here, but it is certainly not accomplished without labor in England, and while labor may not cost as much there, yet the amount of it that is put upon the land and the slowness of the movements of the average farm hand there makes the expense as much or more than it would be here.

With regard to the question of the evolution of a distinctively Canadian breed of sheep, while we see no necessity for it, believing that the British breeds we have are well suited to our climate and conditions, and will give us as good results here as in any country under reasonably good care, yet we would not discourage those who think differently from making the experiment, and to one having the taste for that sort of work and the necessary perseverance and persistence there is an open field, though it is about certain than in any such experiment the English breeds would necessarily play an important part, but to the great majority the wise course will be to improve the stock they have by the steady use of pure-bred sires of the one breed of their choice, and by selection of the best for breeding to grade up and hold the improvement they attain in this way, which is a safe rule to follow.

In conclusion, we have no hesitation in affirming that there is no country under the sun where sheep thrive better or are more free from diseases and disabilities than in Canada, and no stock on our farms, taking the years as they come, and considering the cost of production, more profitable.

The Evolution of a Canadian Sheep.

BY J. M'CAIG, PETERBORO, ONT.

The practice of constant importation of breeding sheep from the old land is considered a mark of enterprise on the part of breeders who improve or add to their stock in this way. The fact of importation indicates its necessity. British sheep deteriorate in Canada, and importations are made to arrest this deterioration. It is gratifying to see home-bred sheep take the honors from the imported animals in the showing, as they occasionally do, and it is sometimes held on this account that the home-bred sheep are the equals, if not the superiors, of the imported animals. The exhibitions are an unsafe guide. The condition of show sheep is not a true reflection of the condition of the sheep of the country. The fitting of them is largely by artificial foods, which is not the rule with the feeding of the great part of the stock of the country. Generally, too, Canadian importers do not get the best English sheep, even for show purposes. Suppose it were the case that our home-bred sheep generally win, the larger fact and more conclusive one remains that we draw from the old land and they do not draw from us.

A study of conditions in both countries will lead to an understanding of the reasons of deterioration. There are three important differences between Canada and England that are wholly favorable to the sheep of the latter place, and these are: Differences in climate, differences in foods and vegetation, and differences in the skill of the breeders of sheep. England and Canada are both in the temperate zone, and have the excesses of heat and cold that are the mark of that zone, but they have these excesses in vastly different degrees. The insular position of England and its comparatively small area makes the climate much more moderate than that of Canada, except British Columbia. England, therefore, never has the extreme cold of the Canadian winter, nor the intense heat of its summer. Extreme cold is opposed to the attainment of large size, and extreme heat to fleshiness of carcass.

With regard to foods and vegetation, we have a parallel condition to that of climate.

Constant moisture, close, intensive culture, the feeding of much stock on the land, and the use of commercial fertilizers, have made England the most productive country in the world. Her flocks feed outside, as a rule, the year round. Vegetable growth is never sealed up for any considerable time. She has no violent transitions from one kind of feeding to another, no long periods of keeping stock on artificial stored foods, as we have to do for five or six months in the year.

Combined with the climate and vegetation is the skill of the breeder. The large manufacturing

industries of England give the greatest encouragement to food production, the climate and vegetation give suitable conditions, while the wealth and influence of the landed proprietors make improvement from experiment possible. The equipment of both master and shepherd in the old land is professional. The work of the one is directed by a fixed and definite ideal, which gives the flock the individuality which is so frequently commented on; the work of the other is the result of early training in every detail of flock management, backed up usually by hereditary fitness, for nearly every shepherd is a shepherd's son.

Apart from the original improvement of the Leicester and Southdown by Bakewell and Ellman, observe the improvement of some of the other breeds, as the Cotswold, Lincoln, Hampshire, and Suffolk, and the virtual creation of the Shrop and Oxford.

The deteriorations spoken of at the beginning of this article in the case of the English sheep in Canada, and the improvement of the English sheep in England being considered, gives rise to surmise as to the future development of sheep-breeding in Canada. Is it the case that the acclimatization of the British breeds will ultimately come, and their weight of carcass and fleece be retained? Is it likely that the knowledge and practice of breeding will grow to the extent that it will successfully combat tendencies to deterioration? Is it probable that a cross-bred sheep derived from the present English families will be evolved suitable to the country?

The food difficulty is the chief one we have to meet, for not only is the natural supply less, but the system of artificially providing food not so well established. The necessity is an uninterrupted series of green foods in summer and a larger variety of succulent foods to help the dry stored foods of winter.

The immediate effects of our climate on imported animals are reduced vigor and failing flesh. There are a few points that the breeder should keep in mind if he is handling imported sheep. It would not be considered wise to mate an imported ewe with an imported ram if both have been previously forced into high condition for show purposes, as both are suffering a reaction in vigor from meeting the rigors of a new climate and a less generous feeding. The ram would be better to have overcome the shock of changed conditions than to be put to breeding immediately after importation. He would, for example, be better to be bought as a lamb and not used until a shearing. Field rams and ewes, and not animals fitted for show, should be imported for breeding purposes, as choosing overfed animals is simply adding difficulty to the task of accustoming the sheep to harder conditions. There may be, perhaps, a preference of breeds. It is obvious that hardiness and ability to subsist on scanty pasture would be desirable qualities, and these the upland breeds are generally conceded to possess. On the other hand, most of our holdings, in Eastern Canada, at least, are under careful cultivation and subject to a rotation of crops, which indicates their suitability to the heavier or farm breeds.

With regard to the probable progress of the shepherd's art in Canada and the likelihood of its being able to greatly raise the type of mutton sheep or hold it against deterioration, there is good prospect of improvement. Though we are young, we are more likely to learn quickly on that account, and may perhaps make greater progress in a given time than the mother country. It is true that mixed farming prevents the development of the art of shepherding exclusive of other duties by the same person, but there is certainly a steady growth in interest in pure-bred sheep, and a very rapid increase during the past ten years in the number of pure-bred flocks kept. The good reputation that Canadian mutton has enjoyed in the American meat markets has given rise to a demand for stock animals, and the large number of stock rams of the Cotswold, Lincoln, Shropshire, Oxford, Southdown and other breeds taken out during last fall and winter from Canada, principally from Ontario, has given much encouragement and impetus to the industry. Under such a spur there can hardly fail to be a very marked improvement in the breeder's art.

As to the probability of the establishment of new families with distinctive Canadian qualities and fitness it is unsafe to prophesy. If it is true that deterioration has been the rule with us so far, then the necessity for some new family is obvious. Importation is an expensive way of keeping up the standard of our flocks or of fighting deterioration. *The sheep industry cannot be considered to be in a satisfactory state until such breed or breeds as we cultivate improve under our hand.* This condition must be the constant and final test of suitability. Such a sheep will be a very cosmopolitan animal. He will be ready to appropriate to himself the luxuriance of June and to be content on the brownness of July and August. He will be indifferent to November rains, and content with 20° below zero in February. Perhaps it is too early in the history of the country to talk about a Canadian sheep, and it may be thought, on the other hand, that there is no need for a different family from the existing British families—that the work of acclimatization is going on nicely. In any case, it may be argued that we have no native sheep to improve or cross with the English breeds for the establishment of a harder breed, that we are limited to the English breeds in any case. This is true. At the same time, the most prominent breeders of the country

are not doing the work of acclimatization. Those who stand as the prominent breeders are largely dealers. Their stock is a shifting one, and not permanent in quality. The progress made by them in acclimatization is not held against a present speculative and commercial advantage. They are not to be blamed for running their business at a profit to themselves. While they are doing this, a less pretentious class of breeders may unconsciously hold the key of the future sheep situation. The majority of the sheep of the Dominion, even of Ontario, are not registered sheep. They go under what we have already learned to call "the common stock of the country." They consist of what are, or were once, at least, long-wools, Leicester predominating, with a dash of Cotswold grafted in at spasmodic and intermittent intervals. If you study them on the roadsides you will find they haven't kept the fleshy top of the sheep of the British showing. Their back is, indeed, slightly peaked; they have a pretty roomy abdomen (pot-bellied, some might say); and their fleece is short, compared with the modern Leicester, and comparatively dense. But if their back is peaked it is straight, and they cannot be taxed for not carrying the flesh of a British progenitor who knows nothing of our extremes of weather. The front legs are not very far apart, but the animal is not less able on this account to do the necessary traveling for food. The wool being shorter and denser is simply meeting the demands of cold weather by such shortening and thickening. But do our best for the common stock of the country by way of apology, it is not in the race with English types which have been adopted *holus bolus* as the Canadian type. If it falls short by points, however, it represents work done—done unconsciously, but work, nevertheless. That term "common stock of the country" means nothing more or less than that the country has evolved or naturalized a sheep. In the common stock of the country the work of acclimatization has been brought to its highest point. The work of selection has, perhaps, not gone on concurrently, but there is no telling the possibilities of improvement ahead under careful selection and good feeding in the future. The sheep that Bakewell started with well answers the description of the common stock of the country, and though his operations were kept dark, it is generally supposed that he did not go far from his own neighborhood for his materials. After his type was fairly established, he bred wholly within his own flock, and hence it was by selection that his improvements were made. It is a question whether there is not as profitable a future before the man who takes hold of what we have that is most our own and breeds up as there is before the man who holds to the practice of trying to keep up the standard of his flock or improve it by the infusion of English blood. On account of the length of the above discussion, the question of the part the English breeds might play in the establishment of families is not touched upon; neither are the differences that may exist among the common stock in different localities dealt with. It is the aim of the writer simply to suggest that the hardiness of the most common of Canadian sheep may prove in skillful hands to be a substantial asset to the country.

A Trial in Fattening Steers Loose.

THE SYSTEM DECIDED TO BE SATISFACTORY—NINETEEN HEAD AVERAGED 1,345 POUNDS.

Mr. Thos. Baty, of Middlesex Co., Ont., always fattens a good stable of cattle, and having heard such favorable reports of loose feeding, he determined to give the plan a trial last autumn, and to that end removed the stalls from his feeding stable and divided it into three compartments. His bunch of steers consisted of nineteen head coming three years old, weighed November 1st from 900 to 1,300 pounds, most of them being purchased in the neighborhood. The steers were each given about 55 square feet of ground space, or, in other words, six steers occupied a pen 22 x 15 feet, exclusive of mangers. The mangers were arranged along the feeding passage, each 2 feet 4 inches wide, and fitted with stanchions. When the cattle were fed any sort of feed that one might steal from another, or get too much for its good, which consisted of all they got except hay, the stanchions were closed, holding them securely until the feed was eaten, which was usually less than an hour. The mangers were only some two and a half feet high in the passage, so that the feed was easily given to them.

When housed in the fall this feed consisted of well-matured and well-saved corn in the sheaf, and run through a cutting box, and turnips. The quantity of corn given was a bushel to each beast morning and night. They also received a noon meal of hay, which in former years usually consisted of straw, except when Mr. Baty had a good supply of hay. This composed the ration till March 1st, when about 1½ pounds per day of shorts were added to the cut corn. By the 1st of April the corn, which had been kept in fine condition in small round stacks, was finished, and hay and mixed chop were substituted. The roots were fed at the rate of one bushel per head per day for the first two months, and gradually reduced to about one peck per day as the supply became exhausted, which was on May 12th, the cattle going away ten days later, weighing from 1,100 to 1,600 pounds, averaging 1,345.

The grain used was peas, barley, corn and shorts, and was given mixed with sufficient cut hay to

cause it to be well masticated. It was commenced on April 1st at the rate of about nine pounds per head per day in three feeds, increased to twelve pounds as the finishing period approached. While a full supply of turnips was given the steers required and received no water, but when the root supply was reduced the cattle were turned out to water once a day, and later on twice a day. It is Mr. Baty's purpose to put water into the stables before next winter in order that the cattle may drink at their pleasure.

During the early part of the loose feeding period Mr. Baty was not at all sanguine over the prospects, but soon the cattle commenced to thrive well and show such evidences of contentment that the loose system from that time grew in favor until the cattle went away, when he was fully convinced of its superiority over the old plan of keeping the cattle tied. A striking advantage was evident in the eagerness with which the animals always came for their meals. They were always contented, and even when the doors to the yard were thrown open they never showed a disposition to go out, except for water, or at least until the warm weather arrived. In previous winters Mr. Baty has occasionally found the cattle to go off their feed a little at times, especially when being heavily fed during the finishing period, but the loose feeding has been found almost a complete remedy for that trouble, as on only one or two occasions during the whole winter did animals refuse their feed, and that only for one meal. The cattle were not put on the weigh scales during the winter, but it was evident to Mr. Baty that their gain was continuous. The cattle were pronounced by the shippers to be of uniformly high quality, and in fine condition to stand the shipping. An objection that has been raised to the loose feeding of steers is that much more bedding is required to keep them clean, but Mr. Baty's got no more than he usually gave his tied cattle, and they went away in clean condition.

Oxfordshire County Show, England.

[SPECIAL.]

This important County Show was held on May 16th and 17th last, at Blenheim Park, Oxon. The greater interest to your readers will doubtless be in regard to the sheep and beef cattle classes, and, therefore, the following are the brief particulars of a most successful exhibition in respect to these classes:

Oxford Down classes were stronger, of greater merit and better quality than has been the case during the past two or three years. The yearling ram class was headed by a ram of fine masculine character, big, upstanding and wide, but a wee bit weak in touch and wool, from Mr. W. A. Treweeke's flock, two others of this flock being respectively R. N. and H. C. Mr. J. C. Eady's flock secured second honors with a ram of rare merit, type and color, having first-class flesh and wool. Mr. H. W. Stilfoe came in for third honors with a meritorious sheep with capital back and good loin; whilst Mr. J. T. Hobbs, with two entries, both sons of Mr. J. Treadwell's Jumbo, who cost \$500—excellent sheep, of good conformation and type—secured two H.C.'s; similar honors falling to both Mr. J. Treadwell and Mr. G. Street for capital sheep. Yearling ewes were a small class, but of great quality, Mr. J. C. Eady securing, as last year, both first and second awards, and Mr. W. A. Treweeke the R. N. Ram and ewe lambs were capital classes, Messrs. Hugh W. Stilfoe, J. P. W. Reading, W. A. Treweeke being principal winners, whilst for flock ewes Mr. H. W. Stilfoe went first with a grand pen of ewe lambs, and Mr. A. H. Wilsdon took both first and second for ewe tegs in the wool.

*Hampshire Down*s were both largely and strongly shown, and Lord Rothschild's champion pen of ewe lambs were of grand merit and quality, such that all breeders would desire to breed, but which few succeed in doing. Yearling rams were headed by as grand a yearling ram as one would wish, of first-class type, and with splendid flesh, back and loin, from Earl Carnarvon's flock; a second sheep from the same flock being third; whilst two from Lord Rothschild's flock, with good fleeces and conformation, came in for second prize and the R. N. Yearling ewes were headed by a pen of Mr. De Mornay's breeding, exhibited by Mr. R. W. Hudson, whose second pen secured the R. N.; whilst a grand pen of Mr. W. T. Twidell's came in for second honors. In the excellent class for ram lambs Mr. A. C. Scott Murray took premier place, the Earl of Carnarvon being a very close second, with Mr. L. H. Baxendale third; whilst in ewe lambs Lord Rothschild's grand pen easily led the way, followed by a meritorious pen from Mr. Alex. Henderson's rapidly rising flock, with Mr. R. W. Hudson's exhibit third. For flock ewes and lambs and for ewe tegs in the wool the exhibits of Earl Carnarvon's flock took easily the premier places, these exhibits being of great merit and quality.

Southdowns.—The entry of this breed was disappointing in respect to numbers, but little or no fault could be found with their quality. In the yearling rams Mr. C. R. W. Adeane and the Pagham Harbor Co. had a sharp tussel for first place, resulting in the order above, both being rams of excellent type, good wool, flesh and skin; Sir J. Blyth being third with a deep-fleshed sheep. In the yearling ewes Sir James Blyth's deep-fleshed and excellent pen went first, the Pagham Harbor Co.'s pen being very close second, their character and quality being excellent; whilst a first-class pen from Lord Bathurst went R. N.

Farm Seeds.

CONTINUOUS CROPPING OF FORTY VARIETIES ON THE SAME FARM WITHOUT CHANGE OF SEED—IMPORTANCE OF VARIETY IN FARM CROPS.

To the Editor FARMER'S ADVOCATE:

SIR,—That man is truly wise who uses the best seed he can possibly get for sowing in his fields, for it is certain that good seed is at the very foundation of good farming. There is far more value in seed of the highest quality than many people believe or even imagine. The quality of the very best seed obtainable can be improved by continually making use of those methods of improvement best suited to the seed under the particular conditions in which it is grown. It should be the aim of every crop-producer to gain as much information as possible regarding the proper methods of securing the best seed for his own soil.

Prof. J. W. Robertson, Agricultural Commissioner for Canada, made some important statements regarding the improvement of seed when he addressed the Agricultural Committee of the Dominion House on the 9th inst., and as the report of this address appeared in the last issue of the FARMER'S ADVOCATE, it will now be in the possession of many farmers who will, therefore, have an opportunity to study it carefully. As we have obtained some interesting results of field experiments conducted at the Ontario Agricultural College, bearing on the subjects dealt with by Prof. Robertson, a concise statement of some of them might be here presented for study in connection with Prof. Robertson's statements. For the results of a number of special experiments on "seed selection," the reader is referred to pages 17-30 of the Report of Farmers' Institutes for Ontario for 1897-8. There are some lines of field experiments which require many years of carefully repeated tests in order to obtain serviceable results, and the longer they are carried on the more valuable do the results become. The two lines of investigations to be here referred to belong to this class, and, as the experiments have now been conducted for ten years, the results should be of considerable value.

CONTINUOUS CROPPING WITHOUT CHANGE OF SEED.

In the variety tests conducted with farm crops, our plan is to grow all varieties for at least five years, and then to discard the poorest and to continue with the best kinds. Fresh seed of all root and corn crops is purchased annually, but in the case of grain and potatoes the seed used each season is secured from the crop produced on the plots in the previous year. Following this plan, we now have the record of forty varieties of grain and potatoes grown for ten years in succession without using seed from outside sources since the spring of 1880. In averaging the yields for the first five years (1880-84), and also for the second five years (1884-88), we have the following record in bushels per acre:

CROPS.	FIRST 5 YEARS. SECOND 5 YEARS.	
	(1880-84)	(1884-88)
Oats (17 varieties).....	70.7 bush.	78.1 bush.
Barley (8 varieties).....	50.8 "	58.8 "
Spring wheat (6 varieties).....	23.9 "	27.6 "
Potatoes (9 varieties).....	145.4 "	199.6 "

The average increase of yield in each crop for the second period as compared with the first is, therefore, as follows: Oats, 10.5%; barley, 15.8%; spring wheat, 15.5%; and potatoes, 37.3%. These figures show that in the second period there was an average of about one-fifth greater yield per acre than in the first period.

The soil used for these crops was a clay loam and was fairly uniform throughout. The cultivation and seeding was about similar in each of the ten years. Farmyard manure was applied once each four years at the rate of about fourteen loads (20 tons) per acre. The manure was applied on the land for roots and potatoes which preceded the grain. Clover was not grown and the land received no advantage from the droppings of animals, as it was not pastured. No commercial fertilizers whatever were used. This treatment of the soil was rather severe and would likely tend to decrease rather than increase the fertility. The seasons in the two periods undoubtedly had some influence, as the reports of the Bureau of Industries for Ontario show the average yield of oats, barley, spring wheat, winter wheat, and potatoes for the five years from 1894 to 1898, inclusive, to be about five per cent. greater than the average for the five years from 1889 to 1893, inclusive. The increase of the forty varieties in the second five years was, however, about 20 per cent. greater than in the five years previous, which still leaves an increase of about 15 per cent. in favor of the second period. It is, therefore, quite likely that the careful way in which the seed was selected each year had considerable to do with the increase, as such pains was taken every season to use nothing but the large, plump, true seed of each variety.

Our experiments have now reached that point at which the results of each coming year should give information of increasing value on this question regarding which there is such a difference of opinion. From the foregoing results, however, we have already seen that four different classes of farm crops have been grown on similar soil for ten years in succession without change of seed and with an increase in yield per acre.

IMPORTANCE OF VARIETY IN FARM CROPS.

A large number of varieties of farm crops are grown annually in the experimental grounds. The records of the different characteristics of each kind are carefully kept and the yield and the quality of each variety are accurately determined every season. After the varieties have been thus carefully tested for five years in succession, a few of those giving the highest results in yield and in quality and which possess different characteristics are selected for co-operative experiments throughout Ontario. The object in this is to enable the farmers to determine for themselves which of the leading varieties will be best suited for their own particular soils and localities. The demand for these varieties is increasing annually; 11,941 packages were sent to 3,480 experimenters within the past year. Not only are the best varieties used each year, but the seed is carefully sifted and is then picked over by hand. This requires much labor, but we believe it is work done in the right direction, and that much good is resulting therefrom. The past results show that nearly all the varieties which have been sent out have made excellent records for themselves, and some of them are now grown extensively.

As this line of work has been going on for some time, we have a good opportunity to study the comparative value of one variety with another, and thus to ascertain whether variety in itself is a matter of much importance. We now have the records of a few varieties which we have grown at this place, and also in connection with the co-operative experiments for several years in succession, and the results are very interesting and suggestive. The accompanying table gives the average yield in bushels per acre of each of two varieties of oats, of barley, and also of spring wheat, for the first and for the second five years at the College and for five years over Ontario. It also gives the average yield per acre of each of two varieties of winter wheat, and also of potatoes, for the first five years at the College, and for the two following years both at the College and over Ontario:—

PERIODS.	OATS.		BARLEY.		SPRING WHEAT.		WINTER WHEAT.		POTATOES.	
	Siberian.	Bavarian.	Mandscheur.	Oderbrucker.	Harrison Bearded.	Pringle's Golden Champion.	Dawson's Golden Chaff.	Early Red Clawson.	Empire State.	Burpee's Extra Early.
First Period at O. A. C.—Average, five years.....	76.7	70.9	56.8	51.3	26.9	24.9	49.9	46.2	197.6	100.7
Second Period at O. A. C.—Average, five years.....	79.3	75.1	73.3	62.9	29.1	25.8	51.3	49.2	242.7	224.2
Co-operative Experiments throughout Ontario—Average, five years.....	32.5	51.0	34.4	30.1	16.9	14.9	32.3	29.1	214.9	194.4

The figures given for the co-operative experiments represent the average yields of tests made with oats on 481 farms; with barley on 128 farms; with spring wheat on 149 farms; with winter wheat on 422 farms; and with potatoes on 53 farms. As the results of none but complete reports of successfully conducted tests were used for the summaries, the average yields should be very valuable in this comparison.

Knowing as we do the treatment of the seed of the two varieties was practically the same in every instance, we can clearly see that variety showed itself in a marked degree. Without an exception, those varieties which gave the highest average yields in the first five years' test at the College also gave the highest average yield in the after tests at the College and in the co-operative tests over Ontario. From the reports which have appeared in the public press regarding the remarks made by Prof. Robertson before the Committee on Agriculture when discussing the great variations in the yields of the same varieties in the tests of the five Dominion Experimental Farms, I fear the impression will be made that he places but little importance upon variety in farm crops. It must be remembered that the conditions of the soil and climate of those parts of Canada in which the Experimental Farms are situated are widely different.

In Ontario we have found that the results of the co-operative experiments with varieties of farm crops have been in close harmony with those obtained at the Agricultural College, and that the influence of variety has been an important factor in relation to productiveness. The results of our extensive experimental work with varieties and with selections of seed give strong evidence that one of the best plans possible for securing the best results from the general cultivation of grain and potatoes in Ontario is for each crop producer first to search and find the best variety by experimenting on his own farm with carefully selected seed of a few of the leading kinds of each class and then to follow up the variety thus obtained by systematic and continued selection of both plants and seeds. The Agricultural College is assisting the farmers in this work by means of object lessons, reports, bulletins, newspaper articles, addresses, correspondence, etc., and by means of a systematic distribution of good seed of a few of the best varieties of farm crops for co-operative experiments on their own farms.

C. A. ZAVITZ,
Agricultural College, Guelph, Ont., May 25th, '90.

Aerate Milk Before Cooling It.

To the Editor FARMER'S ADVOCATE:

SIR,—Your paper of May 20th contains some valuable suggestions on the important subject of keeping milk in summer, in regard to which I would say: In order to keep milk pure and sweet would not advise placing can in water or use of ice until thoroughly aerated by dipping and pouring, as I think if chilled too quickly it is very difficult to get rid of any flavors that may be in the milk. Have had best results from patrons straining milk into can, giving it an occasional stir during the evening, and leaving can sitting on grass where surrounding air is pure. If a warm night, think a few pails of cold water thrown on grass around can a great benefit. Do not think night's milk should be cooled below 60 degrees, unless in case of those sending Saturday night's or Sunday morning's, then it is necessary to use water or ice, but milk should be well aerated before placing can in water. I think it very important that the morning's milk should be well aired and cooled in the pails before emptying into can with night's milk, that all milk should be properly strained, and all dairy utensils kept clean and sweet.

J. S. ISARD,
Bruce Co., Ont.
[NOTE.—Mr. Isard has repeatedly taken good prizes in Cheddar cheese classes at the Toronto Industrial and in other competitions, so that his advice on the care of milk for cheesemaking is worthy of more than passing notice.—Ed.]

Rider Haggard on Rural Depopulation.

Mr. H. Rider Haggard, the well-known novelist, who is now farming some three or four hundred acres of land in England, recently delivered an address on "The Exodus of the Rural Population" before the Norfolk Chamber of Agriculture. The advantages of rural life were not appreciated at their proper value, but Mr. Haggard pointed out that the true reason was that the land did not pay sufficient wage to keep the laborer upon it. He could not be persuaded to accept 12s. or 13s. per week when by transferring himself to two or three squalid rooms in a dingy court of a great town he could earn 25s. or 30s. As to remedies, he said what would help the farmer would help the farm laborer. He suggested one of two things: Very stringent measures which would make it impossible for the farmer to be defrauded by the sale of his produce of that which he never grew; the equalization of rates and taxation upon real and personal property, thereby lessening the burdens that now fall upon the land, and the making it impossible in fact, as well as in name, for carriers to transport foreign goods at cheaper rates than they granted to British produce. In conclusion, he moved the following resolution, which was unanimously carried:

"This Chamber respectfully calls the attention of Her Majesty's Government to the continual and progressive shrinkage of the rural population in the eastern counties, and especially of those adult members of it who are described as skilled agricultural laborers. In view of the grave and obvious national consequences which must result if this exodus continues, the Chamber prays that Her Majesty's Government will, as soon as may be convenient, make its causes the subject of Parliamentary inquiry and report, with a view to their mitigation or removal."

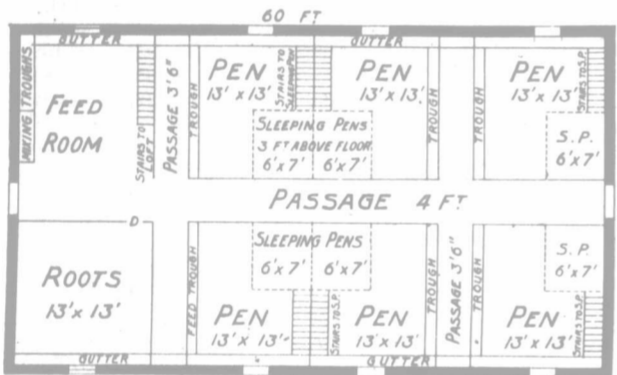
Live Pork Produced for Two and a Half Cents per Pound.

A YEAR'S TRANSACTIONS BY A SKILLFUL HOG FEEDER—A MODEL PIGGERY.

A great many hog-feeders who have not made much money out of their swine, even by careful and intelligent effort, will be anxious to learn how pork can be profitably made when it sells at moderate prices. One great hindrance to many pork-raisers is the lack of detailed business management, with the aid of weigh scales, pencil and paper. A good business man in any line does not continue to drop money in any particular branch of his operations without an effort to locate the leak and seek to repair it. There is, perhaps, no other branch of agriculture so susceptible of unprofitable conduct as that of hog-feeding, since so much expensive food is usually considered necessary to at least finish the pigs for the market.

While in the south-western portion of the county of Oxford we took occasion to visit the farm of Mr. W. J. Whaley, where porkmaking is conducted on business principles. We found, upon investigation, how bacon pigs were raised throughout the year 1898 at about two and one-half cents per pound; and with conditions which Mr. Whaley is working towards he considers he can still further reduce the cost when the prices of feed and pork are at all favorable. Mr. Whaley raises his own pigs from pure-bred and grade Tamworth sows, and until recently from a Berkshire boar. He is so well pleased with the way Tamworths feed and suit the bacon trade that he is now putting away his Berkshire boar and replacing him with a pure-bred Tamworth hog. We found most of his sows running in a grass plot, on a high location and with a southern slope. Next in importance to good stock is a favorable pen for winter feeding, and in this Mr. Whaley is well equipped.

The Plan of Piggery herewith published is almost self-explaining. It is 60 ft. long, 33 ft. wide, and divided into six pens about 13x13 ft., a feed room, and a place for roots. The root house can be used as a pen if desired. The floor of the pens requires description. The building is of stone, and stands north and south. The floor at the south end is two feet lower than at the north. This gain in height is secured by each pen being raised six inches higher than the one south of it, in terrace form. The floor of each pen is therefore level north and south, but it slopes two and one-half inches from the passage to the gutter. The gutter is a continuous sloping trench from one end of the 60-



GROUND PLAN OF W. J. WHALEY'S PIGGERY.

ft. pen to the other, being six inches deep at the south end of each 13-ft. pen, and coming to the surface at the north end. This gives thorough and quick drainage by two feet fall in sixty. The floors and troughs are of cement, and as the bedding is kept in the sleeping-bed or platform, three feet up from the floor, only sufficient litter is used on the floor and in the gutters to absorb the liquid manure. The sleeping-beds, 6x7 ft., are of plank and surrounded by a board one foot high. The pigs seem to spend considerable of their time in these dry, comfortable quarters, which they reach by means of cleated walks, called stairs in the cut. Each pen is furnished with a door connected with a yard outside, and above each door is a good-sized window, which swings in from the top, giving ventilation without direct draft on the pigs. The ceiling is 9½ ft. from the floor at the south end and 7½ at the north, and above is a 6-ft. loft for bedding, feed, etc. The pen throughout is worthy of imitation, but more especially in its sleeping quarters, floors, and drainage system.

Winter Feeding of hogs is considerable of a problem, but Mr. Whaley has solved it to his own satisfaction. Having the dry and warm pen, the next consideration is to secure proper food in the cheapest way. The chief grain food is shorts, but sometimes a proportion of corn, peas and bran are also given. These are supplemented with pulped mangels and slops, such as whey, milk, and water when the other liquids are short. The pulped roots, shorts or chop and slop are mixed (about one bushel of shorts to two and a half of mangels) twenty-four hours before feeding, and given cold twice a day, except in very cold weather, when the mangels are boiled in a boiler standing in the feed room. The feed is not given very sloppy, except skim milk can be used, as too much water is injurious to the pigs. Mr. Whaley considers the only advantage of boiling is in having the feed warm in severe weather. At noon, pulped mangels are fed alone—just what is eaten readily. A change of feed is considered by Mr. Whaley very beneficial.

A few ears of corn occasionally, and once or twice a week dry shorts, are given with pulped mangels. A quantity of ashes, charcoal and sulphur are mixed in the regular feed about once a week. The litters are weaned when about seven weeks old, and are given shorts, mixed fairly thick with milk, twice a day for about a month. Mangels or sugar beets are then gradually added, and a few mangels are always given at noon.

Summer Feeding is usually done in pasture lots, and Mr. Whaley is aiming to use clover for this purpose, especially for the growing pigs. Bran and shorts, mixed twenty-four hours ahead with whey, etc., is given in the form of a slop. The pigs are given full feeds of this twice a day, and the way they thrive is remarkable, not in putting on fat, but in growing the desirable strip of fat and strip of lean bacon. When the market is down and expected to rise, the pigs are held back by less strong food, while their growth goes on apace. Mr. Whaley watches the feed market, and purchases his shorts and bran by the carload when the price is down.

The following is a statement of Mr. Whaley's pig-feeding transactions in 1898:

ON HAND JAN. 1ST, 1898.	
7 sows at \$15	\$ 105
1 boar at \$15	15
8 shoats	65
10 "	58
11 "	45
13 "	39
10 "	15
Total	\$ 333

Feed consumed in 1898:

21 tons 399 lbs. shorts	\$278.85
500 lbs. pea chop	5.50
1,861 lbs. corn chop	16.75
5 tons 1,372 lbs. bran	65.41
800 bus. mangels	40.00
350 bushels corn in ear	55.00
Total value of feed	\$461.51
Breeding stock purchased during year	23.50
Stock Jan. 1, 1898, as above	333.00
Total outlay	\$818.01

Stock on hand Jan. 1, 1899:

7 sows	\$105.00
1 boar	14.00
4 boars	40.00
10 shoats	68.00
23 "	92.00
11 "	33.00
11 "	27.50
10 "	15.00
Total value of stock Jan. 1, '99	\$394.50

Live pork sold in 1898, 17,360 lbs. \$394.50
805.38

Total assets \$1,199.88

Total outlay 818.01

Profit \$381.87

In concluding our interview, Mr. Whaley said, "There are four chief requirements in raising hogs for profit:

"1st—A good, high, convenient, well-ventilated, comfortable pen.

"2nd—Good stock of one or other of the popular breeds. The dams must be roomy and good mothers.

"3rd—Perhaps the most important is to keep the pigs clean, dry, and warm. We always clean all our pens every day throughout the winter, and let the pigs out into adjoining yards.

"4th—Give good attention, regular feeding with good food, and there will be found good profit in raising hogs."

Anent the Honor Roll.

To the Editor FARMER'S ADVOCATE:

SIR,—You have certainly made a mistake in the note to the Windsor meeting of 1889, in the continued report of the "Royal Honor Roll," or I must have written what was not intended and not true. The note reads: "1888 and 1889 were two remarkable years, as Mr. Thompson in the former year won five first prizes with animals sired by one bull, Beau Benedict, bred by Mr. Linton, of Sheriff Hutton, an unparalleled achievement in the history of the Society, and the same pair won each year in the aged class," etc., etc.

I will in this case give you the full list of winners:

Marjo (51713) wins championship for best male, also first in aged class. Ruckby (50398) won second; exhibited by Mr. C. W. Brierley. Pilot (51837), bred and exhibited by Mr. R. Stratton, third; and Aristocrat (50766), exhibited by Mr. Brierley, reserve.

BULLS CALVED IN 1885.

Master Shapely (53202), by Beau Benedict (42769), won first; exhibited by Mr. R. Thompson. MacBeath (54676), exhibited by Mr. J. Handley, second. Melton (53310), exhibited by Sir H. De Trafford, third.

BULLS CALVED IN 1886.

Self Conceit (55026), exhibited by Mr. J. Handley, first. Royal Saxon (56498), exhibited by Mr. J. Maskill, second. Fylde Ingram (54333), exhibited by Mr. J. Thompson, third. Golden Treasure 2nd (54378), exhibited by Mr. J. Handley, reserve.

BULLS CALVED IN 1887.

Royal Fieldsman (56499), exhibited by Mr. R. Pinder, first. Ironclad 53913, exhibited by Lord

Polwarth, second. Roseberry, exhibited by Mr. J. Handley, third. Dauntless (55552), exhibited by H. R. H. the Prince of Wales, reserve.

COW, IN MILK OR IN CALF, CALVED PREVIOUSLY TO 1884.

Molly Millicent (sire Beau Benedict), exhibited by Mr. R. Thompson, first. Alexandria 9th, exhibited by Messrs. Hosken & Son, second. Lady Leodine, exhibited by Mr. A. E. W. Darly, third. Lady Worsley, exhibited by C. W. Brierley, reserve.

COW OR HEIFER CALVED IN 1885.

Inglewood Gem (sire Royal Baron), exhibited by Mr. R. Thompson, first. Ancient Fashion, exhibited by Mr. C. W. Brierley, second. Victoria, exhibited by Mr. C. W. Brierley, third. Waterloo Cherry, exhibited by Mr. C. W. Brierley, reserve.

HEIFER CALVED IN 1886.

Belle Madeline (by Beau Benedict), bred and exhibited by Mr. R. Thompson, first. Fairy Duchess, exhibited by Mr. Barron, second. Roan Lady 16th, exhibited by H. M. the Queen, third. Rosedale Grace, exhibited by C. W. Brierley, reserve.

HEIFER CALVED IN 1887.

Pearl Bangle (sire Royal Baron), exhibited by Mr. R. Thompson, first. Gladys Rose, exhibited by Mr. T. Stokes, second. Georgiana 7th, exhibited by the Duke of Portland, third. Rosedale Graceful, exhibited by Mr. C. W. Brierley, reserve.

By this list you will note that Mr. R. Thompson wins five first prizes, three of which were sired by Beau Benedict. Mr. Brierley was also noticed eight times, and Mr. Handley four times. If making a record for 1888, I imagine Mr. Brierley is entitled to it with eight wins.

I note for 1889 the remark: "Mr. Thompson broke the record by winning every first prize in the female classes." Which is not correct, and I can't imagine how I made such a loose statement. The following is the official list:

COWS, IN CALF OR IN MILK, CALVED PREVIOUSLY TO OR IN 1885.

Molly Millicent, bred by Mr. R. Thompson, first.

COW OR HEIFER, IN MILK OR IN CALF, CALVED IN 1886.

Belle Madeline, bred and exhibited by Mr. R. Thompson, first.

HEIFERS CALVED IN 1887—FORTY-ONE ENTRIES.

Gladys Rose, bred and exhibited by Mr. T. Stokes, first. Lord Polwarth was second, and my brother Arthur, third.

HEIFER CALVED IN 1888.

Fairy Rosebud, exhibited by the Duke of Northumberland, first.

I would not have troubled you to make the correction, only that I deem the matter sufficiently important to request same. I have no doubt there are some mistakes, and if so, I should be glad to have them pointed out and corrected; but I cannot allow such a palpable misconception to pass unheeded, as it is a matter of history and should be absolutely correct.

RICHARD GIBSON.

[NOTE.—Mr. Thompson is entitled to more honors in 1889 than Mr. Gibson places to his credit in the above list, inasmuch as he won with Belle Madeline, in addition to those mentioned, the £50 championship as the best female in the class, the £50 championship given by the Shorthorn Society to the breeder, and also the Queen's gold medal for the best Shorthorn in the show, which gives Mr. Thompson practically five first prizes of the highest order in the female section—Belle Madeline's winnings amounting in all to £120, or \$600 in cash, besides the gold medal, won by one animal at one show.—ED. F. A.]

Two Experiments Suggested.

We would remind our readers of two practical experiments that may easily be tried this season, to which reference has been made in these columns. One refers to the use of salt on mangels, and the other to the killing of wild mustard, where the weed pest has obtained a foothold, by spraying with sulphate of copper or iron.

1st—Salt for mangels: Not more than four or five cwt. per acre, sown broadcast before thinning. One of our readers secured good results by applying 250 lbs. per acre last season. (See FARMER'S ADVOCATE for April 5th, page 169.) Apply over certain number of rows, leaving an equal area untreated. Compare the respective yields by weight or measure.

2nd—Sulphate of iron or copper on mustard: Spray when the leaves are most conspicuous, before the plant begins to flower and when the grain has not grown above it. Both chemicals appear to have been tried successfully in England. Sulphate of iron (copperas) is much cheaper than sulphate of copper (bluestone). Good results are reported from spraying at the rate of 50 gallons per acre, of a 7½ per cent. solution of the former and a 2 per cent. solution of the latter. A 2 per cent. solution means, for example, 2 pounds dissolved in 98 lbs. of water, making 100 gallons solution. Spray one land and leave an adjoining one, where the weed is equally bad, untreated.

Cost of Raising Dairy Calves.

A SKILLFUL SYSTEM OF FEEDING REVIEWED—MILK SUBSTITUTES OF NO VALUE TO CALVES OVER FIVE MONTHS OLD.

In order to get at an approximate estimate of the cost of raising dairy heifer calves to the age of sixteen months, the New Hampshire Experiment Station kept careful records of the food consumed by several calves and yearlings, and have dealt with the subject in bulletin 58. The treatment was as follows:

The calf was taken from the cow as soon as the latter's milk was fit for creamery use. It was first fed with whole milk, which was gradually replaced by skim milk, until by the end of the second week of growth it received only milk that had been run through the separator and was almost completely free from fat. To replace the fat, a mixture of ground flaxseed, cooked in water, was added to the milk. The proportions in this mixture were one pound of flaxseed to four quarts of water, making a thick mucilaginous jelly, which could be readily mixed with the milk. The calves were fed from seven to ten quarts of skim milk and one or two quarts of flaxseed jelly, daily, in two feeds. During part of the time middlings were cooked instead of flaxseed. As soon as possible the animals were encouraged to eat grain and hay, and the increase in food made necessary by gain in size and weight consisted of these materials, while the skim milk and flaxseed remained nearly constant in amount as long as they were used, which was up to the age of six to eight months, or until the animal's first season in the pasture.

Careful watch was maintained to note any indigestion; therefore diarrhoea or "scouring" was quickly stopped by reducing the quantity of food and adding limewater to the milk. Little difficulty was experienced in keeping up a steady growth in size and gain in weight. Differences were always noticeable between individual animals in the rate of growth and amount of food consumed. Large animals invariably require more food to maintain their condition than small ones.

The quantities of food consumed, and cost of the same, together with the breeds, ages, weights, and weekly gains, are given in tables, which we summarize as follows:

Eight calves under 5 weeks old. Average weekly gain 7.6 pounds. Average weekly cost 40.8 cents.

Eight calves from 5 to 9 weeks old. Average weekly gain 9.1 pounds. Average weekly cost 36.7 cents.

Eight calves from 9 to 13 weeks old. Average weekly gain 11.8 pounds. Average weekly cost 43.1 cents.

Eight calves from 13 to 20 weeks old. Average weekly gain 10 pounds. Average weekly cost 52.9 cents.

Six calves from 4 to 8 months old. Average weekly gain 11.1 pounds. Average weekly cost 63.7 cents.

Two calves from 8 to 13 months old. Average weekly gain 5.25 pounds. Average weekly cost 58.3 cents.

Four heifers from 13 to 16 months old. Average weekly gain 6.12 pounds. Average weekly cost 65.1 cents.

Four heifers were maintained on pasturage from July 24 until October 26, 1887, a period of 13 weeks and 2 days. The total gain in weight of the four animals was 313 pounds, or an average weekly gain of 5.9 pounds per head.

During the feeding periods comparisons were made between cooked, ground flaxseed, and cooked middlings as a substitute for the fat in milk, and also between rations including the cooked food and those without it.

In the first trial the calves were between 5 and 8 months old, and the middlings proved to be a satisfactory substitute for the ground flaxseed, the cost being less and the gain in weight large enough for the purpose, though a little smaller than on the flaxseed.

The calves in the second trial were also over five months old. The substitution of the dry grain lessened the cost, and the gain was sufficiently large, although smaller than in the previous period.

These trials show that for calves at the age of those described there is no object in using anything but dry grain and hay along with the skim milk, unless the greatest possible amount of growth is desired.

The total cost for the food consumed by the heifer during the 16 months would then be \$28.81, and she would weigh from 600 to 700 lbs.

In conclusion, a study of the tables shows that high-priced foods, viz., whole milk, flaxseed, linseed meal, and oats, will cause the cost of the weekly ration to increase out of proportion to the gain, if fed freely. Flaxseed cannot be used with economy except in the earliest stages of growth, the first two or three months, and whole milk should be discontinued as soon as possible, consistent with a fair start for the youngster.

Keeping Milk Pure.

In regard to keeping milk: 1st. Have the cow give pure milk by having healthy animals, proper food and water, clean and healthy surroundings. 2nd. Kind treatment; we must keep the cow happy. Then, clean handling of the milk in every particular is necessary, as well as a thorough aerating of the milk while it is warm with clean air. Then cool down to about 50° Fah., and keep it as steady as possible, either by changing the water or using ice.

Perth Co., Ont.

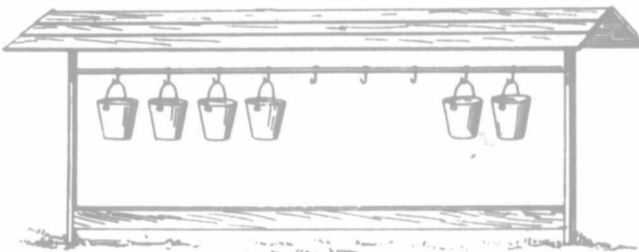
JACOB BRAY.

Milk Free of Germs.

Prof. E. H. Farrington, of the Wisconsin Dairy School, says regarding his investigations on the question of germs in milk: "The rapid advance in the study of germ life showing that bacteria are omnipresent leads a bewildered mind to wonder if there is such a thing as germ-free milk. Dairy men are told that the unclean tinware, strainer cloth, milk pail, feed, dust and even the air that surrounds his dairy and barn are full of myriads of bacteria that are conspiring against his milk to sour it. The question is often asked if milk in the cow's udder is germ-free. Investigations have proved that germ-free milk can be obtained from the udder of a healthy animal, although the first milk drawn does contain many bacteria. They come from the air and lodging on the moist end of the teats, where they way into the larger milk channels of the udder, and where they are found in considerable quantity, but in the finer tributaries they gradually decrease in number until in the very minute passage they are entirely absent. It has been found that the first stream of milk drawn from each teat contained as many as 80,000 bacteria per cubic centimeter (1. c. c.—about 1-1,000 of a quart), while the latter portions of the milking were entirely free from bacteria. This shows that the purest and most healthy milk is to be obtained by taking that which is drawn from the udder after the milk passages have been rinsed by discarding the first portions of milk drawn from each teat. After this rinsing, one may expect to get germ-free milk from a healthy cow. The purity of such milk is much more desirable than that obtained by pasteurization. By the latter process the bacteria are not removed, but their growth is checked or destroyed by heat. Although healthy people are not usually seriously affected by the germ life in ordinary milk, it is often desirable to obtain germ-free milk for infants and invalids, and what has been said shows how this is possible. All efforts to get pure milk are lost, however, unless the milk is drawn into and preserved in thoroughly sterilized vessels."

Pole for Hanging Milk over Night.

Mr. John Brodie, Mapleton, in writing us for May 20th issue regarding the care of milk in summer, enclosed the accompanying sketch of a covered pole or scantling, with hooks attached, for keeping the evening's milk in pails over night. The milk is aerated by pouring from pail to pail a number of



times, in which operation it loses the animal heat and gaseous odors. Where the herd does not exceed about twenty cows this is perhaps the best way of treating milk to be sent to cheese factory.

Raising Spring Calves in a Cheese Section.

To the Editor FARMER'S ADVOCATE:

Sir,—For late spring calves I have found the best results by feeding new milk as it comes from the cow for about two weeks, then gradually decrease the new milk and add a little flax seed and oats, ground together in the proportion of one of flax seed to two of oats, by taking scalding water and mixing the flax seed and oat chop twelve hours before feeding. When the calf is three or four weeks old the milk may be stopped by continually increasing the other feed, and by placing a little hay, or, better still, some green grass in one corner of the manger and a little whole oats in another corner. This brings us to a point where many farmers disagree as to whether it is best to put the calf out in a field so as to be handily fed, or to continue feeding in the stable. I would recommend that if you have the time you can have a better calf, with no more cost of feed, by feeding in the stable, and if the calf is of good breeding, by this method of feeding you will in the end have an animal that you need not be ashamed of.

Perth Co., Ont.

GEO. LOCHHEAD.

Peat Moss Fiber.

It is reported that the lately-perfected Austrian process of converting the moss that grows upon peat bogs into fiber suitable for making wrapping paper, matting, blankets, rope twine and anti-septic bandages is to be introduced into Canada. A large factory is said to be successfully operating in Vienna, Austria, and another in Dublin, Ireland, where the moss is abundant. There is a considerable area of peat land in some sections of Canada, and Toronto capitalists have the enterprise in hand. Durability and cheapness are claimed to be the chief characteristics of the various products manufactured from peat moss.

Airing Milk and Low Temperature.

To the Editor FARMER'S ADVOCATE:

SIR,—I am very much pleased that you have taken up the question of caring for milk in summer weather, as it is one of vital concern to every dairy farmer from Prince Edward Island to British Columbia. The various plans suggested are all more or less helpful, and if intelligently carried out will effect a very great improvement in the character of the milk supplied Canadian factories this season. Usually there is not much trouble keeping the evening milk sweet till morning, and if the numerous suggestions made are adopted it will be kept free from taints as well. My own plan is, after straining, to first thoroughly air the milk by pouring with a long-handled dipper, and by using the inverted pan aerator described in the ADVOCATE. In very sultry weather, I next set a deep, smooth, shotgun creamer can, made for the purpose, filled with cold water, in the can of warm milk. In about half an hour the water will be quite warm and should be removed and the milk stirred again, after which it will keep till morning all right. To keep Saturday night's and Sunday morning's milk till morning, it is first given a thorough airing, and then cooled down by the use of cold water and ice, if necessary. In the most sultry times I set the can in a tub of cold water in a good clean cellar. On a few occasions last season I had to use a little ice in the water to keep the temperature down to a safe point. I have frequently kept Saturday night's milk till Monday morning by putting it in creamer cans, airing it by pouring and setting the cans in a tank of cold water. Be sure to leave the lids off the creamer cans till the heat has ceased rising from the can, otherwise the cream will become heated and soon sour.

Cow Boy.

Caring for Milk in Summer.

To the Editor FARMER'S ADVOCATE:

SIR,—We are pleased to give our experience in caring for milk. In using the large cans, we have a tube about six inches wide and about the same depth as the can. We fill it with water or ice and place in the can, with about five or six pails of milk, at the same time bailing it frequently till the natural heat is gone. We also use pails for cooling by bailing. We strain all the new milk, and have all the pails and cans perfectly clean, as we consider this a very important point to keep the milk pure.

To keep the milk over from Saturday night till Monday morning requires a little more care. In very warm weather we have the cans and pails placed in a cellar or any cool place where the air is pure. We consider bailing of much importance, as the milk that is bailed has a richer flavor than that which was not bailed.

Perth Co., Ont.

JOHN BAIN.

Keeping Milk Pure and Sweet.

Milk or cream, to be pure and sweet, should be thoroughly aerated, so as to take off all animal odor. If this is not done it will have a taint which is peculiar to all smothered milk or cream. Then it should be chilled and held at as low a temperature as possible. This temperature should be steady, also. Milk or cream must not be mixed at uneven temperature, and never until thoroughly aired and chilled, as nothing will make it go sour quicker than to do so. Special care is needed in sultry weather at or before time of thunder storms. At such times use ice freely and you will have no trouble.

Peel Co., Ont.

R. McCULLOCH.

Raising Young Turkeys.

BY MRS. JOSEPH YULL, CARLETON PLACE, ONT.

Some years ago I tried raising turkeys, but had very poor success, so gave it up for a time. Three years ago I made another effort by purchasing a few turkeys in autumn and feeding them extra well during the winter, thus obtaining the desired effect—that of getting them to lay early in the spring, before the snow was off the ground, making it necessary for them to lay in the house they occupied during the winter. I find that when a turkey makes her nest it is difficult to move her with satisfaction, and if they get to the fields before laying they are very apt to hide their nests, and should the season be cold the eggs are liable to become chilled, which is almost sure to prevent them hatching. If a turkey is well fed, she should lay from twenty to twenty-two eggs, which should be gathered as soon as possible after being laid, placed on wool, and turned over every day.

When she becomes broody, provide her with a box two feet square and ten inches deep; cover the bottom of the box with a sod which had been dug last fall and kept in a dry place; over this spread a few handfuls of cut straw or chaff. Give her a few china eggs for two days. By this time she will have the nest prepared and warmed. I give each turkey sixteen eggs. Set the remainder under a hen at same time as setting turkey; then when the young ones are hatched give them all to the old turkey, as I find they thrive better with their own than with a foster mother.

About two days after the turkey becomes settled on her nest, dust the nest and turkey all over

with sulphur. This should be repeated three times while she is sitting. When the young turkeys are hatched, allow them to remain in the nest twenty-four hours, then give each one one grain of unground black pepper. Then feed with a scon made of the following ingredients: Equal parts each of oatmeal, wheat meal, corn meal, and shorts; to every quart of this mixture add one teaspoonful of soda and one of salt; damp with buttermilk; bake in a moderately hot oven. When cold, crumble fine and feed them all they will eat of it. To every twenty turkeys give one tablespoonful ground meat per day; also all the sweet skim milk and clean cold water they can drink.

The old turkey should be enclosed in a large, airy coop, not less than four feet square and three feet high, placed, if possible, on a fresh plot of grass. In this coop there should be a muslin bag of sulphur, hung so that the old turkey will touch the bag with her head, thus dusting the sulphur on herself and young. I keep the old turkey confined during the first week, but always allow the young ones their liberty.

When the young turkeys are one week old, repeat the dose of black pepper, and allow the old turkey her liberty one hour in the heat of the day. When the young turkeys are two weeks old, give two grains black pepper, and when three weeks old give three grains. At four weeks repeat last dose. During this time lengthen the time of the old turkey's liberty so that she may have perfect liberty when her young are three weeks old. To encourage them to come home at night, I feed them in their coop until they are six weeks old. By that time they have formed the habit of coming home at night, and we have no trouble with them staying away. Do not shut them in at night, but allow them to catch the early worm. I do not feed any more until the middle of October, when I commence fattening them for Thanksgiving.

Since adopting this method I have not lost one turkey.

Egg Preservatives.

INTERESTING EXPERIMENTS — "WATER GLASS" VS. LIME WATER.

To the Editor FARMER'S ADVOCATE:

SIR,—Having received numerous enquiries from farmers during the past two months respecting the merits of "water glass" as a medium in which to keep eggs, we are led to think that certain conclusions drawn from an experiment, lately brought to a close, with this and other preservatives will be of interest to your readers.

The investigation was commenced last September, perfectly fresh eggs from the farm poultry house being used for the test, which consisted in immersing the eggs for varying lengths of time, from a few hours to six months, in (a) lime water, and (b) 10 per cent. solution of "water glass." Those eggs which were treated for a few hours, days or weeks, as the case might be, were subsequently placed, together with the untreated eggs to be used as a check, in a rack within a drawer in the laboratory till the close of the experiment, March 30th., 1890. All the eggs were at a temperature from 65° to 72° Fahr. throughout the trial.

The testing consisted in breaking the eggs into a glass and noting the appearance of the "white" and yolk, whether the yolk was stuck to the shell, size of air-space, odor, etc. The eggs were then poached, and again the odor, appearance, etc., noted. Without giving in detail the results of the various trials, it may suffice for present purposes to summarize the conclusions reached, as follows:

CONCLUSIONS.

1. In no instance, either of treated or untreated eggs, were any "bad" eggs found.
2. In all cases where the eggs were not kept covered throughout the period of the test with the preservative solution, shrinkage of the contents had taken place, as shown by the larger air-space, the less globular form of the yolk, and in many instances by the adherence of the yolk to the shell. The eggs treated for seven days and less with lime water showed somewhat less shrinkage than those treated a similar length of time with silicate of soda.
3. It would appear that lime water and "water glass" used continuously are equally efficacious in preventing shrinkage. They may also be said to give practically the same results as regards both external and internal appearances, flavor, etc., of the eggs preserved. Since "water glass" (silicate of soda) is more costly and more disagreeable to use than lime water, we could not from the present results recommend the former as the better preservative.
4. The albumen or "white" in all the preserved eggs was very faintly yellow (though not to the same degree in all the eggs), the tint becoming deeper on boiling.
5. No offensive odor was to be perceived from any of the eggs when broken, but in all instances a faint but peculiar musty or stale odor and flavor developed on poaching.
6. It is probable that no preservative will prevent the loss of flavor possessed by the fresh egg, but those which wholly exclude the air (and thus at the same time prevent shrinkage from evaporation) will be the most successful. Continuous submergence is evidently better than treatment for a few days.

"Water glass," known as silicate of soda, is a

fluid quoted at 60c. per gallon. It is highly caustic, due to excess of soda, and consequently is more disagreeable to use than lime water.

The lime water may be made by putting two or three pounds of good fresh lime in five gallons of water, stirring well at intervals for a few hours, and then allowed to settle. The clear supernatant fluid can then be poured over the eggs, which have been previously placed in a crock or water-tight barrel. Some authorities recommend the addition of a pound or so of salt to the lime water, but the writers are of the opinion that this is unnecessary and probably leads to the imparting of a limy flavor to the eggs by inducing an interchange of the fluids within and without the egg.

The all-essential points to be remembered are: (1) that the eggs to be preserved shall be perfectly fresh, and (2) that they shall be covered with the preservative fluid.

FRANK T. SHUTT,
Chemist, Dom. Expl. Farms.
A. G. GILBERT,
Poultry Man., Expl. Farm.

Ottawa, May 19.

One Month with Hens.

In a couple of recent issues of the FARMER'S ADVOCATE I noticed the records of two lots of hens, one from G. C., Queen's Co., P. E. I., and the other from Mr. Adam McKay, of Milton, Ont. Apparently, these records were considered fair, if not good, but neither of the reports mentioned the variety of hens nor the manner by which the results were obtained. That some readers of this journal may derive some benefit therefrom, I will give an account of my experience with our hens during the month of March, 1890.

At the outset, I wish it understood that I do not consider my way the correct one, for I never attended poultry before, another member of the family having previously looked after that work. So the results are not from long experience, but from carefully following what I could gather from poultry journals and by exercising a little common "hen sense," and anyone with the desire may do that.

The hens were twenty-eight in number. Of these, five were old mongrels, nine were two-year-old B. P. Rocks, and the remainder were pullets, some of them having been hatched in August and September of 1888. From this it may be ascertained that my "subjects" were not the best.

These fowls had been giving from five to eight eggs per day previous to my taking them over. At the middle of February I determined to see what I could make them do, and after getting them in laying condition kept count of eggs produced during March. In the thirty-one days they produced 496 eggs, a daily average of sixteen eggs. This will compare favorably with the two reports mentioned.

It is astonishing how little feed will keep hens in laying condition. They must have a variety, however. During the test the feed was as follows: For morning, a medium-sized turnip or a few small potatoes were boiled, the water drained off; then a little meal of oats and corn (ground) was mixed in—just enough to make the feed thick enough. This was given as warm as the fowls would eat it. Between that time and 4 p. m., a quart of mixed hard grain (oats, corn, barley, rye, and sunflower seeds) was scattered in litter on the floor, at which they worked continually. At 4 p. m. or 4.30 they were given one quart of whole wheat. Each day they had one medium-sized mangel as green food. They had plenty of water, grit, and a dusting-box, and these were all well used. They had what meat scraps were left from the table, which amounted to very little. Account was kept of all food given, and \$1.50 fed these fowls the whole month.

The house is 12x14. It is concrete, four inches thick, with inch boards outside. It has two small windows, one in east and one in south. During the month there was a great deal of cold, rough weather, with high, piercing winds. The fowls were allowed out every afternoon unless it was stormy. During the month the interior of the house was refitted with nest boxes, etc. Such an act would be strongly condemned by a practical poultryman, but the action was necessary, and therefore was done. For four or five days after, the daily egg yield was not as high.

The droppings were cleaned out twice or three times each week as appeared necessary, and as a result the fowls were clean and healthy.

Throughout the month eggs were selling at from 13c. to 25c. per dozen, and would average 18c. or 20c. per dozen.

As a result of my experiment I am convinced that there is no other farm stock that will give as large profits as will poultry when given reasonable care and proper food supplied regularly. As a rule, hens are either overfed and kept too fat, or the direct opposite—starved and frozen. Had the hens in the above experiment been supplied with ground bone, oyster shells, meat, and many other things recommended by practical poultrymen, the result would have been more pleasing, no doubt. And it must be remembered that these were not of a "famous laying strain," nor of a strain famous on account of prizes won in the showing. And, besides, they were in the hands of a "greenhorn," Wentworth Co., Ont. JOHN B. PETTIT.

Eggs to be Sold by Weight.

An act to further amend the Weights and Measures Act of Canada has been introduced in the House of Commons by Mr. John McMillan, M. P. for South Huron, which is designed to fix the weights at which eggs shall be sold. The bill reads as follows: "Unless otherwise specially agreed upon between the buyer and seller, eggs shall be sold by weight, and the weight equivalent to a dozen shall be one pound and one half."

This is the weight demanded by the British market, which is equal to 15 pounds to the "long hundred," which is ten dozens. At present, eggs are usually bought by dozens as they come to hand, and only those which are up to the demand of the British market in size are sent there, which leaves the smaller eggs to be used at home or be sent to the mining or other Canadian markets. While an act of Parliament cannot be expected to enlarge a hen's egg mould, it will, if carried out, induce poultry-keepers to do away with the hens and breeds of hens that lay small eggs, and keep only those for egg production which shell out the proper sized hen fruit. The author of the bill, referring to it in a letter to the office, said: "The bill is not intended to interfere with the sale of eggs by the farmers to the egg dealers, but to regulate the sale of eggs bought at a distance, as there is often difficulty in deciding what a standard dozen of eggs means. This bill defines the standard as between local dealers and dealers at a distance in this country, but principally in the British market."

June Work in the Bee Yard.

[FROM OUR ONTARIO AND EASTERN EDITION.]

Towards the latter part of May, in order to see the work in a well-conducted apiary in operation, we visited the 200-colony bee yard of Mr. F. J. Miller, Vauxhall Apiary, London, Ont., and found the proprietor busy preparing the colonies for increase of brood, to be ready for the clover flow, which commences early in June. Mr. Miller uses the Heddon hive, the brood chamber of which consists of two cases 5½ inches deep, each case containing eight closed-end frames spaced 1½ inches from center to center, and held in position by two set screws passing through one side of the case. Mr. Miller also clips his queens, which, to some extent, influences his system of management. He wintered part of his bees in the cellar and part outdoors, and it was these latter that he was busy with when we called upon him. The winter cases, which had been packed with chaff waste from the flax mill, were all removed, and the hives were set some distance apart, back to back. The work in hand was examining the colonies, clipping the young queens, scraping the comb from the tops of the frames, and exchanging the upper case to the position of the lower. This has the effect of facilitating brood-rearing. When this is done extracting supers are put on with queen excluders beneath them. Mr. Miller prefers full combs, but when he runs short of these he uses full sheets of foundation or starters, or both alternately on the strong colonies. When one gets these latter on during fruit bloom it furnishes a good opportunity to get combs built. The bees then usually require very little attention until more room is needed, or until just before clover honey commences to come in. They are then extracted of all fruit honey in order to keep the grades separate. The weather and honey flow determines the attention that is needed from this time forward. If the weather turns cold or continuously wet, stimulative feeding is necessary, because if the bees fear a shortage of stores they will destroy the young brood and carry it out of the hive. Mr. Miller stimulated during the cold spell in May by depositing thick syrup on the bottom board. Another plan is to uncup some of the combs. When the supers become from one-half to two-thirds full, empty supers are added below the ones already on, and by the time the combs are three-quarters at least well sealed they should be extracted. This is a fair guide to follow throughout the season. If so desired, instead of extracting every time a case or super is filled more cases or supers may be added at the bottom, which will serve to allow the bees plenty of room to keep on working.

Another line of work that will require attention during June is the hiving of swarms that are sure to come off. Mr. Miller calculates upon about a 50 per cent. increase, which he gets only from the strongest colonies. Those that come off from the weaker swarms are replaced in the hive from which they came, when the old queen or the queen cell is destroyed, as preferred. As Mr. Miller's queens are clipped, she falls on the ground when a swarm emerges, and has to be hunted up and captured. This is done by using a glass tumbler with a piece of cloth attached. When the cloth is spread before her she walks up it, and the glass is placed over her. She is then placed on a hive in a shady position until the old hive is replaced by an empty one. The bees, unable to find their queen, soon commence to enter the new hive on the old stand, when the queen is liberated at the mouth of the hive which she enters, and the remainder of swarm follows as rapidly as possible. Mr. Miller is recognized as one of our most successful bee-keepers, which makes his system worthy of imitation.

Standard Sizes of Fruit Packages.

A bill introduced by Mr. Penny to define the sizes of small-fruit packages was given its first reading in the House of Commons on April 13th. The object is to arrive at a standard measure of quart, pint and half-pint baskets, used in buying and selling strawberries, raspberries, blackberries, currants, and other small fruits. The bill demands that the standard quart when even full shall contain sixty-seven cubic inches. The standard quart basket shall be 5 1/4 inches on each side at the top, and 4 3/4 inches on each side at the bottom, and 2 3/4 inches deep. The standard pint basket shall be oblong, and the inside measurement at the top shall be 5 1/4 inches by 3 3/4 inches, and at the bottom 4 3/4 inches by 2 3/4 inches, and it shall be 2 1/4 inches deep. The dimensions of half-pint baskets are also defined as 3 3/4 inches on each side at the top, and 2 3/4 inches on each side at the bottom, by 1 3/4 inches deep, all inside measurements. The Bill also enacts that makers of baskets of less size or capacity, shall mark the word "short" on the outside in letters not less than one-half inch in height. The penalty for selling "short" baskets of fruit not so marked will, upon summary conviction, be a fine of not less than five dollars and not more than twenty-five dollars. The act is not to come into force until May 1st, 1900.

In order to arrive at the probable effect of such an act, we interviewed a number of fruit dealers who claim that such a provision, if it can be properly carried out, will do away with much dissatisfaction to both dealers and consumers, as many of the so-called twelve-quart baskets contain not more than from ten to eleven quarts, and smaller packages in the same proportion. While the dealers interviewed could see considerable difficulty in having such a regulation carried out, they were of opinion that it is just what is needed, especially with Canadian fruit. The greatest difficulty, however, was observed in the way such regulations would affect foreign fruit, such as strawberries, of which we get great quantities during the early season, as the cases from the various States differ widely in form if not in size. It was claimed that there is little to complain of in the matter of shortage in the American cases—in fact, far less than in Canadian—but as the bill demands cases of certain dimensions, an effort to compel the use of a regular form of box in place of those of a different form now in use for the shipment of fruit from foreign countries, and which are already large enough, would be to little purpose and well-nigh impossible of enforcement without seriously interfering with the trade.

QUESTIONS AND ANSWERS.

Veterinary.

FOWLS OVERFED.

FARMER'S WIFE, B. C.—"I had quite a few hens eighteen months ago and of all kinds. They would drop dead off the roosts. Others took lame on one leg and never got any better. They were quite fat. Opened one of them that dropped dead and found a purple lump the size of an egg and soft. Others just drooped and died—no diarrhoea at all. Have nice pure stream of water and all the liberty they want—acres and acres of it. Noticed insects on some I killed, and smeared roosts with coal oil and lard and sulphur."

[From the above symptoms I am inclined to believe the fowls are overfed. There are symptoms of being egg-bound, which is due to the same cause. Hens that are forced for winter laying are sometimes affected with this disease. The occasional leg-weakening is also caused by the overfeeding, especially in the heavier breeds, such as Cochins. Those that drop dead die of apoplexy.

Where the fowls have a large, free range, do not give any feed until evening, when a small feed of whole grain should be given until the hens become reduced in flesh. When once in a healthy condition, give all the whole grain, such as oats or wheat, that they will eat up clean at the night feed during the summer months. Induce them to take exercise by making them forage for their living. If any grain is left, take it up, so that the fowls cannot get any food in the morning except what they find on the range.

W. R. GRAHAM.
Poultry Department, O. A. C., Guelph.]

INDOLENT SORE.

G. W. F., Grafton, N. Dak.—"I have a driving horse that was cut with barb wire from the inner side of stifle around towards outside, down to hock. It was cut last fall, and half way between stifle and hock it was cut to the bone on the outer side, and it does not seem to heal up, but keeps getting larger and larger all the time. A scab forms over the sore, and pus gathers under the scab and then comes off. The horse does not seem to go lame. Can anything be done to take away the abundance of flesh that has formed and take the swelling down over the sore. The cut is on the left hind leg, looking from the back of the horse, and the cut runs inside of stifle around the outside to hock."

[Foment the parts well with warm soft water and remove all the scab. Dry off, and then apply with a swab to the raw surface pure hydrochloric acid. This will cause the formation of a heavy scab, which will in about a week become loose, so that it may be removed without using force. Repeat the acid dressing until the excessive granula-

tions become level with the surrounding parts. After this use the following lotion once or twice daily until the part is healed: Acetate of lead, sulphate of zinc, and creolin, of each half an ounce; water, one and a half pints.

W. A. DUNBAR, V. S., Winnipeg.]

Miscellaneous.

A REFRIGERATOR.

X., Stamford, Assa.—"Would you kindly send us word the cheapest way of constructing a small refrigerator, about 6'x6'x6', for storing meat during summer? We have heard that in the East there are some made with some chemicals outside a zinc shell, which need very little attention, as time is a consideration."

[Perhaps someone who has built a satisfactory refrigerator such as required by our correspondent will help him out. See FARMER'S ADVOCATE, May 5th issue, page 240.]

PLANTING SMALL-FRUIT BUSHES.

A. B., St. Paul's, Man.—"I have received from an Ontario nursery a number of small-fruit bushes, currants and gooseberries, also a few crab apple and plum trees. The latter are about five feet high. I would like to know how best to set them out. How far apart should they be planted? Would it be advisable to cultivate any garden crop between the rows? If so, what would be best? Should the crab and plum trees be cut back? If so, how much, and when?"

[The currants and gooseberries should be planted about four by six feet apart; the raspberries three by six feet. The most suitable distance for the apple and plum trees will depend largely on the varieties. From eight to fifteen feet is about right for this country, where we have so much steady wind. Potatoes are excellent to grow among the trees for the first few years. Both trees and bushes should be pruned back severely when planted, especially when brought from a distance.

S. A. BEDFORD, Exp. Farm, Brandon.]

FARMERS' SOCIETY LIBRARY.

SUBSCRIBER, New Brunswick.—"Our Farmers and Dairymen's Society desires to start a small library of books covering all branches of agriculture, and has some \$20 to devote to that purpose. We would be glad if you would recommend us a list and put us in the way of securing same."

[We have a very large library in our office on all branches of agriculture, and we secure the best books published from time to time by publishers in Canada, United States, and Great Britain, but we have no one complete catalogue that would be satisfactory to you. We have gone carefully over our works and have made up a select list, which would make you a very complete little library to start with. They are as follows, with author's name and publisher's selling price:

Agriculture (James)	\$0 25
Feeds and Feeding (Henry)	2 00
Principles of Agriculture (Bailey)	1 25
Fertility of the Land (Roberts)	1 25
Silos and Ensilage (Woll)	75
Farmyard Manure (Aikman)	45
Vegetable Gardening (Green)	1 25
Horticulturist's Rule Book (Bailey)	75
The Honeybee (Langstroth)	1 25
Spraying of Plants (Lodeman)	1 00
Principles of Fruit Growing (Bailey)	1 25
Artificial Incubation (by various poultry specialists)	50
Dairying for Profit (Mrs. E. M. Jones)	25
Milk and Its Products (Wing)	1 00
Principles of Modern Dairy Practice (Grottenfeldt and Woll)	1 50
Farm Live Stock of Great Britain (Wallace)	3 25
Domestic Sheep (Stewart)	1 50
Heavy Horses—Breeds, and Management (British authorities)	1 25
Light Horses—Breeds, and Management (British authorities)	1 25
Pigs—Breeds, and Management (British authorities)	1 25

We have made favorable arrangements with the publishers and can supply the above works. Particulars as to terms on large orders may be obtained by writing this office.]

PICKLE FOR EGGS.

C. M., Oxford Co., Ont.—"Will you be kind enough to give me the best recipe for pickling down eggs on a large scale so that they will keep for a whole year if necessary without spoiling or becoming damaged in any way?"

[In a test of different preparations for preserving eggs, made at the Ontario Experimental Farm last year, it was found that one part water glass (sodium silicate) to twenty parts of water kept eggs perfectly for several months. Eggs taken from this preparation require to have their shells punctured with a pin before placing them in hot water in order to prevent them from cracking. This solution is only suitable for domestic use. For pickling eggs in large quantities the following is a reliable preservative: One and one-half bushels of lime (two-thirds gray and one-third white), half pound each of cream tartar, borax, alum and saltpetre. To these is added sufficient water to cover 1,000 dozens of eggs. It is thoroughly mixed, allowed to settle, and the clear liquid is used on the eggs. Another pickle largely used is 150 pounds of lime, 10 pounds of salt, and 8 pounds of saltpetre, to enough water to cover 1,000 dozens eggs. Cover the tank with cotton and spread the lime sediment over it. It is very important when putting eggs into pickle to see that all are sound in shell and newly laid, and a great advantage would be gained if all the eggs used were infertile.]

VITALITY OF YOUNG, BORN AT DIFFERENT SEASONS.

CHAS. DOLMAGE, Huron Co., Ont.—"It strikes me forcibly that the young of farm stock, especially the males of cattle, that are born in spring have more vitality than those born in fall. I would like the opinions of others on this subject."

[We will leave this question to be dealt with by some of our stock breeders. We have seen a great many young animals born at all seasons of the year, and cannot say that any one season was more favorable than another to the vigor of the offspring.]

MANURE SCRAPER WANTED.

A subscriber of twenty-five years' standing, living in North Dakota, inquires for a scraper that can be used in cleaning out sheds where cattle have been fed loose, in which hay and straw is mixed with the manure. The sheds in which cattle are not fed any hay he cleans out with common railroad scrapers. Can any reader help him out?

A THOROUGHLY INSULATED ICE HOUSE.

POSA, Victoria Co., Ont.—"Can a house be built for storing ice for farmhouse use with the sawdust packed not in contact with ice, but enclosed between outer and inner walls? If so, will you, or some ADVOCATE reader who has had successful experience, kindly state what space should be between walls, size and height, etc., required to keep safely a sufficient quantity for an average farm? Would the setting of building on a low stone wall be an advantage?"

[An ice house so thoroughly insulated as not to require packing in contact with the ice can be built, but we think not cheaply enough to warrant its being done for a farm supply. The only ice house of this description we have visited is situated at Calgary in connection with the large Government creamery there. It has a capacity for about 150 tons of ice, and cost about \$900. It is built beneath the creamery, inside of stone walls, so that it is well protected from the external temperature. It also has walls about two feet thick, which have several thoroughly insulated air spaces separated by lumber, building paper and asbestos. The floor above is also insulated, so that the ice-room is practically free from the influence of the outside temperature. In the middle of August the blocks of ice were very little wasted, and the lower layers were still frozen together. There are, we believe, small ice houses constructed on the plan desired by Posa, which we would like to have described by those who are familiar with them. We believe it is always economical to set a wooden building on a low stone wall to save it from premature decay.]

Chatty Stock Letter from Chicago.

FROM OUR OWN CORRESPONDENT.

Following table shows current and comparative live stock prices:

	Extreme prices now.	Top Prices		
		Two weeks ago.	1898	1897
Beef cattle.				
1500 lbs. up.....	\$4 90 to \$5 65	\$5 35	\$5 15	\$5 25
1350 to 1500 lbs.....	4 65 " 5 55	5 50	5 15	5 30
1200 to 1350 lbs.....	4 45 " 5 40	5 35	5 05	5 25
1050 to 1200 lbs.....	4 30 " 5 20	5 25	4 90	4 90
900 to 1050 lbs.....	4 10 " 5 10	5 00	4 85	4 80
Hogs.				
Mixed.....	3 60 " 3 95	3 97 1/2	4 70	3 90
Heavy.....	3 50 " 4 00	4 05	4 80	3 90
Light.....	3 60 " 3 90	3 95	4 65	3 92
Pigs.....	3 25 " 3 80	3 80	4 35	3 90
Sheep.				
Natives.....	4 00 " 5 60	5 55	4 50	4 90
Western.....	4 60 " 5 50	5 20	4 30	4 40
Yearlings.....	5 20 " 5 85	5 25	4 50	5 00
Lambs.....	4 50 " 7 00	6 20	5 45	5 60

The fat cattle market seems to be governed just now by an undertone of strength that is likely soon to develop into much higher prices. Comparatively liberal receipts have lately been taken in a way that showed very clearly that the demand is broadening and strengthening. The exporters have been doing good business, and the domestic meat business has shown considerable sign of improvement.

"When buyers get a taste of how the grass cattle kill a little later," said a cattleman, "they will be anxious to get the good-weight corn-fed cattle, such as have been comparatively neglected of late."

There is a general impression that good dry lot cattle are going to be comparatively scarce and higher priced this summer, though there are still many sections where large lots of cattle are still being held. The marketing of small bunches has been largely finished.

The cow supply was very small lately, and there is no prospect of an increase soon. One of the most extensive buyers declares that cow beef is costing them about as much as good steer beef.

Raising high-grade calves and marketing heaves as yearlings pays better (so Mr. J. S. Robinson, of Neponset, Ill., thinks) than buying feeding cattle at high prices or raising corn to sell. He marketed some 1,242-lb. yearling high-grade Galloways in March at \$5.50. He expects to put about twenty light heifers on pasture with his Galloway bull. J. S. is an advocate of feeders raising their own calves.

J. H. Artz, Wilsonville, Neb., one of western Nebraska's successful feeders, was in with 22 cars of stock, 18 cars of cattle and four cars of hogs. Three hundred cattle sold at \$5.25, averaging 1,332 lbs.

Hogs are so much lower than a year ago that the packers are having a harvest. Of course, they are protesting that prices are high in comparison with the product, but they are taking hold just as if they needed all the hogs that are coming, and more too.

The packers keep calling for more light-weight, bacon style of hogs, but they continue to pay a premium for the heavy-weights, and as long as they do so they need not expect the farmers not to market their corn in large packages at the hog market.

Lambs are the highest in a long time. Colorado lamb feeders who have shipped to Chicago are feeling very bullish these days. Returns at present are very gratifying. W. A. Drake's shipments for three days recently show net results that were surprisingly good. There were six carloads (1,634 head), which netted \$8,534.60, or \$5.25 per head. Mr. Drake thinks this is about the best showing ever made by Colorado-fed lambs.



AN AFRICAN MILLIONAIRE.

EPISODES IN THE LIFE OF THE ILLUSTRIOUS COLONEL CLAY.

BY GRANT ALLEN.

(Continued from page 271.)

"Quite right," Sir Charles murmured.

"Two days later a lady, Madame Picardet, who was a customer of ours, brought in a good cheque for three hundred pounds, signed by a first-rate name, and asked us to pay it in on her behalf to Darby, Drummond, and Rothenberg's, and to open a London account with them for her. We did so, and received in reply a cheque-book."

"From which this cheque was taken, as I learn from the number, by telegram from London," the Commissary put in. "Also, that on the same day on which your cheque was cashed, Madame Picardet, in London, withdrew her balance."

"But how did the fellow get me to sign the cheque?" Sir Charles cried. "How did he manage the card trick?"

The Commissary produced a similar card from his pocket. "Was that the sort of thing?" he asked.

"Precisely! A facsimile."

"I thought so. Well, our Colonel, I find, bought a packet of such cards, intended for admission to a religious function, at a shop in the Quai Massena. He cut out the center, and see here—"

The Commissary turned it over and showed a piece of paper pasted neatly over the back; this he tore off, and there, concealed behind it, lay a folded cheque, with only the place where the signature should be written showing through on the face which the Seer had presented to us. "I call that a neat trick," the Commissary remarked, with professional enjoyment of a really good deception.

"But he burnt the envelope before my eyes," Sir Charles exclaimed.

"Pooh!" the Commissary answered. "What would he be worth as a conjurer, anyway, if he couldn't substitute one envelope for another between the table and the fireplace without your noticing it? And Colonel Clay, you must remember, is a prince among conjurers."

"Well, it's a comfort to know we've identified our man, and the woman who was with him," Sir Charles said, with a slight sigh of relief. "The next thing will be, of course, you'll follow them up on these clues in England and arrest them!"

The Commissary shrugged his shoulders. "Arrest them!" he exclaimed, much amused. "Ah, monsieur, but you are sanguine! No officer of justice has ever succeeded in arresting the Colonel Cauchon, as we call him in French. On the day when I arrest him, I assure you, monsieur, I shall consider myself the smartest police officer in Europe."

"Well, I shall catch him yet," Sir Charles answered, and relapsed into silence.

II.

THE EPISODE OF THE DIAMOND LINKS.

"Let us take a trip to Switzerland," said Lady Vandrift. And anyone who knows Amelia will not be surprised to learn that we did take a trip to Switzerland accordingly. Nobody can drive Sir Charles, except his wife. And nobody at all can drive Amelia.

There were difficulties at the outset, because we had not ordered rooms at the hotels beforehand, and it was well on in the season; but they were overcome at last by the usual application of a golden key, and we found ourselves in due time pleasantly quartered in Lucerne, at that most comfortable of European hostels, the Schweizerhof.

As usual, at the hotel a great many miscellaneous people showed a burning desire to be specially nice to us. If you wish to see how friendly and charming humanity is, just try being a well-known millionaire for a week, and you'll learn a thing or two.

Ever since our little adventure with the Seer at Nice, Sir Charles, who is constitutionally cautious, had been even more careful than usual about possible sharpers. And, as chance would have it, there sat just opposite us at *table d'hôte* at the Schweizerhof (it is a fact of Amelia's to dine at *table d'hôte*; she says she can't bear to be boxed up all day in the usual rooms with "too much family") a sinister-looking man with dark hair and eyes, conspicuous by his bushy, overhanging eyebrows. My attention was first called to the eyebrows in question by a nice little parson who sat at our side, and who observed that they were made up of certain large and bristly hairs, which, he told us, had been traced by Darwin to our monkey ancestors. Very pleasant little fellow, this fresh-faced young parson, on his honeymoon tour with a nice wee wife, a bonny Scotch lassie with a charming accent.

I looked at the eyebrows close. Then a sudden thought struck me. "Do you believe they're his own?" I asked of the curate; or are they only stuck on—a make-up disguise? They really almost look like it."

"You don't suppose—" Charles began, and checked himself suddenly.

"Yes, I do," I answered; "the Seer!" Then I recollected my blunder, and looked down sheepishly. For, to say the truth, Vandrift had straightly enjoined on me long before to say nothing of our painful little episode at Nice to Amelia; he was afraid if she once heard of it, he would hear of it for ever after.

"What Seer?" the little parson inquired, with parsonical curiosity.

I noticed the man with the overhanging eyebrows give a queer sort of start. Charles' glance was fixed upon me. I hardly knew what to answer.

"Oh, a man who was at Nice with us last year," I stammered out, trying hard to look unconcerned. "A fellow they talked about, that's all." And I turned the subject.

But the curate, like a donkey, wouldn't let me turn it.

"Had he eyebrows like that?" he inquired, in an undertone. I was really angry. If this was Colonel Clay, the curate was obviously giving him the cue, and making it much more difficult for us to catch him, now we might possibly have lighted on the chance of doing so.

"No, he hadn't," I answered testily; "it was a passing expression. But this is not the man. I was mistaken, no doubt." And I nudged him gently.

The little curate was too innocent for anything. "Oh, I see," he replied, nodding hard and looking wise. Then he turned to his wife and made an obvious face, which the man with the eyebrows didn't fail to notice.

Fortunately, a political discussion going on a few places farther down the table spread up to us and diverted attention for a moment. The magical name of Gladstone saved us. Sir Charles flared up. I was truly pleased, for I could see Amelia was boiling over with curiosity by this time.

After dinner, in the billiard room, however, the man with the big eyebrows sidled up and began to talk to me. If he was

Colonel Clay, it was evident he bore us no grudge at all for the five thousand pounds he had done us out of. On the contrary, he seemed quite prepared to do us out of five thousand more when opportunity offered, for he introduced himself at once as Dr. Hector Macpherson, the exclusive grantee of extensive concessions from the Brazil Government on the Upper Amazons. He dived into conversation with me at once as to the splendid mineral resources of his Brazilian estate—the silver, the platinum, the actual rubies, the possible diamonds. If he knew of anybody, now, with money to invest, he could recommend him—nay, offer him—a unique opportunity of earning, say, 40 per cent. on his capital, on unimpeachable security.

The little curate, meanwhile, was playing billiards with Sir Charles. His glance followed mine as it rested for a moment on the monkey-like hairs.

"False, obviously false," he remarked with his lips; and I'm bound to confess I never saw any man speak so well by movement alone. You could follow every word, though not a sound escaped him.

During the rest of that evening Dr. Hector Macpherson stuck to me as close as a mustard plaster.

For the next three days, at intervals, he returned to the charge. He bored me to death with his platinum and his rubies. I listened and smiled; I listened and yawned; I listened and was rude; I ceased to listen at all; but still he droned on with it. I fell asleep on the steamer one day, and woke up in ten minutes to hear him droning yet. "And the yield of platinum per ton was certified to be—" I forget how many pounds, or ounces, or pennyweights. These details of assays have ceased to interest me like the man who "didn't believe in ghosts," I have seen too many of them.

The fresh-faced little curate and his wife, however, were quite different people. He was a cricketer Oxford man; she was a breezy Scotch lass, with a wholesome breath of the Highlands about her. I called her "White Heather." Their names were Brabazon. Millionaires are so accustomed to being beset by harpies of every description that when they come across a young couple who are simple and natural they delight in the purely human relation. We picnicked and went excursions a great deal with the honeymooners. They were so frank in their young love, and so proof against chaff, that we all really liked them.

The nice young fellow, that man Brabazon, Sir Charles said to me one day, as we lounged together along the quay; "never talks about advosions or next presentations. Doesn't seem to me to care two pins about promotion. Says he's quite content in his country curacy; enough to live upon, and needs no more; and his wife has a little, a very little, money. I asked him about his poor to-day, on purpose to test him—these parsons are always trying to screw something out of one for their poor. Men in my position know the truth of the saying that we have that class of the population always with us. Would you believe it, he says he hasn't any poor at all in his parish! They're all well-to-do farmers or else able-bodied laborers, and his one terror is that somebody will come and try to pauperize them. There's a parson for you, Sey, my boy. Only wish we had one of his sort at Seldon."

He certainly doesn't want to get anything out of you," I answered.

That evening at dinner a queer little episode happened. The man with the eyebrows began talking to me across the table in his usual fashion, full of his wearisome concession on the Upper Amazons. I was trying to squash him as politely as possible when I caught Amelia's eye. Her look amused me. She was engaged in making signals to Charles at her side to observe the man's wonderful boasts. I noticed, however, by each of a short gold bar for one arm of the link, fastened by a tiny chain of the same material to what seemed to my tolerably experienced eye a first-rate diamond. Pretty big diamonds, too, and of remarkable shape, brilliancy, and cutting. In a moment I knew what Amelia meant. She owned a diamond *riviere*, said to be of Indian origin, but short by two lines from the perfect shape, and tolerably ample neck. Now, she had long been wanting two diamonds to match her set, but owing to the unusual shape and antiquated cutting of her own gems she had never been able to complete the necklet, at least without removing an extravagant amount from a much larger stone of the first water.

The Scotch lassie's eyes caught Amelia's at the same time, and she smiled a pretty smile of good-humored amusement. "Taken in another person, Dick, she exclaimed, in her breezy way, turning to her husband, "she's claiming, in her observing your diamond sleeve links."

"They're very fine gems," Amelia observed, incautiously. (A most unwise admission if she desired to buy them.)

But the pleasant little curate was too transparently simple a soul to be able to advance a word of her slip of judgment. "They're good stones," he replied; "very good stones, considering. They're not diamonds at all, to tell you the truth, but the best old-fashioned Oriental paste. My great-grandfather bought them, after the siege of Seringapatam, for a few rupees from a Sepoy who had looted them from Tipoo Sultan's palace. He thought, like you, he had got a good thing. But it turned out, when they came to be examined by experts, they were only paste, very likely from a mine, and the imitation. He had even imposed upon Tipoo himself, so fine is the imitation. But they're worth—well, say fifty shillings, at the utmost."

While he spoke Charles looked at Amelia, and Amelia looked at Charles. Their eyes spoke volumes. The *riviere* was also supposed to have come from Tipoo's collection. Both drew at once an identical conclusion. There were two of the same stones, very likely from a mine, and disengaged from the rest in the melee at the capture of the Indian palace.

"Can you take them off?" Sir Charles asked blandly. He spoke in the tone that indicates business.

"Certainly," the little curate answered, smiling. "I'm accustomed to taking them off. They're always noticed. They've been kept in the family ever since the siege as a sort of valueless heirloom, and nobody ever sees them, so I'm asking, as you do, to examine them closely. They deceive even the experts at first. But they're paste, all the same; unmitigated Oriental paste, for all that."

He took them both off, and handed them to Charles. No man in England is a finer judge of gems than my brother-in-law, and he watched him narrowly. He examined them close, first with the naked eye, then with the little pocket lens which he always carries. "Admirable imitation," he muttered, passing them on to Amelia. "I'm not surprised they should impose upon inexperienced observers."

But from the tone in which he said it I could see at once he had satisfied himself they were real gems of unusual value.

The Scotch lassie laughed a merry laugh. "He sees through them now, Dick," she cried. "I felt sure Sir Charles would be a judge of diamonds."

They were beautiful diamonds. We found out afterwards the little curate's account was quite correct; these stones had come from the same necklet as Amelia's *riviere*, made for a favorite wife of Tipoo's, who had presumably as expensive personal charms as our beloved sister-in-law's. More perfect diamonds have seldom been seen. They have excited the universal admiration of thieves and connoisseurs. Amelia told me afterwards that, according to legend, a Sepoy stole the necklet at the sack of the palace, and then fought with another for it. It was believed that two stones got split in the scuffle, and were picked up and sold by a third person—a looker-on—who had no idea of the value of his booty. Amelia had been hunting for them for several years to complete her necklet.

"They are excellent paste," Sir Charles observed, handing them back. "It takes a first-rate judge to detect them from the reality. Lady Vandrift has a necklet much the same in character, but composed of genuine stones; and as these are so much like them, and would complete her set, to all our appearance, I wouldn't mind giving you say £10 for the pair of them."

Mrs. Brabazon looked delighted. "Oh, sell them to him, Dick," she cried, "and buy me a brooch with the money! A pair of common links would do for you just as well. Ten pounds for two paste stones! It's quite a lot of money."

She said it so sweetly, with her pretty Scotch accent, that I

couldn't imagine how Dick had the heart to refuse her. But he did, all the same.

"No, Jess, darling," he answered. "They're worthless, I know, but they have for me a certain sentimental value, as I've often told you. My dear mother wore them, while she lived, as earrings, and as soon as she died I had them set as links, in order that I might always keep them about me. Besides, they have historical and family interest. Even a worthless heirloom, after all, is an heirloom."

Dr. Hector Macpherson looked across and intervened. "There is a part of my concession," he said, "where we have reason to believe a perfect new Kimberley will soon be discovered. If at any time you would care, Sir Charles, to look at my diamonds—when I get them—it would afford me the greatest pleasure in life to submit them to your consideration."

Sir Charles could stand it no longer. "Sir," he said, gazing across at him with his sternest air, "if your concessions were as full of diamonds as Sindbad the Sailor's valley, I would not care to turn my head to look at them. I am acquainted with the nature and practice of salting." And he glared at the man with the overhanging eyebrows as if he would devour him raw.

When we went up to our salon that evening, Amelia flung herself on the sofa. "Charles," she broke out, in the voice of a tragedy queen, "those are real diamonds, and I shall never be happy again till I get them."

"They are real diamonds," Charles echoed. "And you shall have them, Amelia. They're worth not less than three thousand pounds. But I shall bid them up gently."

So, next day, Charles set to work to higgly with the curate. Brabazon, however, didn't care to part with them. He was no money-grubber, he said. He cared more for his mother's gift and a family tradition than for a hundred pounds if Sir Charles were to offer it. Charles' eye gleamed. "But if I give you two hundred!" he said insinuatingly. "What opportunities for good! You could build a new wing to your village schoolhouse!"

"We have ample accommodation," the curate answered.

"No, I don't think I'll sell them."

Still, his voice faltered somewhat, and he looked down at them inquiringly.

Charles was too precipitate.

"A hundred pounds more or less matters little to me," he said; "and my wife has set her heart on them. It's every man's duty to please his wife, isn't it, Mrs. Brabazon? I offer you three hundred."

The little Scotch girl clasped her hands.

"Three hundred pounds! Oh, Dick, just think what fun we could have, and what good we could do with it! Do let him have them."

Her accent was irresistible. But the curate shook his head.

"Impossible," he answered. "My dear mother's earrings! Uncle Aubrey would be so angry if he knew I'd sold them. I daren't face Uncle Aubrey."

"Has he expectations from Uncle Aubrey?" Sir Charles asked of White Heather.

Mrs. Brabazon laughed. "Uncle Aubrey! Oh, dear, no. Poor dear old Uncle Aubrey! Why, the darling old soul hasn't a penny to bless himself with, except his pension. He's a retired post captain. And she laughed melodiously. She was a charming woman."

"Then I should disregard Uncle Aubrey's feelings," Sir Charles said decisively.

"No, no," the curate answered. "Poor dear old Uncle Aubrey! I wouldn't do anything for the world to annoy him. And he'd be sure to notice it."

We went back to Amelia. "Well, have you got them?" she asked.

"No," Sir Charles answered, "not yet. But he's coming round, I think. He's hesitating now. Would rather like to sell them himself, but is afraid what 'Uncle Aubrey' would say about the matter. His wife will talk him out of his needless consideration for Uncle Aubrey's feelings; and to-morrow we'll finally clinch the bargain."

Next morning we stayed late in our salon, where we always breakfasted, and did not come down to the public rooms till just before *dejeuner*, Sir Charles being busy with me over arrears of correspondence. When we did come down the *conciierge* stepped forward with a twisted little feminine note for Amelia. She took it and read it. Her countenance fell. "There, Charles," she cried, handing it to him, "you've got the chance slip. I shall never be happy now! They've gone off with the diamonds."

Charles seized the note and read it. Then he passed it on to me.

It was short, but final!

Thursday, 6 a. m.

"DEAR LADY VANDRIFT.—Will you kindly excuse our having gone off hurriedly without bidding you good-by! We have just had a horrid telegram to say that Dick's favorite sister is dangerously ill of fever in Paris. I wanted to shake hands with you before we were left—you have all been so sweet to us—but we go by the morning train, absurdly early, and I wouldn't for worlds disturb you. Perhaps some day we may meet again, though, buried as we are in a North Country village, it isn't likely; but in any case you have secured the grateful recollection of—Yours very cordially,

JESSIE BRABAZON.

"P. S.—Kindest regards to Sir Charles and those dear Wentworths, and a kiss for yourself, if I may venture to send you one."

"She doesn't even mention where they've gone," Amelia exclaimed, in a very bad humor.

"The *conciierge* may know," Isabel suggested, looking over my shoulder.

We asked at his office.

Yes, the gentleman's address was the Rev. Richard Peppoe Brabazon, Holme Bush Cottage, Empingham, Northamptonshire.

Any address where letters might be sent at once, in Paris? For the next ten days, or till further notice, Hotel des Deux Mondes, Avenue de l'Opera.

Amelia's mind was made up at once.

"Strike while the iron's hot," she cried. "This sudden illness, coming at the end of their honeymoon, and involving ten days' more stay at an expensive hotel, will probably upset the curate's budget. He'll be glad to sell now. You'll get them for three hundred. It was absurd of Charles to offer so much at first; but, offered once, of course we must stick to it."

"What do you propose to do?" Charles asked. "Write, or telegraph!"

"Oh, how silly men are!" Amelia cried. "Is this the sort of business to be arranged by letter, still less by telegram! No, Seymour must start off at once, taking the night train to Paris; and the moment he gets there he must interview the curate or Mrs. Brabazon. Mrs. Brabazon's the best. She has none of this stupid, sentimental nonsense about Uncle Aubrey."

So the self-same evening saw me safe in the train on my way to Paris; and next morning I turned out of my comfortable sleeping-car at the Gare de Strasbourg. My orders were to bring back those diamonds—alive or dead, so to speak—my pocket to Lucerne; and to offer any needful sum, up to two thousand five hundred pounds, for their immediate purchase.

When I arrived at the Deux Mondes I found the poor little curate and his wife both greatly agitated. They had sat up all night, they said, with their invalid sister; and the sleeplessness and suspense had certainly told upon them after their long railway journey. They were pale and tired, Mrs. Brabazon, in particular, looking ill and worried—too much like white heather. I was more than half-ashamed of bothering them about the diamonds at such a moment, but it occurred to me that Amelia was probably right; they would now have reached the end of the sum set apart for their Continental trip, and a little ready cash might be far from unwelcome.

[TO BE CONTINUED.]



Her Awful Dream.

EXAMINATION.

A little maid of tender years
Had such an awful dream!
She came to me almost in tears—
"I just was going to scream

"When both my eyes came open wide,
And oh, I was so glad
To find it was a dream," she cried,
"Because it was so bad!"

"What could it be, poor child?" I said:
"Were you pursued by bears?
Perhaps your dolly broke her head,
Or did you fall downstairs?"

"Oh dear! It's most too bad to tell!
You know in school our class
Are havin' zamination. Well,
I dreamt I didn't pass!"

Jack.

Jack was cross, and nothing pleased him. After giving him the choicest morsels for his breakfast, and providing for his wants with tender care, while he did nothing but fret and complain, his mother finally said:

"Jack, I want you now to go right up to your room and put on every garment wrong side out."

Jack stared. He thought his mother must be out of her wits.

"I mean it, Jack," she repeated. And she did mean it. Jack had to mind. He had to turn his stockings even; and when his mother came to him there he stood—a forlorn and funny-looking boy, all lining and seams and raveling—before the glass, wondering what his mother meant, but not quite clear in his conscience.

"Now this," said the mother, turning him round, "is what you have been doing all day. You have been determined to make the worst of everything. In other words, you would turn everything wrong side out. Do you really like your things this way so much, Jack?"

"No, mamma," answered Jack, shamefaced. "Can't I turn them right?"

"You may, if you will remember this: There is a right and a wrong side to whatever happens—I mean a pleasant part and a part you do not like as well, and you must do as you prefer to with your clothes, wear them right side out. Do not be so foolish any more, little man, as to persist in turning things wrong side out."

A True Story in Rhyme.

"Where is the baby, grandma?"
The sweet young mother calls
From her work in the cosy kitchen,
With its dainty, whitewashed walls,
And grandma leaves her knitting
And looks for her all around,
But not a trace of a baby dear
Can anywhere be found.

No sound of its merry prattle,
No gleam of its sunny hair,
No patter of tiny footsteps,
No sign of it anywhere.
All through the house and garden,
Far out into the field,
They search every nook and corner,
But nothing is revealed.

And the mother's face grew pallid,
Grandmamma's eyes grew dim;
The father's gone to the village
No use to look for him,
And the baby's lost! "Where's Rover?"
The mother chanced to think
Of the old well in the orchard,
Where the cattle used to drink.

"Where's Rover? I know he'd find her."
"Rover!" In vain they call,
Then hurry away to the orchard,
And there, by the moss-grown wall,
Close to the wall lies Rover,
Holding to baby's dress,
Who was leaning over the well's edge
In perfect fearlessness.

She stretched her tiny arms down,
But Rover held her fast,
And never seemed to mind the kicks
The tiny bare feet cast
So spitefully upon him,
But wagged his tail instead
To greet the frightened searchers,
While naughty baby said:

"Here's a little girl in the water—
She's dust as big as me;
Mamma, I want to help her out
And take her home to tea;
But Rover, he won't let me,
And I don't love him. Go
Away, you naughty Rover—
Oh, why are you crying so?"

The mother kissed her, saying,
"My darling, understand,
Good Rover saved your life, my dear,
And, see! He licks your hand!
Kiss Rover!" The baby struck him,
But grandma understood:
She said, "It's hard to thank the friend
Who thwarts us for our good."

The results of the "Motto Competition" will be announced in our next issue. Some of the competitors have neglected to observe the rule about sending in a certificate of age. This rule will be strictly kept.

COUSIN DOROTHY.

A few drops of camphor put into the water when bathing the face will prevent the skin from shining.

UNCLE TOM'S DEPARTMENT.

MY DEAR NEPHEWS AND NIECES,—

The present day is noted for its wonderful inventions, many of which are meant to be time-savers, or, as the old saw goes, they are intended to enable us to "take Time by the forelock." That sly old fellow, however, is very wary, and it appears as though he had doubled his pace in order to elude his pursuers, for albeit it seems but a few days since we heard the gladsome chiming of the Christmas bells, we find Time's shadow on the dial of '99 almost at the noon mark. But we shall not murmur at his rapid flight so long as he brings us such delights as come to all in this fair month when

"Spring scarce has gotten out of sight,
And not a stain of wear shows on the grass
Beneath our feet, and not a dead leaf calls
Our day of loveliness is past and gone!"

Obedying the behest of that nature-worshipper, Longfellow, I recently took a ramble through the woods. How delightfully refreshing everything was! The soft green ferns tossed out their fairy tresses, the snowy trilliums raised their graceful heads, and even the timid violets held up their sweet, shy faces and seemed to revel in the health-giving odors of balsam and pine, which mingled pleasantly with the perfume of lilacs and honeysuckle, wafted thither from the gardens near by.

The trees with their new verdure attracted myriads of honey-seeking bees, whose soft, monotonous hum but relieved the merry melody of the lively songsters. A very sacredness fell o'er everything, all discord seemed to vanish far from life, and peace, fair peace, held undisputed sway.

Surely his blood must run but sluggishly who does not at such a time, in such a place, feel purer and better, whose heart heaves not with new and noble aspirations, and who does not offer a tribute of gratitude and praise to the omnipotent Creator of all this beauty. What a kind old teacher Nature is, never upbraiding our density of comprehension, but ever holding out to us her marvelous secrets and sweetly inviting us to make ourselves master of them. Her silent admonitions often bear more weight than many a sermon delivered from other pulpits, and we cannot choose but hear, so gentle is her pleading. The manner in which she blends verdure and barrenness, frowning cliffs and fertile

valleys, into one harmonious whole, shows us how we too may blend our joys and sorrows, making discord serve, like the bleak rock, but as a relief to throw out more gloriously the surrounding beauty and making of our hearts—

"Instruments whose strings
Steal nobler music from life's many frets."

The observant eye cannot fail to notice the exactness with which each minute part of nature's great whole is executed. The tiniest frond of fern or stem of moss, and the most insignificant floweret that peeps from the grass along our way, is equally perfect as the giant oaks and pines that tower in the forest, and thus again speaks our teacher: "Be always faithful in little things, and you will never fail to do the greater well." And as we wonderingly ponder o'er the wisdom she displays, these lines from Cowper come to our minds:

"Nature is but the name for an effect,
Whose cause is God."

But see, I have fallen into a reverie from which I am pleasantly aroused by the contagious laughter of two of my bright-eyed nieces. The spell of June's fair beauty has not yet left me, for still my mind is filled with poetic fragments, and I ask, with Mrs. Blewett:

"I wonder if the day will ever come
When we will be so old, so old and dull,
That we will listen to yet never heed
The sweetest sound of all the sounds that ring
Out through this world's big aisles—the rippling laugh
Which comes from red young lips, comes straight from some
Rich storehouse in the breast, a storehouse filled
With gladness great, and hope, and all things good!"

As a fresh burst of merriment falls on my ear, I breathe a prayer that such a fate may never come to—
Your loving, UNCLE TOM.



"GETTING BETTER."

"Getting Better."

This picture of a humble home scene would be very sad were it not that the dear little invalid is evidently convalescent and now able to take delight in the dolly being tenderly handed to her by her father. What sadness and what joy comes to us through the little children!

There are few families who have not been through scenes like this, and often, alas! must bear the unutterable pain of parting with their heart's sunshine, but then there is that brighter side when hope revives as we are gently told the little one is out of danger.

There is something very natural in this whole scene of a simple home and working people.

That little chap sitting at the foot of the couch looks rather forlorn, for father and mother are naturally occupied with the sick child. Of course he's glad, in his small way, that sis is better, but he almost wishes he could be sick too and get a lot of attention. Well, he is solacing himself with an apple, and sis will soon be well enough for even a game of romps.

All our readers will recollect that beautiful and pathetic picture, "The Doctor," which appeared in our pages, and cannot fail to realize the difference between the tense anxiety of that scene and the hopefulness of this one.

Housework, sweeping, dusting and the other innumerable duties necessary to keep things in order about a house, are beneficial to the general health as well as excellence for the complexion.

Joke Contest.

The prizes offered in this contest have been awarded to "Brier-rose," Cannamore P. O., Ont.; "Juno," King's Co., Nova Scotia; and G. J. McCormac, St. George's, P. E. I. The prizes are all of equal value. A great number of very good selections were sent in, some of which we shall publish later. Contributions were received from the following: "Free and Easy," Jesse A. Witmer, Archie Evens, "Rover," Fred Conner, Mary E. Forsythe, Bessie A. Forsythe, Lizzie Conner, Larkspur, "Dorcas," W. R. Woodland, "Dot," "McGinty," Ruth E. R. Ford, "Shirley," "Karl," "Plowboy." Those who did not gain a prize need not feel discouraged. There was very little difference in the merits of many of them, but we had only three prizes, so some had to be disappointed. I hope you will all find fun enough in reading them to repay you for the trouble of writing them.

UNCLE TOM.

CONTRIBUTED BY "BRIER-ROSE," CANNAMORE P. O., ONT.

I.

ONE MORE THAN HE THOUGHT.

Those who have first gazed in dismay and then laughter at their own distorted reflections in a concave mirror will appreciate an amusing occurrence lately witnessed at a menagerie. Here and there between the cages were placed trick mirrors, which reflected a distorted image. An Irishman, after a critical survey of the monkeys, had wandered away from his better half, and suddenly found himself in front of one of these mirrors. After a glance at his distorted reflection he rushed back to his wife, who was still watching the antics of the monkeys. "Come away, wid ye, Bridget," he exclaimed. "O'Ve found a bigger treat than that—the ugliest beast in the show! He's in a little cage in the corner." Bridget followed her husband's lead, and he dragged her in front of the "little cage." To his astonishment, there was more in the "cage" than he expected. "Begorra, Bridget," he exclaimed, "there's a pair av 'em!"

II.

LORDLY ARAB.

Prof. John Stuart Blackie used to form a very picturesque feature in the Edinburgh streets. He was a wiry old patriarch, with handsome features and hair falling in ringlets about his shoulders. No one who had seen him could possibly forget him.

One day he was accosted by a very dirty little bootblack with his "Shine your boots, sir!" The professor was impressed by the filthiness of the boy's face. "I don't want a shine, my lad," said he, "but if you'll go and wash your face I'll give you sixpence."

"A richt, sir," was the lad's reply. Then he went over to a neighboring fountain and made his ablutions. Returning, he held out his hands for the money. "Well, my lad," said the professor, "you have earned your sixpence. Here it is."

"I dinna want it, auld chap," returned the boy, with a lordly air. "Ye can keep it and get yer hair cut!"

III.

UNEXPECTED.

It was told some years ago of a Southern youth that one morning, after completing a somewhat protracted toilet, he turned to a servant and enquired, "How do I look, Caesar?"

"Plendid, massa, plendid," was the ready answer. "Do you think I'll do, Caesar?" he asked, surveying himself and giving Caesar a quarter.

"Guy! massa, neber see you look so fierce in all my life! You look jis as bold as a lion!"

"A lion! What do you know about a lion? You never saw one, Caesar."

"Neber see a lion, massa! Guy! I see Massa Peyton's Jim ride one ober de mill every day."

"Why, you fool, that's a donkey!"

"Can't help dat, massa," said Caesar, "you look jis like him!"

CONTRIBUTED BY "JUNO," KING'S CO., NOVA SCOTIA.

I.

YELLER CLAY.

Here is the first recorded instance of a hotel clerk being "saled on."

He said there was one small vacant room on the fifth floor. Bill Nye said that would do.

Still suspicious, he said the elevator wasn't running. Nye said he didn't care for that. He could climb.

The clerk had one more show to turn him out. He sprang it: "You have to pay in advance," he said.

Nye said that was all right, and was told in reply to his question that the tariff would be \$2.50.

Nye reached for a roll and threw out a \$100 bill. The clerk stammered, seeing that he had made the mistake so often fatal in this country, then said he had no change.

Nye pulled back the \$100 bill and threw out a \$50.

The clerk managed to break that one, and as he did so the lines of good nature expanded all over his face and tickled the roots of his hair. He had been entertaining an angel unawares.

Nye gazed at this auroral display of humor on the clerk's face and said:

"You remind me of Clay."

The display of vanity and good-nature on the clerk's front would have been worth a good price as an attraction in the window just then.

"Indeed," he said, "Henry Clay?"

"No," replied Nye, "just the common everyday mean yeller clay out of which they make bowls and platters in a country pottery."

And then he sought his couch.

II.

BREAKING IT GENTLY.

Young wife—"My dear, you were the stroke oar at college, weren't you?"

Young husband—"Yes, love."

"And a very prominent member of the gymnastic class?"

"I was the leader."

"And quite a hand at all athletic exercises?"

"Quite a hand! My gracious! I was the champion walker, the best runner, the head man at lifting heavy weights, and as for carrying, why, I could shoulder a barrel of flour and—"

"Well, love, just please carry the baby a couple of hours. I'm tired."

III.

MEETS HIS WATERLOO.

The champion liar among the train hands noticed the green-looking country man boarding the train. "Now for fun," he said.

First he told of putting pneumatic tires on freight cars. Then he switched off to patent car couplers that allowed the switchman to sit on the tender of the engine and handle long strings of cars. Then he told other yarns, and his last concluded a story of a man falling from the top of a six-story building and alighting on the pavement below without injury, when the country fellow seemed to become quite interested.

"That reminds me of a steeple-painter at work on the Methodist church down my way. He had rubber boots on so he wouldn't slip, but just as he got to the top didn't he lose his grip, and down he came, cherralop! It didn't kill him, but he liked t' starve t' death."

"Starve to death! How was that?" said the champion liar.

"Why, he struck on his feet," replied the countryman, "an' kep' bouncin' up an' down for three days before we could stop him, an' we had t' chuck biscuits at him t' keep him from starvin'."

The champion liar took a lantern and crawled up on top of the train, and did not get down until the train had stopped at Ottumora and the farmer was gone.

CONTRIBUTED BY G. J. MCCORMAC, ST. GEORGE'S, P. E. I.

I.

THE PASTOR'S NARROW ESCAPE.

"It was during the War of the Rebellion," said the diffident and blushing assistant pastor, addressing the young people's Friday night prayer meeting, "that a company of Union soldiers were ordered to take a rebel battery. Quickly they sprang to the charge, but, alas! before they reached the guns they broke and fled ignominiously; that is, all except a certain corporal, who rushed in, and, seizing a gunner by the throat, carried him off, an astonished captive. And when the company reached the little clump of woods from whose shelter they had started, they gathered around the gallant corporal and asked him where he had got his prisoner, and how he had managed to capture him.

"I went in and took him," said the hero, modestly. "Ah, boys! why didn't you keep on! There was a man for every one of you there!"

"And so I say to you, my dear Christian soldiers," continued the assistant pastor, fervently, "there is a man for every one of you in this world. Yes, my dear young brothers, there is a man for every one of you here! Yes, my dear young sisters, there is—er—there is—er—there is work for you all in the vineyard of the Lord if you will only seek for it. Let us now sing the 425th hymn:

"Oh! save me from the careless word,
The swift, unbidden thought,
And make me always think and speak
Exactly as I ought."

And the young assistant sat down, with an intensely relieved expression, and mopped his burning brow.

II.

WILLIAM'S INVITATION FROM THE MAYOR.

The young man had been to sea on a long cruise, and on his return was narrating to his uncle, an old Montgomeryshire farmer, an adventure which he had met with on board ship.

"I was one night leaning over the taffrail, looking down into the ocean," he said, "when my gold watch fell from my fob, and immediately out of sight. The ship was going ten knots an hour, but, nothing daunted, I sprang over the rail, down, down, and after a long search found the watch, came up and chased the ship, and climbed back to the deck without anyone knowing I had been absent."

"William," said his uncle, "I believe thee, but there are many a thousand would not."

"What!" exclaimed William, "you are politely insinuating that I'm a liar!"

"William," said the old man, gravely, "thou knows I never call any body names, but if the Mayor of Walspool were to come to me and say, 'Josiah, I want thee to find the biggest liar in all Montgomeryshire, I would come to thee and put my hand upon thy shoulder, and say to thee, 'William, the Mayor wants to see thee.'"

III.

REFORMING A PARROT.

A P. E. Islander who spent a part of last summer in England tells an incident which sadly disturbed the religious peace of a parish in Penzance.

A maiden lady of that town owned a parrot, which somehow acquired the disagreeable habit of observing at frequent intervals, "I wish the old lady would die."

This annoyed the bird's owner, who spoke to her curate about it. "I think we can rectify the matter," replied the curate.

"I also have a parrot, and he is a righteous bird, having been brought up in the way he should go. I will lend you my parrot, and I trust his influence will reform that depraved bird of yours."

The curate's parrot was placed in the same room with the wicked one, and as soon as the two had become accustomed to each other the bad bird remarked, "I wish the old lady would die."

Whereupon the clergyman's bird rolled up his eyes and in solemn accents added, "We beseech thee to hear us, good Lord!"

The story got out in the parish, and for several Sundays it was necessary to omit the litany at the church service.

Recipes.

STRAWBERRY CANAPES.

Brown the under side of large sponge drops in a little butter, being careful not to let the butter burn.

Have ready one cup of strawberries sliced and sweetened. Heat them in another pan just enough to melt the sugar, add one tablespoon of butter and pour it over the browned cakes.

RHUBARB JELLY.

About one quart of liquid from the compote, ½ ounce of white gelatine, wineglass of white wine.

Cut off the leaves and ends from the stalks, and wipe with a clean, damp cloth. Use an earthen dish for cooking. Without removing the skins, cut the pie-plant into pieces 2½ inches long, and put over them the sugar, a piece of lemon peel, and the water. Cover and set in the oven on a shelf.

Moisten the required gelatine in a quarter of a cup of cold water. When the rhubarb is tender, place the gelatine in a large bowl on which an earthenware colander is placed. Pour the rhubarb on this, but remove it very soon to a dish, in order to retain sufficient juice with it.

Stir the hot liquid underneath, and when the gelatine is dissolved pour into teacups or molds dipped in cold water. A glass of white wine improves the jelly. The rhubarb skins impart a beautiful rose color.

Broken china may be mended by making a light paste of the white of an egg and flour, cleaning the broken edges from dust, spreading them with the paste and holding the parts together while wet, wiping off all that oozes out. It must be held or fastened in position until dry.

A fruit jar, with defective cover, may be made air-tight by putting a little putty between the cover and rubber, remembering to press the putty in around the crevice as soon as the top is screwed down as tightly as possible.

THE QUIET HOUR.

"What Wilt Thou Have Me to Do?"

Hast Thou, my Master, aught for me to do
To honor Thee to-day?
Hast Thou a word of love to some poor soul
That mine may say?
For, see this world that Thou hast made so fair,
Within its heart is sad:
Thousands are lonely, thousands sigh and weep,
But few are glad.

But which among them all to-day is mine?
O, guide my willing feet
To some poor soul that, fainting on the way,
Needs counsel sweet;
Or into some sick room, where I may speak
With tenderness of Thee;
And, showing who and what Thou art, O Christ!
Bid sorrow flee!

Or, unto one whose straits call not for words—
To one in want—indeed:
Who will not counsel, but would take from me
A loving deed.
Surely, Thou hast some work for me to do;
Oh, open Thousmine eyes,
To see how Thou would'st have it done,
And where it lies.

Intercessory Prayer.

There are some duties, amongst those assigned to each individual, which seem chiefly to fall under the head of our duty to God; and these a very numerous class—relate more especially to our neighbor; and, yet again, there are a few which principally concern ourselves. Many of our duties have more than one side, and there are some which puzzle us, because one appears to clash with another, and we know not to which we should give our first attention.

But there is one duty of paramount importance, imposed upon us as members of the great human family, which links together God, our neighbor, and ourselves. This duty there is never any doubt about; it never causes perplexity or clashes with any other.

It is the duty of Intercessory Prayer.

By its means we, as it were, stretch forth one hand to God, and the other to our neighbor; and as we make use of this mysterious spiritual force, the blessings which we crave for others overflow into our own hearts, and enrich our own lives.

It is a truism—though one which few of us realize as we should—that the very first word of the Lord's Prayer teaches us to be unselfish in our devotions; for selfishness is, alas! such a subtle enemy that it strives to force itself, disguised as an "angel of light," into the very presence of God. Hence, we must be constantly on the watch to overcome and crush it out.

Yes! It is possible to be selfish even in our prayers, unless our eyes are constantly fixed upon our Great Example, unless we are constantly learning from Him to pray continually and perseveringly for others.

In the Garden.

Fain would I help the gardener in his toil,
Mid flowers he loveth best;
Bringing fresh water to the thirsty soil,
And doing his behest.

So would I toil in Thy garden, Lord,
Sowing the seed Divine;
And like a child some slender aid afford
To that dear Hand of Thine.

Through hidden ways—still fragrant with Thy tread—
Lead me, that I may see
Thy lilies fenced in their leafy bed,
Blooming alone for Thee.

In the cool glimmer of the early dawn
Let me arise, and go
From grove to vineyard green and dewy lawn,
Thy precious plants to know.

Too rich for me the garden of Thy smile,
My skill is Thine alone;
I can but labor for a little while,
Yet Thou my work shall own.

Prayer.

Why are our prayers inefficacious, even if we pray for the gifts of the spirit? Because they are not pronounced in the unity of the one, but in the multiplicity of our desires. Our thoughts and will are not one; but we pretend to desire one thing and will another; we have not yet arrived in that natural state where will and thought and word are one, and which it is necessary to enter before we can expect to come in possession of the spiritual power of prayer. True prayer means sacrifice; it is a going out of the soul to the infinite, a giving one's self up to God entirely, and without any reservation. In the German language the word for prayer is "Gebet," from "geben," to give; there is no asking for favors. The soul sacrificing itself to God, and giving up its self-will, becomes one with the Spirit of Truth, and receives from Him all His blessings in return. Far better would it be if men, instead of philosophizing about the existence of God and His qualities, would learn the nature of true prayer. They would then practically know that there is a personal God, for they would feel His presence within themselves, and by attaining the knowledge of self they would become self-conscious of this Divinity. Franz Hartmann.

Be charitable before wealth makes thee covetous.—Sir T. Brown.

Woman's Worth.

We hear a great deal about the "New Woman" (which term, by-the-by, is very difficult to define), and this is supposed to be "woman's age." Well, undoubtedly, women can and do enter into many walks of life hitherto debarred them; but if one goes to the root of it, one generally finds necessity, and that in these days many women as well as men have to be bread winners. This article, however, does not seek to deal with this so-called "New Woman" subject, but only with a phase of woman's life which seems to run in a groove, and upon which new theories have no influence. The phase I allude to is that in which one sole end and aim is to wait upon the men of the family who are supposed to be (and often honestly believe themselves to be) the protectors of their womankind! This sort of thing prevails, perhaps, more in the country than in cities, although it is not hard to find anywhere.

The father and brothers on a farm usually consider themselves as the breadwinners, whereas they are not one whit more the breadwinners than the helpful women of their household who, by their incessant slavery and thrift, save thousands of dollars in fewer years than one might suppose. People sometimes wonder that the daughters of really well-to-do farmers leave home and seek service, but when one considers that a girl, if fairly competent, can command a good home, fair wages, and probably far easier work than she has at home, the matter is not so much to be wondered at. How often does a father dream of giving his daughter any allowance for her services beyond her board and clothes—not a very heavy item? Look, too, at the sons on the farm. Their sisters wait upon them, wash, scrub, cook, sew for them; but how often does a brother give his sister even a little present for her willing service? He generally accepts it as a matter of course, a mere trifle, to be amply repaid by a word of thanks—too often not even that. Even if one has to admit that women must work hard on a farm, is it not only bare justice that if the better part of their youth be passed in this way—slaving and saving—they should at least reap some after benefits from their labors? But not so. See what generally occurs. The father dies; the mother, nine times out of ten, is left to the care of the sons (to whom the farm is left), and has usually to live with a married son or daughter, often entirely dependent on their kindness. The daughters have, perhaps, a few hundreds left to them—not enough for a decent income—and in many instances nothing at all. I recall a case where the girls had spent the best part of their lives in working for and waiting upon father and brothers—helping, in short, to keep the whole fabric together—to have less than five hundred dollars left to them; whilst the sons had as many thousands in valuable farm property, and this is only one case out of many such. Now, this is all wrong, and it is time that fathers and brothers thought more of these things and rid themselves of the idea that wives, mothers and sisters are created simply to wait upon them and see to their comfort, without at least being rewarded by a fair division of property when the time arrives for it.

In fairness, I will say that I believe the majority of men do not see the injustice they practice towards their womankind. Their occupations render them somewhat dense in these matters; but if they just put their minds upon the subject, they must surely see where the injustice comes in. I dare say many take it for granted that these hard-working daughters and sisters will marry. Well, some do, but plenty do not, and it is for them chiefly that thought should be taken, and also for the farm widows, who should not be left to end their days in the state of utter dependence one so often sees. All, of course, depends upon the circumstances. When there is nothing to leave, the deplorable fact can only be accepted; but I am taking a general view, and this view reveals the fact that woman's work is taken too much as a matter of course, and her real value as a co-breadwinner too often overlooked.

This article must not be misunderstood by our dear Canadian girls. It is a beautiful thing to see whole families working together for the common good, and devoted wives, mothers, daughters and sisters are indeed a blessing for any man. Few girls have any idea of gain in the matter, and work for pure love of their family and home. All honor to them! Some do wander away for various reasons, but the reason never should be because they feel they are receiving but scant justice. Our Canadian girls are loyal to their country and their homes, but it will not make them less brave and true to have the knowledge that their loving service is encouraged and appreciated. I am not afraid, therefore, that our girls will misunderstand, but merely appeal to that sense of fairness which is really implanted strongly in our worthy farmers, but which they are sometimes apt to overlook. Whatever a farmer has to leave at his death has usually been made as much by his wife as by himself, and—as they grew up—by his sons and his daughters! M. M.

Our Library Table.

"CLEG KELLY." S. R. Crockett.—There are few stories which so completely blend together humor and pathos as does this one, telling of the adventures of a street arab. Born of parents utterly opposite in character—as his gentle mother discovers almost as soon as she is married—Cleg inherits a curious mixture of temperament, which the author wonderfully brings out. Full of

faults, even to the astute cunning of his burglar father, the sterling elements of honor and generosity lie deep down and are incorruptible. The opening of the book is startling: "It's all a dumb lie—God's dead!" Imagine these bold words said in Sunday-school, and to its superintendent, Mr. James Lugton, commonly known as "Pund o' cannies" because he was a tallow chandler! Expelled from the school for his speech as a "bold blasphemer and atheist" (poor, ignorant Cleg), a characteristic incident follows. Wild for revenge, he thinks of setting fire to Harker's Court school, but suddenly remembers his friends, Vara Kavanaugh and her little brother Hugh. "I'll get them to gang to another school first," he decides. A conflagration of some sort, however, Cleg is bound to have, and accordingly he selects a favorite furzy slope where grows a profusion of "whins and broom," and there, more to relieve his outraged dignity than for any deeper reason, he sets fire to the dry grasses. "This wee bit knowe," said Cleg, his heart beating within him at the enormity of the offence, "there's no a keelie in the toon that wad dare to do as muckle!" To his surprise, however, the "wee bit" fire extends rapidly and furiously. At first he leaps and shouts for glee—when suddenly he sees a nest with a yellow bundle and three little gaping mouths. "Guid life," cried Cleg, "I never thoct the birds wad be biggin already!" Then he sets to work with a will, beating off the flames with his ragged coat. "Here he stood, with his coat thrashing every way, keeping the pass with his life—brave as Horatius—while the flames crackled and roared past him." Herein lies the key to all our street arab's character—quick perception, bravery, tenderness, but with utter contempt of control, and a tongue like a razor, sharpened, too, with real wit. Another incident showing the true nature of the boy is where the parable of the lame man at the pool of Siloam is read, and he conceives the brilliant idea that he can cure the little lame boy. "Never heed, Chris Cullen. I'll carry ye doon on my back mysel'. There's naeboddy will daur to hinder ye dookin' in ony dub ye like, when I'm cairryin' ye!"

Space will not admit of many extracts. The story abounds with touches which draw from us tears and laughter at will. One of the most pathetic incidents relates to the big gentle giant of a man, Alex. Douglas—"Muckle Alex.," as his railway comrades call him, but it would somewhat spoil the reader's enjoyment of the book to relate more.

Cleg's adventures and character are worked out with wonderful insight. As in most stories commencing at early boyhood and when that boyhood is so intensely interesting as is Cleg Kelly's, a little of interest, perhaps, flags towards the very end. The truth is, we love Cleg so much as the boy that we cannot quite realize him as the man. Every character and every scene in the book is worth studying. The delicacy of treatment is as noticeable as in this same author's "Lilac Sunbonnet."

"ADVENTURES OF A BROWNIE." Miss Mulock "GRANDFATHER'S CHAIR." Nathaniel Hawthorne.—These are two children's books which are very charming, although not as widely known as they should be. They can be had in paper covers at about ten cents. FELIX.

Amicable Argument.

In reading lately some accounts of the late eminent statesman, Mr. Gladstone, I particularly noticed that much of his wonderful power of argument and eloquent flow of speech was due to a custom which prevailed in his family. They quietly discussed amongst themselves any subject which came up, and were encouraged to air their opinions and to give their reasons, expressed in clear, forcible and correct language. Thus their powers of reasoning and speaking were brought out from early youth. There can be no doubt that were this excellent plan more generally followed, there would be less bitterness and less blind obstinacy amongst a large majority of people. The reading of this article about Mr. Gladstone set me thinking about argument, the various views taken of it, and the various ways of conducting it. It seems as though so many regard argument as, of necessity, meaning a mere wrangling disagreement.

How often you hear people say, "Oh, I never argue, it so often leads to losing one's temper—and what's the use, after all?" This sounds very well, indeed, and we are apt to say of such people, "They are so good natured; I never heard them argue with anyone." True, my friend; but does it never strike you that there is a *raison d'être*? In nine cases out of ten this simply means that the anti-argumentist is determined to stick to his or her opinion whether the opposite side convinces or not. Then—as is hinted above—some people do lose their tempers—their manners—and, in consequence, almost invariably lose their argument also. Another class—frequently met with—possess no flow of language. Their ideas may be very sound, but they are incapable of expressing them with any convincing force. Such unfortunates are completely at the mercy of the antagonist who has a whole string of words ready to pour forth in clear explanation of his subject, and who ends in literally *snuffing out* the less gifted one. I have known this to occur even when the multi-wordist was utterly in the wrong.

There is yet another class—and a dangerous one. Some people cannot argue because they happen to dislike their opponent. In such case the opponent is foolish indeed to attempt to expound an opinion, for it is almost sure to be contradicted, and often

some trivial *trip-up* theory advanced, with, perhaps, little or no bearing on the question, but merely used as a means to make the other side look small. This kind of thing is no argument, but simply contradiction, born of a predisposition to differ with *whatever* is said by the individual disliked. So do not place either side upon an undeserved pedestal—and especially the side which won't argue—which side has generally some reason open to comment. Argument is a species of discussion—(with a difference, however). If people would really discuss their subjects they would arrive at better results. Argument so generally means opposition, that this kind of discussion (as distinct from that kind in which both sides are agreed) might be called a polite agreement to differ, to use an old phrase.

No, we must not be blind to many reasons which make people say they object to argument. I should allow, however, that there certainly are sometimes very sufficient grounds for non-argument when the opposite would mean a serious breach of manners, or, perhaps, an unkindness. This, nevertheless, does not effect the main question.

I would certainly advocate argument (or discussion, if one prefers so to call it), but I think a first-rate plan would be that as soon as the combatants show temper they should be pulled up sharp by a third person—in fact, "Time" should be called—and if no third person is present, then the two might agree, with Spartan fortitude, to pull up each other and themselves. A great stumbling-block in the way of argument is *Egotism*. People are so prone (when heated) to forget the interest of the question itself and imagine that all their adversary urges for or against is a personal affront. Many a friendship has been broken in this way.

In spite, however, of many and serious drawbacks, the idea that argument is useless—as some allege—is untenable. *Cela depend.* F. J. M.

Puzzles.

[The following prizes are offered every quarter, beginning with months of April, July and October: For answers to puzzles during each quarter—1st prize, \$1.50; 2nd, \$1.00; 3rd, 75c. For original puzzles—1st, \$1.00; 2nd, 75c.; 3rd, 50c.]

This column is open to all who comply with the following rules: Puzzles must be original—that is, must not be copied from other papers; they must be written on one side only of paper, and sender's name signed to each puzzle; answers must accompany all original puzzles (preferably on separate paper). It is not necessary to write out puzzles to which you send answers—the number of puzzle and date of issue is sufficient. Partial answers will receive credit. Work intended for first issue of any month should reach Pakenham not later than the 15th of the month previous; that for second issue not later than the 5th of that month. Leave envelope open, mark "Printer's Copy" in one corner, and letter will come for one cent. Address all work to Miss Ada Armand, Pakenham, Ont.]

1-ACROSTIC.

- 1. A celebrated mountain (scriptural).
2. An East Indian coin.
3. Of no worth.
4. More than one.

Initials and finals combined give a maritime city of prominence. "SIMPLE SIMON."

2-BEHHEADED WORDS.

- Behhead a fish and leave a call to silence.
Behhead a stand and leave power.
Behhead a girl and leave help.
Behhead an opening in a fence and leave what we did at dinner yesterday. "BUTTERCUP."

3-HOURGLASS.

- 1. Noxious to health; 2. a necessary; 3. mother-of-pearl; 4. an epoch; 5. a letter; 6. to spoil; 7. exceedingly good; 8. slight; 9. to pour into another.
Diagonals—From left down, "enter;" from right down, "care." "DICKENS."

4-CLEVER PEOPLE, PHONETICALLY AND ENIGMATICALLY EXPRESSED.

- 1. A boy's nickname, a nauseous ball, a musical note, and an adult in Scotland.
2. A pronoun and to whinney.
3. To bunt, a row, and a drinking vessel.
4. We all have, guided, and an exclamation.
5. One of Rider Haggard's novels, a vowel, and to conceal.
6. An article, a vowel, and a beverage.
7. To block and a piece of timber used in shipbuilding.
8. A barnyard animal and a person we love.
9. To color, to view, and descry. "ARRY 'AWKINS."

5-ANIMALS.

- 1. i-h-n. 4. i-a-f.
2. p-l-a. 5. a-l-o-o.
3. w-a-l. 6. b-a-e. A. E. T.

Answers to May 5th Puzzles.

- 1-Starry-tarry-Arry.
2-howdah
or iole
wintry
dotted
alreda
heyday
6-Britain
remove
image
toga
ave
ie
n
3-A live dog is more to be feared than a dead lion.
4-Abronia, abutlion, adumia, agrostemma, amaranthus, antirrhinum, amebia, dolichos, erysimum.
5-888,937,142 6-7 gallons.
7-John Halifax, Gentleman.
8-private
renege
inure
very
age
te
e
9-Jalap, order, houri, nones, ascetic, lapilli, drill, equal, naphtha John Alden-Priscilla.
10-E-pect, ve-ed, e-panse, perple-ed, e-xit, e-xpert.
11-yager
abide
gibes
edeni
resin
12-New Year's Day-Restorative.

SOLVERS TO MAY 5TH PUZZLES.

'Arry 'Awkins, M. R. G., Gertie Kinck.

PUBLIC AUCTION SALE

150 Manitoba Farms

Close to the thriving towns of Franklin, Minnedosa, Rapid City, Newdale, Strathclair, and Shoal Lake, will take place at

MINNEDOSA, MANITOBA,

Thursday, 15th June, 1899

COMMENCING AT 2 P. M.

This will be a rare opportunity to secure a desirable farm at a low figure on easy terms. Apply to the undersigned for catalogue or further particulars.

R. H. MYERS, MINNEDOSA, MAN.

J. A. S. MACMILLAN

IMPORTER OF Clydesdales, Shires, Hackneys.

STALLIONS:

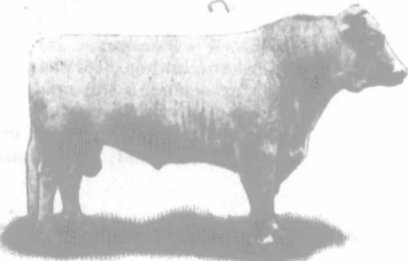
Has a few choice ones for sale. Also Pure-bred



SHROPSHIRE SHEEP,

Rams and Ewes, from the most fashionable imported blood. Inspection invited. For full particulars, Apply: Box 483, Brandon, Manitoba.

"PRAIRIE HOME STOCK FARM."



Bulls at head of herd: JUDON = 23419 = and Imp. JUBILEE = 28858 =.

Shorthorn and Ayrshire cattle, Shropshire sheep, Yorkshire and Berkshire swine. A carload of Bulls suitable for Northwest Territories for sale.

ORDER BOOKS FOR SPRING PIGS. Berkshires, by the great boar, King Clero, and out of such sows as Harmony and Gold Drop. Yorkshires, by the sweepstakes boar, Yorkshire Bill, and out of such sows as Stamina, Jubilee Queen, and Markham Maid.

THOS. GREENWAY, JAS. YULE, PROPRIETOR, MANAGER, CRYSTAL CITY.



PIONEER HERD OF SHORTHORNS.

WALTER LYNCH, Proprietor, WESTBOURNE, MAN.

Fifteen first and one second herd prizes in sixteen years. A choice lot of young bulls for sale. 14-2-y-m

12 YOUNG BULLS

of Missie, Mina, Rosebud, Strathallan, Wimple, and other choice Scotch breeding. Also, females at moderate prices.

W. S. LISTER, MIDDLECHURCH, MAN.

Marchmont Stock Farm, near Winnipeg, Man.

THORNDALE STOCK FARM,

MANITOBA,

JOHN S. ROBSON, PROP.

A FEW CHOICE YOUNG

Shorthorn Bulls & Heifers for Sale.

Write for particulars.

D. FRASER & SONS,

EMERSON, MAN.

Breeders and importers of Durham Cattle, Shropshire and Southdown Sheep, and Pure-bred Poland-China Pigs.

GOSSIP.

In writing to advertisers, mention the "Farmer's Advocate."

It is reported that Sir William Van Horne, President of the C. P. R., intends starting a large stock farm at East Selkirk.

Mr. S. Duncan, of Glen Ewen, offers for sale in this issue young Chester White pigs. Also White Rocks and Black Langshans; eggs or birds.

And Allison, of Roland, who some time ago secured some of the "tops" of Hon. Mr. Greenways show herd of Shorthorns, has now purchased the bull, Riverside Stamp, to head his herd. This bull was imported by Mr. Greenway recently from Ontario, being brought out by Jas. Yule in the last car from that Province.

Messrs. Caldwell Bros. have brought with them from Ontario a large number of imported Yorkshires, Berkshires, and red Tamworth pigs. They advise us—writing from the Grand View Hotel, Dauphin—that they are offering for sale, at close figures, 50 brood sows, 30 spring pigs, and 15 boars. All are registered. Parties desiring to correspond with Caldwell Bros. will find them at the above stated address, Dauphin, Man.

James Yule, Manager of Hon. Thomas Greenway's farm, Crystal City, reports under recent date that the carload of stock recently imported from Ontario by him, consisting of thirteen head of cattle, one horse, and a number of pigs, all came through in good shape. The car was made up in part as follows: The Clydesdale stallion, Young McMeister, 2549, and the following Shorthorns were purchased from Thomas Russell, of Exeter: Medora of Riverside 2nd, Bracelet 8th, and her heifer Bracelet 9th, Jane Gray 5th and 6th, and the young bull Riverside Stamp 2nd 27658. From W. D. Flatt, Hamilton, the following Shorthorns were purchased: Lady Jane, imported by John Isaac last fall; Elvira 21st = 28830 =, and Isabella Stanley = 27779 =. Four Ayrshire females were bought, two from W. W. Ballantyne, of Stratford, and two from N. Dymont, of Clappison's Corners; the former being Stylish Denty 2036, imported in dam, and Missie of Neidpath 2635; the pair from Mr. Dymont being Ruby of Hickory Hill 3368, and Pearl of Hickory Hill 3365. A pair of Berkshires were purchased from Thomas Teasdale, of Concord, and a Yorkshire sow from D. C. Flatt, of Hamilton. The cattle are of excellent quality and breeding, and the cow, Lady Jane, will, I think, compare favorably with anything in the Province. We have had quite a number of sales lately, some of the principal ones being: Gem of Athelstane, the Winnipeg sweepstakes heifer, to Capt. Thos. Robson, of Iderton, Ont.; Riverside Stamp II. to David Allison, of Roland. This animal will head the herd purchased from Mr. Allison some time ago. John G. Barron, of Dundas, bought the bull calf Judge II. Thos. Smallcombe, Crystal City, takes the yearling bull, Manor Victor, and Roderic Craven, Pierson, the yearling bull, Dashwood Chief. An important sale was also made to Purvis Thompson, of Pilot Mound. He takes Bridal Belle, second in the three-year-old class at Winnipeg last year. She has done well, and will no doubt be heard of again. Mr. Thompson also takes Crimson Cloud, a yearling heifer that has few equals. Another of Mr. Thompson's purchases is the fat steer, Nick, two years old past, a grade, but a good one, tipping the scale at the present time at 2,000 pounds. A large number of sales in sheep and pigs have lately been made, and sales continue brisk. It is the present intention to bring out another carload from Ontario in June, and arrangements are now being made for an importation from Scotland in the fall.

BULLS FOR THE N.-W. T.

Under the arrangement made by the Department of Agriculture, Regina, to encourage the introduction of pure-bred bulls by paying the freight charges, less a deposit of \$5.00, which the purchaser made as a guarantee of good faith, the Pure-bred Cattle Breeders' Association of Manitoba and N.-W. T. undertook the collection and shipment of stock from Manitoba to Territorial points, the first car being dispatched on June 20th with fourteen head to be distributed at points west as far as Edmonton. The stock was picked up at various points, the sellers and purchasers being as follows: H. O. Aycarst, Middlechurch, Shorthorn bull to H. O. H. Smith, Wetaskiwin; John Turner, Carrol, Polled Angus bull to Brown Bros. Grenfell; J. E. Marples, Deleau, Hereford bull to W. J. Salisbury, Saskatoon, and Hereford bull to Geo. Ness, Saskatoon; Wm. Sharmar, Souris, Hereford bulls to H. Ferguson, Chaplin, to R. W. B. Eustace, Moson, and to H. P. Lambert, Regina; J. H. Kinneer, Souris, Shorthorn bull to J. R. North, Fort Qu'Appelle, and one to Mr. Douglas, Fort Qu'Appelle; Thos. Speers, Oak Lake, Shorthorn bull to Robert Scott, Medicine Hat; John Traquair, Welwyn, Polled Angus bull to B. A. Van Meter, Wetaskiwin; W. Clifford, Angus, two Polled Angus heifers to W. A. Van Meter, Wetaskiwin; J. P. D. Van Veen, Fort Qu'Appelle, Galloway bull to F. S. Mitchell, Edmonton. William Sharmar, the well-known Hereford breeder, accompanied the car.

NOTICES.

Brandon Fair. The Prize List of the "Western Manitoba's Big Fair," to be held in Brandon, July 18 to 21, contains a complete list of the liberal prizes offered in all classes of exhibits, programme of events, etc., etc. Copies on application to F. J. Clark, Manager, Brandon.

Insurance. The Manitoba Farmers' Mutual Hail Insurance Company of Winnipeg is an incorporation organized under the laws of the Province of Manitoba to give its farmer members reliable hail insurance at actual cost. See their advertisement in another column in this issue, and write their home office, Winnipeg, Man., for full particulars.

Clydesdale Stud Book. The XXI volume of the Clydesdale Stud Book of Great Britain has just come to hand. A very good photographing of the Cup winner of 1888 and 1891, Hawatha (10987), makes an attractive frontispiece. The volume contains the pedigrees of maters from No. 1333 to 1367, and stallions from No. 10481 to 10664. The secretary of the Association is Archibald McNeillage, Glasgow, Scotland.

SHORTHORNS

Superior individuals of richest breeding. Young stock of both sexes for sale.

J. H. KINNEAR, SOURIS, MAN.

SHORTHORNS. My stock bull, Royal Duke = 2640 =; six other bulls, varying in ages; five heifer calves. Will sell at reasonable figures, to make room for winter. Write to R. McLENNAN, Moropano, Man.

Shorthorn Cows and Heifers for Sale

Of good breeding. Prices right.

GEORGE RANKIN, HAMIOTA, MAN.

"Melrose Stock Farm."

FOR SALE:

2 Pure Suffolk Punch Stallions, 3 years old, and 1 Yorkshire Coach Stallion, 5 years old, also Hereford Cattle. Correspondence solicited.

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CALL ON OR WRITE TO

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HEREFORDS

I keep only the best. For stock of all ages Write or call. WM. SHARMAN, "Ridgewood Stock Farm," SOURIS, MAN.

HOPE FARM,

ST. JEAN BAPTISTE, MAN.

Headquarters for

Galloway Cattle.

Apply to T. M. CAMPBELL, Manager.

Scotch Collie Dogs

We have two grand litters of Collie Pups for sale at \$10 each. They are workers, and from prizewinners. Also Fox Terrier Pups. Try one, they will clear your farm of gophers. Won all the firsts at the Winnipeg Industrial in 1888.

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STEEL BROS., Glenboro, Manitoba,

BREEDERS OF Ayrshire Cattle.

Choice young stock for sale. 24-2-y-m

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Large English Berkshires. Herd headed by three first-class stock boars of large size, strong bone and fine quality. Young boars and sows, all ages, for sale. Spring pigs ready to ship. A number of sows in pig to perfection, winner of eleven first prizes, weight, 750 lbs., when shown in the yearling class. Young pigs, single or in pairs, not akin. Write for prices.

YORKSHIRES, BERKSHIRES, TAMWORTHS.

50 Brood Sows, 30 Spring Pigs, and 15 Boars, just imported from Ontario, for sale at close figures, as they must go quickly. All are registered in Dominion Swine Breeders' Herd Book. For prices write to

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Also a few Improved Large Yorkshires for sale. Write to

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Breeders of Poland China pigs and Cotswold sheep of choice quality, offer select seed potatoes of eighty varieties. Write for catalogue.

PLEASE MENTION FARMER'S ADVOCATE.

CHESTER WHITE PIGS (AI).

Young Pigs, April and May litters. Also White Rocks and Black Langshan eggs, and birds for sale cheap.

S. DUNCAN, GLEN EWEN, MAN.

LEICESTERS!

Young Rams and Ewes for sale. Write or call on

A. D. GAMLEY, Box 193, BRANDON, MANITOBA.

MAW'S POULTRY FARM

MY Bronze Turkeys, Toulouse Geese, Pekin Ducks, Wyandottes and Plymouth Rocks are breeds best adapted to our climate. They are the very best acclimated stock; have won prizes in all leading exhibitions. Eggs at lowest rates. Write for large, free, illustrated catalogue. If you are in a hurry, send along the cash and I will ship you full value.

M. Maw, Winnipeg, Manitoba.

FORT ROUGE POULTRY YARDS.

EGGS FOR HATCHING from high-class Golden Wyandottes, Langshans, Plymouth Rocks, Indian Games, Pyle Leghorns, White Wyandottes. \$2 per 15 eggs, or \$3 for 30.

Pekin Ducks and Pearl Guineas, \$1 per 13. Bronze Turkeys, \$2 for 10 eggs.

A few choice birds for sale; also Belgian Hares and Fancy Pigeons. Write for circular. Address,

S. LING & CO., WINNIPEG, MAN.

MINORCAS, B.

Eggs from first-class prizewinners, \$1 per setting after June 15. Young stock for sale. Satisfaction guaranteed.

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Splendid Prizes!

The most interesting prize system ever offered. Every reader should learn about it. Write for full particulars to the most valuable and entertaining paper of its class in America. Address,

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FOR SALE...

IMPORTED AND CANADIAN-BRED

Clydesdale Stallions

From One to Four Years Old. Also



SEVERAL THREE YEAR OLD

All registered and warranted sound. Inspection invited.

ROBT. DAVIES,

Thorncliffe Stock Farm, TORONTO.

CLYDESDALES FOR SALE.

We have on hand a few choice animals, of both sexes.

I. Devitt & Sons, FREEMAN P. O., Farm 1 mile from Burlington Station G. T. R.

FOR SALE:

Nine Clydesdale Stallions

Just landed from Scotland; also a few imp. and home-bred Shorthorn females.

JOHN ISAAC, KINELLAR LODGE, MARKHAM, ONT.

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HERD ESTABLISHED 1855.

A number of Young Bulls, Cows and Heifers for sale. Herd headed by Imported Christopher and Duncan Stanley = 18361 =. Grand milking cows in herd.

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HAWTHORN HERD

OF DEEP-MILKING SHORTHORNS. 3 heifers bred to Beau Ideal = 22534 = of first-class quality and A 1 breeding.

Wm. Grainger & Son, - Londesboro, Ont.

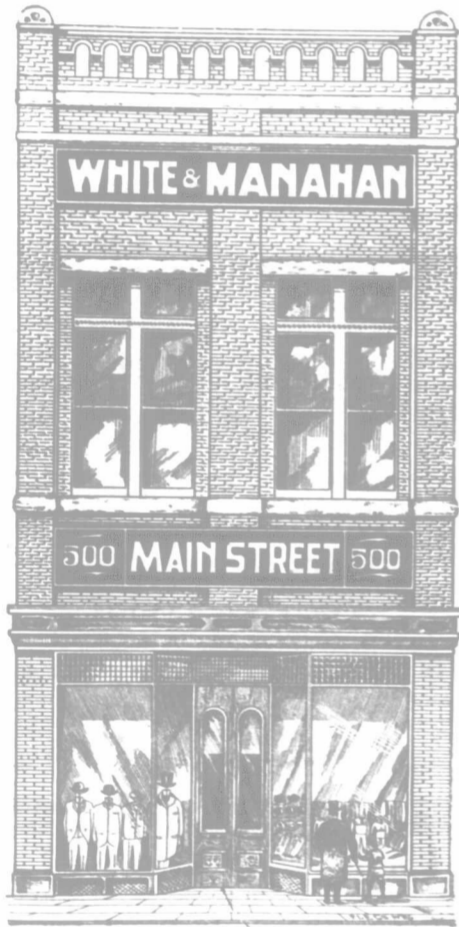
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Mutual Hail Insurance Co.

HOME OFFICE: - - WINNIPEG, MAN.

We Issue to Our Members a Five-Year Policy with a Benefit of \$800.00 on a Quarter-Section.

See Our Agent for 1899.



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When in the City be sure you see it.

Visitors welcome whether you buy or not.

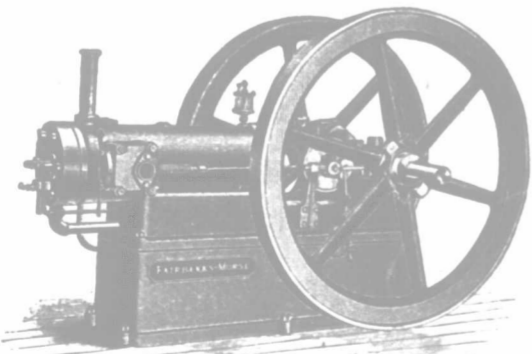
The finest CLOTHING and MEN'S FURNISHING store in Canada.

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Suitable for All purposes: Manufacturing, Pumping, Irrigating, Dairy Work, Grain Elevators, Threshing, Sheep Shearing, Well Drilling, Etc., etc.



The Best, Simplest, most Economical, Most Reliable, And most Durable Gas and Gasoline Engines On the market.

Write for Catalogues.

FAIRBANKS, MORSE & CO'Y, ST. PAUL, - MINN. VULCAN IRON CO., WINNIPEG MAN., AGENTS FOR MANITOBA.

NOTICES.

Cooper's Sheep Dip.—There have recently come to our notice testimonials from Hon. John Dryden and Mr. R. Gibson to the value of Cooper's Sheep Dip in destroying ticks and cleansing the wool and skin of sheep and thus promoting rapid growth of the fleece.

The Qu'Appelle Felt Factory announce that they have secured the services of Hugo Dolge, Dolgeville, N. Y., to take charge of the felt and boot manufacturing establishment that for about a year has been operated at Qu'Appelle Station.

New Chemical Works.—One of the most important industries established in Winnipeg lately is the Canadian Chemical Works, where a full line of chemicals are manufactured—inks, extracts, tinctures, oils, liquid glue, muscage, stovepipe varnish, stove lead bar, harness oil dressings, stove blacking, patent medicines, etc.

U. S. Year Book, '98.—The United States Year Book for 1898 has been received at this office and added to the long list of valuable publications annually sent out by the Agricultural Department at Washington.

The volume is well illustrated.

GOSSIP.

The newly-elected officers of the American Tamworth Swine Record Association are as follows: President, Edwin O. Wood, Flint, Michigan; secretary, E. N. Ball, Hamburg, Michigan.

Mr. S. Dymont, Barrie, Ont., advertises in this issue two yearling Shorthorn bulls, a richly-bred Jersey bull (grandson of the noted Theoline), and young Berkshires. See the advertisement.

A representative of the FARMER'S ADVOCATE called upon Messrs. Fitzgerald Bros., at Mount St. Louis, near Barrie, and found a good lot of young Shorthorns. Half a dozen young bulls, fit for service, are now ready for disposal, having a variety of pedigrees.

The English Shorthorn Society is offering this year at about a dozen shows in England, three in Scotland, and four in Ireland, a prize of £10 as a first prize in a special class for pure-bred Shorthorn cows in milk, of any age, the societies having agreed to offer in such class a second prize of £5. These prizes are offered in a class for Shorthorn cows of any age in milk, eligible for and entered in Coates' Herd Book, or pedigree sent for such entry previous to the show.

A THOROUGHbred TRAMP. For several months past a slick young man, apparently of English origin, fairly well dressed, a glib talker, well posted on the location of breeders of pure-bred stock in Western Ontario and having a fair knowledge of the different breeds of stock, has been impinging on the hospitality of a large number of stock breeders, professing to be himself of the same fraternity and in search of good cattle wherewith to replenish his herd or to stock a choice farm which he had recently purchased.

His name is Smith, Brown, Jones, Robinson, Bates, or anything to suit the situation and surroundings. He calls on a breeder, praises his stock, gets a few days' board, and contracts for stock to the value of \$100 to \$5,000 with equal readiness, promising to remit a draft in payment, with instructions for shipping, etc. Having made his host happy, he asks him to drive him to the next or some other stock fair within reasonable distance, and there repeats the operation, securing meanwhile comfortable accommodation and a bill of fare in quality quite above that which falls to the lot of the average tramp, a distinction to which he has no valid claim, since we are not sure that "the average" is a thief, while there is evidence that this one is not above replenishing his threadbare garments from the wardrobe of those whose hospitality he has enjoyed without as much as "by your leave," a proceeding for which, we are informed, he was for some time in the early spring accommodated with quarters in one of the county buildings in which the men are less varied than in farmhouses, but which, no doubt, those whom he has victimized consider good enough for his kind. We are not aware to what extent this "scrub-at-large" has succeeded in borrowing money, being short of change for travelling expenses, till he could get his drafts cashed, as those who got caught in that trap are apt to keep their own secret, as far as that is concerned, rather than run the risk of being laughed at, but we trust his success in that line has been limited, and that the fact of this imposition having been perpetrated upon some of their number who have in this case failed to "entertain an angel" may yet have the effect of hardening the hearts of a class of people proverbial for their generous hospitality to visitors, so that some honest cattleman or wayworn agricultural press man may, in consequence, find himself subjected to suspicion and denied a bowl of bread and milk or a night's lodgings. We have, however, felt it our duty to our friends, the breeders, to make this expose, so that being forewarned they may be forearmed, and prepared, if called upon by this wanderer, to give him a practical application of their motto: "The scrub must go."

The Veterinary Association of Manitoba.

Under the authority of Secs. 18, 19, 20, 22 and 26 of the Veterinary Association Act, 1890 (53 Vic., Chap. 60), the following persons only are entitled to practice as Veterinary Surgeons in the Province of Manitoba, or to collect fees for the service rendered as such:—

- Atkinson, J. C. Winnipeg. Baker, G. P. Russell. Braund, F. J. Yawson. Brecken, G. E. Cian William. Coote, H. L. Minnedosa. Coote, S. A. Brandon. Clark, J. L. Russell. Dann, J. Dolores. Dunbar, W. A. Winnipeg. Fisher, J. F. Brandon. Fowler, J. Souris. Graham, N. Dauphin. Green, E. Birds. Hatton, J. Alexander. Harrison, W. Glenboro. Henderson, W. C. Carberry. Hilliard, W. A. Minnedosa. Hilton, G. Portage la Prairie. Holmes, W. Winnipeg. Hopkins, A. G. Winnipeg. Hurt, W. N. Belmont. Irwin, J. J. Stonehall. Lake, W. H. Brandon. Lawley, E. H. Brandon. Leslie, W. Melita. Lipsick, J. R. Winnipeg. Little, C. Winnipeg. Little, W. Pilot Mound. Livingston, A. M. Roseau. MacDonald, J. D. Oak Lake. McPadden, D. H. Emerson. McMillan, J. A. Manitowish. McLoughry, R. A. Moomin. McMillan, W. Brandon. Monteith, R. A. Winnipeg. McNaught, D. Killarney. Murray, G. P. Rapid City. Nagis, J. W. Winnipeg. Reid, D. D. Hartney. Robinson, F. A. Neepawa. Roe, J. S. Emerson. Rombough, M. B. Morden. Rutherford, J. G. Birds. Sankey, C. A. Portage la Prairie. Sheldale, W. A. Portage la Prairie. Smith, H. D. Carman. Spier, J. Virden. Stevenson, A. A. Carman. Swenerton, W. Carberry. Taylor, W. R. Portage la Prairie. Thompson, S. J. Carberry. Torrance, F. Winnipeg. Waldon, T. Killarney. Walker, J. St. U. Sheppardville. Welch, J. St. U. Sheppardville. Williamson, A. E. Winnipeg. Winsley, H. F. Glenboro. Young, M. Hamilton.

The practice of the veterinary profession in Manitoba by any other person is in direct contravention of the statute, and renders him liable for prosecution.

W. J. HINMAN, REGISTRAR, 1-t-m WINNIPEG.

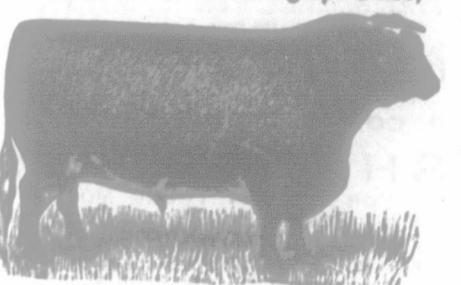
W. D. FLATT, HAMILTON P. O. and TELEGRAPH OFFICE,



OFFERS FOR SALE Twenty-two Shorthorn Bulls CHOICE from three to fifteen months old. Persons requiring show bulls can be supplied from this bunch.

TWENTY COWS AND HEIFERS served by imported bull, Golden Fame—29056—, Farm 6 miles from Hamilton. Catalogue sent on application. Visitors met at G. T. R. or C. P. R., if notified. Prices consistent with quality. Inspection invited.

ARTHUR JOHNSTON Greenwood P. O. and Telegraph Office,



OFFERS FOR SALE 15 SHORTHORN BULLS FIT FOR SERVICE; 3 IMPORTED. 25 COWS AND HEIFERS Including 9 recently imported heifers. Prices right. Catalogues on application. Claremont Station, C. P. R.

Pickering Station, G. T. R. "NO BUSINESS, NO FARM."

SCOTCH SHORTHORN BULLS AND HEIFERS HERD ESTABLISHED IN 1872. Such sires as imported Royal George and imported Warfare have put us where we are. A. & D. BROWN, ELGIN COUNTY, -om IONA, ONTARIO.

SPRING GROVE STOCK FARM

Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstakes at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by Imported Blue Ribbon—17066—and the famous Money-fuffel Lad—20521—, High-class Shorthorns of all ages for sale. Also prizewinning Lincolns. Apply



T. E. ROBSON, Iderton, Ont.

SPRINGHURST SHORTHORNS

Herd bred for practical usefulness, and produces as large a proportion of top show cattle as any herd in Ontario. Young stock, both sexes, for sale.

Exeter Station, G. T. R., H. SMITH, half mile from farm. -om HAY, ONT.

Scotch Shorthorns For Sale:

90 HEAD TO SELECT FROM. We are offering a number of cows and heifers (including some show heifers), from such sires as Valkyrie—21806—, Young Abbotsburn's Heir—16047—, and imp. Mariner—2720—, served by imp. Diamond Jubilee (Vol. 15) now at the head of herd. Farm 1 mile north of town. T. DOUGLAS & SONS, -om Strathroy Station and P. O.

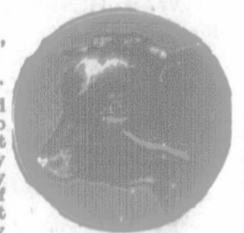


W. G. PETTIT & SON, FREEMAN P. O., Burlington Junction Ont. Telegraph Office.

10 SHORTHORN BULLS 10 By Indian Statesman—23004—, from 10 to 20 months. Twelve young cows or heifers with calves by side or in calf. Twelve ram and 20 Shropshire ewe lambs, sired by (imp.) Flashlight. Also, Berkshire boars and sows, all of which will be sold at moderate prices. Farm half mile from Burlington Junction, G. T. R. -om

River Bow Stock Farm. B. SNARY & SONS, CROTON, ONT.,

Breeders of Shorthorn Cattle, Poland-China and Chester White Swine. We offer for sale seven good young bulls, from seven to twelve months old; eight heifers of choice quality and breeding. Sired by Chief Captain. Pigs of both sexes and all ages at moderate prices, quality considered. -om



Maple Lodge Stock Farm

SHORTHORNS.—Imported Knuckle Duster, and the great sire and show bull, Abbotsford, in service. Several choice heifers for sale, and a grand lot of young bulls by Calithness, from good milking dams. Some splendid Leicester ewes and rams for sale also. A. W. SMITH, MAPLE LODGE P. O., ONT. -om

SHORTHORN CATTLE AND LINCOLN SHEEP.

Imp. Baron Blanc 11th at head of herd. Seven young bulls for sale—good ones. Also a few females. Stud rams all imported from H. Dudding, Esq.; the same blood as the 1000-guinea ram. J. T. GIBSON, DENFIELD, ONT. -om

SHORTHORNS 9 BULLS, 4 HEIFERS,

Mostly Scotch-bred, and got by such bulls as Kinellar Sort (imp.), Northern Light (imp.), Prince and Prince Bismarck. Prices right. Correspondence solicited, and Visitors Welcome. G. A. BRODIE, STOUFVILLE STN., G. T. R. BETHESDA, ONT. -om

SHORTHORNS For Sale: THREE CHOICE YOUNG BULLS

ALSO HEIFERS AND YOUNG COWS. R. CORLEY, -om BELGRAVE, ONT.

SHORTHORNS FOR SALE: 4 YOUNG BULLS

From 6 to 18 months old, sired by Ronald—25325— and Zscho—23597—. Good quality. Moderate prices. Estate of late JOHN VANNOSTRAND, Aurora Stn., G. T. R. -om VANDORF, ONT.

4 - SHORTHORN BULLS - 4 SCOTCH BREEDING.

Good growthy ones from 5 to 15 months. Also one coming 3 years. Would spare a few heifers. Prices very moderate. Write— SHORE BROS., White Oak, Ont.

AYRSHIRES FOR SALE.

The kind that can speak for themselves. Size, constitution, dairy and show combined. Six young bulls for sale, by Glencairn 3rd (imp.), dan Primrose (imp.). Five from Napoleon of Auchincraig (imp.). Their dams are all Glencairn heifers. Five of their dams were shown last fall at Toronto, London, and Ottawa. Also a few good cows. No bulls sold. JAMES BODEN, TREDINNOCK FARM, -om STE. ANNE DE BELLEVUE, QUE.

What the Public Need! RUBYFOAM.

The 20 Century Washing Compound for all kinds of washing LATEST, CHEAPEST, BEST.

Surpasses All Others in Washing Woodwork or Boiling Clothes.

It only requires to be tested to be appreciated. Warranted to do its work without injury to the hands or clothes. Contains no acid, no potash. Each package contains a coupon. Return those to your grocer and get a picture. With twenty coupons we present you one of our 14 x 17 pictures, framed; or, with fifty coupons, one of our 18 x 20 pictures, framed, or with twenty coupons and 50c. cash. Pictures can be seen at all grocery stores. Don't fail to try the wonderful labor-saver and be convinced!

.. MANGE CURE ..

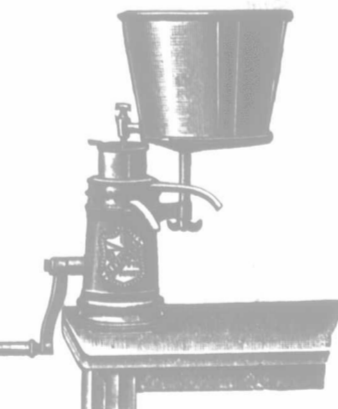
Don't stand by and see your horses and cattle fail to skin and bone with that simple disease which is a mystery to so many farmers and cattle dealers in our Northwest country, which is nothing more than Mange, and can be permanently cured by our wonderful discovery, Yells' Combination Mange Cure. Follow the directions closely, and we will guarantee to cure the worst cases with three applications. We will send to any reliable man and parties. Boxes to be given on trial. No cure, no pay. Remember, all our goods are guaranteed.

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IN ALL KINDS INKS, OILS, SOAPS, WASHING POWDERS, TINCTURES, LIQUIDS, GLUE, MUCILAGE, STOVEPIPE VARNISH, STOVE LEAD BAR, HARNESS OIL DRESSING, FINE STOVE OIL DRESSING, SHOE BLACKING, CEMENTS, EXTRACTS, CHEMICALS, PATENT MEDICINES, ETC. MANUFACTURED SOLELY BY

The Canadian Chemical Works WINNIPEG, - MANITOBA.

"Alexandra" and "Melotte" CREAM SEPARATORS.



LATEST SUCCESSES. At the Midland Agricultural Society's Show at Grand Reinet, South Africa, March 23 and 24, 1898, the first prize of £1 was awarded to Lister's "Alexandra" Separator, the Judge's chief objection to all other machines being that they were too complicated.

FRENCH AWARDS. First Prize, Gold Medal, August 15th, 1896, Belfort. First Prize, Gold Medal, July 12th, 1896, St. Pol, Calais. Only Award, Silver Medal, Esternay, September 20th, 1896. Special Award, Puisseaux, September 27th, 1896.

Woodville, New Zealand, March 30th, 1898. "For a period of five years I worked eight 'Alexandra' machines in connection with a factory over which I had charge, and the results were highly satisfactory. The machines required very little skilled attention. This season I have had charge of a factory working seven 'Alpha Laval' machines, and having previously heard of the vast superiority they claim over the 'Alexandra,' I was quite prepared to have the scales knocked from my eyes, but, strange to say, I am more in love with the 'Alexandra' than ever. If I were erecting a factory to-morrow I would put in an 'Alexandra' Separator before any other I have used." (Signed) J. BURT VEALE, Manager, Crown Dairy Co.

The manufacturers of the "Alpha Laval" have seen fit to denounce Cream Separators of every other name, to scold like a fishwife, and stigmatize the Manitoba farmers as fools if they will not buy their machines. The "Alpha Laval" has had a fair show in Manitoba. Several agents have tried it at intervals, but the sales of any one of the lot can be counted on your fingers, or perhaps it would be more correct to say "on your thumbs." This is sufficient proof that the "Alpha Laval" is not the paragon of construction its makers claim. In the "Alexandra" and "Melotte" there is no heavy bowl that will wrench itself off a long slender rigid spindle, like a ripe apple in a fall wind, which, if it does not cause wreck and destruction, as very frequently is the case, greatly increases the wear and tear, and shortens the life of a machine. We are repeatedly twitted about not selling in the States. The reason is good. We cannot make enough to supply demand at home and in British Dependencies, so have not so far manufactured in the States, and the high tariff prohibits importation. We hope we shall not require again to make this explanation. For the rest, we have confidence that the intelligence of the Manitoba farmers will render harmless the calumnies with which our American cousins have assailed us. The "Melotte" is designed to meet the requirements of farmers whose herds have outgrown the capacity of a 25 or 30 gallon per hour hand machine. For further information apply to

R. A. LISTER & CO., LIMITED, 232 KING ST., WINNIPEG, MAN.

Works: Dursley, England, -om Shops: Montreal, Canada.

TROUT RUN STOCK FARM.

Snap! One Ayrshire bull calf, 3 mos., \$25. Grand lot of females, all ages. Five cows to calve in August, fit to show in any company. The calves will be from Royal Star, 1st at Toronto and 1st and sweepstakes at London, 1898. Write for prices and full particulars.

WM. THORN, Norfolk County. -om LYNEDOC, ONT.

W. F. STEPHEN,

Breeder and importer of choice and fashionable

AYRSHIRES

from deep-milking strains. Two bull calves for sale. Write or come to

BROOK HILL FARM,

Carr's Crossing, G. T. R. -om Trout River, Que.

MAPLE CLIFF Dairy and Stock Farm.

AYRSHIRES Three young bulls fit for service, and bull calves.

BERKSHIRES, TAMWORTHS,

Booking orders for spring litters. -om

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Five minutes' walk from Cen. Expl. Farm, Ottawa.

CHOICE AYRSHIRE BULLS

Four calves dropped in August, October, December and March, and sired by Craigielea of Auchincraig (imp.), first prize bull at Toronto in 1897 (the only time ever shown).

W. W. BALLANTYNE,

Formerly Thos. Ballantyne & Son. Stratford, Ont. "NEIDPATH FARM" adjoins city, main line G.T.R.

Six-Young Ayrshire Bulls-Six

FOR SALE!

From eight to ten months old; all imported in dam, and all from good herds. Will sell them right. Address

ROBT. HUNTER,

Manager to W. W. Ogilvie. LACHINE RAPIDS, -om QUE.

MEADOWSIDE FARM,

J. YULL & SONS, Props., Carleton Place.

Breeders of high-class, deep-milking Ayrshires. Sweepstakes young herd at Ottawa. Shropshire sheep from prizewinning stock. Berkshire pigs and Barred Plymouth Rocks. Young stock for sale. Visitors met at Queen's Hotel. Give us a call. -om

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UP-TO-DATE HERD OF CANADA!

TAMWORTHS

CHOICE PIGS SIX TO SEVEN WEEKS OLD. -om

Send for Illustrated Catalogue. Address, -om

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Jersey Cattle

THAT WILL PUT

MONEY IN YOUR POCKET.

Mrs. E. M. Jones,

Box 324. -om BROCKVILLE, ONT., CAN.

HIGH-CLASS JERSEY BULLS

Owing to his being related to most of my herd, I will sell the perfect show bull, Prince Frank's Son 48758; solid color; dropped Oct. 25th, 1896; winner of 1st prize at Western Fair, London, 1897 and 1898. Sire Prince Frank, three times winner of sweepstakes at London; dam Zola of Glen Rouge, a pure St. Lambert. Also Stoke Pogis of Ettrick 32307; solid color; dropped Feb. 8th, 1888; sire Pride of Alton, winner of 2nd prize at London, 1897; dam St. Lambert Jane's Rose, by Prince Frank—a capital young bull bred from rich-producing strains. I have also a promising bull calf 11 months old. Come and see or address -om W. G. LAIDLAW, Wilton Grove, Ont.

BRAMPTON JERSEY HERD.

Offering high-class A. J. C. C. cows and heifers in calf, and heifer calves; 9 choice young b u l l s. High-grade cows in calf; and Berkshires.

B. H. Bull & Son, -om BRAMPTON.

FOR SALE!

JERSEY BULL, THREE YEARS OLD, A GRANDSON OF THORLINE, THE SECOND RICHEST COW IN THE WORLD. ALSO TWO YEARLING SHORTHORN BULLS AND A FEW CHOICE YOUNG BERKSHIRES. -om

S. DYMENT, -om BARRIE, ONTARIO.

S. WICKS & SONS
MOUNT DENNIS, ONT.

Offer two Registered A. J. C. C. Jersey Yearling Bulls. These are grand youngsters; cheap if sold at once. We have also some fine Registered C. K. C. Collie Pups; also some fine young Registered Bitches. Manufacturers of the Skee Hot Water Incubator. Hatches 100 per cent. The best and most scientific incubator in the market.

GLEN ROUGE JERSEYS.

WILLIAM ROLPH, Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lamberts), out of tested cows. Grand individuals. Prices right. 22-v-om

MAPLE HILL..
HOLSTEIN-FRIESIANS

I offer for sale **MADGE MERTON** 5th, sire Colanthus Abbecker 2nd, dam Madge Merton (nine months old); **INKA** 5th's **MERCEDES**, sire my champion show bull Count Mink Mercedes, dam the Advanced Registry cow Inka 5th, record 18 1/2 lbs. butter in a week (one month old). Remember my herd won championship gold medals in 1897 and 1898.

G. W. CLEMENS, ST. GEORGE, ONT.

HOLSTEIN BULLS

that we think you will want when you know their breeding, and the large OFFICIAL milk and butter records of their nearest ancestors. Six of them are sired by a son of our great cow, Korndyke Queen, others by sons of De Kol 2nd, and some by Manor De Kol. Heifers and young cows of equal breeding. It's better to buy the best. We furnish papers to pass them through without duty or detention. There is no quarantine. Write for just what you want.

Henry Stevens & Sons, Lacona, N. Y.

GUERNSEYS

Two Choice Bull Calves and Five Heifers for Sale.

Tamworth and Berkshire Pigs.

W. H. & C. H. McNISH, LYN, ONT.

HIGHEST TYPE OF BACON HOGS.

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Oak Lodge Herd of Large Yorkshires

The largest herd of pure-bred Yorkshires in America. This herd has won the best prizes offered for the breed during the last ten years.

STOCK BOARS.—Three imported boars, all winners at the Royal Show, including championship and gold medal. Also, two Canadian-bred boars, both first prize winners at Toronto, 1898.

BREEDING SOWS.—Royal Duchess, Royal Queen and Royal Queen 2nd, all winners of highest awards at Royal Show, and 15 of the best sows to be purchased in England. Also, 50 matured Canadian-bred sows of the choicest quality.

PRIZEWINNING STOCK A SPECIALTY.

J. E. BRETHOUR, BURFORD, ONT.

OXFORD HERD OF POLAND-CHINAS

The home winners of the

Headed by the imported boars, Conrad's Model and Klondike, assisted by Bacon Boy and Lennox. Has won 64 out of a possible 69 first prizes. Stock of all ages for sale. Write for prices or come and see.

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CANCER

CURED WITHOUT KNIFE OR PLASTER. FULL PARTICULARS FREE. -om

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Do you keep a DOG?

Send for free pamphlet on feeding, treatment, etc., and catalogue of foods, etc.

To SPRATT'S PATENT Ltd 239 E. 50th St., New York.

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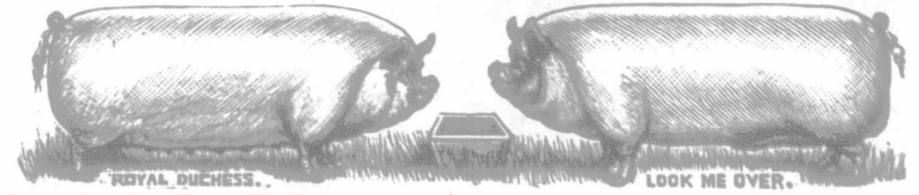
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CHURCH SEWS, PULPITS, ALTARS, BAILS, SCHOOL DESKS, etc.

WRITE FOR PRICES

AT SUMMER HILL IS THE LARGEST HERD OF... Imported Yorkshires IN THE DOMINION.



Large, Lengthy, English Type. Among them being the first choice of the most important prize-winning English herds. My Canadian-bred herd comprises the choicest individuals, selected from the best herds in the country, and is headed by the undefeated prize-winning boar, Look-Me-Over 2612. I am offering young stock directly imported, imported in dam, or Canadian-bred. We ship to order, prepay express charges, and guarantee stock as represented. Trains met at Hamilton by appointment.

D. C. FLATT, MILLGROVE, ONT.

...DEERING... Light Draft Ideals

UNRIVALLED THE WHOLE WORLD OVER.

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MADE in the largest single manufacturing plant in the world—85 acres in area and employing 6,500 hands. Equipped with the greatest of modern harvester improvements—Deering roller and ball bearings.

Deering Harvester Co.,

MAIN OFFICE AND FACTORY : PERMANENT BRANCH HOUSES IN CANADA :

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The lightness of draft, perfection of proportion, excellence of finish of the SPEIGHT WAGON, combined with strength and durability, make it the farmers' favorite. Dealers should write for catalogue and prices to

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DISTRIBUTING AGENT. HEAD OFFICE.

LARGE ENGLISH BERKSHIRES.

Herd headed by four first prize stock boars of large size, strong bone and fine quality. Young Boars and Sows, all ages, for sale. Orders booked for spring pigs.

GEORGE GREEN, - FAIRVIEW P.O., ONT.

om Telegraph and Station : Stratford, G. T. R.

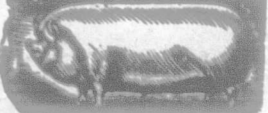
DUROC - JERSEY SWINE

We have an excellent lot of long, strong, hardy young Duroc-Jersey pigs now on hand. Also a few choice young boars ready for service. We have also a choice flock of White Minorca Chickens. Eggs, \$1 per dozen. Address,

om TAPE BROS., Ridgetown, Ont.

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Yorkshires AND Berkshires



A fine lot of boars and sows eight weeks old. Pairs and trios supplied, not akin, of the best breeding and individual merit. A number of Yorkshire boars fit for service, and fine lengthy sows in pig to an imported boar. Berkshires, all ages, quality of the best. Write

H. J. DAVIS, BOX 290, WOODSTOCK, ONT.

om Breeder of Yorkshires, Berkshires, Shorthorns.

SNELGROVE BERKSHIRES AND COTSWOLDS

High-class Berkshires of the large English bacon type, bred from the best specimens of the best importations. Young Boars and Sows of breeding age for sale. Also choice spring pigs six to eight weeks old. Can supply pairs not akin. Yearling Cotswold Rams and Ewes for sale.

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PINE GROVE FARM HERD OF LARGE YORKSHIRES.

Imported and Canadian-bred, from the Hasket family, which has taken more prizes at the leading fairs in Canada and the World's Fair at Chicago than any other family of Yorkshires in America. Young boars and sows fit for breeding for sale. Correspondence solicited, which will receive prompt attention.

JOSEPH FEATHERSTON, Streetsville, Ont.

Large English Berkshires.

HERD headed by two imported boars—Nora B's Duke and Royal Star III., half-brother to Columbia's Duke, which recently sold for \$1,200. Choice pigs, all ages. Write for prices.

H. BENNETT & SON, St. Williams, Ont.

Hampshire Down Sheep.

SPLENDID MUTTON. GOOD WOOL. GREAT WEIGHT.

This highly valuable English breed of sheep is unrivalled in its

Rapid and Wonderfully Early Maturity, possessing, too, a hardiness of constitution adapted to all climates, whilst in the quality of

MUTTON AND LARGE PROPORTION OF LEAN MEAT IT IS UNSURPASSED.

Full information of

JAMES E. RAWLENCE,

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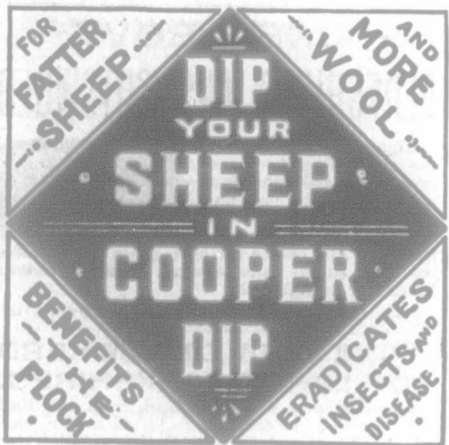
GOSSIP.

Copies of the Winnipeg Industrial Exhibition Prize List may be had on application to the General Manager, F. W. Heubach, Winnipeg, Man.

TO CHECK THE SCRUB.

An ounce of prevention is worth a pound of cure, and in the enactment of a law which Colorado will enforce July 6th the old saying will receive a practical test that ultimately will be of untold value to her live stock interests. The way to "finish" a scrub steer, says a veteran feeder, is to "finish" him with a club on the head. It is much easier to check a disease before its germs have spread contagion, and similarly it is much better to kill a scrub before its miserable conception than after its wretched bringing forth. The law of prevention will therefore provide that no mustang or other inferior stallion, no Texan, Mexican, Cherokee or other inferior bull, and no inferior ram shall be allowed to run at large in Colorado. Not only will this be a punishable misdemeanor, but any stock-grower who finds an inferior sire running at large may castrate the animal. Any mistake, however, will cost the person castrating, as should he castrate a valuable sire he will become liable to three times its value when so proven by a competent court. Furthermore, any person allowing his cows to run at large upon the public ranges of the State must furnish a high-grade bull for every 25 cows so running. It is a practical law in every respect, and if properly carried out will work great good to Colorado. It is a sort of compulsory education law, since in its nature it compels improvement in the quality of the State's live stock.

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GOSSIP.

Mr. L. B. Silver, originator of the Ohio Improved Chester White breed of hogs, died at Cleveland, O., May 15th, aged 73 years.
 T. Douglas & Sons, Strathroy, Ont., write: "Our Shorthorns came through the winter in good form and doing nicely on grass. We have twenty bull calves to start the fall trade with and an equal number of heifer calves. We have had a fair share of patronage, having sold twenty-one animals the last eight months (all our own breeding). Since our last report we have sold one young bull to Wm. R. Scott, Woodstock, Ont.; one to A. N. McLean, Turtle Lake, Ont.; and another to D. Waters, Springbank, Ont.; four head to Chas. E. Ladd, North Yamhill, Oregon. Mr. M. S. Weber, Waterloo, made no mistake when he selected that grand breeding cow, Fleda, by (imp.) Mariner -2720-, and her five-months-old heifer calf by Valkyrie -21806-."

The thirty-first annual meeting of the American Jersey Cattle Club was held in New York, May 3rd. About forty members were present and ninety-four were represented by proxy. The annual report showed that during the past year 3,300 bulls and 9,481 females had been registered, a total of 12,781, as against 12,025 in the previous year. A part of this decrease is supposed to be due to the recent ruling in regard to pasture service, to which several members objected, but the rule was sustained and will continue in force. The transfers during the year numbered 12,957, against 13,976 last year. Vol. 50 of the herd register has been published during the year, and Vol. 51 will probably be issued next month. The total receipts for the year were \$30,086, and expenditures \$25,078, or \$5,008 less than receipts. The salaries account is \$13,565. The Club has a balance of cash on hand of \$7,426, and \$45,000 of assets, including real estate, bonds and deposits with trust companies, and \$4,930 in books and furniture, making a net credit to Club fund of \$52,040. The officers elect are: President, E. A. Darling, New York; Vice-President, George E. Peer, Rochester, N. Y.; Recording Secretary, J. J. Hemingway; Corresponding Secretary, Valancey E. Fuller.

FOOD TESTS OF HOLSTEIN-FRIESIAN COWS.

Mr. S. Hoxie, Supt. Advanced Registry of American Holstein-Friesian Association, writes: "The greatest scientific interests of the day with regard to the comparative merits of the various breeds of dairy cattle is in the cost of production of the various products. The Holstein-Friesian Association of America, in connection with the various State experiment stations, is conducting tests for the purpose of determining the food cost of butter. As a matter of interest to your dairy readers I give below the results of recent tests: De Kol Manor Beets; age 2 years, 1 month, 15 days; food consumed, pasturage, pea meal 11.83 lbs., ground oats 11.83 lbs., ground barley 11.83 lbs., ground buckwheat 11.83 lbs.; product, milk 307 lbs., butter-fat 9.635 lbs. Representative of Cornell University Station, H. C. McLallen. Mutual Friend 2nd; age 6 years, 6 months, 26 days; food consumed, ensilage 434 lbs., hay 36 lbs., wheat bran 45 lbs., cottonseed meal 3 1/2 lbs., ground oats 5 lbs., corn meal 15 lbs.; product, milk 427.4 lbs., butter-fat 14.724 lbs. Representative of Cornell University Station, A. R. Ward. De Kol Lady; age 1 year, 11 months, 2 days; food consumed, pasturage, pea meal 11.83 lbs., ground oats 11.83 lbs., ground barley 11.83 lbs.; product, milk 312.4 lbs., butter-fat 9.384 lbs. Representative of Cornell University Station, H. C. McLallen. Aaggie Paul; age 2 years, 2 months, 2 days; food consumed, ensilage 303 lbs., hay 7 lbs., wheat bran 28 lbs., oil meal 16 lbs., corn meal 30 lbs., ground oat 14 lbs.; product, milk 280.3 lbs., butter-fat 11.303 lbs. Representative of Michigan Station, Porter H. Davis. Clothilde Artis Topsy; age 4 years, 1 month, 10 days; food consumed, pasturage, malt sprouts 21 lbs., gluten meal 7 lbs.; product, milk 412.8 lbs., butter-fat 13.724 lbs. Representative of Cornell University Station, Leroy Anderson. Paula Dorinda; age 2 years, 10 months; food consumed, ensilage 363 lbs., hay 13 lbs., wheat bran 80 lbs., oil meal 314 lbs.; product, milk 343.2 lbs., butter-fat 11.101 lbs. Representative of Michigan Station, Porter H. Davis.

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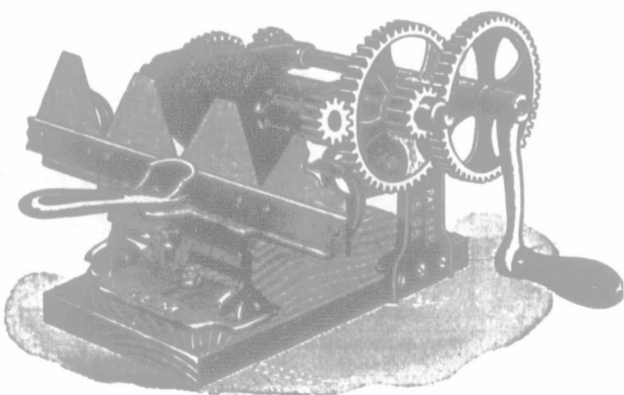
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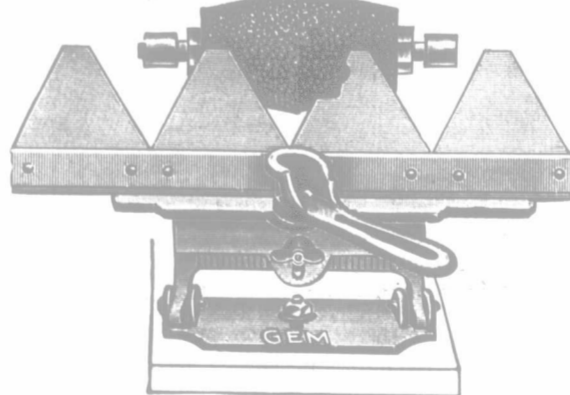
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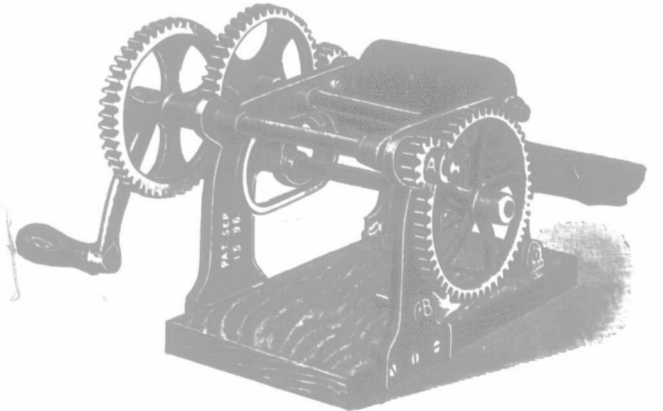
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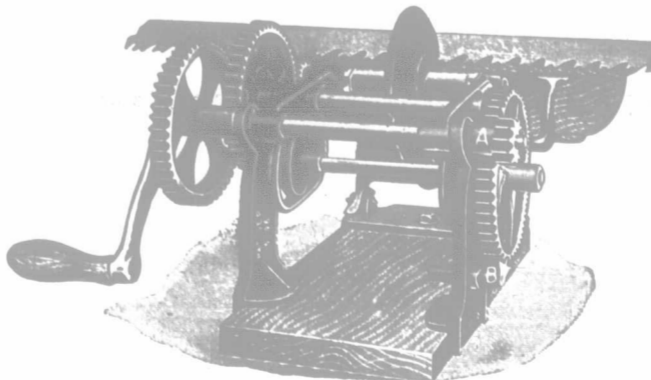
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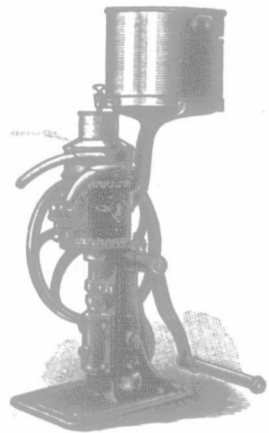
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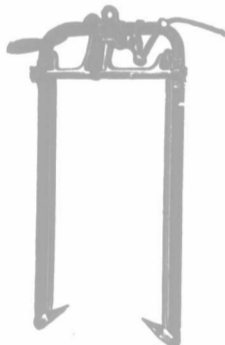
One object in opening this Branch is to be near the dairymen of Manitoba and the Northwest, so as to better serve those who have favored us with their patronage in the past, either direct or through local agents, and to acquaint ourselves with new customers. All of which will result to our mutual interests.

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GOSSIP.

In writing to advertisers, mention the "Farmer's Advocate."

Mr. John Provan, Larbert, Scotland, has sold to Mr. George Stewart, Howick, Quebec, two Clydesdale stallions named Royal Baron (10268) and Royal Pearl, the former bred by Mr. Park Hatton, and got by Prince of Erskine. Royal Pearl was by Royal Alexander (9977), out of a mare by Scottish Pearl (2949), and his grandam was by Top Gallant (1850). They were purchased by Mr. Provan from Mr. W. S. Park, and shipped May 8th.

AYRSHIRES AT AYR.

At the Ayrshire Agricultural Society's Spring Show, the show of cattle is said to have been the best ever seen there. The feature of the Derby was the great improvement noticeable in the thickness and length of the teats of the cows, which is an improvement devoutly to be desired. Mr. Wm. Howie's Drummy, by Sloth Boy of Burnhouse, was a popular winner. Mr. John Drennan closely followed with Punch and Queen of Edinhouse. In the class for aged cows in milk, Mr. Hugh Todd's Nettle 4th was a clear winner, Mr. Robert Sillar's Juniper being placed second, and Mr. Alexander's Barclay third. Aged cows, in calf, were headed by Mr. Geo. Alston's Dandy 1st, and Mr. James Neil's Hover-a-Blink was second. Among the three-year-olds in milk, the Derby winners again came to the front, and those in calf were led by Pride of Bute. Bulls and yield stock formed superior classes. Among the aged bulls there was a newcomer in Mr. Scott's champion Prince Imperial, from Netherhall, Lanark. There was considerable speculation as to whether he would affect recent decisions, but in the result he failed to displace the winners at previous shows this season. Mr. James Howie's White Cockade bull, Kohnoor, again led, as at Kilmarnock and Glasgow. Mr. Geo. Gilmour's Rare Style was second. Messrs. Wardrop came third with Darnley. Prince Imperial received the fourth ticket. In a moderate class of two-year-old bulls, Mr. David Murdoch, Ochiltree, was first with Enterprise; Mr. Montgomerie's Sensation bull, Blucher, and Mr. James Howie's Luck's All being second and third respectively. Mr. William Mair, Craighhead, Tarbolton, was fourth with a well-topped bull, and Mr. John Drummond, Bargower, next with Sunlight. The yearling Derby was practically a repetition of the open class. The championships created considerable interest, but in both cases the issue was never in doubt. Mr. William Howie won the female championship with his Derby winner, Drummy; Mr. Drennan's Punch being reserve; while for the male championship the winner was Mr. James Howie's Kohnoor, although Mr. Osborne's Still Another made a good appearance.

CLYDESDALES FOR CANADA.

The Scottish Farmer of May 6th says: Mr. Robert Nees, Jun., Howick, Que., sailed from Glasgow, April 29th, with three choicely-bred animals, two of which were purchased from Mr. James Kilpatrick, Craigh Mains, Kilmarnock, and one from Mr. Peter Crawford, Dargavay, Dumfries. The two horses purchased from Mr. Kilpatrick were Durward Lely (9000) and Full of Fashion (10345). Durward Lely was bred by Mr. John Fleming, Cookston Farm, Paisley, and was for some time owned by Mr. Andrew Bruce, Jordanstone. He was got by the Glasgow champion horse, Sir Everard (5353), and his dam was Mr. Fleming's well-known mare, Maggie of Crookston (2219), the dam of Mr. Wilson's noted mare, Jennie Wilson (5153), which gained first prize at the Royal and Paisley some years ago. Durward Lely is thus almost own brother to Mr. Wilson's mare, her sire having been Top Gallant. He has proved a successful breeding horse in the Meigle district, where Mr. Bruce travelled him. A yearling filly and two-year-old gelding by him were both first at the Stormont Union Show last year. He is a horse of great weight and substance, and when put on the scales at Kilmarnock Station on Saturday turned them at no less than 197 cwt. The younger horse, Full of Fashion, was bred by Colonel Stirling, of Kippendavie, and is three years old. He was got by the celebrated Cawdor Cup champion horse, Prince of Kyle (7155), and Heroine (11081), is a noted prize mare in the Kippendavie stud. She won 4th at the Royal Agricultural Show, at Windsor, as a yearling, and as a two-year-old stood 4th at Kilmarnock, 5th at Maryhill; 5th at Edinburgh; 3rd at Stirling; 2nd at Dunblane. As a three-year-old she was 5th at Kilmarnock; 3rd at Stirling; 1st at Stirling as one of a pair; and 6th at H. & A. S. Show, Stirling, as a brood mare. Full of Fashion was also put on the scales at Kilmarnock, on Saturday, and turned them at 167 cwt. Full of Fashion has been a distinguished prizewinner, having been 1st at Stirling as a yearling; and as a two-year-old 4th at Spring Show, Glasgow; 3rd at Kilmarnock; 4th at Ayr; 1st at Mauchline; and 2nd at Dunlop. The horse purchased from Mr. Crawford is Merchiston (10236), bred by Mr. Henry B. Howie, and owned successively by Mr. Alex. Scott, Greenock, and Mr. William Renwick, Meadowfield, Corstorphine. Merchiston is a short-legged, thick, compact horse, got by the Cawdor Cup champion horse, Prince Alexander (8899), and his dam, Lothian Lassie (12188), is a particularly well-bred mare, got by the noted prize horse, Lothian King (8085). His grandam, again, was by the fine horse, Glendale (1928), which gained 1st prize at Edinburgh as a two-year-old many years ago. Merchiston gained several prizes when in the hands of his different owners, a full list of which is not known to us; but among them were 1st at Linlithgow, Bathgate, and Mid-Caldor, as a two-year-old. He was also well placed in the short test at Glasgow Stallion Show as a three-year-old, and was 2nd at the Border Union Show as a yearling. An examination of his pedigree shows that probably no better bred horse than Merchiston has ever been exported to Canada. All three horses are of the type which Mr. Nees has all along fancied, being short-legged, very thick, and very stout, and they are likely to be popular in Canada.

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Flat Ridge, Va., Oct. 12th, '97. The Lawrence-Williams Co., Cleveland, O.: I used "Gombault's Caustic Balsam" for scratches, and have never seen anything to equal it. I find it to be an excellent remedy for human flesh, when used on bruises, etc.

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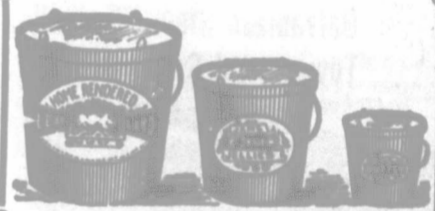
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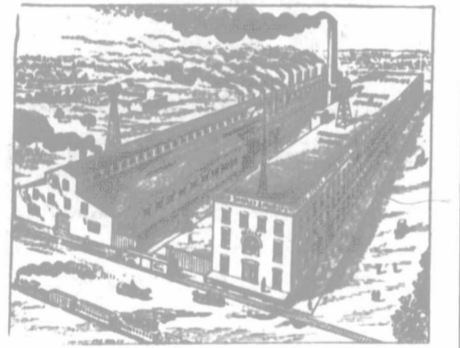
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GOSSIP.

THE SPRINGHURST SHORTHORNS.

The herd of Mr. H. Smith, of Hay P. O., near Exeter, on the London, Huron & Bruce branch of the G. T. R., was recently inspected by one of the ADVOCATE staff and found in its usual excellent condition, having come through the winter in fine form. Mr. Smith has had a fair share of the active demand for good Shorthorns, and has contributed to several of the best shipments that have left the Province during the past year, but retains a strong herd both in numbers and individuality. One of the principal families represented in the herd is the Scotch-bred Village Blossoms, of which there are about a dozen females descended from the Sittytou herd of Amos Cruickshank. From this family came the World's Fair champion bull, Young Abbotsburn, and the Springhurst stock bull, Abbotsford, winner of 1st prize at Toronto Exhibition and the Western Fair at London. The Duchesses of Gloster, another popular Cruickshank family, tracing to imp. Duchess 12th, by Champion of England, are represented by several really good individuals, worthy of the reputation of the tribe. There are in the herd a few capital daughters and three granddaughters of Vanit, the 1st prize cow at Toronto in 1897, descended from the imported cow Vain Duchess, bred in Aberdeenshire and sired by Edgar (41501). The recently imported Lady Bell 3rd is a sonsie roan coming 3 in June, bred in Aberdeenshire, sired by Denmark, and out of Lassie, by Grandend, and makes a substantial improvement in the herd. A few good things trace to imported Lady Eden, a family which has been developed very satisfactorily at Springhurst by judicious crossing with Scotch-bred bulls, producing among others the fine show heifer Freida, winner of 1st prize at London, 1897, beating the 1st prize and sweepstakes winner at the Toronto show of the same year, and winning also 1st at the Winnipeg Industrial in 1898. The stock bulls in service are Abbotsford, who has proven a very successful sire, and the imported Knuckle-Duster, owned jointly with Mr. A. W. Smith, of Maple Lodge; and it is safe to say that few herds in the country are the services of two as good bulls. Three capital young bulls about a year old are held for sale. One in particular, a choice, even roan by Abbot of Strathallan, and out of a daughter of Abbotsford, has a grand back and a wealth of natural flesh seldom equalled. Taken all in all, the Springhurst herd ranks among the very best, and keeps well up to date in all desirable qualities.

WM. BUTLER & SONS' GUERNSEY CATTLE, DUROC AND CHESTER SWINE.

During a recent visit to the stock farm of Messrs. Wm. Butler & Sons, in Sunning Centre, Ont., we saw evidence of active business operations in both cattle and hogs. Mr. Butler, Jr., who had recently returned from British Columbia, where he had taken a carload of pure-bred animals, was busy making preparations for a second trip to the Pacific coast with a similar lot of stock, including Guernseys, Durocs, Chesters, besides a valuable pair of Clydesdale mares. Preparations were also being made for the shipment of several consignments of swine to various points in Ontario and the Maritime Provinces.

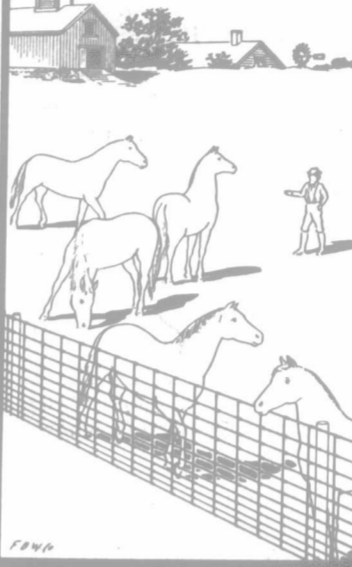
The Guernsey herd at present numbers twenty-one animals, at the head of which is the very handsome and breedy young bull King of Maple Hill 5832, sired by King of Oxford 4003, the winner of 1st prize at the Toronto Industrial in 1898, and of 1st prize and silver medal at Toronto, Montreal and Ottawa in 1897. The young bull's dam is Queen of Sunny Springs, a very choice prizewinning cow and the dam of several winners which are now in the herd, and on account of the close relationship of the bull with several females in the herd he is offered for sale. The females include ten cows and heifers in milk or in calf, and a few heifers and heifer calves. One of the noted cows is Tamarina 6176, bred by Mr. Tibbels, N. Y. She was purchased by Messrs. Butler from the noted Forsythe herd, of which she was claimed to be the second best cow. She won second premium in the big Ontario shows of 1898, and is a heavy producer. Among other matrons are Irma 3421, Lady Sauk 6286, Fancy of Sedgfield 8512, Rose of Sunny Springs and Phyllis Lassie, all of which have won good prizes in important showings. There is also in milk the yearling Hesperantha, selected on the island by F. S. Peer, N. Y., and imported by him in 1898. There are two very nice 12-months bulls in the herd sired by King of Oxford, and out of Effie of Sunny Springs and out of Phyllis Lassie. The number of hogs is considerably over one hundred head, and include many prizewinners in both the breeds kept - Chester White and Duroc-Jersey. Of Chesters there are some twenty sows with litters at foot or recently weaned. The principal stock boar of this breed is Frisker 3rd, imported in 1898 from the herd of L. H. Martin, Ohio. The grandsire and granddam of this hog won sweepstakes awards at the Columbian Exposition. The Duroc-Jersey matrons include fifteen fine sows with suckling or weaned litters. The chief Duroc stock boar is Perfection 2527, bred by Stone-breaker, of Illinois. The young pigs were nearly all out to pasture, and were apparently making good progress in growth. A number of selections from either breed have already been made to fit for the coming season's exhibitions.

Messrs. Butler have recently purchased the entire herd of twenty pure-bred Holstein-Friesians from Mr. J. F. Hutchinson, Hayfield, Ont. They are expected to arrive at Dereham Centre during the present month. See Messrs. Butlers' change of advertisement.

HOW ADVERTISERS IN THE FARMER'S ADVOCATE ARE KEPT RUSHED.

J. E. Meyer, Kossuth, Ont., writes: "Please withdraw both my ads. in your paper. I have so many orders for eggs that I can hardly fill them, and do not want any more or I will get no eggs to set myself. I am especially behind in Barred Rock eggs and think I will have to return some of the money, as they are not having fast enough to keep up. I am very busy sending out incubators and brooders. I have sent out ten incubators, besides almost as many brooders, in last ten days. I sent a 20-egg incubator to W. E. H. Massey's Dentonia Park Farm on Monday, which makes the second of that size he has bought this season. I shall be glad when this rush lets up, as I can stand a nest soon."

THE FARMER'S BEST FRIENDS



Good Horses and Good Fences.

Any sound horse is a good horse, but there is only one absolutely satisfactory fence—

THE AMERICAN FIELD FENCE.

Made of large, strong wires, absolutely immovable, thoroughly galvanized and nicely woven.

A Genuine Money Saving Fence.

Sold by dealers everywhere. If you can't find it, write direct to us for catalogue.

AMERICAN STEEL AND WIRE CO.,
 CHICAGO and NEW YORK.

BINDER TWINE

FARMER'S

PURE MANILA, 650 FT. TO LB. SPECIAL MANILA, TIGER, STANDARD.

Farmers! Don't be taken in. There is none "just as good." These twines will not bunch at the knottor, and a Binder will run all day without stoppage, thus saving time, annoyance and a "lot o' cussin'."

We pack our twine in bags of the size of ordinary grain bags, and we are not ashamed to put our name upon it. Don't take any other.

CONSUMERS' CORDAGE CO., LIMITED,
 MONTREAL. -om

No INSTRUMENT IS MORE POPULAR IN CANADA TO-DAY THAN THE

Bell Piano

AND THERE IS NO BETTER TO BE HAD.

THE ORCHESTRAL ATTACHMENT RENDERS POSSIBLE THE EFFECT OF SIXTEEN DIFFERENT STRINGED INSTRUMENTS. IT IS USED ONLY IN THE "BELL." SEND FOR FREE BOOK-LET, NO. 40, IT TELLS ALL ABOUT IT. -om

The BELL ORGAN & PIANO CO., Limited, GUELPH, ONTARIO.
 Or J. L. MEIKLE & CO., Agents, WINNIPEG, MAN.

DR. HESS' POULTRY PAN-A-GEA

"The Scientific Compounds for Stock and Poultry."
 Formulated by a Physician and Veterinary Surgeon.

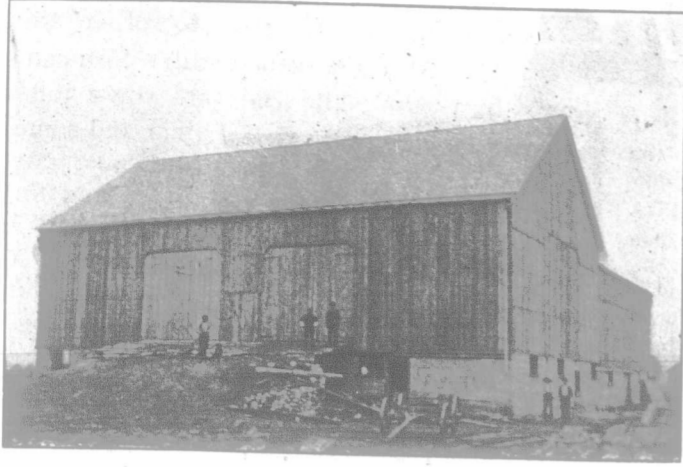
DR. HESS' STOCK FOOD
 For Horses, Cattle, Hogs, and Sheep; an appetizer, a flesh producer, a blood purifier and tonic. It expels worms.

DR. HESS' POULTRY PAN-A-GEA
 Cures Diseases and Makes Hens Lay.
 Its wonderful effects are at once shown when fed to young fowls, preventing or curing gapes, indigestion, diarrhoea or other bowel disorders; promoting a healthy, vigorous growth of muscle, bone and feathers. Use it and the ills of poultry-raising will rapidly disappear.

INSTANT LOUSE KILLER KILLS LICE.
 The effective and convenient article for destroying lice on horses, cattle or poultry, ticks on sheep, fleas on dogs, etc. Just the thing to dust in the nest and on the sitting hen. It destroys the large, gray-headed lice that are so fatal to chicks and turkeys.

DR. HESS & CLARK, Ashland, O., U. S. A.
 Price: Pan-a-ge-a and Louse Killer, 35c. each; Stock Food, 7 lbs., 65c.; 12 lbs., \$1.00; 35c. articles by mail 5c. extra.
 Send for Scientific Book on Stock and Poultry, FREE. -om

Work Done With **THOROLD CEMENT** Speaks for Itself.



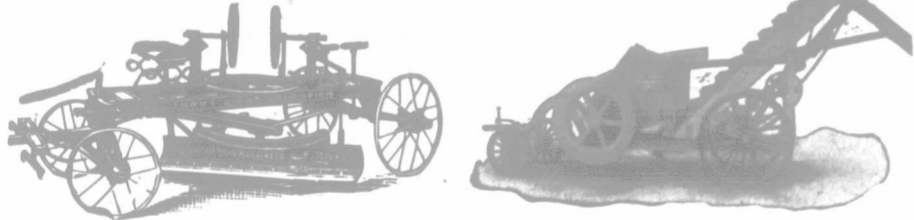
BARN OF ALLAN McMANE, ELMA TOWNSHIP, ONT.
Basement Walls, 84 x 100 x 9 feet high. Built with Thorold Cement.



BARN OF WM. PATTON, SOUTH CAYUGA, ONT.
Size of Basement Walls, 36 x 60 x 9 feet. Built with Thorold Cement.

FOR FREE PAMPHLET WITH FULL PARTICULARS, ADDRESS
ESTATE OF JOHN BATTLE,
THOROLD, - ONTARIO.

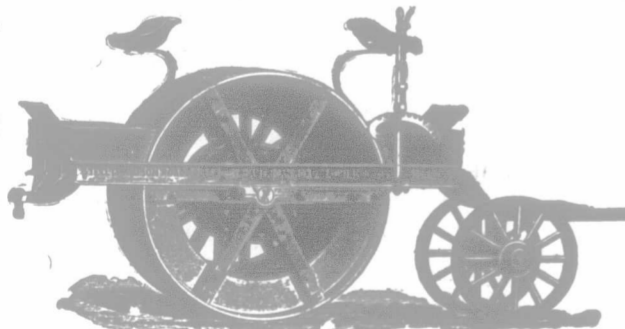
Good Roads Machinery Co'y,
HAMILTON, CANADA.



Steel "CHAMPION" Road Grader.

"CHAMPION" Steel Frame Mounted Portable Rock Crusher.

Send for Catalogues, Mailed Free to any Address on Application.



"CHAMPION" Horse Road Roller.

Road Graders, Rock Crushers, Steam and Horse Road Rollers, Engines, Road Plows, Wheel and Drag Scrapers, Macadam Wagons for spreading Road Material, Elevators and Screens.

BLACK LEG

Pasteur Vaccine SUCCESSFUL PREVENTIVE REMEDY.

Write for proofs covering treatment of nearly one million head in the United States and Canada.
PASTEUR VACCINE CO., 65 FIFTH AVE., CHICAGO.

GOSSIP.

At the Eccleshill Hackney sale held by Mr. T. Mitchell, of Bradford, England, May 4th, the three-year-old colt, Cullingworth, by Gany-mede, brought 1,100 guineas (\$3,775). The brood mare, Lady Dudley, sold for 450 guineas; Blucher, a three-year-old colt, for 400 guineas, and Earl Dudley, a yearling colt, for 340 guineas. Forty-five animals averaged \$340.

Mr. T. G. Binney, Houghton Green, Playden, Sussex Co., Eng., whose advertisement of Rose-Comb Bull Orphington eggs recently appeared in these columns, writes advising us that he has no more settings to sell this season. As some of his own eggs turned out infertile, we learn that in case of one of his Canadian customers Mr. Benney sent an extra setting of one dozen eggs. He looks for a greatly increased trade next season.

Messrs. H. Stevens & Son, Lacona, N. Y., write: "Our sales of Holstein-Friesian cattle the past winter and spring have been very large, especially so in the States. We have also sold some very fine animals to go to your side. Among the number was an exceptionally fine and well-bred yearling bull and heifer to Mr. A. C. Hallman, New Dundee, Ont. The bull Mr. Hallman selected to head his herd is Judge Akkrum De Kol 3rd, a beautiful individual, very straight, broad, and level, with a very rich, mellow skin, soft, fine hair, with a very large escutcheon. He also has a great milk-vein development, with four large rudimentary teats set wide apart. In appearance he is a very stylish, showy animal. His breeding is exceptionally good, being sired by Judge Akkrum De Kol, and his sire is De Kol 2nd's Netherland, a son of De Kol 2nd. De Kol 2nd has made the most butter that has ever yet been made by any cow in any seven-day official test, except her stable companion, Netherland Hengerveld, she only excelling her nine one-hundredths of a pound, and we know of no other cow of the breed that has ever transmitted with any such a degree of certainty as De Kol 2nd. The dam of Judge Akkrum De Kol 3rd is Moseetta, a very promising young cow. She gave at two years old 48 lbs. milk in one day, and later she gave 58 lbs. milk in one day, her milk testing as high as 3.8% butter-fat by the Babcock test. Her sire was Aggie Leila's Prince, he by Netherland Prince, too well known to need any comment here. Aggie Leila's Prince was the sire of Netherland Hengerveld. This cow heads the list as a butter producer in all official tests up to date. We feel very confident Judge Akkrum De Kol will do credit to the fine herd he has gone to head. The heifer taken by Mr. Hallman was Queen Hengerveld De Kol, as her name indicates, combines the blood of the De Kol and Hengerveld families, her sire being a son of De Kol 2nd and her dam a daughter of Manor De Kol, who is a son of Netherland Hengerveld. Individually, this heifer is all that can be desired, her breeding is among the best that can be had, and should nothing befall her she will be a valuable acquisition to the many fine females already in the Springbrook herd. Mr. Hallman is one of the pioneer breeders of Ontario, is a good judge of a dairy cow, and very familiar with the breeding of the best strains of Holsteins both in the U. S. and Canada. He started many years ago with the best class of animals he could purchase, the price being a secondary consideration. Judge Akkrum De Kol, spoken of above, is not only a great sire, but one of the finest show bulls in this country. We have also sold this great bull to Mr. John Drummond, of Killmaurs, Ont., and he will no doubt be seen at your leading fairs this fall. Mr. Hugh Stewart, of Ormond, Ont., also has had from us a very fine yearling De Kol bull in De Kol Artis 3rd, and the fine heifer calf, Jessie Veeman De Kol. We have also sold others which we have not the time to mention at this writing, but will state we are getting many inquiries from our ad. in the ADVOCATE and making a fair amount of sales, and are well satisfied with the investment."

THE CARGILL SHORTHORNS.

The up-to-date herd of Shorthorns owned by Messrs. H. Cargill & Son were given a hasty look over during a brief visit lately and were found in their usual fresh condition. Numerous sales made during the winter have reduced the number at present to about thirty-five head, but the quality is up to the usual standard. The grand imported roan Nonpareil bull, Royal Member, bred at Kinellar and sired by the Cruickshank bull, Royal James, ranks as one of the very best bulls in the Dominion and makes a worthy head for so good a herd. He is succeeded by the recently imported roan three-year-old, Orange Duke, bred by the Duke of Richmond and Gordon, a prizewinner in the Old Country, richly bred, level, and full of fine quality. Red Ribbon, a red with little white, yearling, bred by Mr. Shepherd, Shethin, Tarves, Aberdeenshire, and imported by Messrs. Cargill, is a strong, thrifty, thick-fleshed bull of great promise. Of the 1898 importation of females there are half a dozen or more very good ones, among which is the prize roan four-year-old, Catalonia, by Marathon, bred by Mr. Longmore, of Rettie. She has great substance and depth, with grand bricket and long quarters, and is proving a good breeder. Castilla, of the same family as the last named, was a championship winner at one of the Scottish shows last year, and is a red two-year-old, of splendid character, with strong, level back and the best of handling quality. Beauty 13th, by Lord Vthan, a low-set, level, thick-fleshed, roan four-year-old cow, has proved an excellent breeder. Pine-apple 12th is a choice roan yearling, sired by Challenger, and is a model in form and quality, low and level, and covered with a soft, mossy coat of hair. Rosa Fame is a capital roan four-year-old daughter of imp. Indian Chief and imp. Rosalind, by the Cruickshank bull, Stockwell. The favorite Fry tribe is represented by a daughter of Gravesend and a daughter of imp. Saladin, bred by Mr. Duthie, and the Kinellar Rosebuds by a handsome red two-year-old daughter of imp. Royal Member. The imported red and white eight-year-old cow, Myrtle 3rd, is a thick, blocky, beefy sort and has bred well. A quiet lot of yearling imp. heifers are very attractive and of modern type, while the grand old cows imported some years ago by Mr. D. D. Wilson from the herds of Mr. Duthie and others in Scotland make a substantial backing for a useful working herd which has produced regularly and given much satisfaction to the enterprising owners.

Horse Owners! Use GOMBAULT'S Caustic Balsam

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe sores. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUSTERY OR FILING. Impossible to produce sore or blisters. 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. SEE LAWRENCE-WILLIAMS CO. TORONTO.

ROOFS FOR THE BARN.

"A good barn is not a good barn unless it has a good roof."

Pedlar's Steel Shingles and Siding

Are water, fire, lightning and storm proof, and being constructed by modern machinery from the best stock obtainable, are superior to any similar goods on the market.

Sold by all dealers.

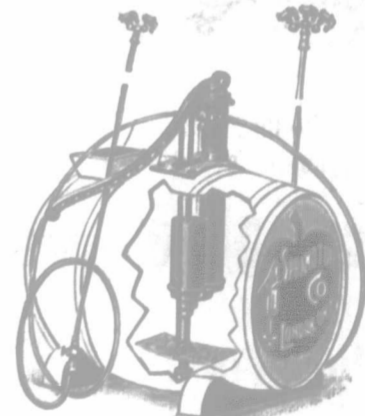
Do not accept any others that are "just as good," but get the genuine, old reliable "The Pedlar Patent."

Made only by
Pedlar Metal Roofing Co.
OSHAWA, CANADA.

For Sale by J. H. ASHDOWN, Winnipeg, Agent for Manitoba and N.-W. T.

ALL SPRAYING, DISINFECTING AND WHITEWASHING CAN BE DONE WITH THE SPRAMOTOR

It is the result of most careful and exhaustive experiment. Each feature was thoroughly tested before being placed on the market.



SENATOR GEO. A. DRUMMOND,
The Sugar King of Canada, Vouches for the Spramotor.

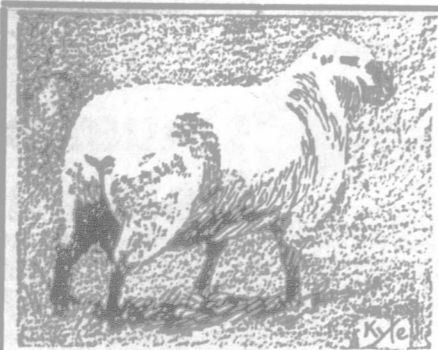
Montreal, January 11th, 1900.
Spramotor Company, London, Ontario:
Gentlemen, Your apparatus for whitewashing answers admirably; does the work much better than can be done with brushes, and at a great saving of time. Yours truly,
The Canada Sugar Refining Co.
G. A. Drummond.

CERTIFICATE OF OFFICIAL AWARD.
This is to certify that at the Contest of Spraying Apparatus, held at Grimsey on April 2nd and 3rd, 1900, under the auspices of the Board of Control of the Fruit Experimental Stations of Ontario, in which there were seven contestants, the SPRAMOTOR, made by the Spramotor Co. of London, Ont., was AWARDED FIRST PLACE.

H. L. HUTT, } Judges.
M. PETTIT, }

If you desire any further information, let us know and we will send you a 72-page copyrighted catalogue and treatise on the diseases affecting fruit trees, vegetables, etc., and their remedies.

SPRAMOTOR CO.,
357 RICHMOND ST., LONDON, ONT.
Mention this paper. AGENTS WANTED.

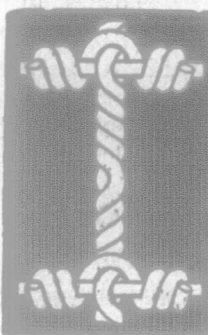


Persiac Sheep and Animal Wash

For the complete and effectual removal of all insects or vermin peculiar to sheep and cattle. Powerful without being harsh; immediate in effect, without any irritating effects; it leaves the animal refreshed and in good spirits after use; does more than destroy the pests, it completely removes all traces of their attacks—healing sores or boils, curing open sores and leaving the skin whole and sound. Mr. G. A. Brodie, a prominent stock-raiser of Bethesda, Ont., used it with great success in castrating lambs, the wash healing the wounds rapidly and keeping the maggots away. He considers it the most effectual wash in the market, and heartily recommends it to farmers generally.

If your dealer hasn't it, write us for it, and tell us of anything special in the ailments of your flocks or herds and we'll advise you how best to use it.

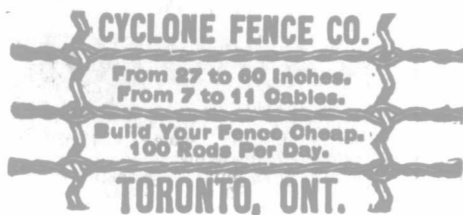
THE PICKHARDT RENFREW CO., Limited,
STOUFFVILLE, ONT.



WRITE FOR SAMPLE STAY and full particulars Machine \$10

Wholesale Price where we have no Agents. AGENCY FREE. NO DUTY TO PAY

THE BOWEN CABLE STAY FENCE CO.
Box No. 58 NORWALK, OHIO, U.S.A.



CYCLONE FENCE CO.

From 27 to 60 inches. From 7 to 11 cables.

Build Your Fence Cheap. 100 Rods Per Day.

TORONTO, ONT.

GOSSIP.

The Smithfield Club has decided to adopt the single judge system at future shows. The world moves.

The fourteenth annual meeting of the Holstein-Friesian Association of America will be held at Iroquois Hotel, Buffalo, N. Y., Wednesday, June 7th, at 10 a. m. It requires 100 members personally or by proxy to constitute a quorum.

A movement is on foot in England with the object of establishing a herd book for Longhorn cattle. At a largely attended and influential meeting of admirers of the breed at Rugby, under the presidency of Mr. W. H. Sale, it was decided to form a society with an annual subscription of £1, and after considerable discussion it was resolved that no animal having less than five crosses of pure blood should be accepted for entry in the herd book. Mr. T. H. Westman, Rose Cottage, Atherstone, Warwick, has been appointed hon. secretary to the new association.

Hon. M. H. Cochrane & Son, Hillhurst, Que., have, we are informed, a new importation of Shorthorn in quarantine at Quebec, included in which is the roan yearling bull, Scottish Hero, bred by Mr. Duthie, by Scottish Archer and out of Missie 134th, by William of Orange. His breeding is thus very close to that of Marengo, the Royal champion of last year, being by the same sire, and his dam is a half-sister to the dam of Marengo. A fine red cow, Vain Belle 2nd, in calf to Silver Plate, also comes from the Collyrie herd, and the red yearling heifer, Consuelo 2nd, from the herd of Mr. Reid, of Cromley Bank.

WILLIAM GRAINGER & SON'S SHORTHORNS.
The extensive improvements under progress at the time of our last visit to Wm Grainger & Son's farm, Londesboro, Ont., last year, add very greatly to the convenient carrying out of their extensive breeding operations, and a more sanitary, substantial or convenient stable would be hard to imagine. Everything has been well considered and carried out in detail. The row of 10 x 18 feet box stalls for the young things to winter in are the best arranged for their purpose we have seen, and the result is plainly visible on the young stock.

The herd was founded on the noted Fairmaid of Hullet 2nd, of World's Fair fame in the milking test, and the mating to such sires as Truce Bearer, Golden Nugget, and the present stock bull, Beau Ideal 2254, by Sittytton Stamp (Imp.) 24824, by Banner Bearer, and running through many of Scotland's most noted sires and showyard winners, has proved a distinct success. At present the firm have four splendid three-year-old Golden Nugget females of exceptional quality and true characteristic Shorthorn type, which quality is very fully brought out in the Beau Ideal progeny of more tonnage, and as their grandam was a member of an exceptionally good milking family, the high dairy qualities of the Fairmaid tribe will be largely maintained. Beau Ideal has made wonderful advance since we first saw him, and is held in the highest esteem by his proud owners, as he possesses the ability to stamp strength and quality on his offspring. The pair of five-months sons of Kitty Clay and Busy Bee are youngsters worthy of the attention of breeders requiring straight good sires of sterling breeding; they have plenty of bone, a great wealth of natural flesh, broad, level backs (the exact pattern of their sire's), and covered by skins of the finest texture, in solid red color. The young females too are not behind their brothers in Shorthorn conformation, and show the early maturing qualities of the race to which they belong. Mr. Grainger's young stock always advances rapidly, but at no season in our recollection has more real progress been made than in the past year. Some important sales have recently been made and tempting offers refused, and from what we can gather we are inclined to believe the Messrs. Grainger's ambition is to make this one of the largest and most important herds on the continent, and will only be limited to the capacity of the extensive accommodation provided. Fourteen cows have and will drop calves during the present season, mostly to the service of Beau Ideal.

You know there is much more painting done now-a-days than of old, but did you know there is a far better way to do it? Painting is no exception to other things. The art has not stood still. You can still buy some white lead (are you a judge of it?) and some oil (are you a judge of that?) and find a neighborly painter and have some paint made; but as sure as you are alive there is a better way.

THE SHERWIN-WILLIAMS PAINT

Are you awake to the fact that you can get a paint that is made for the particular work you want done, of the best materials combined in the best proportions, mixed in the best way; and that will do more than any other paint will do? If this is not true, then The Sherwin-Williams Paint factory with its tons of daily output and its thirty years of wonderful growth is a pure miracle. "Paint Points" will help you paint right. It's free.

THE SHERWIN-WILLIAMS CO.,
PAINT AND COLOR MAKERS,
Canadian Dept., 21 St. Antoine St., Montreal.

Ask for Tint Card

Of 16 beautiful tints (and white) of that sanitary and absolutely permanent covering for the walls and ceilings of your rooms—Church's cold water Alabastine. The card will help you every way. Goodbye to the worry of constant wall-papering. Alabastine (never sold in bulk) becomes as hard as the wall itself. It won't rub off, peel, or scale.

Painters use it and recommend it, but you can apply it yourself, if there is no painter handy—ask your dealer for the "TINT CARD" of

ALABASTINE

For sale by paint dealers everywhere

Free to any one who will mention this paper, a 45-page book, "The Decorator's Aid." It gives valuable information about wall and ceiling decorating.

The Alabastine Co. (Limited), Paris, Ont.

Five Different Styles of Engines:

Locomotive and Return Tube, Portable and Traction ..

Two Styles of Threshers:

Challenge and Advance ..

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CHALLENGE
WHITE'S LOCOMOTIVE STYLE TRACTION



4, 5 AND 6 FOOT CUT.

"O YES!" Our No. 8 Mower will start in heavy grass without backing the team, and will cut grass any other mower can out. Will run as easy and last as long. We sell our machines on their merits, and build our reputation on the "quality," not the quantity, of goods we make.

THE FROST & WOOD CO., LTD.,

HEAD OFFICE AND WORKS: SMITH'S FALLS, ONT.

Toronto Branch: 77 Jarvis Street. Winnipeg Branch: Market Square.

CANADIAN PACIFIC RY.
OPENING OF
NAVIGATION

FIRST STEAMER FROM FORT WILLIAM

TUESDAY, 9TH MAY,

THEREAFTER EVERY

TUESDAY, FRIDAY AND SUNDAY.

CONNECTING TRAINS FROM WINNIPEG EVERY

MONDAY, THURSDAY, SATURDAY

AT 4 P. M.

Cheap One-Way and Round-Trip Tickets.

For information and full particulars, apply to nearest agent, or address—

ROBERT KERR, Traffic Manager, Winnipeg.

CONTAGIOUS ABORTION AND HOG CHOLERA

can positively be cured or prevented by the use of

WEST'S FLUID, DISINFECTANT.

which is a tar product, is also a cheap and effective

Circulars (specially prepared by a veterinary surgeon) on these diseases, on application.

THE WEST CHEMICAL CO., "Dept. F.," TORONTO, ONTARIO.

Agents wanted in all counties.

TORONTO ENGRAVING CO.
92 BAY ST
CUTS BY ALL PROCESSES
LIVE STOCK A SPECIALTY.

THE JOHN ABELL
Engine and Machine Works Co., Ltd.,
TORONTO, CANADA.

THE FIRST PORTABLE ENGINES FOR THRESHING PURPOSES built on the North American continent were built by Mr. John Abell.

THE FIRST COMPOUND PORTABLE ENGINE built in North America was built by Mr. John Abell.

THE FIRST COMPOUND TRACTION ENGINE built in North America was built by Mr. John Abell.

THE ONLY COMPOUND TRACTION ENGINE exhibited at the World's Columbian Exhibition at Chicago, in 1893, was built by Mr. John Abell.

The Abell Engines have won **THIRTEEN GOLD MEDALS**

in competition with all comers at the principal Canadian exhibitions, being all the gold medals for which they entered into competition. **THIS FACT ATTESTS THEIR QUALITY.**

The Abell Engines came out ahead in the great trials of Portable Engines in Toronto in 1880 and 1881. **THESE TRIALS PROVED THEIR QUALITY.**

Abell Engines are Good Engines.

Abell Engines are Engines of Quality.

Abell Engines are Satisfaction Givers.

Abell Engines are Powerful Engines.

The John Abell Engine & Machine Works Co., Ltd., Toronto, Canada.

GOVERNMENT ANALYSIS

LABORATORY OF INLAND REVENUE,
OFFICE OF OFFICIAL ANALYST,
Montreal, April 8, 1900.

"I hereby certify that I have drawn, by my own hand, ten samples of the **ST. LAWRENCE SUGAR REFINING CO.'S** EXTRA STANDARD GRANULATED SUGAR, indiscriminately taken from ten lots of about 150 barrels each. I have analyzed same and find them uniformly to contain:

99.99 to **100** percent. of pure Cane Sugar, with no impurities whatever."

(Signed) **JOHN BAKER EDWARDS, Ph. D., D.C.L.,**
Prof. of Chemistry and Public Analyst, Montreal.



RANEY, SELBY & COMPANY, BOX 620, KINGSTON, ONTARIO.

It Pays to Care for Your Horse

The Crystal Rosette is double the size of this cut.



The Crystal Rosette is double the size of this cut.

NATIONAL GALL CURE

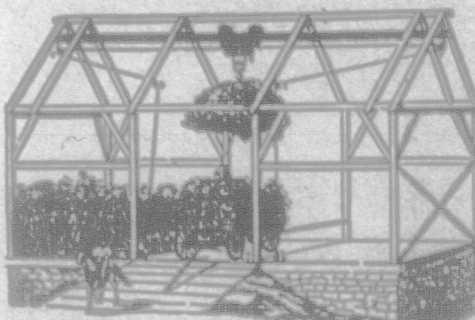
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On receipt of 25 cents we will send a full size box of National Gall Cure and a pair of handsome Crystal Rosettes, like illustration above, which are retailed at 50 cents a pair. Money refunded if not found satisfactory. National Gall Cure is for sale by all dealers. When ordering from us, please write name and address plainly, and enclose this adv.

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