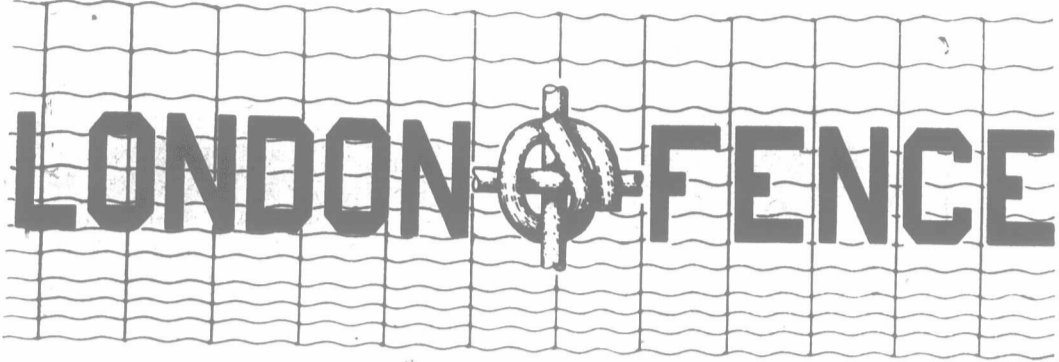


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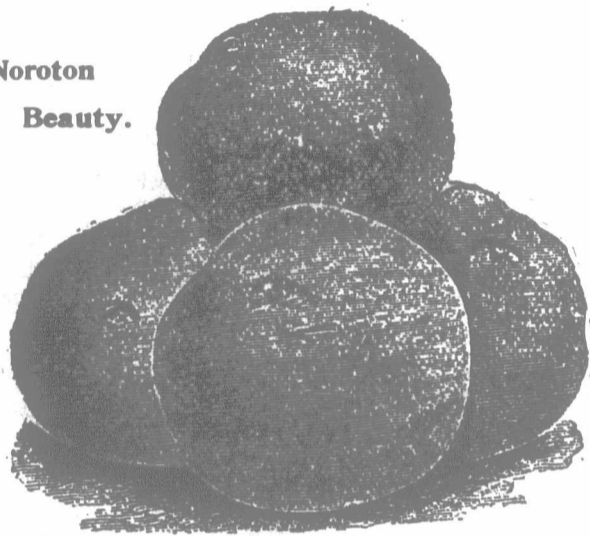
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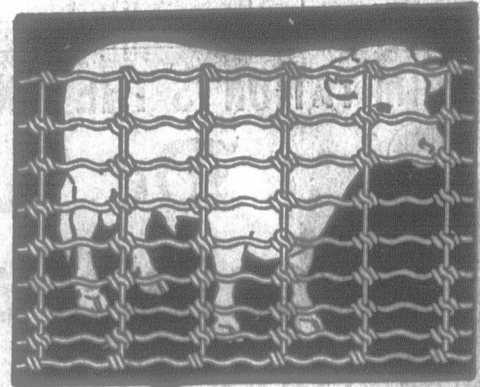
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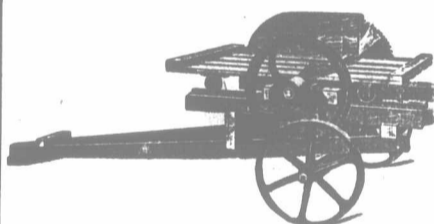
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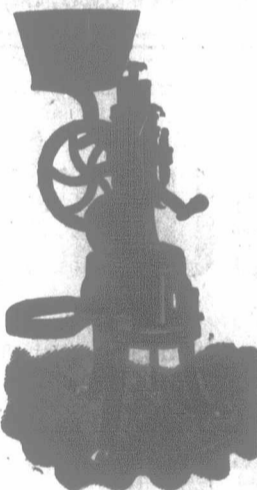
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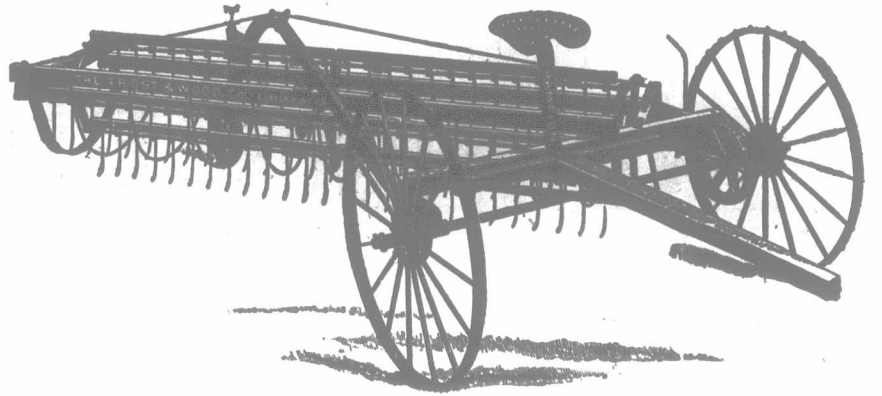
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Vol. XLII.

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LONDON, ONTARIO, MARCH 28, 1907.

No. 757

EDITORIAL.

ALFALFA, THE BONANZA OF AGRICULTURE.

If correspondence be any indication, a good many Canadian farmers are becoming impressed with the wonderful merits of alfalfa as a crop and feed. This is gratifying, because, leaving fruit-growing and vegetable soils out of consideration, it is safe to say that land adapted to alfalfa is worth more per acre than any other. That is not to state that alfalfa land is the highest-priced. It is not, because as yet this truth is unappreciated. That does not alter the fact of worth.

Why is alfalfa so valuable! Because a good stand on suitable soil will yield three cuttings a year, amounting to from five to seven tons of hay per acre. This it will do year after year, suffering less by drouth than any other hay crop, with no expense for cultivation or reseeded, and little or no expense for fertilizers. Harvesting is sometimes an inconvenience, and once in a while the first crop may be lost, but the second and third insure a good fair season's yield. The hay is similar in composition to clover, but richer. It contains a considerably larger percentage of protein than clover, and is therefore eminently adapted for feeding along with the common classes of farm roughage, such as timothy, corn silage, corn fodder, and oat, wheat and barley straw. Some go so far as to claim that alfalfa equals wheat bran, pound for pound, but the larger percentage of crude fiber it contains makes this statement somewhat extravagant. However, out in the Western States there are great mills grinding alfalfa into meal, which has become an important commercial product in the United States, being used to a considerable extent in place of bran. There is not a doubt but that, by growing alfalfa more largely, we could save a great part of our millfeed bills. Those who have tried alfalfa hay with corn silage for dairy cows, are enthusiastic regarding the results in milk production. Alfalfa has a large, though as yet scantily-recognized, place to fill in the economy of the Canadian stockman. It is valuable for cattle, horses, sheep, hogs and poultry.

Not the least advantage of alfalfa is its unexampled merits for soiling—i. e., cutting to use green as summer feed. Probably few of us can remember a year in which there was not from one to eight weeks in midsummer when the pastures dried up, cows shrank in their milk flow, and beef animals made poor gains. At such times almost everyone is persuaded that it would be wise to make provision for summer drouth, but when next spring comes we neglect to plant anything, and suffer seriously for it. The man who has a field of alfalfa is prepared for this emergency with the best of all summer feeds.

Alfalfa, by means of the friendly bacteria working in the nodules on its roots, extracts free nitrogen from the air to build up into its tissues. At the same time, its deep-ranging root system is searching the bowels of the earth for moisture and for the mineral elements of plant food. Thus, without drawing too heavily on the surface soil, the plant converts a large amount of atmospheric nitrogen and subsoil fertility into its tissues, and when these are fed and worked over by animals, the result is a manurial residue decidedly richer than that from animals fed on timothy or straw. The man who grows a large acreage of alfalfa, puts it to stock, and applies the manure carefully to his other fields, is building up his farm in the simplest and cheapest way possible. The alfalfa plants never require much manuring, except per-

haps an occasional and comparatively inexpensive application of bone meal and wood ashes, with occasionally, perhaps, a dressing of lime. And this alfalfa field, when plowed up, will be richer in available fertility than when seeded down. The decay of the sward and alfalfa roots will fill it with humus, and it will also have been subsoiled in the only economical way—that is, by plant roots.

If buying a farm to-day, we would look for one with a field or two that had a fairly good slope, affording free surface drainage. Here alfalfa should thrive, and if it did, that field, discounted probably because hilly, would become the most profitable part of the farm. So great are the merits of alfalfa that every man with 100 acres of land should try it at least on a small scale, and if possible, get 10, 15 or 20 acres seeded down. Sow alone or with a very light seeding of spring grain on clean, well-drained land, cultivated to a fine tilth. Some disk the seed in, but harrowing is preferable. Sow fairly early if the ground is in condition, but if it is not, better delay seeding a few days and work up a first-class mellow seed-bed. Use 20 pounds good seed per acre. Before sowing, examine for weed seeds and test for germination. Over the field, it is a good plan, if possible, to scatter a load per acre of surface loam from an old-established alfalfa field.

A successful stand of alfalfa is a small bonanza. It is worth persistent effort to secure. If at first you don't succeed, try again. The second attempt is nearly always more successful than the first.

THE HAPPY MEDIUM.

We are in receipt of a communication from an Eastern reader protesting against the purport of a letter by a Nova Scotia farmer on page 389 of our issue of March 7th. This letter, it may be remembered, strongly commended our editorial "The 'June Conditions' Fad." Our private correspondent urges that "Farmer's" views are, similar to those expressed by a number of Maritime Province men who, he says, know more about grumbling at circumstances than trying to make the best use of facilities at hand. He thinks "Farmer" may have over-interpreted our editorial, taking it for granted that we are opposed to all such modern improvements as stabling, the growing of roots, and, in fact, the feeding to cows of anything else but straw, a little hay and pasturage.

Knowing "Farmer" for a well-informed and progressive-spirited man, we are able to exonerate him from the charge of being a carping critic. At the same time, it will do no harm to restate, for the benefit of others, our position and purpose in writing as we did. A careful perusal of our article will show that it did not oppose comfortable stabling, good feeding, nor the provision of succulent food, such as roots and silage. For years we have consistently urged the erection of good stables, the liberal feeding of stock, the erection of silos wherever corn succeeds, and the growing of more roots. What we were driving at was the tendency on the part of some agricultural leaders to place exaggerated value on some of these things, to advocate stable temperatures it was unwise or impracticable to maintain, and, in some cases, to recommend unnecessarily laborious methods of preparing feed. This tendency lays them open to criticism from those who are of the old ways, and thus hinders, instead of helping, the gospel of improved conditions for stock.

Only a very few stockmen and dairymen have gone to extremes in seeking to provide June con-

ditions in winter, but if the advice of some lecturers and writers had been followed, much money would have been spent, with poor prospect of return, in attempting to reproduce summer conditions in winter. Leaders should take care not to become carried away with fads. The more sensible and moderate their recommendations, the greater the impression they will make on hard-headed men. There is a happy medium in these things, and while the majority of us are still on the near rather than on the far side of the medium, it is in the interest of progress to readjust our ideas of the relative importance of things, occasionally, in the light of plain common sense.

INCREASE CROPS BY BETTER TILLAGE.

So much faith in the virtue of thorough cultivation of the soil in the preparation of the seed-bed and its after care had the sage of the past century, Jethro Tull, that, in his enthusiasm, he declared "tillage is manure." The farming world of succeeding generations has been surprisingly slow to appreciate at its true value the import of that axiom. Canadian farmers, as a rule, are blessed with a class of soil that responds generously to even imperfect cultivation, and are too often content with a partial yield of crops, when, by more thorough tillage, the return from the same acreage might be made much greater. In favorable seasons, when rains in sufficiency fall at the most opportune periods in the life of the crops, the importance of cultivation is not so evident, the growth being fairly satisfactory. But when a protracted drouth comes at a critical juncture, the imperfectly-tilled fields make a poor showing in contrast with those having received more thorough cultivation and care. British farmers, who, as a rule, have much less naturally fertile soil to deal with than we in Canada, have learned from long experience, much more thoroughly than we, the value of tillage, and their yields per acre make ours look small, though they have seasons of drouth as well as we. The most successful of our market gardeners and fruit-growers have learned the same lesson, and profited by its practice.

The soil of the average Canadian farm is well supplied with the natural mineral elements of fertility, and requires only proper tillage and the maintenance of a reasonable proportion of vegetable matter to enable it to hold moisture and balance the supply of available plant food, in order to produce profitable crops, equal to any in the world. But we are falling sadly short of our privilege in that regard by a slipshod system of cultivation of our land. The usual preparation of the seed-bed for spring-sown grain on fall-plowed land is a single stroke of a spring-tooth cultivator or a disk harrow, which rarely moves all the surface soil, but is largely an operation of "cut and cover," especially on the higher-lying portions of clay lands—a mere apology for tillage—the consequence being imperfect germination of a large percentage of the seed sown, and imperfect nourishment of all, leaving the plants unable to partake of the food locked up in the soil, and the land in no condition to hold moisture or to resist the influence of drouth, the consequence being a weak and struggling crop, yielding, in many instances, less than one-half what it is capable of doing under proper preparatory treatment.

The writer recalls the practice of the most successful farmer in his neighborhood in the cultivation of the land for spring grain crops, which was to follow the teams, testing the work by drawing his boot through the ground to see that

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JOHN WELD, MANAGER.

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it was mellow and free from unbroken ridges, and, if the test was unsatisfactory, ordering extra tillage of such portions as failed to stand the test, the result being uniformity of growth in all parts of the field and bumper yields, when often the fields of less-careful neighbors showed struggling crops, especially on the higher land, and such as the reaper could scarcely collect at harvest time. The late Professor Roberts, of Cornell, is said to have had such faith in thorough cultivation that when his men reported the land prepared for seed, he would order them to repeat the tillage to make sure it was sufficient.

We are all well aware that in these times of scarcity of help on the farm it is easier to preach than to practice this doctrine, but it is, nevertheless, well worth while to keep it in mind and to put it into practice as far as circumstances will permit. In many cases it is not necessary that a whole field should receive extra tillage, as the lower-lying portions may break up and become sufficiently fined by one-half the work needed on other portions, in which cases the latter should receive extra attention, in order that all may be brought to the proper condition. This is needful, not only for the success of the grain crop, but also for that of the clover and grass seeds usually sown with the grain, and which are costly to buy, and should be afforded the best possible chance for full germination and healthy growth. Seed sown upon hard or lumpy land cannot, in the nature of things, partake of the plant food thus locked up and unavailable, and failure is a certain result, unless an uncommonly abundant rainfall during the season saves the situation, and that is a very uncertain quantity in the average of years.

It is practically certain that, with the practice of greater care in the cleaning and selection of seed, and in the preparation of the seed-bed, nearly one-half the seed sown might be saved, and the crops of this country nearly doubled, for it is a fact that, as a rule, more seed is sown than is necessary for best results were the selection,

preparation and covering intelligently performed; and thus money is thrown away that might have been saved and put to better use. Farmers will do well to consider whether they can afford to continue such practice, and whether it would not be wiser to cultivate less land as a solution of the labor problem, and do the work so much better as to produce more bushels on less acreage. The more thorough the cultivation, the more certain will be the destruction of weeds, which thrive best where the crops are thin and weak, robbing them of needed moisture and appropriating the food that should go to feeding the plants the farmer counts on for returns for his labor and output.

Now is the time to think about this important matter and to prepare for doing the best possible work when the seeding operations commence, by seeing that the implements are put in the best condition to do their work well, and seeing that thorough work is done. Now is the time, also, to consider whether, by securing wider implements, one man may not do as much work as two with narrower implements, and whether three horses may not do as much as four by the use of the old machinery. Economy of time and power should be taken into consideration in the operations of the farm, as in other business enterprises, and the sooner the better, if we would make progress, instead of merely marking time.

OUR MARITIME LETTER.

The past year's operations in cheese have demonstrated, say the buyers, that the art of cheesemaking in Maritime Canada is at a high pitch of perfection. Our own Island inspector declared, at the Dairymen's Association, that nothing but the highest praise of last year's Island make came over the water from Britain; indeed, not a single serious complaint was made on either side of the water as to the quality of our cheese. This is highly creditable to our makers, who are really a most painstaking and conscientious class of men, poorly enough paid; to our factories and their tenure, and to the patrons, who must supply good milk out of which it is possible to manufacture all good cheese. It proves, too, beyond cavil, that our conditions and climate here, in this Island, lend themselves in an especial manner to the putting up of excellent dairy products. Naturally, co-operative milk-gathering has its defects, compared with the produce of individual dairies, made up with modern appliances and best skill on the farm, to take milk from everybody, and out of it make a good uniform, well-flavored, accurately-colored cheese, by any general system, is evidence of capability from many points of view.

On account of the superior natural drainage which this Province of Prince Edward Island enjoys, we have heard little at any time of objectionable qualities in our dairy products caused by the presence in the factories or curing-houses of undesirable bacteria. At one time—in one year only—the inspector thought we were in the way of meeting the obstacles to this work which other parts of Canada complained of; but, with the employment of ordinary cleanliness and care, there has been no recurrence of the evil, even in the slightest degree. The neighboring Provinces of Nova Scotia and New Brunswick have little to fear, either, from this menace to their dairying. Indeed, it would appear as if ordinary cleanliness on the part of factory operatives, and a proper care of the sewers and whey tanks, would preclude the possibility of trouble from this source anywhere. The different dairy schools are laying particular stress on clean tenure of factories, and any maker who is remiss in this particular seldom receives a second engagement. A uniform standard of manufacture for Canadian cheese, too, has greatly benefited both the system employed and the prices from sales in Britain.

And still, with all this that is so favorable, we find the Cheese Committee, through its secretary, Mr. C. J. Higginson, reporting to the Chief Commissioner in London on several matters concerning the making and marketing of Canadian cheese, which it would be well for the whole country to take note of and remedy. So far as the quality is involved, the question of color seems to be subject to improvement. Many of our factory men either do not understand col-

oring," says the report, "or are too stinting in the use of the coloring material. Some of the cheese coming from many of the good factories are so pale as to require a strong light to discover if any coloring matter has been put in at all. This should be seen to next season." After all, this seems to be a very trivial defect; but since we want to reach perfection, and secure the price of the perfect article, we must attend to it promptly. The other animadversions bear upon transportation, storage, boxes and weights. They seem to think there has been a great improvement in the way the steamers carry and land cheese lately. The cool-air system gets the credit for this. As to storage, the same favorable report is made, on over-sea storing houses at least. We quote the exact words: "The housing of cheese on this side, at a temperature of 55 degrees during the summer, and about 48-50 degrees during winter months, has contributed in a large measure to the elimination of strong flavor so common in past years. Added to this, the facilities of cold-storage, at a temperature of 42 degrees, offered by the Surrey Commercial Dock Co., have been found advantageous from time to time, the extra charge for this accommodation being fully justified. All these things have contributed to keep Canadian cheese mild in flavor, and its popularity as an article of food has largely increased in consequence. Both shippers and importers are yearly paying greater attention to the handling of their goods than ever before, and they are reaping the benefit of their precautions."

There seems to be a great improvement desirable in cheese boxes. A large percentage, it appears, arrive in Britain in a broken condition, and any cheese landed in such packages becomes greatly depreciated in value. As the common carriers do their work better and more carefully than ever before, the whole box difficulty is attributed to poor material on the part of factorymen. We have not heard whether our Island boxes are open to the same charge, but there is complaint made here of monopoly on this head, and interminable delay in getting the goods when wanted. We have only one factory for boxes; another might remedy the defect. The Department of Agriculture is asked to insist on inspection for boxes in the interests of the cheese business. It is usually hard to get the Government to move in the matter of legal packages and the material entering into their construction, anyway. There are so many conflicting interests. Still, an advisory campaign, at least, could do nothing but good.

This report asks for compulsory stencilling for our cheese export. The system of scribbling in pencil weights on the box, is causing endless annoyance. We had thought that all up-to-date makers were using the stencil, and nothing but the stencil. This should be the case. Whether it would operate in our favor in the markets or not, especially when the output is so extensive, we cannot say; but the Produce Exchange has already—a year ago—asked for reliable estimates of the stocks of cheese held in Canada, to be made by a Government official, and now this report repeats the request. "There is a strong feeling in favor of the adoption of this course," it says, "and it would, in the long run, be beneficial to all engaged in the trade, both in Canada and in this country." This is one of the matters, it seems to us, which trade can regulate, as with other commodities, and with which Government interference is altogether unnecessary.

A. E. BURKE.

DOWN TO HARDPAN.

As a means of attracting attention to a new idea, exaggeration may sometimes be of service. Undoubtedly, however, it does more harm than good in the long run. People persuaded to adopt new practices by claims that cannot be made good become skeptical of all new things, and, in many cases, throw aside the method they have adopted in disgust. What agriculture needs to-day, and what it is ready for, as never before, is good, level-headed common sense.

INTELLIGENT APPRECIATION.

In sending my renewal, would say I appreciate "The Farmer's Advocate" efforts in the interest of farmers, and its able editorials. Though much of the matter published does not fit my requirements, I am sure of some thought during the year that is worth several times more than the subscription price.
NATHAN GRAY,
East Elgin, Ont.

HORSES.

OUR SCOTTISH LETTER.

THE LONDON HORSE SHOWS.

Since I last wrote, many things have happened. For one thing, we have had very severe weather—what the Americans call samples of all kinds, and nothing for very long. The severity in some parts has been such as to awaken serious misgivings concerning the well-being of the sheep stocks. These naturally suffer most in a bad springtime. The lambing season approaches, and unless the ewes be kept thriving, there may be disaster to all concerned. A short crop of lambs, in spite of the enhanced prices for wool and mutton, made the year 1906 not so profitable for the sheep farmer as many supposed it would have been. Should 1907 bring a short crop, also, flockmasters will begin to think that there are many opponents of their interests, and that those who enter farms at current high rates will come off second best in the long run. However, there has been a distinct improvement in the weather of late, and spring work in the fields has been well advanced in connection therewith.

An extraordinary impetus has been given to spring work by the introduction of the American and Canadian chilled plows. By means of these, arrears of work can be very rapidly overtaken. They cultivate the ground in a manner altogether different from the ordinary British plow, and this renders necessary the use of the seed drill. In my boyish days such an implement was unknown in this country. All sowing was done by hand, and, in order to successful and uniform sowing, it was necessary to have regular and uniform plowing. The beautifully-packed furrows of the old-time sowing were worth seeing, and I believe those who have tried both ways of seeding would, if perfection of workmanship were the only thing to be considered, prefer the old plow and the old system of hand-sowing. The latter was a laborious task, yet it was always undertaken by the master or the headman on the farm. It was a decidedly nice job, clean, tidy, and full of dignity. There was even romance and poetry in it, and the long, swinging step of the sower was not more delightful to contemplate than his long, regular arm-cast of the precious seed. But in these later days the economic conditions have obliterated all the poetic harmonies. It is a case of F. S. D., or profit and loss, all the time. The chilled plow and the seed drill are prosaic, compared with the appearance of the old-time spring implements, just as the self-binder is not to be compared with the swing of the scythe and the music of the reapers in the old-time harvest field. The chilled plow, seed-drill and self-binder, however, enable the farmer to make a profit, where the other would assuredly have compelled him to enter a loss. It is what pays best that settles what is best to be done in the spring or harvest these days.

SALES AND SHOWS.

During the past four weeks we have had the spring sales of pure-bred bulls and the London Horse Shows. The sales of pure-bred stock have this year been more uniform than were those of last year. Prices for individual animals have not ruled as high, but, on the other hand, the demand has been steady. The averages generally for all pure-breds show a slight decrease, due almost entirely to the superfluity of inferior animals thrown upon the market for breeding purposes. This is one of the drawbacks to our present system. When there is a keen demand, breeders will keep too large a number of males for breeding purposes, and the issue is a collapse in prices. So far as Shorthorns are concerned, it is obvious that the shipment of inferior bulls to the Argentine has been overdone. In an address, delivered at Inverness to a large gathering of breeders assembled to do him honor, Mr. C. M. Cameron, Balnakyle, indicated this view. He has recently returned from the Argentine, where he acted as sole judge of Shorthorns at the great show there. He found the demand for second-class bulls very slow, and, from his description of the stock of the country, it does seem rather unnecessary to export inferior bulls. Argentina has deeply impressed Mr. Cameron, as it has done all others who have visited it, as a country of immense possibilities. But at the same time, he found little to discourage the home breeder of the best kind of Shorthorns. For a long time to come the Argentine will need the help of British blood, and so long as the best bulls are sent, a good trade will be got for them.

Mr. Cameron's account of the quarantine station at Buenos Ayres is not flattering to those in charge of affairs in the Argentine, and money must be very easily gathered there, when the very choicest bulls bred in this country are sacrificed under the test administered in conditions which are hopelessly impossible. I am not disposed to blame the breeders here for neglect of the tuberculin test, but when one hears a plain, unvarnished account of the way in which the test is administered in Argentina, he can only hazard the guess that there are other reasons for the ruthless destruc-

tion of high-class stock abroad than those which appear on the surface. The idea of "protection" for home industries is deep-rooted in new countries, and possibly no one can blame those who give prominence to this view of things. But it would be far better to say openly, "We do not want the importation of foreign stock," than to open the gates to it under conditions which practically forbid its profitable importation.

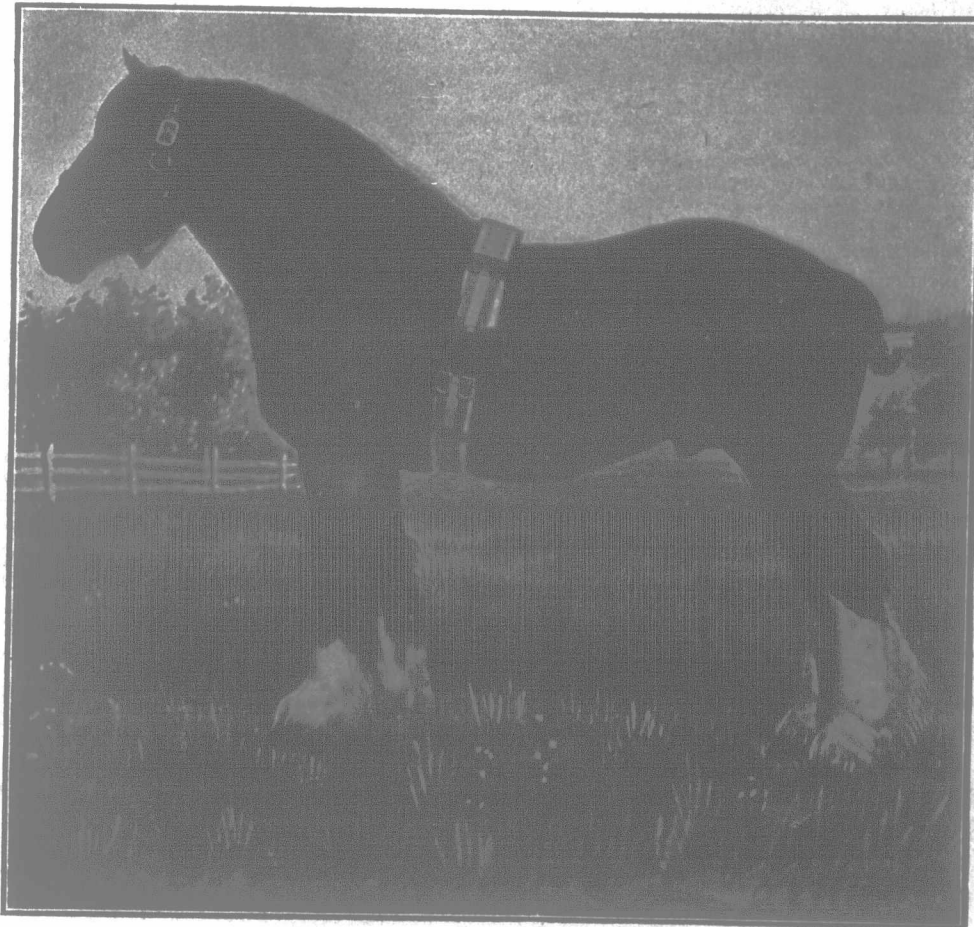
At Birmingham, this week, a Shorthorn yearling bull has been sold for 1,000 gs., and the demand has been steady and remunerative. While the sales of Shorthorns in Scotland a fortnight ago revealed decreased averages, and the bottom seemed to go out of one of the sales altogether, those who put upon the market such animals as were really well fitted to improve the breed of cattle abroad, got remunerative prices. The anticipated advance in prizes of Aberdeen-Angus cattle did not come off. Ballindalloch was first, with a long lead, and the rest of the herds brought up the rear in a more or less conspicuous and satisfactory way. It is to be borne in mind that the Collynie young bulls are sold in the autumn, hence their figures are not included in the Spring Shorthorn averages, while the reverse holds good with A.-A. herds. Ballindalloch and all the rest of the herds offer their bull calves at the spring sales. The averages recorded for them, therefore, represent things as they are. In order to get the Shorthorn averages and totals, it is necessary to wait until the end of the year. Galloways and Highlanders have sold very much as they did a year ago. It does not appear that

the King bred Hackneys at Wolferton, his stud farm in Norfolk, but now he confines attention there to the Shire, which is in high favor with many of the titled people of England. Very few of the prizes at this show ten days ago went to tenant-farmers, but in both classes of yearlings they got a big share of the money. The Shire Horse Society also greatly encourages breeders by giving breeders' prizes in addition to those won by the exhibitor. The championship of the Show went to Lord Rothschild for his great horse, Birdsall Menestrel, which was bred by Lord Middleton, Birdsall, York. The champion female was a great mare named Stolen Duchess, owned by Messrs. Forshaw & Sons, Newark-on-Trent. The classes all through at the Shire Show were remarkably well filled, and the attendance was bucolic to a degree. In this respect I think the Shire Show now excels even the show of the Smithfield Club. The gate at the Shire Show is drawn almost exclusively from the country; at the Hackney Show it is different. The Londoner, and especially the West-end Londoner, likes to see a good driving horse. Certainly there was no lack of them this week in the Royal Agricultural Hall, but I question if there was very much trade. For one thing, in the breeding-stock classes, there were far too large a proportion of horses and mares with white legs up to the knees and hocks. In cart horses, color does not matter very much, but in driving horses it counts for a very great deal. There is nothing attractive in a pair of light chestnut driving horses with four white legs. Dark-colored horses are invaluable for driving purposes, and in the driving classes, especially among the ponies, colors were all right.

The championship in the breeding sections of the Hackney Show went to Mr. F. W. Buttle for his magnificent 15-year-old horse, Rosador 4964.

This horse was bred by Mr. Buttle, whose residence is Kirkburth Manor, Driffield, Yorks. He was champion at this show in 1897 and 1899, and this year he is again champion. His daughters have been champion females at this show in 1900, 1901, 1902, 1903, 1904, 1905, 1906, and 1907—a truly marvellous record, never before excelled. Not only has Rosador distinguished himself in this way, but to-day (March 8th) he won first and second for the produce group of females, with six magnificent mares, three in the first-prize lot being the cham-

pion mare of this show: Hawsker Rosina 15129, owned by Mr. A. W. Hickling, Adboltna, Nottingham; District Maid 15089, the champion mare of 1905, and her own sister, Boquhan Sunrise 16469, the champion mare of 1906. Another full sister, Boquhan Sunflower 16468, was in the second-prize group. Undoubtedly, such an event as this has never before been recorded at a London show. All the same, the best harness horses in the show were not got by Rosador; indeed, very few were. The Produce Championship for the best three horses in the harness classes got by one sire, was won by Mr. Whitworth's celebrated horse, Polonius 4981, and he and his uterine brother, Mathias 6478, were sires of quite a large number of very superior driving horses. The champion driving horse, and reserve champion driving horse of the show were, so far as breeding is concerned, rank outsiders. Mr. Winans, an American gentleman settled in England, took the championship with Coker's Rosador 7754, a nine-year-old bay Norfolk horse, with perfect manners, and altogether a lovely specimen of the Hackney driving horse. The reserve was Mr. Jack Dove's King of the West, a black five-year-old, bred in Wales, and a great goer, with speed as well as high action. He just lacked the perfect finish of Coker's Rosador. The second reserve was the lovely bay six-year-old cob mare, Vanity Fair, bred near Glasgow, and got by Hedon Sensation 6042, out of a mare by Gany-



Birdsall King (imp.) [478].

Shire stallion; black; foaled in 1904. Sire Birdsall Caliph (21128). First in class and champion, Canadian National Exhibition, 1906; first, Ontario Horse Show, Feb., 1907. Imported and exhibited by Hamilton & Hawthorne, Simcoe, Ont.

the area of influence of these breeds is extending. At most, they are but holding their own. Both breeds have their uses in districts, and under climatic conditions which would put both Shorthorns and Aberdeen-Angus out of the running. The latter can thrive and do well in a very cold climate, if it is dry, and Shorthorn crosses, especially the highly-profitable blue-gray, out of the Galloway cow, is one of the most profitable of feeding stock. These can thrive in any climate in which the pure-bred Galloway can make a living. The Galloway and the Highlander are, however, seen at their best under rigorous conditions, and, while responding to generous treatment, they best vindicate their title to special recognition under conditions before which other breeds would flinch.

THE HACKNEY SHOW.

But enough of sheep and cattle. Let us come to the horses. This year I have seen both the London Shire and Hackney Shows. The latter closed to-day, and, in spite of motor cars, I am bound to say that never before have I seen greater interest taken in the Hackney by the general public. Immense crowds have thronged the galleries of the Royal Agricultural Hall on the two society days of the show. Royalty does not now patronize the Hackney, but the Shire basks in the sunshine of Royal favor. In old days, His Majesty

mede 2076. This is a beautiful little mare. The third reserve was Blood Royal, a superb bay gelding, five years old, bred and owned by Mr. Wm. Scott, Carluke, and got by his great stud horse, Mathias. The champion has not been in Scotland, but both King of the West and Vanity Fair were brought out by Mr. Alexander Morton's famous Scots stud at Gowanbank, Darvel, Ayrshire, as was also Royal Fair, one of the first-prize pony mares in harness. Scotland did wonderfully well at this London Show, and those wanting the Hackneys which win in harness must come north for them.

I have not space or time to write at present of the Clydesdale exports to Canada during the past month. They have been numerous. Almost every week large numbers have left the Clyde for the Dominion, and should the trade continue during the year as it has begun, we will have a good time among the Clydesdale men. Two excellent shipments of stallions have been made by Mr. Wm. Colquhoun, Mitchell, Ont., and Mutch Bros., Regina, Sask. One of the best horses sent for a long time was Blackband, in Mr. Colquhoun's shipment. He has both bred well and taken many prizes here. But most notable of all was the shipment of the Cawdor Cup champion, Baron Kitchener, by Mr. Butler, of Ingersoll, Ont. This great horse, fresh from his victory at Glasgow a month ago, should make a sensation in Canada.

"SCOTLAND YET."

THE INFLUENCE OF HEREDITY.

Editor "The Farmer's Advocate":

At the annual meeting of the Western Ontario Dairymen's Association, Prof. Dean, of the Ontario Agricultural College, is reported to have said that the old adage, "Like begets like," is not true; that a good cow, mated with a bull out of a good cow, will not always produce a good calf. This, no doubt, may be partly true in so far as the calf is concerned, because it is an undeveloped specimen of a certain breed. But what about this calf at maturity, which, if reared under conditions conducive to the natural development of its hereditary traits, will probably be a typical representative of the breed to which it belongs, and not necessarily the facsimile of its immediate parents—thus proving the truth of the adage. I do not see how success can be obtained by any breeder who would ignore this great law, for upon it is reared the whole structure of scientific breeding.

Now, why did the Professor not quote the adage in full, for to quote a part is very misleading, especially to those who have paid little or no attention to either breeding or pedigree, and those are the persons who would be the most likely to pay attention to this teaching, as it would most certainly be in accord with their experience, and therefore give them a very erroneous impression of the great advantages to be derived from the intelligent use of these principles as applied to breeding.

To say that "like produces like" is not true, simply nullifies the whole value of pedigree. Now, I shall quote the great fundamental law of breeding and heredity in full, and ask Prof. Dean or any other breeder to prove it untrue in any particular. The full quotation is, "Like produces like, or the likeness of an ancestor," and I will go a little farther and say that my experience as a breeder has been that we are as apt to produce the likeness of an ancestor in the progeny as that of the immediate parents; if this is not true, why are breeders so anxious about pedigree? This hereditary tendency to reversion amongst our domestic animals accounts for many of the disappointments of the beginner in the building up of flock, stud or herd. Where great uniformity is present in any breed, the hereditary tendency is to follow the uniform type; and where little or

no uniformity is present in any breed, divergence in the progeny is both frequent and great, and any point which is not inherited is unimportant to us as breeders.

But once we have thoroughly studied and understand in a measure this great law in its entirety, and be prepared to give each ancestor due credit for the very important part they are bound to play in the general make-up of every animal, we will then be in a position to deal intelligently with the material at our command.

Now, the points I wish to call attention to are the great importance of selection and uniformity in type, and of using none but the very best sires at our disposal. What English breeders have actually effected by selection, is proved by the enormous prices given for animals of good pedigree. A correct view of this subject is of more practical importance than may at first sight appear, for upon it depends our success or failure in producing animals of a uniform type and standard of excellence.

We have learned through our Institute workers of the great success attending the proper selection of seed grain. A like success must attend the proper selection of our breeding animals, and be even more interesting financially.

This now brings us to the study of pedigree, which tells us the genealogy, the lineage of the animal to which it belongs.

Pedigree is to the breeder what the finger-post on a country cross-road is to the traveller—it points both ways, the way you should go, and the way you should not. Pedigree enables the breeder to choose the most prepotent strain of blood in any breed, which is a very important factor in the grading up of any stud or herd.

Good pedigrees usually produce good animals, but the true value in a pedigree is in what it enables its owner to perform.

In examining a pedigree, the greatest care should be taken in allowing each sire and dam their proportionate influence in the general make-up of the progeny; for, like a chain, it is only as strong as its weakest link; consequently, the nearer to your sire or dam the inferior cross happens to appear, the less valuable the pedigree will be. Pedigree should always be studied in conjunction with nature's great law, which is "The survival of the fittest." Hence, we can see, in this great struggle for existence, none but the strong, vigorous and healthy survive and multiply.

After twenty-seven years' experience in breeding one particular class of stock, and winning the silver medals at Toronto two years in succession, for stallion and mare, both closely related on both the side of their dam and also the side of their sire, although neither from the same mare or same stallion, I must say that "like produces like" with a good deal more certainty than many of us are aware.

W. C. BROWN.

Peel Co., Ont.

ODDS IN FAVOR OF THE PURE-BRED SIRE.

Editor "The Farmer's Advocate":

I have been reading with great interest the different breeders' views re licensing of stallions. I think the quickest way to get rid of the poor class of stallions is to put a tax on all unregistered stallions, for if a man pays from \$800 to \$2,000 for a registered stallion, I think he is taxed enough, for there is no fortune in owning a stallion and running all risks. I have been handling stallions for the last 18 years, and know by experience that there is great danger breeding from anything but a registered stallion; for, no matter how fine-looking a mongrel is himself, he may throw his stock after some ancestors he would be ashamed to own, whereas the pure-bred animal is not so likely to have those undesirable ancestors. I at present own a Clydesdale stallion, a grandson of McGregor on sire's side,

and a great grandson of Darnley on dam's side, and his stock is all stamped the best.

I would be glad if a wide-sleigh act were passed, as the sleigh of to-day is not in proportion to the horses of the day.

Prescott Co., Ont.

A SUBSCRIBER.

\$15 A MINIMUM FEE.

Editor "The Farmer's Advocate":

I have read a great deal in your valuable paper about how to improve the horse industry of Ontario. We all seem to agree that there should be some law that would tend to improve the horse industry. Let every horse-breeder in Ontario have the one grand object in view, "to make the Canadian horse the best in the world," to whatever class he belongs. If the breeder is not making a profit, he needs to adopt some other plan, as there are breeders making good profit. Now, what, in my opinion, would in a few years make a great improvement and adjust everything would be to impose a license or fine of one hundred dollars on the owner of any stallion offered for service at a fee of less than fifteen dollars. Make that the minimum fee. Then the breeders would pick out the best horses, and try to get the worth of their money. The man with the scrub stallion would not get business enough to pay for his hay. The breeders have been imposed upon to some extent by the would-be horseman, or the man one might call the low-class horseman, that will travel any kind of a scrub stallion, and try to do business by cutting prices and securing part of the trade, doing himself no good, and doing a great injury to the owner of the good stallion and the breeder as well. Let us pay what it is worth. Don't put the man out of business who is trying to improve the horse industry by starving him out by means of the fellow who is ruining the business for every breeder. Let us pay a fee that will pay the stallion owner, and we will be sure to have plenty of the very best stallions travelled. The man who travels the good horse will be encouraged to get a better one. The sooner the man is out of business that travels the scrub horse, the better for him, as he will not be able to command the fee, and therefore he will have to quit. Some breeders think there are heaps of money in the stallion business. Let us see how much money we can make: Cost of stallion, say, \$2,000; interest for one year, at 6 per cent., \$120; insurance, \$150; depreciation value, \$200; stand for season of 12 weeks, \$145; man in charge for 12 weeks, \$120; horse's keep and care for 9 months, \$100; horse and rig for 12 weeks, \$20; brushes and blankets, \$10; shoeing, \$10; advertising, \$10; expense for collecting, \$50; total expenses, \$935. Suppose he gets 125 mares at \$15 per mare. Five mares die, owners of five others have gone out of the country, and we have only 115 mares left. The horse foals 60 per cent of 115, equals 69 mares at \$15 each, equals \$1,035. We wind up by collecting about \$1,000, which it will take a whole year to collect, and one is very likely to come out at the small end of the horn.

I think the Ontario Government is aiming, in many ways, to aid the farmers and citizens towards higher standards in all lines of improvement. Now, let us try to help ourselves when we have an opportunity. Hoping to hear from many others on this important subject.

Grey Co., Ont.

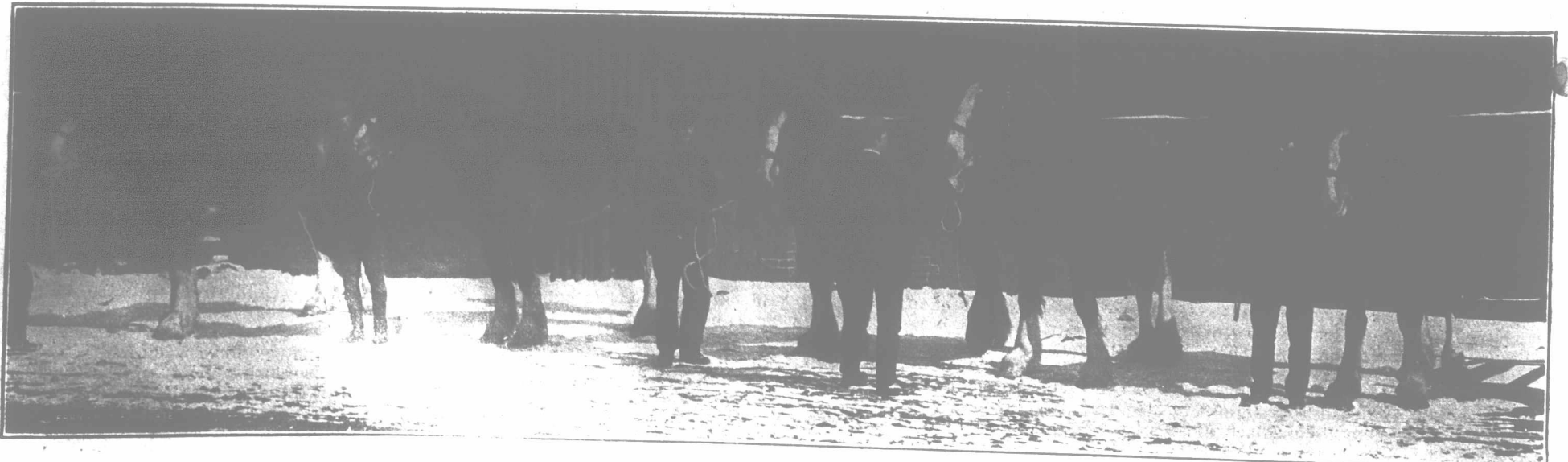
S. J. McKNIGHT.

GREAT VALUE IN PREMIUMS.

Just a few lines to let you know I received "The Farmer's Advocate" knife safe and sound. It certainly is a dandy. If all your premiums are as good as the knife, they are well worth working for. Wishing you every success with your splendid paper.

Simcoe Co., Ont.

WILLIAM WESTLAKE.



Young Clydesdale Stallions.

Owned by Thos. Mercer, Markdale, Ont.

SCRUB MARES FROM THE WESTERN RANGES

Editor "The Farmer's Advocate":

Having noticed a good many letters in the columns of your paper on licensing of stallions, I thought I would give you my opinion. If this act had been passed fifteen or twenty years ago, it would have been all right, as at that time the country was full of scrub stallions. To-day the country is full of the very best of stallions, the trouble being there are not enough mares for them all to do a good business. I think the scrub stallion of to-day is nothing more than the best of stallions that have been aged and blemished from work, and are standing in stables at small fees. A farmer will use these horses, as he is generally sure of a good colt.

The greatest trouble of our country at the present time is the importing of Western range horses. I have known of fifteen or twenty carloads of these horses shipped into the County of Huron and Bruce this last two or three years, and sold by auction in every town to the farmers for small prices. The greater percentage of them are mares, as they sell better, and the owner starts breeding them to our best stallions. The owner of the stallion never refuses to use his horse with one of these mares, as he is always sure of leaving a colt, and that is all he cares about.

Now, if those men who are so anxious for the welfare of the horse industry of our country would encourage the importer who is bringing over from Scotland young mares for breeding purposes, and take means to prohibit the importation of these miserable ill-bred mongrels from the Western ranches, our country would soon have nothing but the best of horses.

Bruce Co., Ont. ALBERT SALMON.

LIVE STOCK.

ANALYSIS OF "BEET-ROOT FEED."

Editor "The Farmer's Advocate":

Your correspondent's enquiry regarding the relative value of the Wallaceburg "beet-root feed" and bran and shorts may be answered by placing side by side the protein and fat contents of these feeds. The analysis of the beet-root feed was made two weeks ago in the Experimental Farms laboratories; the figures for the bran and shorts are averages I obtained some two years ago from the examination of a large number of samples from Canadian mills:

	ANALYSIS.		
	Moisture.	Protein.	Fat.
Beet-root feed	4.89	9.48	1.39
Bran	11.07	14.52	4.37
Shorts	10.34	15.93	5.24

In the report of the Chemical Division of the Experimental Farms for 1903, the writer said that dried pulp (beet-root feed) has a distinct feeding value, and would constitute a wholesome addition to the ration when roots or ensilage are scarce; that it is, no doubt, highly digestible and palatable, but that it is not in the same class as the various meals and concentrated feedstuffs.

Assuming that the protein and fat in beet-root feed are entirely digestible—which I am not at all sure is permissible, for the drying of the pulp may, to a certain extent, have impaired its digestibility—how will it compare with bran and shorts? The following data will show:

Feed.	Digestible nutrients in 100 lbs.	
	Protein.	Fat.
Beet-root feed	9.48	1.39
Bran *	12.9	3.4
Shorts *	12.8	3.8

* Quoted from American sources.

It is unnecessary, I am sure, to submit further proof that the statement (if it has been made) that beet-root feed is the equal or superior of bran or shorts, is, to put it mildly, incorrect.

FRANK T. SHUTT.
Chemist, Dominion Experimental Farms.

HINT TO HOG FEEDERS.

In a letter to the Ontario Superintendent of Institutes, Mr. W. C. Shearer, who attended a series of meetings in the western part of Ontario, makes the following comment:

"I am highly pleased with the Institute work this winter. The farmers are quite enthusiastic over the two past prosperous seasons, and they hope to have another just as good; but still there is room for much improvement both in the breeds, breeding and feeding of their hogs, in both Kent and Essex. I trust we have stirred them up to begin to study the importance of providing better shelter and accommodation to winter their hogs, and also to see that a proper mixture of grain, to be ground before feeding, would almost double their profits. We pointed out to them that growing some oats and flax together, and mixing with their cheap corn, would produce much better results than their present wasteful system of feeding (corn on the cob) at all seasons and to all sizes of pigs, running

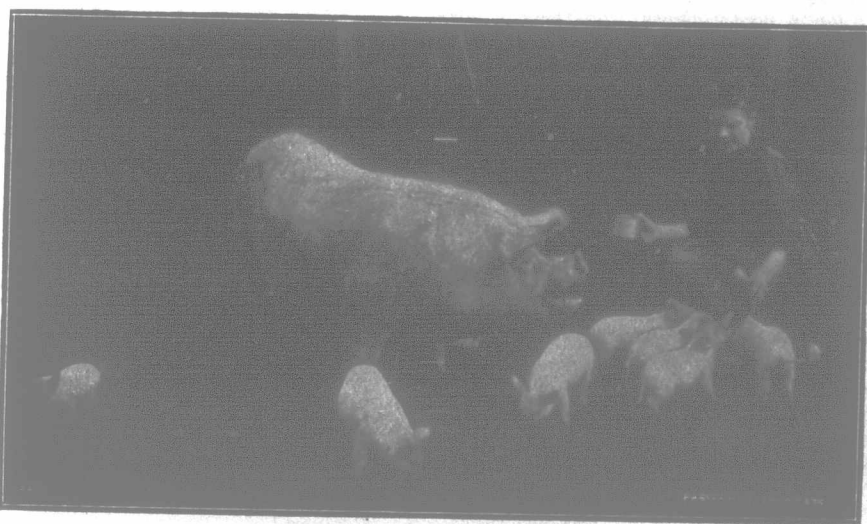
together in the barnyard. We also advised the growing and feeding of a good daily ration of mangels or sugar beets, especially during winter."

THE CHAMPION OF BEEF BREEDS.

By F. J. Collyer, Welwyn, Sask.

The Aberdeen-Angus breed of cattle is derived from the ancient Polled cattle of Angus and Buchan, and has been known for upwards of a century as an easily-fed, deep-fleshed producer of beef. Although selection has been made and their good points accentuated for some years by the Watsons, Bowie, McCombie, Fullerton, Sir George Macpherson Grant and others, it was not until 1878, when Mr. McCombie, Sir George Macpherson Grant and Mr. Bruce sent 16 head to the International Exhibition in Paris, that their valuable qualities were brought to the notice of the world at large. At this show, both the prize for the "best group of foreign cattle" and that for the "best beef-producing animals" were awarded to this breed.

Shortly after that event the "Polled Cattle Society" was incorporated and the popularity of



Supplementary Supplies.

"By the great horn spoon."

the breed vastly increased, herds being founded in England and Ireland—now in excess of 120 and 70, respectively. In Ireland the influence of this breed has been shown to a marked degree, and authorities state that the effacement of the big, raw, bony store cattle sent over to England some few years ago has been largely due to the use of Angus bulls.

In 1880 the renowned herd of Mr. Clement Stephenson, Newcastle-on-Tyne, was founded, and to that gentleman a great debt of gratitude is undoubtedly due from Aberdeen-Angus breeders for the manner in which he has brought out his cattle at the shows, winning, as he has, the sweepstakes at Smithfield on several occasions.

In 1876 the breed was introduced into Canada by Professor Brown, of the Guelph Agricultural College, and further importations were made during succeeding years by Messrs. Cochrane, Pope and Geary, but it is to the south of the boundary line, among our American cousins, that the breeding of Angus and the use of Angus bulls for crossing of Shorthorns and Herefords, has resulted in so many show-yard victories.

Since their first appearance in an American ring, in 1883, when Messrs. Geary exhibited the three-year-old Scotch-bred steer, "Black Prince," in Kansas City and Chicago—he weighed 2,300 pounds, by the way—these cattle have steadily improved their reputation, until, during the seven years in which the Chicago International has been in existence, their winnings of the very highest honors has been regarded as almost a matter of course.

At this show three grand championships are given in the cattle classes annually, viz., for steers, carloads and carcasses, making 21 in all for seven years. Of these, 14 have been won by Angus and their crosses, 6 by Herefords, and 1 by Shorthorns.

In the sale of carload lots, their position is yet more pronounced, as, with the exception of, I think, 1903, the highest-priced carload for 18 years on the American market has consisted of Angus grades.

In the Old Country show-rings the breed has more than held its own, its representatives—pure-bred and crosses—having won the Champion Plate 13 times in the last 27 years at Smithfield, and similar honors have come to it at most of the prominent shows.

When it comes to the block, it is found that the proportion of offal is surprisingly low, Mr. Stephenson's heifer, "Luxury," in 1885, giving the remarkable return of 76.5 per cent. of dressed meat, and this year at Chicago the champion carcass of the show was the Aberdeen-Angus steer, "Exilo," exhibited by Chas. J. Off, which dressed 69.5 per cent.

LET A FARMER KEEP ONE DOG UNTAXED.

Editor "The Farmer's Advocate":

I think every farmer occupying fifty or more acres of land should be allowed to keep one dog free of charge. Let all others be taxed two dollars each, this to form a fund for the purpose of paying a reward of, say, ten dollars, to any person shooting or otherwise killing any dog—other than his own—found chasing or worrying sheep. It should also be lawful to shoot any rambling dog found unattended on any farm where sheep are kept. As at present, let the owner of any dog known to have chased or worried sheep, on proof of same before the municipal council, be notified by the clerk to have the dog killed forthwith, under a penalty for every day that he neglects to obey the said order.

As the law stands at present, many dogs of doubtful reputation are allowed to run at large, their owners well knowing that the municipality and not themselves will be called on to pay for whatever damage they may do.

Again, the fact that the municipality is compelled to bear the greater part of the loss, will, to a certain extent, discourage that oversight and watchful care which sheep owners should always exercise over their flock.

Let the owner of the dog doing the damage be alone responsible for the damage done. As the law stands, most people prefer to accept from the council two-thirds of the loss sustained rather than take the trouble to ascertain by whose dog it was done, and, as Mr. Jackson has already observed, many now obtain full compensation by over-estimating the damage done. At present, many who have no real use for a dog, still persist in keeping one or more useless mongrel curs, which are, as a rule, the class most addicted to sheep-killing, and, besides this, are often a menace to the travelling public. If a heavy tax were imposed on them, the country would soon be rid of these rambling, wolfish brutes, which, as your correspondent, Mr. Holdsworth, put it, "are not worth the powder it would take to blow them out of existence."

Middlesex Co., Ont. J. MILLIKEN.

WATERING STOCK.

Editor "The Farmer's Advocate":

You have asked your readers to tell how they water their stock, and while my method has its drawbacks, I would hesitate some time before I would exchange it for the more expensive methods of basins, tanks, etc. I will give it to you for what it is worth.

The cattle drink from a v-shaped trough running along in the bottom of their mangers. The water is pumped into one end of this trough, which slopes about one inch in fifty feet to the other end, where a waste pipe carries off what is not used each day. A plug at the opening to the waste pipe keeps in the water until the cattle are through drinking, and when this is removed the trough drains dry. The water is brought to the pump by a pipe from the house well, some 100 feet away. The pump is so placed that a leader from it supplies the horse trough and box stalls.

The first advantage is cheapness. The whole system cost about \$25 to instal, and has in ten years cost 75 cents for repairs. Against this an agent offered to instal windmill, tank and basins for a total cost of \$500. The interest on \$475 would pay for a lot of pumping, while the more expensive plant would scarcely run for ten years on 75 cents repairs.

The trouble of sweeping out the trough daily, a five-minute job, is repaid by having a clean manger in which to put roots and other feed. In my simple system there is no freezing, while I cannot conceive of the more elaborate pipe and basin system passing one of our cold winters without more or less bursting and plumbing.

Again, the cattle drink water at 40 deg. better than the ice-cold water of streams and outdoor troughs. The pipe and basin system would be idle during the summer, since my stock drink at the brook in the pasture all summer. As an improvement on this system, I intend during the next summer to have the water for both house and barn brought by quantity from springs on a neighboring hill, as I think now I will not change barn conditions, except that there will be no more pumping. I am probably old-fashioned, but I am deeply in love with simplicity, and of necessity a close friend of economy. R. J. MESSENGER.

THE FARM.

NITRO-CULTURE: PREPARATION, APPLICATION, AND RESULTS.

"Explain the nitro-culture treatment for alfalfa."
D. C.

On the roots of alfalfa plants may be noticed small excrescences or nodules, the size of a pinhead and larger. These contain immense numbers of microscopic organisms, called nitrogen-gathering bacteria. They have the faculty of extracting nitrogen gas from the air, and after having used it they pass it on to the plant, which builds it up into its tissues. Plants other than legumes have to derive their supplies of nitrogen from the soil, where it exists in sparing quantities, chemically combined with such elements as potassium, sodium, etc. Except through the agency of legumes, the nitrogen supply of the soil cannot be increased appreciably without the use of manures and fertilizers. Barnyard manure contains a considerable amount of nitrogen, but if we buy commercial fertilizers we are charged something like 15 or 20 cents a pound for all the available nitrogen contained in the fertilizer, whereas for a pound of potash and phosphoric acid contained, we are charged only about 5 or 6 cents; hence the great economy of growing crops like alfalfa, clover and peas, which draw largely upon the air for their nitrogen requirements. Each of the legumes has a special variety of bacteria which especially favor it. They become very abundant in soil where that crop grows, and seem to persist quite a time—a year or more—after the crop has been plowed up. They also come in contact with the seed, and when this is sown, and the young plants strike out roots, the few bacteria present begin to multiply rapidly, and their presence causes the development of the nodules referred to above.

Scientists are able to grow these bacteria in their laboratories on specially-prepared food, and then send them out in the form of "cultures" of one kind or other. The first "culture," we believe, was called nitragin, handled by a German firm of manufacturing chemists, but after a few years' trial the sale of this culture was discontinued. About 1902 the Laboratory of Plant Physiology of the United States Department of Agriculture began to study the subject, and they developed a method of their own, by which these organisms could be sent out to farmers. They sent the bacteria out in dried form upon absorbent cotton. Experiments by the New York Experiment Station revealed that many packages contained no live bacteria at all. The idea is all right, but their method of preparing the cultures proved defective. This system would not keep the bacteria alive and vigorous for a long enough time to entitle it to be called a practical success.

During the spring of 1905 the Bacteriological Department of the Ontario Agricultural College sent out a number of samples of the nodule-forming bacteria for experimental purposes. These samples were sent out in small bottles in such condition that all a farmer had to do was to mix the contents of the bottle with a measured quantity of water, and then apply it to his seed. This method was very simple, and did away with the building-up process advocated by the U. S. Department of Agriculture, in which the package of treated cotton containing dried bacteria had to be put into a solution of chemicals and the bacteria allowed to develop a day or two before the culture was applied to the seeds. The Ontario culture was tried all over Canada, from Prince Edward Island to British Columbia, and the reports were thus summarized in Bulletin 148, on "Co-operative Experiments with Nodule-forming Bacteria," published in March, 1906:

CROP.	Total No. of reports received.	Inoculation successful, with increased growth of crop.	Organisms already present in the soil.	No advantages from inoculation.
Lucerne or alfalfa.....	59	43	1	15
Red clover	47	31	1	15
Peas	12	7	1	4
Beans	9	5	—	4
Alsike	2	1	—	1
White clover	1	1	—	—
Vetch	3	2	—	1
Soy bean	1	1	—	—
	134	91	3	40

In reply to a circular letter of inquiry, the following, among many other letters, were received from some of the successful experimenters:

Taylor Village, N.B.—I put three acres with the treated seed and three acres without the nitro-culture on a piece of heavy land, and in examining the plants from time to time I found that nodules were quite plentiful on the plants from the treated seed, and none on the plants from the untreated seed, and I also found the growth and thriftiness quite marked in the plants from the nitro-treated seed. (Red clover.)

Fingal, Ont.—The rootlets of the plants treated with nitro-culture were simply clustered with nodules, whereas the untreated nitro-culture, nodules were not so numerous, and were present. (Red clover.)

Emerson, Man.—On some plants treated the nodules were quite numerous. Those having nodules were very vigorous, but the others have made but small growth. (Red clover.)

Edmonton, Alta.—Numerous nodules on plants from treated seed and very healthy stand. With the untreated seed the plants were sickly, with a few healthy stalks. (Red clover.)

Berwick, N.S.—The plants from treated seed were quite vigorous; those from untreated only half as high. (Red clover.)

Stamford, Ont.—Vigor of plants from treated seed good; without nitro-culture no catch. (Red clover.)

Waweg, N.B.—Very vigorous and numerous nodules from the treated seed; not nearly so vigorous without the nitro-culture. (Beans.)

Mount Salem, Ont.—The nodules on the beans not treated were small, about the size of pinheads, and pods on plants were short. On the plants treated the nodules were as large as small peas, growing tight against one another. The pods on the plants were longer and the plants withstood dry weather better than those not treated, being green and flourishing when the others were dried up. The beans when ripe were bright and even in the pods. I exhibited half a bushel of these at the East Elgin Fair and secured first prize on them. (Beans.)

Cross Roads, N.S.—Nodules present on the plants from treated seed, fairly vigorous growth. Without nitro-culture the plants were poor and no nodules were present. (Vetch.)

Rapid City, Man.—Plants from treated seed strong, numerous nodules; from untreated seed plants only about half as big. (Alsike clover.)

Barrie, Ont.—I found the culture very satisfactory; the yield of peas being fully ten per cent. more from the seed treated with culture. (Peas.)

Colquitz, B.C.—I find that in the portion of ground where this culture was used, plants seem to be thriving and have the nodules on the roots, while, at the same time, on ground seeded to alfalfa close by on which the culture was not used, the plants are sickly looking and have no nodules upon the roots. (Alfalfa.)

Lion's Head, Ont.—The alfalfa seed sown by me this



A Typical Hereford Head.

spring, and treated with nitro-culture obtained from you, has grown without a check. That without the culture came up in patches, but did no more. As the alfalfa has failed here before, I attribute my success to the culture. (Alfalfa.)

Round Hill, N.S.—From treated seed the growth of plants was 25 inches, from seed untreated about one inch. (Alfalfa.)

Windsor Mills, Que.—Plants from treated seed strong and healthy; those without nitro-culture only fair.

Harding, Man.—There was quite a marked difference between what was treated and what was not treated, and I consider the result was very good. (Alfalfa.)

Mount Stewart, P.E.I.—Plants from treated seed were dark green and quite vigorous. From untreated seed the plants were yellow and unthrifty. (Alfalfa.)

Colquitz, B.C.—I am not a believer in nitro-culture; or, at least, was very skeptical as to the treatment being of any value whatever. I have been unable, however, to shut my eyes to the fact as shown by my own land. The land had been well subsoiled in preparation to a depth of from 16 to 18 inches, and the portion upon which the nitro-culture was not used was treated in every way as well as the other. The plants from the treated seed were very strong, and sown with nurse crop are now about 8 inches high. From untreated seed the plants are weak in appearance and only about 3 inches high. (Alfalfa.)

Charlottetown, P.E.I.—The boundary between the two plots is distinctly marked; that growing from the inoculated seed is a richer green and of stronger growth. (Alfalfa.)

Marshville, Ont.—I sowed two acres last spring with nitro-culture, and the roots are smaller than those I sowed this spring with treated seed. (Alfalfa.)

St. Catharines, Ont.—The culture was used on

alfalfa sown in April on fall wheat, about 15 pounds per acre. The stand at present is considered good, a difference being evident in favor of the nitro-culture treated seed. (Alfalfa.)

Treesbank, Man.—Nodules are plentiful on the part sowed with the treated seed, but I have not been able to find any on the other strip seeded with untreated seed. Furthermore, the second growth on the untreated strip is now sickly looking, and much shorter than the rest. (Alfalfa.)

In addition, more or less favorable reports were obtained from Principal Cumming, of the N. S. Agricultural College, Truro, N.S.; Prof. F. T. Shutt, Chemist, Central Experimental Farm, Ottawa; and Mr. C. Jarvis, Assistant in Horticulture, Cornell University Experiment Station.

In 1906 the experiments were repeated, and will be again in 1907, but a charge of 25 cents per bottle is now made to cover actual expenses.

Failure of plants to form nodules, even when the seed is inoculated, may result if:

1. The soil is too acid or too alkaline. Lime should be first applied if the soil is too acid.
2. If some fertilizer with a caustic action is brought into contact with the treated seed.

Little benefit may result from inoculation:

1. If the soil does not contain sufficient of the other necessary plant foods, especially potash and phosphoric acid.
2. If the soil is too rich in nitrogen; in this case it is better to plant crops that are nitrogen feeders rather than nitrogen accumulators.
3. If the soil is not properly cultivated and freed from weeds.
4. If the soil is already thoroughly inoculated with the nitrogen-fixing bacteria, peculiar to the particular plant for which the culture is applied.

METHODS OF INOCULATING.

There are three methods of inoculating the crop:

1. By transfer of soil.
2. By treating the soil.
3. By treating the seed.

In the first case, soil which is known to contain the nodule-producing organisms is scattered over the land where it is desired to grow a crop of legumes. In other words, the land is top-dressed with soil from an infected field. This method has given good results, but is expensive when the soil has to be brought any distance, and in certain sections of the country such a practice is fraught with danger, as weed seeds and certain diseases are apt to be transferred from one field to another by this means.

In the second method, a quantity of soil is moistened with large quantities of culture, and this is mixed with more dry soil, and then used as a top-dressing on the land that is to be planted. This method of soil inoculation is not convenient for the Ontario Agricultural College method of culture distribution. For small gardens, liquid cultures may be used and applied by means of a watering-can to the young plants, but it is far better to have the bacteria on the seed so that the plants may become inoculated when they commence to grow.

The third method, seed treatment, consists in moistening the seed with a culture or growth of the desirable bacteria, allowing the seed to dry for a short time and immediately sowing it. The O. A. C. cultures are recommended for seed inoculation.

DIRECTIONS FOR THE USE OF NITRO-CULTURES SUPPLIED BY THE BACTERIOLOGICAL DEPARTMENT OF THE ONTARIO AGRICULTURAL COLLEGE.

The culture is sent you with the understanding that it is to be used for experimental purposes, and that you will use it as directed and report to us your success or failure.

1. For every 60 pounds of seed to be treated, take one and one-half pints of clean cool water in a small pail.
2. Pour some of the water into the bottle; shake the bottle and pour back the water into the pail. Repeat this until the culture is all rinsed from the bottle into the pail, and the water in the pail is clouded. The jelly-like substance in the bottle is agar; it will not dissolve, but may be broken up and stirred in the water.

3. Pour the water from the pail over the seed and mix thoroughly.

4. Spread out the seed to dry in a clean place out of the sunshine.

5. The seed will dry in an hour, and may be planted in the usual manner as soon as it is dry.

6. Do not add water to the culture in the bottle until you are ready to plant your seed.

7. Some untreated seed should be planted for comparison, and it is well to plant this first.

8. After the seedlings are one month old, look for nodules on the roots. During the season note number and size of nodules, and vigor of plant growth from treated and untreated seed.

Nitro-culture is not recommended for land where the particular crop to be grown has been grown well a year or two before, nor on land which has been accidentally inoculated by applications of manure made by animals feeding upon fodder of that crop. On a farm where alfalfa or clover is abundantly grown and fed the whole farm becomes inoculated. Artificial inocula-

tion is advisable, however, when a legume is to be grown on land where it has never grown before; or where, though grown, the characteristic nodules or tubercles have failed to form upon the roots. Let it be remembered that the bacteria which work on red clover may not be depended on to adapt themselves to alfalfa. The bacteria which work on sweet clover, or mellilot, however, seem to be practically identical with

those of alfalfa, hence land where sweet clover has been growing will furnish alfalfa with all the bacteria it needs.

As pointed out in the bulletin, the simplest way to inoculate a new field to be sowed to alfalfa or clover, as the case may be, is to scatter over it a load of surface soil from an established field of that particular

crop, but where the soil has to be hauled too great a distance this method becomes expensive, and for such cases the nitro-culture treatment is worth a trial. Remember, that nitro-culture is of no use to crops except legumes—for instance, alfalfa, clovers, beans, peas, vetches; or, as they are sometimes called, the pod-bearing plants.

Varieties, Cultivation, Seeding Methods in Eastern Canada.

At this season our readers expect us to place before them some information concerning varieties of farm crops and methods of cultivation. It is our experience that this is best done by publishing a number of letters from practical farmers all over the country. The following questions were mailed to a selected list of reliable correspondents, many of whose answers appear below:

1. Favorite varieties of oats, barley, spring wheat, peas, corn, potatoes, mangels, turnips, and any other crops grown in your county. Indicate which ones are preferred for heavy, which for light, and which are most suitable for very rich land where the grain is inclined to lodge.
2. What proportion of the total grain crop is usually seeded down? What grasses and clovers are used most largely, and how much seed of each per acre? Is alfalfa making headway?
3. Describe in a few words the general method of rotation in your neighborhood. What is the usual preparation for grain?
4. What implements are principally used to pulverize the soil? What kind of a drill is preferred, hoe or shoe?
5. Are three-horse and four-horse teams coming into vogue?

J. E. McINTOSH, Glengarry Co., Ont.—The favorite varieties of oats in this section are the Banner and Siberian. The Danish oat has also given good results. The straw of the latter is clean and strong. Spring wheat is not so largely grown as formerly; it is not so certain a crop as many others. White Russian seems to be the favorite variety, however. Barley is sown to a considerable extent, and has proved a profitable crop. Peas, also, were a splendid crop last season. Corn is now grown by almost every farmer in this section of country. Early Compton is the favorite, especially with owners of silos. Silage corn has taken the place of the root crop to a large extent. The potato crop was, to a great extent, a failure the past season, owing to an unusually wet spring. Many fields were almost completely drowned out. The varieties grown are almost as numerous as the growers. About a third would be a fair average, I think, at which to put the proportion of land seeded down. Timothy is the favorite grass, though the percentage of red and alsike clover is growing every year. Alfalfa is practically unknown here. The usual rotation is pasture, grain, hoed crop and grain seeded down to timothy and clover. In many cases it is still hit-and-miss. The disk harrow has come into general use, hardly a farmer now being without one. That and the spike-tooth harrow, and, to a limited extent, the weeder, are about the only implements used for this purpose. Where a drill is used, the hoe drill seems to have the preference. Three-horse teams are now used by many of our farmers on the riding plow, disc harrow and binder, but the four-horse team has not yet made its appearance.

J. G. CORNELL, York Co., Ont.—The varieties of grain grown in Scarborough are largely as follows: Oats, Banner, Sensation and Siberian; some have tried the thick-hulled varieties, such as Storm King, Tartar King, etc., but find that they lodge as badly as any and are too thick in the hull. Barley, Mandscheuri and common Six-rowed; the Russian varieties stand up best on rich land, and also give the best crop on sandy soil; the Odessa would be best for very rich land, as it is somewhat stronger in the straw than Mandscheuri. Spring wheat is not grown to any extent here; White Russian and Wild Goose are grown on some farms. Peas, Canadian Beauty and Golden Vine. Corn is grown largely for ensilage, and silos are going up every year. Leaming and Compton's Early being favorite varieties. Potatoes are not grown so much as formerly, owing to blight; the New Brunswick Delawares have been largely planted lately, but do not grow to the size of the imported potato, but are of good quality; Rural New Yorker and Empire State are also grown. Mangels and chieflly of the Yellow Intermediate varieties, and also the sugar feeding mangel is largely grown. Turnips, Purple-top Swedes and Kangaroo. Mixed grain is largely sown—oats, barley and peas, also oats, barley and flax have been tried; some add one peck of wheat per acre to the oats-and-barley mixture. About one-third of the grain crop is seeded down with clover and timothy; about 10 to 12 pounds per acre of mixed seed is used, about equal quantities in mixture. Alfalfa is not generally grown, although a few farmers are seed-

ing a few acres to try its value. The rotation followed is largely roots, barley, clover and oats. Many leave meadow two years; the second year it is largely timothy, which is marketed in Toronto. On autumn-plowed land the preparation for grain is as follows: Cultivate with spring-tooth cultivator, harrowing sometimes before; if very lumpy, it is rolled before sowing. The hoe-drill is most used, more so than formerly, when some used the spring-tooth combined cultivator and seeder, doing both at the same time. Three-horse teams are more largely used every year, and implements with a wide range—two-furrow plows, wide harrows, 13 to 15 hoed drills—are displacing the narrower ones.

H. H., Lincoln Co., Ont.—Our soil varies from heavy clay to clay loam, and rich black soil, which, before being cleaned, was swampy. We have no light soil. At present the most popular variety of oats is Siberian, with American Banner next. Ligowo and White Australian were quite extensively grown for a year or two, but the latter has been discarded on account of its very late ripening. A small plot of Joannette did very well on the rich, black soil last year, and will be tried again. In barley, Mandscheuri is rapidly displacing all others, and is doing so by its merits. There is no spring wheat grown. Golden Vine peas are the principal variety grown. White Cap Yellow Dent corn, on high land, and Angel of Midnight, Eight-rowed Yellow and Red Glaze on black soil, have given good results for husking. Early Ohio and Empire State are, respectively, the best early and late potatoes. Yellow Leviathan mangel and Giant White feeding sugar beet yield as well as the Long Red varieties, are of better quality, keep longer, and are much more easily harvested. Turnips do not do well on our soil. The proportion of total grain crop seeded down varies greatly with individual farmers. From one-third to two-thirds or more is the range. Common red clover, from seven to nine pounds, with two to four pounds of timothy added, is the mixture most largely sown. Some substitute a couple of pounds of alsike for part of the red clover, with good results. Alfalfa is steadily making headway. Rotation of crops does not receive the attention that it should. Sod plowed for oats and corn, followed by wheat, oats or barley, and seeded down to hay or pasture for two or three years, is the most usual method. Sod intended for grain is usually fall-plowed, and a seed-bed prepared the following spring. Corn stubble is usually plowed lightly, either in fall or spring, or, on loamy soils, is cultivated up without plowing. The roller, drag harrow and disk harrow are the principal implements used to pulverize the soil. The disk harrow and spring-tooth are used when the soil has become compact. Three-horse teams are quite often used, but I have never seen four-horse teams in the field.

ANSON GROH, Waterloo Co., Ont.—That particular portion of Waterloo Co. with which I am sufficiently acquainted to report upon, consists of a naturally-underdrained soil, tending from a good loam to a light, sandy soil. In general, the farms here are handled by a good class of farmers, sufficiently conservative to avoid visionary fads, and allow some of the more aggressive leaders to well prove any innovation before adopting it. In this way, improvements and advanced methods are being introduced slowly but surely and substantially. The soil is becoming more fertile and productive. The furrows are more shallow, the manure is being kept more near the surface, and more of it spread during the winter. The three-horse manure spreader is doing more of the work. Three-horse teams are becoming quite common, and even four-horse teams are in evidence, with such improvements as disk harrows, spring-tooth cultivators, two-furrow plows, drags, and even the prevailing hoe drill—all gradually widening in their sweep, and plainly showing the broadening opinion of the farmer to a reliance on more equine muscle under control of less human brain and brawn, relatively. Perhaps half the grain crops are seeded with from three to four pounds of timothy and six to eight pounds of common red clover. The meadows are not allowed to lie as many years as formerly—seldom over two years. The bare summer-fallow is a rare occurrence, the sod usually being prepared directly for wheat or the hoe crop, which may consist of: Potatoes, for early, perhaps, Irish Cobler, or main crop,

Empire State, Pearl of Sivoj, etc. Mangels, Yellow Intermediate or Mammoth Long Red. Turnips, Hall's Westbury, etc. Corn, mostly for the silo, Improved Leaming, White Cap Yellow Dent, Wisconsin White, Cloud's Early. Mandscheuri barley is perhaps more grown than all others together, but of oats it is hard to name varieties, as they are legion; among them are found the Siberian, Banner, Mortgage-lifter, Ligowo, etc. While a few of us have been treating the oat seeds for smut for a number of years, the practice is only just becoming general. Lucerne is gradually winning favor and a place on our farms, and peas are again being tried.

JOHN CAMPBELL, Victoria Co., Ont.—Siberian and Banner oats are more largely grown than any other, and give better results than the newer varieties. For several years Tartar King did very well; the past two seasons they have failed badly, with all oat crops below the average. Mandscheuri barley has a strong lead, being stiff in the straw, a good yielder, and weighs out well. It is the favorite variety, as it stands up well on all soils. White Russian and Blue Stem spring wheats are successfully grown in limited acreage. In corn, Compton's Early gives the best results. All corns matured remarkably well the past season, and no variety failed to any extent. Potatoes are all disappointing year after year; no variety can be mentioned as reliable. Mammoth Long Red mangels, once the general favorite, are giving way rapidly to the Yellow Intermediate. The latter, while not so heavy in yield, are much easier harvested, and are supposed to be of better seeding quality. In turnips, Jumbo, Kangaroo and Hartley's Bronze Top are grown, irrespective of soil. Widely-different results are obtained, owing, it is thought, to climatic influences. One-half or more the acreage of grains grown is seeded, as a rule. Red clover and timothy, with alsike seed at times, are used for hay and pasture, with frequently the clovers—red and alsike—sown separately, for obtaining seed the following year. In mixtures, six pounds clover and four of timothy per acre are sown; separately, six to eight pounds of red, and five to seven of alsike, are sufficient on good clean land. Alfalfa is not making much headway; people are experimenting with it. The rotation is, clover first, next hay or pasture, grain third year, roots and corn following, and the fifth year the land is seeded down with a barley or wheat crop. Many follow one grain crop with another, but it is not a good system to follow, as weeds are becoming so troublesome. Land is prepared for grain by one or two plowings the previous fall, and the seed-bed made in the spring. For pulverizing the soil in spring, in order to get two or three inches of fine surface, the spring-tooth cultivator is used more than any other implement, with the harrows as a valuable follower. Three-horse teams are used to a considerable extent, but no four-horse teams are in use.

J. HUGH McKENNEY, Elgin Co., Ont.—Oats, American Banner is the most popular; in fact, almost the only variety grown both on heavy and light soils. Spring wheat has not, to my knowledge, been grown in this locality in recent years. Peas promise to be a more extensive crop, as the weevil has apparently disappeared; Golden Vine is the variety most commonly sown, but Prussian Blue gives excellent results on poor soils, but are not, however, preferred for very rich land, being inclined to grow too much to straw. Corn, Long-fellow and Smutnose are the favorite husking varieties; for the silo, Leaming and White Cap Yellow Dent are preferred. None of these will grow to perfection on a heavy soil, but the last named will do well on comparatively poor land. Potatoes: Early Rose and Early Ohio for early crop; Empire State for main crop. A very rich, sandy soil will give the best results. Barley: Mandscheuri is practically the only kind grown, and is mostly confined to the heavy soils. It is frequently sown with oats for a mixed crop on light lands, and has proven very satisfactory. Roots are not largely grown, principally on account of the labor involved, farmers preferring to give the extra acreage and attention to the corn crop. Regarding mangels, the varieties most in favor are Mammoth Long Red and Giant Yellow Intermediate. Turnips are grown to a limited extent, the Purple-top Swedes being the most popular. The proportion of the total grain crop usually seeded down varies somewhat, but many

are now making it a regular practice to seed down the entire grain crop each year, and the plan is gaining rapidly in popularity. Red clover, alsike and timothy are used most largely for this purpose, and are grown approximately in the following proportion: Six pounds clover, one pound alsike, and three pounds timothy. Alfalfa is not making much headway. So far as I can ascertain, it has only been grown experimentally, the results seeming to suggest that this locality is not particularly adapted to it. The general method of rotation in vogue here is a three-course one, and consists of the following: First year, clover; second year, hoed crop; third year, grain seeded down. The preparation for grain usually followed is to cultivate or plow shallowly in the fall; in the spring sufficient cultivation is given to secure a good seed-bed. For pulverizing the soil, the principal implements used are spring-toothed cultivator, disk harrow and roller. The hoe drill is preferred, and, with very few exceptions, is the only kind used. Three-horse teams are becoming quite common, when the nature of the work demands them; four-horse teams are, however, the exception.

THOS. McCREDIE, Welland Co., Ont.—There seems to be no special variety of oats that have grown in general favor with the farmers here. Nearly every farmer sows more than one variety. The Australian is probably grown as much as any, being a good oat for heavy clay soil, giving a good length of straw, and not inclined to rust. Some of the other varieties are Siberian, Ligowo, Twentieth Century, Silver Mine and New Zealand. Two or three years ago there was quite considerable beardless barley grown, but it was too short in the straw, and it could not stand a wet season. No spring wheat grown here. Quite an acreage sown to emmer, which seems to yield well, and makes good feed. On account of the disappearance of the pea weevil, the pea crop is coming into the rotation more now. Grass peas are no longer sown to any extent. Beans take the place of the other hoed crops to quite an extent. Nearly all fall wheat is seeded down. There is not much seeding done on the spring crops except lucerne (alfalfa), and when we seed with alfalfa we sow the nurse crop thin, probably half as much as usual. We find much difficulty in getting an even stand of alfalfa, although it is worth trying for. We sow fifteen pounds of alfalfa and eight or ten of red clover per acre. The Medium Red clover is grown most largely, also quite an acreage of the Mammoth Red, which does rather better on our heavy soil than the Medium Red. Timothy is generally mixed with the red clover when it is sown, or sown on the wheat in the fall and the clover in the spring. Nearly every farmer here follows a different rotation. Sod is plowed for beans, and then sown with wheat and seeded; or clover sod is plowed in the summer for wheat. Oats are generally sown on sod fall plowed, or sometimes, if the bean-ground is not sown with wheat, it is sown with oats and seeded. Quite a number still have a summer-fallow after a crop of oats. We try not to leave a field in grass over two years. The disk harrow is used more widely than any other implement, also spring-tooth cultivators and common levelling harrows. The hoe drill is principally used, although quite a number are in favor of the disk drill. Shoe drills never came into use here. Three-horse teams are used some, but not nearly to the extent they might be. Most people prefer a two-horse team, as they are more convenient on short rounds and small fields. The three-horse team is principally used on the binder here.

MALCOLM CAMERON, Grey Co., Ont.—Three varieties of oats which give best results are, the Early Mammoth and Storm King, suitable for light soil, and the New Zealand, a late oat, growing particularly well on heavy land. As for barley, the Mandscheuri is principally grown, and takes the lead, capturing first prize without difficulty at several exhibitions held in this county. As spring wheat has not done well, it is seldom grown now in this locality; neither have peas been grown to such an extent of late, although the Golden Vine gives very good satisfaction. There is a great deal of mixed-grain crop, such as peas, oats and barley, grown by farmers in this county, the peas being much more easily harvested when cut with the binder. The land is prepared for grain by being plowed as much as possible in the fall, being well worked in the spring by means of spring-tooth and disk harrows drawn by three-horse teams. As a rule, about one-quarter of spring-grain crop is seeded down, mostly with clover and timothy seed mixed, sown at from six to ten pounds per acre, according to the richness of the soil. A large amount of Red, Mammoth and Alsike clover has been grown for seed, but alfalfa has not been grown to an extent around here. Corn has been cultivated to a large extent, Compton's Early giving best results. About twenty or more varieties of potatoes are grown extensively in this part, but the Empire state and American Wonder cannot be excelled. Sugar

beets and mangels are raised more extensively every year. Turnips also do well in this soil, Jumbo and other varieties of Swede turnips being principally grown.

C. A. WESTOVER, Missisquoi, Que.—Oats: Siberian and Banner. Barley: Six-rowed, variety names unknown. Corn for husking, eight-rowed flint varieties of the Longfellow type; corn for ensilage, Improved Leaming, White Cap Yellow Dent, Cuban Giant, and a white flint variety called Sanford. Red Cob yields large crops, but generally does not mature sufficiently to make a first quality of ensilage. The majority of the farmers here are engaged in dairying, and the corn crop plays an important part in their farming operations. Potatoes are grown generally only for home use; Early Queen and Ohio and many other varieties are planted. Very few mangels and turnips are grown, owing to the excessive amount of labor required to raise a good crop. Where they are sown, Intermediate mangels and Purple-top Swede turnips are popular. Small areas of rough land are sown with buckwheat—Silver Hull and common gray varieties. The amount of spring wheat and peas sown is very small in this locality. The general method of rotation is hoed crop, such as corn, potatoes, etc., grain, clover, and timothy for from two to five years. The usual preparation for corn is to apply manure on sod land during winter, plow about five inches deep in spring, harrow land until it is well pulverized, and after the crop is planted give thorough and clean cultivation during the growing season. After the crop is removed in fall, the stubble ground is generally plowed and allowed to remain over winter. The next spring, as soon as the land is in fit condition to work, it is harrowed until a mellow seed-bed is secured. The implements generally used are disk and spring-tooth harrows. Grain is sown broadcast, and covered by either a spring-tooth or a spike-tooth harrow. When seeding down, the following mixture is commonly used: Timothy seed, 10 to 12 pounds; either common red or alsike clover, or a mixture of both, from 6 to 10 pounds per acre, making a total of 16 to 22 pounds of seed per acre. It is sown broadcast, and the usual practice is to cover only by rolling. Probably about three-quarters of the grain crop is seeded down, the remaining quarter being sown to grain again the following year. Alfalfa has been tried by a number of farmers here, but only a few succeeded in getting a good stand; perhaps, though, we may be more successful in the future. Two-furrow plows, requiring three and four horse teams, are coming into vogue. On side-hills and very rolling land, the reversible, side-hill plows are very popular. In-throw disk harrows and adjustable spring-tooth harrows are commonly used. Seed grain should be run through some good fanning mill until all weed seeds and light, shrunken grains are removed, for it has been shown by experiments that the best results will be obtained by sowing large, plump, clean seed.

ANDREW McPHERSON, Pictou Co., N. S.—Although all the different varieties of grain (corn excepted) do fairly well, Nova Scotia, particularly Eastern Nova Scotia, is not considered a great grain-growing country, as compared to Ontario and the Northwest. True, when the land was new, crops that would in these years be considered a great yield were raised, but the methods followed were not the best that might be pursued. We of the present generation are apt to condemn those methods, but we must not forget that the first settlers, mostly from the Highlands of Scotland, were unfitted by reason of their early environment for the conditions that existed on this side of the Atlantic. Forests had to be cut and burned, stumps pulled out, the ground dug with a hoe, grain and potatoes covered with a hoe, or, at best, a crotch-harrow drawn by one horse, out and in among the stumps and unburned piles of wood, that it is small wonder that when at last ground was got into such a shape that the plow could be used, and a two-horse spike-tooth harrow took the place of the hoe, our forefathers fondly hoped they had overcome all the obstacles they would be likely to meet with in these new surroundings. With the ground covered with ashes from the burnt forest, and the decayed vegetable matter of centuries, large crops of oats and potatoes were raised, and the writer was shown a field upon which eighteen successive crops of oats were harvested, and the aged owner was longing for a return of those "good old days" when, if one would "tickle the ground in spring, it would laugh in the harvest." In passing, it may be well to remark that the field mentioned will not now raise a decent crop of weeds, and there are too many fields like it in the county; and the problem that faces farmers of to-day (the sons and grandsons of the early settler) is how to restore to the land some of its primitive fertility? Thinking (wisely or unwisely) that oats is an exhaustive crop, not nearly so much is sown these late years, and the variety that seems to do

best is the Banner. Other kinds have been tried, and done well for a few years, but the Banner seems always to be the favorite. Barley is very little grown, and, where sown, is generally with other grain, as a mixture of oats, barley and peas has got to be one of our main crops. Wheat, since the introduction of flour mills, is very generally grown, and best returns are from White Russian, although Fife is preferred by the millers as making the best quality of flour. The practice generally followed is to sow the grain on fall-plowed sod land, next year roots and corn, followed again by grain, and seeded to grass, for which purpose timothy and clover are used. Wheat is always considered the best nurse crop. This rotation is varied somewhat to meet the views or prejudices of different farmers in different localities, but where a root crop comes in once in a three or four years' rotation, better results follow. The implements in use on most farms at the present time, beside the plow, are the disk and spring-tooth harrow, and a good heavy roller is always considered a necessity. The work is done with two-horse teams, except in harvesting grain on hilly land three horses are used on the binder.

WALTER SIMPSON, Queen's Co., P. E. I.—In Prince Edward Island, the Banner and Danish Island (white) and the Black Tartarian have proved our best yielders in oats. The latter are, perhaps, most suitable on very rich land where lodging might occur. For ordinary land, White Russian and White Fife Wheat are best, but on very strong land Red Fife does well. Barley is but little grown, but Two-rowed succeeds best. In peas, Golden Vine and Mummy lead. Corn, grown only for green feed, and Longfellow and Angel of Midnight are best. Potatoes, McIntyre's Green Mountain and Carman No. 1 are leaders. The Digant mangel and Hazzard's Improved turnip do best. About half of the grain crop is seeded down, with 4 pounds red clover, 2 of alsike, and 7 pounds of timothy, to the acre. Alfalfa is not yet a success; some patches have done fairly well. The general method of rotation here is: Oats on sod, followed by potatoes and roots, grain, hay and pasture, and covers 6 to 7 years. Some are now adopting a five-year course. Land is prepared for grain by fall plowing, and spring cultivation with disk and spring-tooth harrows, finished with spike-harrow and roller. Drills are not in general use; where used, the hoe drill is preferred. Three-horse teams have been long in use, and the four-horse team is now coming in on farms where labor is scarce. Some of the heavy-yielding kinds of oats are not suitable here, as our season is short, and we want early-maturing varieties. I grew the Tartar King (white) last year, and found it an early-maturing oat, and an excellent yielder. One man reports alfalfa to have done better when seed was treated with a culture.

SPARE THE TREES.

It will pay every farmer to exercise his influence in the direction of sparing the trees growing on or beside the public highways, particularly trees on roads running through our more thickly settled rural districts. In Ontario we are accustomed to read about blizzards, but, as a rule, we are not familiar with them through suffering from or witnessing their ravages. However, as the few remaining trees of our small forests are falling, the custom is growing of felling the few trees found growing along our highways and in our more inaccessible ravines. The result will be that our farms will become more and more exposed to the ravages of the deadly cyclone. Some farmers urge that the trees shelter the portion of the fields lying along the roadside, to the loss of their crops. No doubt this is the case in many instances. At the same time, the trees repay for the loss in crops by providing homes for useful birds and by giving shelter to cattle, to say nothing of the good they do by relieving the countryside of monotony and giving the landscape a beauty and an interest, to be had from no other source. Besides, there are large sections of our country, such as many of our hillsides and ravines, that will not be available for agricultural purposes for many a day, but which might well be devoted to forest purposes. The man who regards his young forest trees will be blessed by his children and his grandchildren, and will be doing not a little to save his native land from the ravages of the tempest. School children should be reminded of the value of trees, and educated to appreciate their beauty. Our native sugar maple served our fathers in many an hour of need, both on the fireplace and on the table, and it may be that its spreading branches and sturdy trunk may yet be our bulwark against those dreadful hurricanes that sweep away in a moment the careful husbandry of years. Let township councils and all public leaders appeal to the intelligence of all with whom they come in contact, in order that our beautiful trees may be spared.

O. C.

INTERESTING BOYS IN AGRICULTURE.

The tendency of the population to center in cities is greater in Australia than it is in Canada. According to the census of 1901, 35 per cent. of the population of New South Wales resided in the City of Sydney, 41 per cent. of the population of Victoria in Melbourne, and 44 per cent. of South Australia in the single City of Adelaide. To-day the percentage is still greater. The Government of the State of New South Wales has, therefore, felt the necessity of encouraging settlement upon the land. The Educational Department has taken up the work with a good deal of vigor. In the rural districts this is done by interesting the teachers in the subject. Very many of the schools have sufficient grounds adjoining to be divided up into small experimental plots, which are devoted to the cultivation of grain, vegetables and flowers under the supervision of the teacher. Teachers who are specially interested in this department of their work are commended in the reports of the inspectors, which contributes to promotion and an improvement in their salaries.

INTERESTING TEACHERS.

To further aid such teachers, the Department has provided for a series of summer schools, one of which is at the Agricultural College of the State, situated near Richmond. One hundred teachers are permitted to attend a summer school, lasting three weeks during their midsummer holidays, in which lectures and practical exemplifications of the agricultural aspect of primary education, elementary work in dairying, fruit and flower growing, animal industry and irrigation are given. The teachers who desire to undertake this course make application a month or two previously, and if more should apply than the limited number, a selection is made by the inspectors of the district, who are guided by the interest which the applicants have previously taken in the subject. The teachers pay their own travelling expenses, but are provided with board and lodgings at the College by the Government, with the exception of towels, sheets, blacking-brushes, etc., which they must bring with them or obtain. Each teacher is presumed to select the subjects most serviceable to the locality in which he resides.

RURAL CAMP SCHOOLS FOR BOYS.

For the purpose of attracting the boys of the city to the country, for the past two years rural-camp schools for city boys have been conducted with very great success. Twelve units of twelve, each unit under the charge of a teacher, are taken into the country, where they camp. The Department provides tents, blankets and waterproof sheets, and rations. Each boy pays the expense of travelling, and contributes 1s. a day for rations. The schools of this State, where there are two or more teachers, are provided with a savings-bank department, and boys who are selected to attend these camp schools are encouraged to save up their money through these savings banks for this purpose. Provision in many of the schools is made for the children of such parents as desire to go to these camps and are unable to contribute their share of the expense. The boys are medically examined as to their physical fitness for the school, but in case any sickness should occur, the Government provides a hospital under the charge of the district Government medical officer. The boys visit farms and orchards in the district, where they witness the practical carrying on of the dairying, horticulture or agricultural operations, and explanations are given to them of the operations which they witness. The camps have been reported to be admirably conducted, the boys feeling under obligation to so behave themselves that the residents of the neighborhood who welcome them will welcome future visits.

CONTINUATION SCHOOL.

It has attracted so many of the pupils of these camp schools to country life that the Department has made a further provision by the establishment in Sydney of a continuation school. It has utilized the building and grounds of what was formerly a training college for this purpose. The buildings can be easily adapted to the work, and grounds—25 acres in extent—will give room for practical training. It is intended to be a link between the primary school and the Agricultural College at Richmond, but in case boys should not desire to go to the Agricultural College, it will give them sufficient knowledge to enter upon an agricultural life intelligently.

A two-years' course is proposed, it being intended that the course shall be divided into three main sections: (1) A continuation of the general English education; (2) a course in science bearing on agricultural and manual training; and (3) field instruction in practical agricultural operations. The time of the students will be divided approximately equally between these three sections.

The buildings already on the ground will be utilized for lecture-rooms and laboratory, and the residential portion will be set apart for the accommodation of a limited number of boy boarders. It is expected that about thirty students will be received in the institution. Boys, on ad-

mission, must be at least fourteen years of age, and will be required to furnish evidence that they have completed a course equal to that prescribed for the sixth class in public schools, or that they have passed the senior or junior university examination. It is proposed to make the school, to a large extent, self-supporting, and with this object in view, a fee of two guineas a quarter will be charged for day students, and an additional fee of six guineas, making eight guineas in all, per quarter, for students in residence.

The whole system provides a series of graded schools for interesting the youth of the city in the country, and must tend to offset the rush of population to the cities, as well as to raise the standard of agricultural operations.

J. S. LARKE, Canadian Agent.

Australia.

SO SIMPLE FOLKS WON'T BELIEVE IN IT.

Wallace's Farmer publishes the following suggestions on the construction and use of the split-log drag. They are based on experience, and we commend them to our readers:

"The hardest thing we have ever tried to do is to get folks to understand three or four simple things about the drag. The road drag is best made of light wood, rather than heavy—say cottonwood, box elder, soft maple, or cedar posts. If you have to use plank, then use the lightest pine you can get. It should not be more than seven feet long, and the planks or logs should not be more than three and a half feet apart. They do not need to be held together with heavy iron rods and bolts, but with a hard-wood stick, oak, osage orange, or any other kind of wood, the lighter the better, provided it has the strength. They do not need to iron both halves of the plank, nor at first do they need to iron either one. Afterwards it is best to put a strip of iron or steel on about five feet of the right-hand side of the forward end of the front plank, allowing it to extend below the wood not more than a quarter of an inch at the end, and gradually sloping back. They do not need any tongue in it. A log chain is all that is necessary, and far better than a tongue.

"The great trouble with many farmers and most county officials is that they want to make something heavy and big and expensive. A road drag made of soft wood or of a white-cedar post not more than 8 inches in diameter, or, if that is not handy, an old railroad tie sawed in two, will answer every purpose far better than a more expensive implement.

"Now, as to its use. Keep the drag off the roads when they are dry. Drag only when they are wet or when they are drying off after a wet spell or a rain when it is too wet to plow corn. A little experience with the road drag will show any man when it is best to do it.

"Use a heavy and slow-moving team; the heavier and slower, the better. Go up one rut and come down the other. Then do it again—always when the ground is wet, never when it is dry. Keep on doing this after every rain, and you will have a good road.

"Keep on doing this year after year. You will notice a remarkable improvement the first year, and it will improve every year afterwards, though not so noticeably. Making roads with the drag is a good deal like grading up cattle. The first cross leaves marked results, the next less marked, but the movement is always in the right direction.

"Don't take any counsel of city officials or of county officials, unless they have given the subject thorough study. They will load you up with an expensive drag which will not prove satisfactory.

"There may be a better tool for roadmaking than the split-log drag; but use that first. Then, if you can improve on it, try to do so. The experience of thousands of farmers who have used the drag successfully ought to be enough to take the conceit out of the ordinary man that he knows something better. The greatest obstacle in the way of getting the road drag in use is its simplicity and cheapness."

CLOVER-SEED GROWING IN QUEBEC.

Editor "The Farmer's Advocate":

I tried a small piece of red clover, and on June 17th, 1905, I cut it, cleaned up the field, and on September 2nd I cut the second growth for seed with a harvester. I did not cut all the growth; I took only about the half, for fear of destroying the meadow for the following year. One month after cutting I threshed the clover for the first time. I took it then from field. Weather was nice and hot. In February I threshed a second time with ordinary thresher, but cylinder was covered, and turned at 1,500 revolutions by engine. I threshed very fast, and got 125 pounds of good red clover seed from this one-half acre of growth. Last year there was no clover at all, but as soon as I can I will grow my clover seed. It pays very well. I should like to give you a more extensive experience, but I hope it will be possible another year.

Bagot Co., Que.

V. SYLVESTRE.

PRACTICAL FARM DRAINAGE.

IV.

WHAT TO DO WHEN AN OWNER REFUSES OUTLET FOR DRAINAGE WATER.

In the previous articles on this subject I have outlined methods of performing the actual operations of constructing a drain. In our experience of the past two years we have found another phase of the subject equally interesting. Every man for whom we have done work has asked at some stage, "What is to be done if one man refuses an outlet for the drainage water from his neighbor's farm? Can he prevent his neighbor from constructing such an outlet? If not, must he bear any portion of the expense, or must the neighbor bear it all?" This article will outline what should be done in such cases.

COURSE OF PROCEDURE UNDER THE DITCHES AND WATERCOURSES ACT.

Before any recourse is had to legal procedure, the parties concerned in a drain affecting two or more owners should get together informally and endeavor to agree on some apportionment of the labor and expense of construction and maintenance. When such meeting and agreement are not possible, then legal proceedings become necessary. The first legal step in the adjustment of a dispute about drainage matters is the formal calling of a meeting of all parties interested. The meeting is to be called by him who requires the construction of the drain. He must serve notices in writing upon all concerned, appointing a day, hour and place convenient to the site of the ditch, at which all the owners are to meet and estimate the cost of the ditch, and agree, if possible, upon the apportionment of the work and supply of material for construction, among the several owners, according to their respective interests therein, and settle the proportions in which the ditch shall be maintained. The notices shall be served not less than twelve clear days before the time named therein for meeting (R. S. O. 1897, C. 285, S. 8).

Blank forms for the notices are given in the act, a copy of which may be had from the clerk of the municipality. Notices may be served personally, or by leaving them at the place of the owner or occupant with a grown-up person residing thereat, and, in case of non-residents, then upon the agent of the owner, or by registered letter addressed to the owner at the post office nearest to his last-known place of residence (R. S. O. 1897, C. 285, S. 15).

In case an agreement is arrived at, it shall be reduced to writing, signed by all the owners, and within six days be filed with the clerk of the municipality, when it becomes as binding as the award of an engineer, and may be enforced in like manner (R. S. O. 1897, C. 285, S. 18 (1)). But such amicable agreement at this stage will seldom need enforcement, as the parties thereto will, of their own accord, fulfill their parts, and no further proceedings will be necessary.

In case an agreement is not arrived at, either at the meeting or within five days thereafter, then the owner requiring the ditch may file with the clerk of the municipality a declaration of ownership of his land, and also a requisition naming all the parcels of land to be affected by the ditch and the respective owners thereof, and requesting that the engineer appointed by the municipality be asked to appoint a time and place in the locality of the proposed ditch, at which he will attend (R. S. O. 1897, C. 285, S. 14), and examine the locality; and if he deems it proper, or if requested by any of the owners, he may examine the owners and their witnesses present, and may administer an oath or affirmation to any witness examined by him (R. S. O. 1897, C. 285, S. 16 (1)). Within thirty days after his attendance, the engineer will make his award in writing, apportioning the work and the furnishing of the material among the lands affected and the owners thereof, according to his estimate of their respective interests in the ditch, fixing the time for the performance by the respective owners, and apportioning the maintaining of the ditch, so that as far as practicable each owner shall maintain the portion on his own land (R. S. O. 1897, C. 285, S. 16, 1). In case the work apportioned to any owner is not completed in the allotted time, the engineer may let the contract for its performance to the lowest bidder, the expense chargeable to the land of the defaulting owner (R. S. O. 1897, C. 285, S. 28).

Thus we see that a man is bound to give outlet for the natural drainage water from his neighbor's farm; and, not only so, he is liable for cost of construction and maintenance, in proportion to the benefit he may be adjudged by the engineer to derive from the drain.

Much worry, inconvenience, and often enmity might be saved by a private settlement among the owners themselves or by the award of some friendly arbitrators mutually acceptable to those concerned.

Ontario Agricultural College,

WM. H. DAY.

"GOVERNMENT STANDARD SEEDS."

Editor "The Farmer's Advocate":

A TERM COINED BY SEED VENDORS.

Purchasers of red clover, alsike and timothy seeds who want a good clean article should see to it that the seeds they buy are clearly represented by a reliable person or firm to be of first quality, by being marked "No. 1," "Prime," "Fancy," "XXX," or such other designation for which a special standard of purity and vitality is fixed in Section 4 of the Seed Control Act.

"Government Standard" is a term coined by seed vendors, and may be misleading unless clearly understood. Section 4 of the Act fixes a standard of quality in respect to weed seeds, below which timothy, alsike and red clover seeds are not allowed to be sold for seeding, either by farmers or seed merchants. This standard allows of the weed seeds named in the Act about 90 in one ounce of red clover, 200 in one ounce of alsike, or 400 in one ounce of timothy seed. It is to seeds that will pass this lower standard but are not sufficiently clean to grade "No. 1" that the term "Government Standard" was attached last season.

Some seed vendors have advertised seeds under "Government Seal." No Government seal is used on any seeds offered for sale in the trade. Some reliable seed houses sell grass and clover seeds sealed by them, and for which they alone are held responsible so long as the seal remains intact, but not after it is broken.

To avoid the provisions of Section 3 of the Act, which applies mainly to seed grain, some seed vendors represent to farmers that, on account of the Seed Control Act, they are offering their grain for sale for milling or feeding purposes. If offered for sale for seeding, such seed vendors are required to make clear to intending purchasers that the seed contains wild oats, wild mustard, cockle, and such other noxious weed seeds when they are in the seed. The object of the Act is to protect farmers who want to protect themselves against such weeds. It provides the means for farmers to buy seed intelligently. Farmers who deliberately buy feed grain and use it for seed, can scarcely hope for legislation that will protect them from loss on account of noxious weeds.

GEO. H. CLARK,
Seed Commissioner and Official Seed Analyst.**USES OF THE GASOLINE ENGINE.**

Editor "The Farmer's Advocate":

In late issues of "The Farmer's Advocate" a good deal has been said about stock-watering systems, and I notice they nearly all use windmills, but I want to draw attention to the gasoline engine. I had a two horse-power engine installed nearly a year ago, and it is giving good satisfaction. I use it for pumping water for the stock, run the cream separator, turnip pulper, straw cutter, corn husker, meat chopper, and churn, and may use it for other purposes yet. I have it in the basement of the barn, in a room partitioned off from the stock, so that it is clean for the separator, and, with several lengths of line shafting, I get the power where I need it for the pulper, straw cutter, etc.

I have a double-acting suction pump which draws the water from the well, which is some distance away, and pumps it to the stock trough or swill barrel as directed. I drive the pump from the line shaft by a belt, which runs on wheels of the right dimensions to bring the required speed of the pump, and then by a pair of cranks on the ends of the countershaft, which are set opposite, and to which wooden pitmans are attached, which work the plungers in the cylinders, which are set in a dry well. By means of a tight and loose pulley I can start and stop the pump by shifting the belt while the engine is running, as I generally pump the water and pulp the turnips while running the cream separator, thus killing two birds with one shot, and saving time and fuel.

The cost of installing an engine is a little more than a windmill would be, but then it is not necessary to build large storage tanks, as you can pump the water as needed, and there is no waiting for the wind to blow. The gasoline engine has many advantages not possessed by a windmill, which will more than pay for a little extra cost. A boy or woman can easily operate a small engine, as it does not need an expert engineer, and after started it needs no attention. Cold weather did not bother our engine, as it has not missed running once all winter, even with the temperature down to 14 above zero in the engine room.

The cost of the gasoline is not great, as I think it will not exceed seven dollars for this year altogether, which I consider is cheap power, as no man would do the work that the engine does for several times that sum.

I think the gasoline engine is the coming power for the farm, and will greatly help to solve the labor question, and will also be a help to keep the boys on the farm.

G. A. WEBER,
Waterloo County, Ont.**FARM ACCOUNTS REVEAL THE LEAKS.**

In the year of 1898 I took a commercial course, and after a few years I found that I was getting very rusty in bookkeeping, so concluded to keep farm accounts as a means of keeping myself in practice.

I procured a book, and on the first page I drew a map of the farm, numbering each field, and writing the number of acres in each. I took an inventory of the stock, implements, feed, and, in fact, all farming utensils. I estimated the value of each article, and, including the cash in my purse, I made an addition, and from the sum deducted my liabilities, thus making entry Jan. 1st, 1899, Present Worth, \$2,840. This amount did not include the value of the farm. I then opened an account with each field, using the number indicated on the map. I also opened accounts with swine, horses, poultry and honeybees, also cash account, entering on the debit side, or left-hand money column, my cash on hand and all subsequent receipts; and on the right-hand money column or credit side I entered my payments. Now, by carrying a small passbook in my pocket, I was enabled to debit each several account, with the expenditure pertaining thereto, and credit it with its returns, and then copy in my large book as occasion required. For instance, with every load of chop taken to the pigpen, an entry was made of its value on the debit of swine, and all sales placed to the credit of swine. The other accounts were treated in the same way, so that at the end of the year I was able to know what profit I had made in pig-feeding, etc. Likewise in the case of the various fields, I debit the field with every load of manure placed on it, and with all work done therein, estimating the value as best I could. It caused me some hard thinking and considerable study. However, I was able to tell at the end of the year what it cost me to raise a bushel of grain, to grow a pound of pork, etc., and it impressed me with the value of my time.

On Jan. 1st, 1900, I took another inventory, and, after balancing up my accounts, I arrived at the following statement:

Jan. 1st, 1900—Present worth	\$3,917 00
Jan. 1st, 1899—Present worth	2,840 00
Net profit	\$1,077 00

I found this splendid practice, and interesting, but, after following this method for three years, I found it somewhat defective. For instance, my valuation of the stock, implements, fodder, etc., were estimated value, and thus my "net profit" was not entirely actual profit, but estimated in part. Then, again, it was no small task to take this inventory each year, so I changed my method. I am now just keeping a cash book. At the end of the year I open accounts in a ledger, under the following titles: Chopping Grain, Ordinary Expense, Unusual Expense, Farm Produce, Household, Wearing Apparel, Miscellaneous, and post all cashbook entries to the various accounts in the ledger. I group the first four together and the last three. The reason for so doing will suggest itself in the following summary statement from my ledger for the year 1905, as I have not completed my statement for 1906:

Receipts from 13 dairy cows.....	\$ 640 00
" pigs sold	377 60
" horse sold	122 50
" other sources	47 58
	<u>\$1,187 68</u>
Ordinary expense account	\$ 122 36
Unusual expense account	39 35
Chopping grain acct.	13 17
	<u>\$ 174 88</u>
Actual net profit	1,012 80
	<u>\$1,187 68</u>

If I include the estimated increase in value of my stock, my profit would necessarily be greater:

Net profit, 1905	\$1,012 80
Household expense acct.	138 25
Wearing apparel, etc.	196 65
Miscellaneous	65 20
	<u>\$ 400 10</u>
Profit for the year	612 70
	<u>\$1,012 80</u>

Now, Mr. Editor, I am well aware that the above method can be easily criticised from a scientific standpoint, but for the beginner I consider it a good method.

I would cheerfully give figures to show the benefit farm accounts has been to me, but I realize that this article is too lengthy already. Hence it to say that, as a result of my accounts I have been able to reduce my expenses to a minimum. I go over my expense account carefully

and see if there is anything that could reasonably be cut out. Small leaks will sink a ship. I can't stop a leak until I find it; I can't find a leak without farm accounts. INQUIRER.
Hastings Co., Ont.

COMFORT IN THE BASEMENT.

Editor "The Farmer's Advocate":

I have read with interest the several articles or communications re the basement stable, ventilation, etc., and feel like saying something myself.

Your correspondent, "Flos Farmer," gets at an important question, one that I have studied out for myself with considerable satisfaction. For convenience and ease in feeding stock, my threshing floor is fully three feet above cow stable floor, and the root cellar below the said threshing floor, which I utilize as feed passages at the head of the stock. The cow stable is so constructed that a manure spreader may be backed into a pit some feet below the stable floor. In this connection, I use an up-to-date litter carrier, run on a double-beaded steel track, which is hung on an incline towards the spreader. The horse stable is at the other end of the barn, and is 18 inches above or higher than cow stable, to which point the track is rigged; and how pleasant it is to see the loaded litter carrier running down grade to headquarters. It makes one feel that for comfort and convenience farming is not much behind the other professions. By this arrangement one part of horse manure goes with two parts cow manure. The track and switches are so arranged that litter carrier can be dumped in several places in the spreader, and any odd corners can be filled with the hand fork from points nearby, which is not a hard matter, the spreader being low down. I haul out two or three times a week, and spread on plowed ground, meadows, and sometimes on pasture lands, and so far I have not hand-forked any manure out of the stable this winter. I have cement floors, so that liquids and solids all go out together. All who see my outfit and the several conveniences speak in flattering terms of them.

I have an idea of another barn, however, which I think would give greater satisfaction still. It would be only 28 feet wide, and as long as farm required. On the south half (14 feet wide) would be the stable, and on the north (14 feet wide) would be the driving floor, 3 feet above, and root cellar, 3½ feet below cow-stable floor, which would give me two feed passages, as at present. Over the stock I would rig a straw ceiling one foot thick, six inches ventilated air passage above this, then the matched flooring (I intend to rig my present stock stable this way). Stable being only 14 feet wide, the sun can get all over the floor, and the ventilation above would be perfect, all else being in good shape. The threshing floor on north half need not run the full length of the barn; at one end it could be narrowed down to a feed passage. All grain and hay could be lifted from the wagon up chutes of sufficient size, the number of which would be determined by the length of the barn—say 40 feet apart. Adjustable stop blocks should be placed on the track above each chute, and the pull rope could come down a chute or out of the end of the barn, or out of one side. As will be readily understood, these chutes will be at one side of the barn, but this would give the load being hoisted a certain swing sideways, so that an expert could trip it to fill all parts and sides of the barn loft. For threshing, the machine could be placed under a chute, the straw, by the use of a wind-stacker, could be forced up another chute, or out of a suitable door at north side. Hanging bins would enable me to run the grain down a spout from the machine. A manure spreader should be placed in the most convenient place, three feet below the stable floor, which would be the depth of the cellar. There is no use of lifting or pulling up manure, when we can get a team to pull it up grade.

Lambton Co., Ont.

G. A. ANNETT.

TWENTY-FOUR SHARE BEEF RING.

In reply to enquirer in Bruce Co. re beef ring, would say that in Rocklyn we have had a ring in operation for six years. We have a properly-drawn-up code of by-laws for the governing of the operation.

The ring has 24 members, and starts about the middle of May, which gives a season of 24 weeks. Our standard is 400 pounds; this gives about 17 pounds each per week. Each member is allowed to market the hide and tallow if he desires, but from the proceeds pays the butcher \$2.00 for killing and dividing the carcass. Most of our members sell the hide to the butcher, who is able to obtain a better price from the tanners. We make no difference in stall-fed or grass cattle, as some of our best animals are supplied in August and following months. We draw cards, numbered, for place in supplying animals. I have often thought a fairer way would be to place members from 1 to 12, inclusive, this season on to 13 to 24 the next, then again reverse and put 12th man 1st and 24th man in 13th place. By this arrangement there would be no possible chance of drawing the same place each year.

Grey Co., Ont.

J. W. POTTER.

WORKING A HURON COUNTY BEEF RING.

Editor "The Farmer's Advocate":

I have been a member of two different beef rings for the past seven years. At the annual meeting a president and committee of three members, called managing directors, are elected, also an inspector appointed—one who lives near slaughter-house being preferred. None of these officials receive any salary. The slaughter-house, windlass, ropes, scales, etc., are paid for by subscription when the ring is organized. The building at Molesworth is used by two rings, called No. 1 and No. 2. The inspector examines both the living animal and the carcass, to make sure it is not diseased or unfit for food. In the case of an animal being rejected while alive, its owner must put in another at a future date. If condemned after being slaughtered, it is buried, and no person gets beef that week, but the man who owned it does not have to put in another that season. The animals put in must not be over five years of age, and must dress at least four hundred pounds. Twenty animals are slaughtered each season, one every week, beginning June 1st. The butcher is hired by the directors, and paid by the man who puts in the beef. He usually handles the hides, thus securing his pay, being from \$2 to \$3, paying the shareholder the balance. It is part of the butcher's work to bury all the offal and clean up the slaughter-house.

The meat is cut by chart, and a careful record kept of the portions obtained by each shareholder. The beast must be delivered to the stall at slaughter-house at least twelve hours before being killed. It is killed in the evening, cut up and called for between 5 and 9 o'clock next morning. Tickets numbered from 1 to 20 are shuffled and drawn at the annual meeting, each patron putting in his beast as his turn comes. This lottery system does away with all trouble as to difference in cost of production of beef. Quite a number of the shares are divided into half shares, but this only makes it necessary to have smaller cuts—two farmers furnishing a beast for one share. When the season is over the butcher presents his report, showing the total amount of beef, also the amount received by each patron and the amount he has supplied.

Each patron who received more beef than he puts in pays for the same at a rate per pound agreed on by the directors, usually about 8 cents per pound; and the patron who furnished more than he received is paid for the same from the fund created by the others, thus balancing the whole business. In case of a bad debt, through some member not paying up, it is made right by a general subscription. THOS. R. BENNETT.
Huron Co., Ont.

EXPERIENCE WITH 20-SHARE BEEF-RING CHART.

Editor "The Farmer's Advocate":

Having seen inquiry in your valuable paper about a 20-share beef ring, I might say the chart published in Feb. 7th issue was sent by me some years ago. We have several beef rings in this section, most of them using the above-mentioned chart. I have used it eight years, killing for two rings, and have never heard of a complaint in either yet.

Each member furnishes a beef animal in his turn, not less than 400 pounds in weight, the medium weight being 450 pounds, and as much heavier as he wishes to make it at two years of age; the heavier, the better quality of beef. Our patrons would call the 320-pound animal that "Interested Reader" speaks of, a big veal calf.

The beef is divided into twenty shares according to chart, each member receiving a roast, a boil and a slice of steak, and at the end of the season, those receiving more than the weight of the carcass he furnishes, pays 7 cents a pound for the difference, and those not receiving as much get 7 cents a pound for the difference. Each member gets the hide and offal of his own beef, and also pays for the killing, which is a sum fixed by the patrons. There is no difference made between stall-fed and grass-fed animals. We used to start killing the first week in June, but now we start the first week in May, and kill every alternate week for two months, and then every week after that, which is thought a better way. The patron furnishing the first beef of the season drops back to the last the next year and the rest of the members come one week forward. Some rings pay \$2.50 for killing, and others \$2.25 and \$2.00.

COUPLING CUTS IN CHART.

Roast.	Boil.	Steak.
1.....	13.....	1
2.....	14.....	2
3.....	19.....	3
4.....	16.....	4
5.....	17.....	5
6.....	18.....	6
7.....	15.....	7
8.....	12.....	8
9.....	20.....	9
10.....	11.....	10

The above are the numbers that couple together in the chart.
Halton Co., Ont. HENRY WILSON.

SELECT EARLY-MATURING EARS.

Editor "The Farmer's Advocate":

For corn-growing in this section of the Province of Quebec, the varieties are: For grain, the common Canadian yellow; for ensilage, Longtallow, Compton's Early, Leaming and Western Beauty. The last variety I have selected in the field for early ears for three years, and I find that it will mature fully ten days earlier than the first year of trial. I believe that any of the aforementioned varieties can be acclimatized in the same manner. I am fully convinced that seed for either grain or the silo should be produced in or as near the same locality as possible. My usual method of cultivation has been to plow under pasture sod in the autumn, and spread barnyard manure during the winter and spring, using disk harrow to work in the manure, followed with the smoothing harrow as early in the spring as the land will permit. When the land is sufficiently warm and dry, harrow to kill any weeds that have germinated, and make a fine seed-bed. Plant in rows 3½ feet apart, for ensilage, about a peck of seed per acre; but corn for grain or seed, in hills, 3½ feet in row, about 4 kernels to the hill.

The same system of cultivation does very well for potatoes and turnips. We generally sow turnips from 15th to 25th of June, giving ample time to clean the land thoroughly before sowing the turnips. This will be a great saving of labor later.

As soon as the corn begins to show growth we run a light weeder over it, and when about three or four inches high we run a one-horse cultivator between the rows as deep as possible; and when about six inches high we run the weeder again, followed with the hoe to uncover any hill that may be covered and to cut out any weeds that may be left. Afterwards there will be no more need for hoeing; the cultivator will do the rest, but keep it going at least once a week, until the corn begins to tassel, and the work will be fairly well done.

A word to my fellow farmers in the Province of Quebec: Grow more corn and roots, more feed grain and clover; feed the stock well, and the stock will feed the farm. Wishing "The Farmer's Advocate" every success.
Shefford Co., Que. W. L. DAVIDSON.

Eighth Annual Meeting of the Canadian Forestry Association

The 8th annual meeting of the Canadian Forestry Association was held in the Parliament Buildings, Ottawa, on March 14th and 15th. It was one of the most successful meetings in the history of the Association, great enthusiasm having been shown, and confidence expressed in the good the Association was doing in awakening Canadians to the importance of her forests, and the necessity of preserving them, and interesting the public generally in trees.

The chair was occupied by Mr. Elihu Stewart, President of the Association, and former Superintendent of Forestry for the Dominion. His annual address was a good one, and touched on many interesting matters. He drew attention to the rapid increase in membership of the Association, which in 1900, when it was formed, was 244, while now there are 1,222 members. The aims of the Association are, briefly, to influence the Dominion Government and the Provincial Legislatures in passing laws necessary to the preservation of the forests for all time; to interest farmers in preserving their wood-lots and planting more trees on their farms, both for the purpose of supplying wood and to improve the appearance of their home surroundings. The Association also tries to interest the people of cities and towns in trees, so that their homes will be made more beautiful. Mr. Stewart said that, unless the farmers of the East became more interested in improving their homes by the planting of trees, the farmers of the Prairie Provinces would soon be away ahead of them in this respect, as it was becoming a common thing for the people there to plant trees. The Dominion Forestry Branch, after the present season's work, will have distributed 9,600,000 trees, which would cover 3,300 acres of land, to settlers, and a recent estimate showed that 85 per cent. of the trees planted grow. The great power of women in arousing public opinion to the importance of the planting and care of trees, was emphasized by Mr. Stewart. He said that the Women's Federation in the United States claims to have been chiefly influential in having the Forest Reservation made in Minnesota. The Dominion Government has now 21 forest reserves, largely due to the work of the Forestry Branch. The importance of setting aside as reserves all forests on the east slope of the Rocky Mountains, was dwelt upon. These slopes supply the water for the rivers which water the prairies, and if the trees are cut down, the supply of moisture will diminish very much.

There was a good discussion on the presidential address, which was participated in by E. J. Zavitz, R. H. Campbell, Prof. J. Macoun, Dr. Wm. Saunders, Dr. Robert Bell, H. M. Price, E. G. Joly de Lotbiniere, Hiram Robinson, Thos. Southworth, W. B. Snowball, and others. Much of the discussion was on the necessity of preserving the forests on the eastern slope of the Rocky Mountains. It was stated that if the forests were not preserved, the moisture furnished by the rivers would be so lessened that the prairies might become too arid to grow crops successfully. Another point brought up in the discussion which is of especial interest to farmers, is the unjustness of the present Provincial Act which permits municipalities to tax wood-lots annually on the value of the standing timber. One person stated that, in a case he knew of, the owner had to cut down a valuable wood area of 100 acres which was assessed at \$8,000. It was considered an injustice to make an annual tax of this kind, and the Association will urge that the act be changed.

E. J. Zavitz referred to the work in his charge being done by the Ontario Government. Twenty-two plantations of forest trees have been made, mostly on waste, sandy land. The policy was to get a plantation in each constituency, and eventually reach each municipality, by which time the work could probably be done locally, most of the planting being done at present with white pine. In waste, sandy land an acre can be planted for about \$5.50.

There was considerable discussion on the destruction of tamarack by the insect known as the Green Fly, which has caused the death of practically all the older trees in certain parts of Ontario and Quebec. It came out in the discussion that this insect was not now so abundant; in fact, had practically passed through to the north, and that young tamarack was growing up. The death of white ash, which has taken place in some parts during the past few years, was considered to be due to dry weather.

The afternoon was practically a lumbermen's session. The discussion was opened by Hon. W. C. Edwards, and his address was full of facts and suggestions. He compared the systems of timber licenses given in the various Provinces. In New Brunswick the lease was for so short a time that the lumberman's aim was to get as much off the land as possible. In Ontario, the worst features of the license were, that there was no restriction as to the size of the timber to be cut, and also

that the cutting must be done in a certain number of years, which had the same evil consequences as the New Brunswick act. Quebec, while not having a perfect system by any means, was the best, as the size of timber that could be cut was limited, the limit for spruce being 11 inches, and for pine 12 inches, and the lease was given for a long time, so that the lumbermen were interested in maintaining the forests for future supplies. Spruce which is judiciously cut, will, in Senator Edwards' opinion, be large enough to cut in 30 years. The cause and prevention of forest fires received much consideration. The part of this discussion interesting to farmers is that relating to the destruction caused by settlers, it being claimed by the lumbermen that settlers, scattered in the forest areas, started many fires. It is, therefore, recommended that the Government do not sell land for settlement in forest areas while there is so much land available in other places. Some settlers merely take land with the idea of cutting the timber and then getting out.

On the question of the reproduction of the forests, it was the general feeling that these would reproduce themselves if fire was prevented, and that in the newer parts of the country artificial planting was not desirable at present.

The statement was made by Mr. Geo. Perley, M. P., that 1,000 acres of timber land was worth more to-day than 1,000 acres of the best wheat land in the Northwest.

The great importance of maintaining the water-power by preserving the forests was impressed on the audience by an example by Senator Edwards. A cement factory near Ottawa, run by water and electricity, cost \$180,000 less to run than another cement factory of the same capacity in northern Ontario, where the factory was run by coal. Senator Edwards prophesied that the time would soon come when many manufacturers would come from the United States to Canada on account of our water-power.

Those taking a prominent part in the afternoon's discussion were, J. B. Miller, Mr. Charlton, H. M. Price, Geo. Perley, M. P., and W. B. Snowball.

In the evening, an illustrated address on the "Aims of the Forester" was given by Dr. B. E. Fernon, in which he covered the whole field of the forester's work, from the growing of the seedling to the cutting of the timber.

The second day was "Farmers' Day." A paper was read by W. T. Macoun on "Some

Questions Relating to the Establishment, Maintenance and Improvement of Farm Forestry.

A discussion followed, which was taken part in by Dr. B. E. Fernon, Mr. E. J. Zavitz, Dr. Wm. Saunders, D. M. Sullivan, Dr. Robert Bell, and Prof. Macoun.

A number of resolutions were passed, most of them urging the Government to adopt a better policy in the administration of Dominion forest lands.

The following officers were elected:
 Patron.—His Excellency, the Governor-General.
 Honorary President.—Sir Wilfrid Laurier.
 President.—H. M. Price, Quebec.
 Vice-President.—W. B. Snowball, Chatham, New Brunswick.

Secretary.—R. H. Campbell, Ottawa.
 Assistant Secretary.—A. H. D. Ross, Ottawa.
 Board of Directors.—Hiram Robinson, Monsignore U. K. Lafamme, Dr. Wm. Saunders, Hon. Sydney Fisher, Thos. Southworth, E. G. Joly de Lotbiniere, Hon. W. C. Edwards, Prof. John Macoun, E. Stewart, G. Y. Chown, W. A. Charlton, Gordon C. Edwards, and W. G. J. Hall:

CEMENT-FLOORED GRANARY AND THRESHING FLOOR.

Editor "The Farmer's Advocate":

In compliance with your wish to hear from some one who has had experience with cement granary floors, I would say, five years ago I raised my barn up nine feet high and put a stone wall under it. The floors are all cement. I have three brick walls across, with the horse stable at one end, and the cattle stable at the other end, with the drive floor in the center. It is down on the level, with the granary between it and the horse stable. The barn is 40 x 75 feet; the granary is 14 x 40, with one row of bins, and a hallway across in front of them. The bins will hold about 200 bushels each. I lay loose boards in the bottom of the bins. I have the fifth crop in now, and I have not had more than half a bushel damaged grain to the bin, except in the outside bins, where the stone wall is. There I set up a board on its edge, then it is all right. I like the granary well. I also like the cement drive floor. In time of threshing, I lay down two boards six feet long, then run the front wheels of the machine on them, drop the braces, then you are ready for work.

Lambton Co., Ont.

BY ITS FRUITS.

In renewing my subscription, I send you the names of two new subscribers. I also take this opportunity to say that I appreciate "The Farmer's Advocate" very highly. It is a power in the land, and I often think, in passing along the road, one can almost tell where your paper is a regular visitor by the look of the farms.

York Co., Ont. ROBERT REYNOLDS.

THE DAIRY.

HOLSTEIN-FRIESIAN CATTLE.

The following selections, from a paper prepared by Malcolm H. Gardner, Superintendent Advanced Registry Holstein-Friesian Association of America, will interest dairymen generally.

The cattle known in America as Holstein-Friesian belong to the short-horned lowland race, native to the low-lying, fertile lands of Europe bordering on the North Sea, of which race, from the dairy standpoint, the Holstein-Friesian family is the most highly developed. These cattle might have been better named Friesian, since Friesland, and the neighboring Provinces of Holland, is the central home from which this breed of cattle has been so widely disseminated over the old world, and from which some 10,000 head of foundation stock has been brought to America. The Friesian people are among the most conservative of the Germanic race, still holding to and speaking among themselves the old Friesian language, although also able to speak Dutch—the official language of Holland. They have been equally conservative in holding to their ancient industry of cattle-rearing, an occupation for which their low-lying lands are especially fitted; and, as the Roman historian Tacitus speaks of them nearly 1,900 years ago as cattle-breeders, paying a tribute in cattle and hides to the Roman Empire, so we find them to-day making dairy husbandry their main industry. Holding mainly to one occupation down through the centuries, and passing the business from father to son, it would be strange, indeed, if their breed of cattle did not reach a very high degree of development.

The first association of breeders of these cattle was formed in 1871, the first herdbook being published the following year. The present Holstein-Friesian Association of America was formed in 1885 by the union of two earlier associations, and is now the largest association of breeders of pure-bred dairy cattle in America. The H. F. Advanced Register, based for entry upon individual merit, was established in 1885, 17 volumes having

been published, containing entries of over 5,700 cows and 460 bulls. The age of any female is computed as that at the time of last calving or aborting, and the requirements for entry vary with the age, being not less than 7.2 pounds butter-fat in seven consecutive days for a heifer calving at just two years of age or younger, and increasing proportionately to not less than 12 pounds butter-fat for a cow calving at five years old, there being no increased requirements for increased age after a cow reaches the age of five years. Only bulls having four or more daughters which have been entered in the Advanced Register on official records of butter-fat are accepted for entry.

The rules for the entry of cows in the H. F. Advanced Register are very stringent, being designed to place every H. F. record beyond even a shadow of a doubt. Every milking during the period of test must be watched, weighed, sampled and tested by a representative of some State Agricultural College; and thus, because of expense, the bulk of its records are for short periods, mainly for one week. It will be readily admitted that 18 pounds of butter-fat will make 21 pounds of the best of butter, or an average of 3 pounds butter per day when 18 pounds fat is produced in seven consecutive days, and that very few cows other than Holstein-Friesian have ever, under strict rules, produced such an amount. The records of the H. F. Advanced Register show that 224 H. F. cows have produced officially in excess of 18 pounds butter-fat, of which 82 cows have produced between 18 and 19 pounds, 64 cows between 19 and 20 pounds, 46 cows between 20 and 21 pounds, 15 cows between 21 and 22 pounds, 8 cows between 22 and 23 pounds, 6 cows between 23 and 24 pounds, 1 cow between 24 and 25 pounds, 1 cow between 25 and 26 pounds, and 1 cow over 27 pounds. It must be remembered that while many of these records were made by cows much under 5 years of age, there were a large number of records made by two and three-year-old heifers which were, considering age, proportionately as large, yet fell short of the 18-pound limit required for this list.

As to the per cent. of fat in average H. F. milk, 1,545 cows and heifers of all ages, entered in the 17th volume of the H. F. Advanced Register, of which more than one-half were heifers, produced in seven consecutive days an average of 376.7 pounds milk containing 12.75 pounds butter-fat, showing an average of 3.39 per cent. fat. There were 71 cows and heifers producing over 18 pounds butter-fat, and these cows average 540.9 pounds milk containing 19.758 pounds butter-fat, showing an average of 3.65 per cent. fat. Eighty-three Holstein-Friesian cows and heifers have made 30-day official records exceeding 72 pounds butter-fat, of which 24 made from 72 to 76 pounds, 27 from 76 to 80 pounds, 18 from 80 to 85 pounds, 9 from 85 to 90 pounds, 6 from 90 to 100 pounds, 1 from 100 to 110 pounds, and 1 made over 110 pounds of butter-fat.

A few H. F. cows have been officially tested for longer periods, and one cow produced in 100 days over 284 pounds fat, while a heifer under three years of age produced over 227 pounds in the same length of time. One H. F. cow has produced over 453 pounds fat in 182½ days, while another, owned by the Michigan Agricultural College, produced over 721 pounds fat in one year. Prof. Oscar Erf, Kansas Agricultural College, writes that one of their H. F. cows has produced nearly 16,000 pounds of milk in one year, testing from 3.2 to 3.7 per cent. fat, and that at the end of the year she was still giving from 25 to 30 pounds milk per day; while Prof. A. L. Haecker, Nebraska Agricultural College, states that a heifer, calving at just past three years, has given, in 39 weeks, 15,063.9 pounds milk containing 492.05 pounds butter-fat, and that she was still giving 45 pounds milk per day, with 13 weeks before her in which to complete the year's record. A heifer, calving at just past three years of age, in semi-official test, under the rules of the Wisconsin Exp. Station, is said to have produced, in a period of 365 days, 13,213 pounds of milk containing 584.8 pounds butter-fat. Many H. F. cows have made very large private records, but it is not the practice of the H. F. Association to report private records.

Owners and breeders of Holstein-Friesian cattle base their claims for the superiority of this breed over all other dairy breeds mainly on the following points: First, that the Holstein-Friesian is a large, strong, vigorous cow, full of energy and abounding in vitality; second, that her physical organization and digestive capacity is such that she is able to turn to the best advantage the roughage on the farm, converting the same into merchantable products; third, that she yields large quantities of most excellent milk, fit for any and all uses, and especially well fitted for shipping purposes; fourth, that heredity is so firmly established through her long lineage that she is able to perpetuate herself through the production of strong, healthy calves; and fifth, that when for any reason her usefulness in the dairy is at an end, she fattens readily and makes excellent beef.

Owing to her large frame, her vigor and digestive powers, the H. F. cow is unequalled in the ability to convert farm roughage into money value; and she belongs to that class of large cows which the Wisconsin Experiment Station found, after years of experience, to be the most profitable for the dairy farmer. She is of hardy constitution, not readily susceptible to tuberculosis and other bovine diseases, and will thrive under adverse circumstances to which a smaller, weaker breed would succumb.

From my own individual experience with this grand dairy breed, extending over a period of more than twenty years, during which time I have been a breeder of these cattle, I can affirm that, either as an all-round dairy breed, or for any specialty in dairying, when the returns from all sources are counted, I know of no breed superior to the Holstein-Friesian; while for veal, and the supplying of good healthy, nutritious milk to cities and villages, there is no breed than can approach it.

YIELDS IN BLACK AND WHITE.

Editor "The Farmer's Advocate":

I have been keeping individual records of my cows since the 1st of April, 1906. In giving you my experience along this line, I must say, in the start, that as yet I have not been able to credit each one of my cows for their full milking season, as some of them had been milking before I secured my spring-balance scales to commence the work last April.

I commenced to do this because, although I think I have, as a whole, a good herd of Holstein cows, I felt sure that some of them were much better performers than others, and I wanted to know this.

You ask the question, "Are milk records a benefit to the man who is already taking as good care of his herd as he know how?" I believe they are, for I have tried to devote the best of my attention to my cows as far as I know how, being both young in years and experience, yet the figures that I am going to give will show what a difference there is between individual animals that have had the same treatment as regards feed and attention. Prof. Grisdale says that a cow should give five thousand pounds of milk in her milking season to be a profitable cow, but how much more profitable is one that gives eight thousand?

I will give you a copy of the weights of each cow's milk for each month that I weighed it last year, and indicate over the number of each cow her date of calving, showing how long she had been milking before the weighing commenced. I will also give her age.

I might say that if there is any information to be gained from my experience, I give it gladly. It has been very interesting to me to keep these records this last year, and I feel that it will be far more interesting this year, as I am able to commence right at the start. We find that it takes very little time, as we have our scales in a convenient place, with a slate hanging beside them ruled in columns for morning and night of each day, and I copy the slate at the end of each week on forms that have been supplied me from the Experimental Farm, Ottawa. We do not take these forms to the stable, as the paper becomes somewhat soiled hanging there during the week. Following is the yields for the season:

No. 1.—Seven years old, calved March 4th, 5,957 pounds.

No. 2.—Six years old, calved April 10th, 7,226 pounds.

No. 3.—Six years old, calved March 12th, 8,236 pounds.

No. 4.—Seven years old, calved January 27th, 5,593 pounds.

No. 5.—Three years old, calved January 23rd, 4,217 pounds.

No. 6.—Five years old, calved February 22nd, 7,167 pounds.

No. 7.—Seven years old, calved March 10th, 7,911 pounds.

No. 8.—Seven years old, calved March 15th, 5,166 pounds.

No. 9.—Two years old, calved March 4th, 4,591 pounds.

No. 10.—Two years old, calved April 14th, farrow for 1907, 5,249 pounds.

No. 11.—Three years old, calved April 20th, 5,417 pounds.

No. 12.—Two years old, calved September 22nd, 1905, 4,421 pounds.

No. 13.—Three years old, calved April 16th, farrow for 1907, 6,658 pounds.

You asked how much time it takes every day to weigh this milk. Well, I hardly know, but I should say my man and myself are not more than five or ten minutes longer milking thirteen cows than if we didn't weigh it, and he is as much interested in it as I.

Hastings Co., Ont. E. B. MALLORY.

PROVISION FOR SUMMER DROUTH.

Every year every dairy farmer loses much money on account of the scarcity of grass or by reason of the unprofitably large area of land that has to be used to insure good pasture during the months of July and August.

If the average dairy herd is to be profitable, every cow must be kept up to her full capacity during those two months, as well as during the preceding and succeeding months.

The quantity of milk produced during September, October and November is very materially influenced by the way in which the cattle are fed in July and August.

Cows receiving insufficient food during those two months naturally decrease very rapidly in milk flow. Once the milk yield is materially decreased for any considerable length of time, it cannot during that season be again brought up to what it might otherwise have been.

Hence, although pastures are usually good or feed plentiful during the months of September, October and November, when prices for cheese and butter are high, we must, in order to get the full benefit of these high prices and abundant supplies of feed, have been feeding well during the months of July and August.

The cheapest, easiest and most certain plan of insuring an abundance of food during the months of July and August is to make use of soiling crops.

Experiments at the Central Experimental Farm, Ottawa, as well as elsewhere would seem to indicate vetches, peas, oats, clover and corn, as the most suitable crops for the purpose.

FOR TEN COWS.

Dairy farmers are therefore recommended to prepare and feed somewhat as follows for each ten cows in their herds:

1. Clover, 1 acre: To have been sown with the mixture of peas and oats the previous year, as described below. Feed off June 20 to July 15.
2. Peas and oats, ½ acre: Sow 1 bushel peas, 1½ bushels oats and 5 pounds red clover seed on ½ acre of land about the first week in May. Feed off July 15 to 31.
3. Peas and Oats, ½ acre: Sow same mixture on another half acre about third week in May. Feed off August 1 to 15.
4. Corn, ½ acre: Sow ten pounds Longfellow corn (or other small variety) in hills 3 feet apart each way. Sow 3rd week in May, or as early as possible. Sow on well-drained land, clover sod manured at rate of 20 loads (tons) per acre. Feed off August 15 to 30.
5. Corn, ½ acre: Sow 12 pounds Leaming (or other medium variety) same way as above. Feed off in September.

J. H. GRISDALE, Agriculturist.
Central Experimental Farm, Ottawa.

A REPORT FROM SASKATCHEWAN.

Editor "The Farmer's Advocate":

I commenced to keep records because I wanted to know just how much milk each cow gave. It took very little time. I had a little book, with each cow's name on a leaf, and drove a nail through one corner of it into a post behind the cows, where I had a steelyard hung up. The leaf would do one week. I totalled them up, and carried them to a little ledger kept in the house. I got the milk tested at the creamery. I was able, in this way, to tell just what each cow produced in the season and as these cows got no grain—just what they gathered from the prairie in summer—and wild hay in winter, it showed what each one was worth to me. I consider it well worth all the trouble it takes. It creates a greater interest in the work, which is felt by all the family, and if I were going into dairy work to-morrow I should certainly keep a milk record. Even if a man is taking all the care he can of his herd, while it will not of itself cause the cows to increase the output, it will be interesting to the milker to know just what each cow is producing.

Sask.
FRED W. GREEN.

SUMMER FOOD SUPPLY FOR DAIRY COWS.

Editor "The Farmer's Advocate":

In my experience with the feeding of milk cows in dry seasons, I have found nothing equal to corn silage, bran and oats—20 pounds of corn silage, 2 pounds of bran, and 2 pounds of ground oats, to each cow daily, we have found will maintain the milk flow fairly well when the pasture is somewhat poor.

My practical experience with soiling crops is confined to peas and oats for summer, green corn and mangels for fall feed. By mixing one bushel of peas, 1½ bushels of oats, using about two bushels of this mixture to the acre, and sowing at intervals of ten or twelve days, we have had fairly good results, but a man will go into a silo and take out sufficient food for 25 cows in one-half the time he will go to a near-by field, cut green feed, and put this before the cows. I am a strong believer in the summer silo for the supplementing of pastures during the dry season.

H. H. DEAN.

"IMPROVEMENT" THE WATCHWORD.

(From an address delivered by Prof. H. H. Dean, at the Eastern Live-stock and Poultry Show, Ottawa, March 7th, 1907.)

By "profit" in the dairy, we understand the excess of returns over the cost of production. The chief factors entering into the question of cost of production are land, labor and capital invested in cows and feed. No person can show a profit in the dairy unless the returns from dairy products exceed rent value of land, fair wages for the farmer and his help—hired, or otherwise—and interest on capital invested in live stock, implements and feed grown on the farm or purchased elsewhere. There is very great need of our farmers doing some bookkeeping. Two books should be found on every farm—an ordinary account book and a bank book. The great majority of dairy farmers are unable to say whether or not they are making a profit from their cows. This is scarcely consistent with modern methods of advanced agriculture.

It is said of the millionaire, Andrew Carnegie, that the watchword of the Pittsburg Steel Mills while he was the owner, was "more steel and more profits each year." No matter what the production was in any one year, he always looked for an increase the following year. He was able to enthuse all his men with this idea of increased production and increased profits each and every year. Many dairy farmers could, with profit to themselves and value to their locality, catch something of the spirit that animated the men connected with the Pittsburg Steel Mills. If a cow gives 4,000 pounds of milk; or makes 160 pounds of butter, this year, expect 5,000 or 6,000 pounds of milk and 200 to 250 pounds of butter next year, and 8,000 to 10,000 the next year, and thus increase the production and profit from the herd. It is seldom we receive more than we look for or expect. Expect increases, and increases are likely to come, if we do our part.

SOME OPINIONS AND QUERIES.

Editor "The Farmer's Advocate":

Dairy farmers are beginning to realize the importance of raising the standard of performance of their dairy herds. It is the process of weeding the herd to which I wish to refer definitely. I firmly believe a herd must be improved individually, rather than in general, and individuality can only be determined by weighing and testing each cow's milk throughout the season. We began the keeping of records three years ago. Striking revelations followed the first season's work. How astonished the owner of a herd is likely to be to find some of his favorites in his herd nearer the bottom of the list than is just pleasing to him. Just here let me say, do not be discouraged and think there is nothing good in your herd or from which to build if your average per cow for the herd falls below the standard of 6,000 pounds per cow. But many become discouraged before they get far enough to total a season's work. The stumbling-point seems to be the question of time in weighing and recording, and sometimes no small amount of difficulty is experienced with hired help in this work. To be serviceable, the work must be accurate.

But in regard to the question of time, I quite agree that it necessitates a good deal of time to ascertain and record the accurate weight of each cow's milk throughout the milking season, and I admit that it is just a question in my mind whether the extra time and work is compensated for in benefits derived. For the past two seasons we have followed a practice of weighing every tenth day, and we are well satisfied with results. These weighings are made very accurately, and I believe we arrive at as accurate totals as where the milk is weighed twice daily in a hurry, and a hurried glance given the balance, resulting in a variation of one-half or three-quarters of a pound either way at each weighing. Another point in weighing every milking is the inconvenience necessitated of always having the pail empty in starting a fresh cow. This often means an extra trip to the milk-room. If, however, the milk is weighed every day, any abnormal variation between milkings is at once noted and the cause more easily assigned than when the variation is found after an interval of some days. I have found, though, by actual test, that there is very little variation in ten days in a cow's yield, and, by experience, I am firmly convinced that the dairyman who sets about to work out improvement in his herd can be guided by results obtained through weighing every tenth day very accurately, and enabled to weed systematically and thoroughly.

We are advised repeatedly by our dairy experts to discard all cows that come under the 6,000-pounds standard. Now, is this always practicable? In the vast majority of our dairy herds to-day cannot be found very many cows that would come up to this standard, and if these dairymen, after a season of record-keeping, were to discard all cows below the standard, what would be the result? In the first place, many could not replace these cows with any better ones,

as such cows are not yet to be had in numbers, even at a large financial outlay. Observation has taught me that it is not expedient to set up any arbitrary standard. I have found the keeping of records, however, of great value in weeding the poorer cows. The first season our record revealed, in our herd of twenty-five, but six members above the 6,000-pounds standard, and an average of 4,800 pounds per cow. The last season, being the third since starting to keep records, in our herd of twenty-eight we had thirteen members above the 6,000-pounds standard, and an average for the herd of 5,800 pounds. In the three years we have discarded twenty-one head, and raised our average for herd by 1,000 pounds per cow.

Not only have I found the keeping of records valuable and interesting in comparing milk yields, but I have also found the same a valued index in feeding, not only in quantity fed, but also in comparative values of different feeds for milk production, and that the relative cost of different feeds is not always in accordance with their milk-producing value.

I am convinced that no dairy, be it large or small, is properly managed without some record being kept of the performance at the pail of each individual. While, as I have said previously, there is room for much general improvement by way of improved methods of feeding and breeding, and general management, our herds must also be improved individually, and this can only be accomplished by the scale test for quantity, and the fat test for quality.

CLARK HAMILTON.
Dundas Co., Ont.

SATISFACTION AND PROFIT IN KNOWLEDGE.

Editor "The Farmer's Advocate":

We have been keeping records about four or five years, and find it will take about three-quarters of a minute for each cow per day. We started keeping records because we wanted to cull out some of our cows, and did not know what other way to come at it, as some cows that start out well end in the rear, and others that start on a medium flow end away ahead of the others. We have learned that keeping records is the only way to tell a good cow, as far as milk production goes. Last year we weighed a two-year-old heifer's milk, and she gave 9,918 pounds; that means, at our factory, a little over \$100. Now, if we had not weighed, we would not have known anything about it. If you want to know where you are, weigh your milk. There is satisfaction in it. I want to say that our intention from this on will be to weigh our two-year-old heifers' milk. We want them to give 7,000 pounds with first calf. Our herd consists of pure-bred Holsteins.

"The Farmer's Advocate" has been in the house ever since it was first published. Wishing you and your paper every success.

GEO & FRANK J. GRIFFIN.
Oxford Co., Ont.

A SIMPLE OUTFIT.

Editor "The Farmer's Advocate":

I began keeping records May 4th, 1905, and shall always do so. The time required to weigh and mark down amounts takes about one minute, and certainly not more than a minute and a half for each cow for each milking. A 25-cent spring-balance scale hung on a hook, a board with milk record thereon, and having pencil attached by a string, with weight of milking pail already known, comprises all parts of outfit. A simple sum in subtraction gives amount of milk.

Improvement in my stock was the reason I began, and by Mr. Grisdale's kind advice I was put on the right road. I have learned to take a greater interest in my stock, and I feel fully convinced that by no other means can anyone—no matter how experienced he may be—be absolutely certain that each cow is just as good or as bad as he thinks. By the figures on the milk records, I have already got rid of two cows, and another is marked for sale. These were considered pretty good cows. Combine a feed account with milk record to make a complete success.

Argenteuil, Que. ARTHUR E. HOLT.

A GREAT GUERNSEY RECORD.

Dolly Bloom, a six-year-old Guernsey cow, on Feb. 10th, 1907, completed her third year's milk and butter test, under supervision of the Mars Experiment Station, her three years' records averaging 12,927.97 pounds of milk, and 638 pounds butter-fat. In the 12 months ending Feb. 10th, 1907, she gave 17,297 pounds milk, average test 4.84 per cent., and 836 pounds butter-fat. At 8½ months after calving she had produced 12,368 pounds milk and 585 pounds butter-fat. It was stated that twice during the test her regular feeder was sick and off duty for a time, during which period the cow fell off considerably in her production, and but for this drawback she would have finished with a much better record than she did.

A DAIRY SHORTHORN'S MILKING RECORD.

What is claimed to be the champion Shorthorn cow of the world is in the herd at the Nebraska Experimental Station. She is named Florence Airdrie VI., and, according to a report by Professor A. L. Haecker, she gave, in the year ending April 7th last, 10,487 lbs. of milk, containing 413.01 lbs. of butter-fat, out of which 481.84 lbs. of butter were made. Her milk and butter records for the past three years are as follows:

Year.	Milk. Lbs.	Butter-fat. Lbs.	Butter. Lbs.
1903-4	7,537.5	358.51	418.26
1904-5	7,112.5	316.03	368.70
1905-6	10,187.0	413.01	481.84
Total (3 yrs.)	25,137.0	1,087.55	1,268.80
Av'g. (3 yrs.)	8,379.0	362.51	422.93

WILL ADOPT THE PLAN AGAIN.

Editor "The Farmer's Advocate":

Our man kept milk records for nearly twelve months. The time taken was hardly a minute for each cow per day. We weighed each milking; kept a slate by the weigh-scale, with each cow's number at beginning of the columns. One of the girls always weighed the milk and kept the record. We started the record to help us in making selection of best cows as foundation for a herd. I have not the papers by me to be able to quote figures, but I am so convinced of their value that with the coming season the same plan will be adopted once more. E. W. HUGHES.
Oxford Co., Ont.

POULTRY.

GENERAL DIRECTIONS FOR OPERATING AN INCUBATOR.

So much has already been written about artificial incubation that, judging from the volume of available material, the subject has long since been exhausted. Such, however, is not the case; for, while enormous strides have already been made in this important branch of poultry husbandry, a great deal still remains to be said and accomplished before we can equal or outrival the old hen in her hatching endowments. This, in fact, is the end for which all intelligent incubator manufacturers and operators are striving; and it is evident that their knowledge and skill is constantly increasing, as each season's experience acquaints them with new ideas and better methods to follow. Of course, differences of opinion still prevail, especially on such vital points as moisture, ventilation, etc., but these are gradually being adjusted.

CHOICE OF AN INCUBATOR.

The first question that confronts the beginner is what style of machine to purchase. There are scores on the market, each one claimed by its manufacturer to hatch the largest percentage of chicks. Such claims are apt to mislead the uninitiated, who, not being able to judge of the merits of a machine from a mere description, invariably select the cheaper ones, only to find later on that they have purchased naught but a fire-trap. There are some incubators that give fairly good results if operated under favorable conditions; and there is a small minority—that may be counted on the fingers of one hand—which represents the highest perfection of the incubator-manufacturer's art. The latter are high-class machines, and, while they are also high in price, they are the styles that can be depended upon to do the best work.

In my time I have had experience with two popular makes, one a hot-water, the other a hot-air machine. While the hot-water machine kept the temperature of the egg-chamber more constant and equal, repeatedly the tank sprung a leak in the middle of the hatch, and I was obliged to screw off the top, remove the tank, and do some quick soldering in order to save the eggs. This made me decide in favor of the hot-air incubator. The latter also responds quicker to the action of the lamp than does a tank full of water.

Every machine should be double-cased, with double-glass doors in front, and all possible provision made to protect its interior against the influence of atmospheric changes. The regulator should be very sensitive and free in its action, the thermostat constructed preferably of metal. Hard rubber, while it is sufficiently sensitive, does not contract to the same point when the temperature falls, thus necessitating a constant readjustment of the regulator.

Large apertures, that can be closed with slides, are necessary to ventilate the egg-chamber. This is the most important feature about an incubator, if we wish to secure healthy, vigorous chicks. In the hot-water incubator which I operated the apertures were too small, and when the chicks were excluded, on the 21st day, most of them did not have the yolk absorbed—a sign

indication that the eggs were not dried down sufficiently; but more of this further on. The lamp is the vital part of the machine, and, as such, should receive the manufacturer's closest attention. Too often do we see inferior heating apparatus on the cheap machines, which is a primary cause of many fatalities from fire that ensue. The heater should be outside of the incubator proper, and, if surrounded with asbestos, all danger is reduced to a minimum. For my part, I prefer no automatic egg-turning device. With such a fixture, the eggs along the border of the tray are constantly subjected to the slightly reduced temperature existing in the corners and along the sides of the egg-chamber, therefore they require a longer time to hatch. A nursery chamber should be a part of every incubator.

PLACING THE INCUBATOR.

The incubator should be placed in a dry, well-ventilated apartment, the temperature of which is not materially affected by outer atmospheric changes. A house cellar would serve admirably were it not for the dampness and stagnant body of impure air that exists in such places. Experience has taught that better results can be obtained in a room where the air is dry and pure, even if the temperature is very fluctuating, than where too much dampness is found. Then, again, incubator lamps are liable to play some unpleasant prank, making the danger from fire an important factor to be considered in placing a machine; this, notwithstanding the assertions of the manufacturers to the contrary. Barring the house cellar, most farmers and small poultry-keepers do not have a suitable place in which to operate an incubator. These might conveniently utilize some outbuilding by partitioning off a small room to place the incubator in. This could be done very cheaply, and the results in number of chicks hatched would be little short of those obtained in more expensive quarters. The north side of a building is least affected by outer changes of heat or cold. I have run an incubator in an unused chicken house during four hatching seasons, the temperature and humidity in the building being the same as out of doors, and have repeatedly hatched 85 and 90 per cent. of fertile eggs.

STARTING THE INCUBATOR.

The manufacturer's directions should be followed in setting up and starting the incubator. It will take a good while to thoroughly heat up the egg-chamber, especially in cold weather; but when the temperature begins to rise it is apt to mount higher than the desired degree before it can be gotten under control. Not until the operator can keep the heat safely uniform, should any eggs be introduced.

EGGS FOR HATCHING.

These should, first of all, be fresh, and, if possible, from one breed of fowls. Eggs that are too large or too small, or such as have soft, brittle shells, and all odd-shaped eggs, should be discarded. With respect to fertility, no definite rules can be laid down. However, I have observed that the best hatches always were made during April and May; that good hatches depend as much on health and vigor of the breeding stock as on any other factor in incubation; that there are no greater percentage of infertile eggs during the winter months than in spring, although the number of dead germs are increased, and the consequent hatches and vitality of chicks are poorer; that there are more dead and weak germs, consequently poorer hatches, during the summer months; that fowls forced for egg-production in winter invariably show poor fertility in spring.

FILLING THE TRAYS.

With heat up in the egg-chamber, it is now ready to place the eggs on the trays. I consider those trays best which require the eggs to be turned by hand, and, superior to all others, those with a sloping bottom. In the latter the eggs are all subjected to the same temperature, those in the center of the egg-chamber, where the temperature is slightly higher, lying furthest from the source of heat, and each egg in turn occupying different positions in the machine during different periods of the hatch. The eggs should not be dumped haphazard on the trays, but laid in regular rows, the large ends all pointing one way, and slightly elevated above the small end. When the full trays are placed in the machine, the temperature will fall considerably, but in the course of 12 hours should be normal again. At this time the operator needs especially to watch his machine. Twice each day the trays should be turned end for end in the machines, and once each day they should exchange positions. This can be done while turning the eggs. To facilitate the operation, a card should be tacked on each end of each tray, one bearing the word "morning," the other "night." The "morning" card should show through the glass doors at daytime; the "night" card at night.

TURNING THE EGGS.

The eggs need not be turned until the 4th day, then twice each day until the 18th. Whatever the method of turning, each time after the opera-

tion the eggs should be neatly rearranged, as described above. Authorities tell us to turn the eggs until the 19th day. The first year that I operated an incubator I followed these instructions, and paid no attention to the position of the eggs on the trays. The result was that some chicks chipped the shell at the small end of the egg, some in the center, some at the large end. Then, again, some chipped on top of the eggs as they were then lying, some at the sides, some at the bottom of the tray. Thus, the machine had to be opened, and all the chipped sides turned up, or have the chickens smother in the shell. The next year I adopted my own method of arranging the eggs, stopped turning the 18th day, and 95 out of every 100 chicks that chipped those eggs, chipped them on top toward the source of heat, and at the large end that had been elevated, too. Most gratifying result, wasn't it? I proceeded just the same way with subsequent hatches, only to have my observations confirmed time and again.

TEMPERATURE.

The temperature should be maintained at 103 degrees F. throughout the hatch, or until the 19th day, when it may be run up to 105 degrees. An embryo chick can bear much variation of temperature, and still be successfully excluded. Several times in my experience I forgot to close the door of the incubator in the evening, and it remained open all night (in summer), without any apparent harm to the hatch. The mercury had also, during a number of hatches, mounted to 110 degrees, with no disastrous results. I do not mention this that temperature be neglected (as I had done), but only to allay the unnecessary alarm that any beginner may feel who has had similar experiences. From about the 10th day onward the temperature is likely to cut up some strange caprices, for then the embryonic chick begins to give off animal heat of its own, and the lamp heat must be lessened in order to keep the mercury within bounds. Ofttimes the regulator must also be readjusted at this time. When the hatch is coming off, I like a temperature in the egg-chamber approaching to near 105 degrees. I think it stimulates the chicks to greater efforts in breaking through their prison shell, and greatly reduces the time during which the chicks are excluded.

MOISTURE.

Moisture and ventilation are close akin; and, in my estimation, the moisture problem is a great bugbear in artificial hatching. In fact, no supplied moisture at all is required to hatch an egg. On the contrary, much of the moisture which an egg contains must be evaporated, if the chick is to be excluded alive and strong. Not long ago I read in a poultry paper that a hen generally leaves her nest in the morning while the dew is on the grass, and then, returning to her nest, moistens the eggs with her wet feathers. But what if there is only a bare yard, and no wet grass for the hen to run in? In truth, I never saw a hen perform in such a manner, and I guess the writer of the article never did, either. The hot-water machine, to which I have repeatedly referred, had moisture pans, to be filled as per directions. Of course, I followed the instruction book the first few hatches I made, and while a fair percentage of chicks hatched, of all the scrubby, scrawling, crippled creatures, those were the worst. Some had crooked toes and drawn-up feet, some had lumps on their heads, some toppled over on their backs like a drunken man, some acted mad as a March hare, and the majority did not have the yolk fully absorbed. They scrawled over the unhatched eggs and trays, bedaubing and besmearing everything with which they came in contact. And what was the cause of such a phenomenon? Too much moisture, not enough ventilation, eggs not dried down sufficiently. My candid opinion is that that incubator manufacturer did not know a jot or tittle about artificial incubation. His machines were made for the same purpose as the razor-seller's razors—to sell. There may be some hot and dry climates where moisture must be supplied, but such places are few and far between. But perhaps I am proceeding too fast in my denunciation of the moisture problem, for there is a period in each hatch when moisture is absolutely necessary, namely, at hatching time. All those who have hatched artificially must have noticed that not infrequently after a chick chips the shell, and before it can struggle out, the membrane beneath the shell becomes too dry, and, clinging to the chick, prevents it turning and breaking out. When the chicks hatch simultaneously, and the heat is high enough, sufficient moisture is generated from the chicks' bodies to supply the required amount. The same is also true when there is much humidity in the atmosphere, as on a rainy day. But when chicks are slow in hatching, and the weather is dry, sponges with hot water should be laid in the egg-chamber, the temperature should be run up to 105 degrees, the ventilators all but closed, and you will see most every chick that chips the shell pop out lively as a cricket. Experience has also taught me this method. Previous to following it,

many chicks died in the shell after they had chipped off a portion, but in later hatches which I made, only 5 or 6 out of a possible 200 died after they had partly freed themselves from their prison home.

If no moisture, then, need be supplied, how do we know when the eggs are drying down all right? There are two methods which I have tried. One is to test the eggs by measuring the air cell with a diagram showing the contents of the egg at different stages of incubation. The other is an idea advocated by J. L. Campbell. It is to place the eggs in lukewarm water after two weeks' incubation. If they sink, they have too much moisture; if they float above water more than indicated below, they are too dry; but if a space appears above the surface as large as a 25-cent piece, they are all right. With both methods, a little variation from the prescribed measurements is allowable, due to the difference in thickness and porousness of the shells.

VENTILATION.

The amount of ventilation depends on the condition of the air cell. If the eggs are drying down too fast, close the ventilators; if not fast enough, open them. Generally, when the weather is variable—that is, alternately fair and rainy during the hatch—it is safe to open the ventilators from beginning of hatch till the eggs begin to chip; then they should be partly closed, to retain the moisture, till the end of hatch. Sometimes it is also necessary, during cold weather, to keep them closed for the first few days, in order to keep up the heat, or until the animal heat of the embryo asserts itself.

COOLING THE EGGS.

When operating an incubator, I never cooled the eggs for a longer time than it took to turn them and rearrange in rows. In warm weather, I left the incubator door open when turning; in cold, it was always closed.

CARE OF THE LAMP.

The lamp requires daily attention. The supply of oil must be replenished, the charred wick scraped off the burner tube, and every particle of dust, dirt and oil removed with scrupulous care. The fount should not be quite filled with oil, lest the flame will flutter and fill the heater with soot. To remove the burnt portion of the wick, a match or nail may be used. See to it that the wick is perfectly level with the top of the burner tube, with the corners the least bit cut off, and that it works freely up and down. Really, it requires an amount of practice to care for a lamp correctly, in order that the flame burn perfectly. A frequent cause of the flame flicking up is when the wick does not fit tight in the burner tube, thus allowing air to enter. This can easily be remedied by pressing the tube slightly together. Only the best quality of oil should be used. Bad oil is a quite frequent cause of smoking lamps. The eggs should always be turned before caring for the lamp. An oiled egg has a poor chance of hatching.

We should endeavor to so regulate the height of the flame that it will diffuse the proper degree of heat to the egg-chamber without bringing the regulator much into play. In warm weather, for instance, we cannot turn on a full flame, then expect the regulation device to pop off the surplus heat. During cold weather it is comparatively easy to regulate the flame, but in summer we must be very cautious, especially in the day time, for as the sun grows warmer the flame is apt to increase, causing soot to accumulate in the heater, and an undue rise in the temperature. At night, when the outer air is constantly growing cooler, there is not much danger from this source. Don't turn on a full flame immediately after trimming. Wait a little, until the burner has again become warm, then turn up to its customary height. Sometimes the lamp is extinguished when the door of the incubator is abruptly closed, or from drafts in the room. Last thing you do before leaving the machine, see that the lamp is burning right.

TESTING THE EGGS.

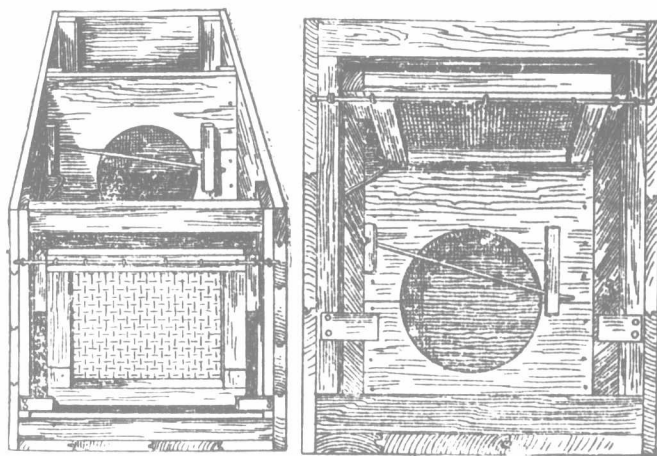
The first test should be made on the 7th day. This ends the first week of incubation, and the germ in a fertile egg can then readily be seen. White-shelled eggs may be tested on the 4th day, but it is better to defer until the 7th, when the germs in the brown-shelled eggs also become visible. At the first test all infertile eggs should be removed, also those containing dead germs. However, if one is in doubt about the fertility of an egg, he should mark it, and test again. A good tester should be used. The one described in the Lessons in Poultry-keeping is excellent for the purpose, as it can be used with a common oil lamp. Testing should always be done at evening, after dark. The trays containing the eggs may remain uncovered on the top of the machine while the examination is going on.

An infertile egg, viewed before a tester at any time during incubation, will appear perfectly clear, except for a slight cloudiness about the size of a 25-cent piece in the center of the egg, where the yolk lies. Infertiles also lose heat much more readily than eggs containing a live germ, and may

thus be distinguished by the touch. They have a glassy, metallic ring when handled, which the expert at testing is not slow at discerning. An egg containing a live germ, tested on the 7th day, has a dark spot near the end where the air cell lies, from which a network of red blood vessels can easily be seen to radiate. The air cell is plainly visible. The egg is almost evenly clouded, except at the small end, where it appears quite transparent. By twisting the egg sharply before the light, the germ may be seen to regain its former position with a waving, pulsating movement. When the germ dies before the 7th day, the red lines or vessels become fixed in a circle, and the germ either floats aimlessly about in the egg or attaches permanently to the interior of the shell. A little practice will enable the one testing to become quite expert in removing the worthless eggs. On the 14th day the eggs should be tested again. Those that are fertile will then have become quite darkened. Those containing germs that have died during the second week will show more clear, and may further be remarked by an entire absence of the telltale blood vessels and want of movement.—[Farm Poultry.

TRAP NESTS.

Give directions for making trap nests. R. C. The cuts shown represent the Maine trap nest, which has been used with satisfaction at a number of the Canadian Government's poultry stations. It is very simple, inexpensive, easy to attend, and certain in its action. It is a box-like structure, without front end or cover, 28 inches long, 13 inches wide, and 16 inches deep, inside measure. A division board, with a circular opening 7½ inches in diameter, is placed across the box, 12 inches from the rear end, and 15 inches from the front end. The rear section is the nest proper. Instead of a close-made door at the entrance, a



Front and top view. Front view. MAINE TRAP NEST.

light frame of 1 by 1½-inch stuff is covered with wire netting of 1-inch mesh. The door is 10 inches wide by 10 inches high, and does not fill the entire entrance, a space of two inches being left at the bottom and one inch at the top, with a good margin at each side, to avoid friction. It is hinged at the top, and opens up in the box. The hinges are placed on the front of the door, rather than at the center or rear, the better to secure complete closing action. The trap consists of one piece of stiff wire, about three-sixteenths of an inch in diameter and 22 inches long. This piece of wire is shaped so that a section of it, 11 inches long, rests directly across the circular opening in the division board, and is held in place by two clamps, one on either side of the circular opening. The clamps fit loosely, and the slots are long enough to allow the wire to work up and down about three inches without much friction. The next section of wire is 8 inches long, and it is bent so that it is at right angles with the 11-inch section. It passes along the side of the box 11 inches above the floor, back towards the entrance door, and is fastened strongly to the wall by staples, but yet loosely enough so that the wire can roll easily. The remaining section of the wire, which is three inches long, is bent towards the center of the box, with an upward inclination, so that it supports the door when it is open and rests upon it. The end of the wire is turned over smoothly, forming a notch into which the door may slip when opened.

As the hen passes in under the open door, and then through the circular opening to the nest, she raises herself so that her keel may pass over the lower part of the division board, and her back presses against the horizontal wire, as she passes it, and lifts it enough so that the end supporting the door slides from under it, and the door swings down and passes a wire spring, near the bottom of the box, at the entrance, which locks it and prevents the hen from escaping and others from entering.

ANNUAL MEETING OF POULTRY ASSOCIATION OF EASTERN ONTARIO.

The annual meeting of the Eastern Ontario Poultry Association was held in the Imperial Building, Ottawa, on Wednesday March 6th, 1907, at 7.30 p. m., President John A. Belford in the chair. A revision of the prize-list was taken up, and the following recommendations were made to the Executive of the Eastern Ontario Live-stock and Poultry Show: "That the following classes be added: Black Wyandottes, Black-tailed Japanese Bantams, and Narragansett turkeys. That the class for China geese be made into two classes, one for Brown China geese, and one for White China geese." It was decided it would be advisable to have a section of A. O. V. fowls added to the Sale Class.

The following changes were suggested for pigeons: "That there be one class for Carriers instead of two, and one class for Trumpeters instead of two; that Oriental Frills be struck out; that there be one class for Show Homers instead of two; that the class for Magpies, Black, Red or Yellow, be divided to make a class for Magpies, Black, another for Magpies, Red, and that Yellow Magpies show in the class for A. O. V.; that the class for Nuns be divided, making a class for Nun, Black, and another for Nun, A. O. C.; that classes be added for Owls, African, White, and Ice Pigeons."

The following judges were nominated for the next show: Wm. McNeil, London; Sharp Butterfield, Windsor; L. G. Jarvis, Montreal; C. F. Wagner, Toronto.

On motion of Geo. Higman, it was resolved that exhibitors coming a distance of 100 miles or over, be allowed until 10 a.m., Tuesday, to get their birds cooped. All other exhibitors to have their birds cooped by 10 o'clock Monday night.

The following officers were elected for 1907:

Honorary Presidents.—Lord Aylmer, Ottawa; Hon. Sydney Fisher, Ottawa; Hon. Nelson Monteith, Toronto.

President.—J. A. Belford, Ottawa.

Vice-President.—Geo. Higman, Ottawa.

Second Vice-President.—W. H. Reid, Kingston.

Sec.-Treas.—A. P. Westervelt, Toronto.

Directors.—J. H. Warrington, Cornwall; F. J. Blake, Almonte; W. N. Osborne, Brockville; F. A. James, Ottawa; W. F. Garland, Hintonburg; A. W. E. Hellyer, Ottawa; C. J. Daniels, Toronto.

Delegates to Toronto Exhibition.—C. J. Daniels, Toronto; A. W. E. Hellyer, Ottawa.

Delegates to Central Canada Exhibition, Ottawa.—J. A. Belford, Ottawa; George Higman, Ottawa.

Delegates to Eastern Ontario Live-stock and Poultry Show.—J. A. Belford, Ottawa; Geo. Higman, Ottawa; W. F. Garland, Hintonburg.

Auditor.—J. M. Duff, Guelph.

Superintendent.—R. E. McKinstry, Ottawa.

GARDEN ORCHARD.

A FRUIT-GROWER'S LIST OF VARIETIES.

Editor "The Farmer's Advocate":

In looking over our lists of fruit, I find the following varieties the most productive for the past ten years, viz.: Apples.—Duchess, Western Beauty, Gideon, Wealthy and Yellow Transparent (about equal); in winter varieties, Bismarck, Boston Star, Ben Davis, Stark, Ontario (about equal); Baldwin, Greening, Spy, Wagner, etc., being alternate bearers, have not averaged quite as much per tree as the former varieties, but are better in flavor. In pears, the Keiffer Hybrid is continuously the best-yielding pear I have, but not the best quality, although, when the fruit is properly thinned and properly ripened, it will bring as good a price in market as many other varieties which produce much less fruit, but of higher quality. Pitmaston Duchess is a magnificent pear, and a good yielder; larger and of better flavor than Anjou. Bartlett still holds a prominent place with the public, and, like the Crawford peach, is represented by a dozen different varieties, all called Bartlett. A fine new pear is the Ritson, medium size, prolific, and very hardy; trees require severe cutting back. Duchess Pricole and Dr. Jules Guyatt are both great bearers, and of first quality. In plums, the Burbank, Vail's Seedling, Coe's Golden Drop and Quackenboss have yielded the best for the past ten years in this district. R. L. H. Ontario Co., Ont.

Calendar Guide to Spraying.

BY DR. JAS. FLETCHER, DOMINION ENTOMOLOGIST AND BOTANIST.

PLANT.	1ST APPLICATION.	2ND APPLICATION.	3RD APPLICATION.	4TH APPLICATION.	5TH APPLICATION.	6TH APPLICATION.
APPLE. Black spot fungus, codling moth, leaf-eating caterpillars, borers, apple aphid, scale insects.	Copper sulphate or poisoned Bordeaux. Just when leaf buds open. (Important.)	Poisoned Bordeaux. Just before blossoms open. (Important.)	Poisoned Bordeaux. Soon after blossoms fall. (Important.) Alkaline wash. For borers at end May.	Poisoned Bordeaux. 10 to 15 days later.	Poisoned Bordeaux. 10 to 15 days later if spot disease is severe. Alkaline wash. For borers at end June.	Poisoned Bordeaux. For winter apples.
Kerosene emulsion, whale-oil soap or tobacco and soap wash before buds start, for aphid and scale insects; again in June when young scale insects hatch. For oyster-shell scale, spray trees late in autumn with lime wash, two coats, applying second as soon as first is dry. Lime-sulphur wash for San Jose scale.						
CHERRY. Rot, leaf diseases and injurious insects. Cut out and burn black-knot, whenever seen.	Poisoned Bordeaux. Before flower buds open. Kerosene emulsion or whale-oil soap solution. For aphid.	Poisoned Bordeaux. When fruit has set. (Important.)	Poisoned Bordeaux. 10 to 15 days later. (Important.)	Ammoniacal Copper Carbonate. 10 to 15 days later. (Important.)	If a late brood of the "cherry slug", appears, dust with fresh-slaked lime, or spray with Paris green. (Important.)	
CURRENT. Leaf spot, "currant worm," currant aphid.	Paris green. When worms appear. For aphid, kerosene emulsion, whale-oil soap solution, or tobacco and soap wash.	Hellebore. When fruit is fully formed.	Bordeaux. After fruit is picked.	Bordeaux. 10 to 15 days later.		
GOOSEBERRY. Mildew, "currant worm."	Copper sulphate. Before buds start.	Poisoned Bordeaux or potassium sulphide. (1 oz. to 2 gals. water) Just as buds burst.	Poisoned Bordeaux—Hellebore (applied separately); or potassium sulphide. 10 days later. (Important.)	Ammoniacal Copper Carbonate or Potassium Sulphide. 10 days later.		
GRAPE. Mildew, rot, anthracnose, "thrip" (or leaf-hopper).	Copper sulphate. Before buds start for anthracnose only. (Important.)	Bordeaux. Just before blossom. (Very important.)	Bordeaux. As soon as fruit has set. Kerosene emulsion. For leaf hopper (Very important.)	Bordeaux. 10 to 15 days later. (Important.)	Poisoned Bordeaux. 10 to 15 days later. If disease persists. (Important.)	Ammoniacal Copper Carbonate. If disease persists. (Important.)
PEACH, APRICOT, NECTARINE. Rot, leaf-curl, curculio, bud moth, bark borer.	Copper sulphate and Paris green. Before buds start. (Very important.)	Bordeaux. 3 lbs. copper sulphate, 3 lbs. lime, 50 gals. water. Paris green (3 ozs.). Just before blossoms open.	Bordeaux (as before). Paris green (3 ozs.) Soon after fruit has set.	Bordeaux (as before). Paris green (3 ozs.) 8 to 12 days later.	Bordeaux (as before). 8 to 12 days later. If rot is prevalent.	Ammoniacal Copper Carbonate. 10 to 15 days later. If rot is prevalent.
PEAR. Spot, cracking, leaf blight, codling moth, "slug," pear psylla.	Copper sulphate. Before buds start. (Important.) For pear psylla, lime wash in winter; kerosene emulsion or whale-oil soap.	Poisoned Bordeaux. Just before blossoms open. (Important.)	Poisoned Bordeaux. Soon after blossoms fall. (Important.)	Poisoned Bordeaux. 10 to 12 days later.	Bordeaux. 10 to 15 days later.	Paris green. If late brood of "slug" appears.
PLUM. Rot, blight, shot-hole, bud moth, curculio, aphid. Cut out and burn black-knot.	Copper sulphate and Paris green. Before buds open. (Important.)	Poisoned Bordeaux. Soon after blossoms have fallen. (important.)	Poisoned Bordeaux. 10 to 12 days later. Kerosene emulsion, Whale-oil soap, or Tobacco and soap wash For Aphid.	Poisoned Bordeaux. 10 to 15 days later. Kerosene emulsion, Whale-oil soap, or Tobacco and soap wash For Aphid.	Ammoniacal Copper Carbonate. 10 to 15 days later. If rot is prevalent.	Ammoniacal Copper Carbonate. 10 to 20 days later. If rot is prevalent.
ROSE. Mildew, leaf blight, "rose slug," "rose thrip."	Mildew in Greenhouse. Paint heating pipes with paste made of equal parts of sulphur, lime, water.	Leaf Blight. Ammon' Copper Carbonate. "Rose Slug." Paris green (1 oz. in 12 gals. water) or Hellebore.	"Rose Thrip." Kerosene emulsion, or whale-oil soap. When "thrip" appears.			
RASPBERRY, BLACKBERRY, DEWBERRY. Anthracnose, rust.	Copper sulphate. Before buds burst. Dig out and burn badly-diseased plants.	Bordeaux. 10 to 15 days later.	Bordeaux. Soon after old canes are cut out.			
STRAWBERRY. Rust, white grubs.	Bordeaux. Just before blossoms open. For white grubs, grow strawberries on one-year system.	Bordeaux. Soon after picking season, or burn foliage.	Bordeaux. 10 to 15 days later.			
BEAN. Anthracnose, cut-worms.	Copper sulphate. 1/4 oz. to 1 gal. water. Soak seed 1 hour. For cutworms, poisoned bran or paper bands round newly-set plants.	Bordeaux. When rough leaves appear.	Bordeaux. 8 to 12 days later.			
CABBAGE, TURNIP. Flea-beetle, caterpillars, aphid, root-maggots.	Paris green—dry mixture. For flea-beetle immediately plants appear above the ground. For root-maggots, tarred-paper disks around stems of cauliflowers, etc., and Hellebore or Pyrethrum infusion at roots when set out.	Pyrethrum—dry mixture. For cabbage worms.	Kerosene emulsion, or Soap washes. For aphid.			
POTATO. Scab, blight and rot, insects.	Soak tubers in solution of formalin. For scab.	Paris green. 1 lb. to 80 gals. water. For Colorado potato beetle. Bordeaux for flea-beetle.	Poisoned Bordeaux. For rot and beetles. From 15th July till end of season, two weeks apart. Keep foliage covered.			
CELERY. Rust.	Keep foliage constantly covered with Bordeaux throughout season.					
ASPARAGUS. Rust.	Bordeaux and Bean soap. Before rust appears in latter half of July, and two to three weeks later.					
TOMATO. Rot, blight.	Bordeaux. On plants in seed beds.	Bordeaux. On the appearance of...	Bordeaux. When necessary.			

FORMULAS OF INSECTICIDES.

PARIS GREEN.

For Foliage-eating Insects.
Paris green 1 lb.
Unslaked lime 1 lb.
Water 160 gals.
Dry Mixture.—1 lb. Paris green with 50 lbs. flour, land plaster, slaked lime or any other perfectly dry powder.
Poisoned Bran.—Mix 1 lb. of Paris green with 50 lbs. of slightly moistened bran. Scatter on surface of soil.

HELLEBORE.

White Helle ore 1 oz.
Water 2 gals.
Or to be dusted undiluted over attacked plants.

PYRETHRUM (or Insect Powder).
Pyrethrum powder..... 1 oz.
Water 3 gals.

Dry Mixture.—Mix thoroughly 1 part by weight of Insect Powder with 4 of cheap flour, and keep in a close vessel for 24 hours before dusting over plants attacked.

KEROSENE EMULSION.
For Bark Lice and Other Sucking Insects.

Kerosene (coal oil)..... 2 gals.
Rain water 1 gal.
Soap 1/2 lb.

Dissolve soap in water by boiling; take from fire, and, while hot, turn in kerosene and churn briskly for five minutes. For use dilute with nine parts of water

so that the above three gallons of stock emulsion will make 30 gallons of spraying mixture.

FLOUR-KEROSENE EMULSION.
1. Kerosene 1 quart
Dry flour 8 ozs.
Water 2 gals.

Stir together the flour and kerosene; then add the water and churn violently for two to four minutes. (To be used immediately.)

2. Kerosene 1 quart
Flour scalded in water 2 ozs.
Water 2 gals.

Scald the 2 ozs. of flour in water before adding the kerosene, churn as above. (Can be kept for a week or more, if necessary.)

WHALE-OIL SOAP.

For brown or black aphid, 1 lb. in 4 gallons water.
For scale insects (young), 1 lb. in 5 gallons water.
For green aphid or thrip, 1 lb. in 6 gallons water.
For San Jose scale (in winter), 2 lbs. in 1 gallon water.

TOBACCO AND SOAP WASH.

Soak in hot water for a few hours, 10 lbs. of tobacco leaves (home-grown will do); strain off and add 2 lbs. of whale-oil soap. Stir until all is dissolved, and dilute to 40 gallons. Apply early, and two or three times at short intervals.

(Continued on next page.)

N.B.—All the above recommendations are dependent on weather. If heavy rains fall within 24 hours, applications should be repeated. Always wash out thoroughly with clean water immediately after using. The gallon mentioned above is the Imperial gallon.

LIME WASH.

Unslaked lime	1 to 2 lbs.
Water	1 gallon.

Strain through sacking before spraying.

LIME-SULPHUR WASH.

For San Jose Scale and Fungous Diseases.

Lime	12 lbs.
Sulphur, powdered	12 lbs.
Water to make	40 gals.

Slake the lime with only enough water to do it thoroughly. Add the sulphur by dusting it over the lime while slaking; stir well, and boil for at least an hour, adding only so much hot water as is necessary for easy stirring. When thoroughly cooked, strain through sacking, and apply warm.

LIME-SULPHUR-SODA WASH.

Lime	25 lbs.
Sulphur, powdered	12½ lbs.
Caustic soda	5 lbs.
Water to make	40 gals.

Put the lime in a barrel; add enough hot water to make it boil rapidly; while slaking, stir in the sulphur, previously made into a thin paste with hot water; then add the caustic soda, dissolved in hot water. Add more water as required to prevent boiling over, and stir briskly all the time. When all bubbling ceases, add hot water to make up to 40 gallons.

Cook sulphur washes in iron pots or by steam in wooden vats or barrels; never use copper vessels either for cooking or for spraying sulphur washes from.

ALKALINE WASH.

For Borers.

Soft soap, reduced to the consistency of thick paint by the addition of a strong solution of washing soda in water. If applied with a brush about the 1st of June, on the morning of a warm day, this will dry in a few hours and form a tenacious coating not easily dissolved by rain.

If one pint of crude carbolic acid to the gallon of wash be added, it will make it more effective.

FORMULAS OF FUNGICIDES.

BORDEAUX MIXTURE.

For Fungi.

Copper sulphate (bluestone)	4 lbs.
Unslaked lime	4 lbs.
Water (1 barrel)	40 gals.

Dissolve the copper sulphate (by suspending it in a wooden or earthen vessel, containing 4 or 5 or more gallons of water). Slake the lime in another vessel. If the lime, when slaked, is lumpy or granular, it should be strained through coarse sacking or a fine sieve. Pour the copper-sulphate solution into a barrel, or it may be dissolved in this in the first place; half fill the barrel with water; dilute the slaked lime to half a barrel of water, and pour into the diluted copper-sulphate solution, then stir thoroughly. It is then ready for use. (Never mix concentrated milk of lime and copper solution.)

A stock solution of copper sulphate and milk of lime may be prepared and kept in separate covered barrels throughout the spraying season. The quantities of copper sulphate, lime and water should be carefully noted.

To test Bordeaux mixture, let a drop of ferrocyanide of potassium solution fall into the mixture when ready. If the mixture turns reddish brown, add more milk of lime until no change takes place.

POISONED BORDEAUX MIXTURE.

For Fungi and Leaf-eating Insects.

To the 40 gallons of Bordeaux mixture prepared as above, add 4 ounces of Paris green.

For Potato Rot.

Instead of 4 lbs. copper sulphate, use 6 lbs.; and for potato beetles, 8 ozs. of Paris green may be used instead of 4 ozs. in 40 gallons of wash.

SODA-BORDEAUX (BURGUNDY MIXTURE) FOR POTATO BLIGHT AND ROT.

Copper sulphate (bluestone)	6 lbs.
Washing soda carbonate of soda	7½ lbs.
Water (1 barrel)	40 gals.

Dissolve copper sulphate as for Bordeaux mixture. Dissolve 7½ lbs. washing soda in 4 gallons water. Pour the copper sulphate solution into a barrel, half fill the barrel with water, then stir in the solution of washing soda, and finally fill the barrel with water. It is now ready for use. The soda-Bordeaux adheres better to the foliage when freshly made than the ordinary Bordeaux mixture, but it deteriorates rapidly in this respect, and must be used as soon as made. If left standing for 24 hours it will have lost nearly all of its adhesiveness. The soda-Bordeaux is not recommended in preference to the ordinary Bordeaux mixture, but where lime cannot be obtained it may be used with good results. Furthermore, on account of its freedom from gritty matter there is less likelihood of the nozzles becoming clogged when it is used. As washing soda is more expensive than lime, this mixture costs a little more than the ordinary Bordeaux mixture.

Note—If the soda-Bordeaux is used for spraying fruit trees, the formula is: Copper sulphate, 4 lbs.; washing soda, 5 lbs.; water, 40 gallons.

RESIN SOAP.

Resin	8½ lbs.
Washing soda (sal soda, carbonate of soda)	6 lbs.
Water	4 gals.

Dissolve 6 pounds of washing soda in 4 gallons of hot water, and then bring the solution to a boil. In another vessel melt 8½ lbs. resin. When the latter is melted, pour it slowly into the boiling soda solution until all the resin is added, stirring it well at the same time. After all the resin is added, continue boiling for one hour, or until a homogeneous mixture is obtained. If properly made, this will mix well with water or Bordeaux mixture. As some water will be evaporated in boiling, sufficient should be added to make the stock mixture 4 gallons.

Two quarts of the above stock mixture should be used with 40 gallons of Bordeaux mixture.

Resin soap may be added to Bordeaux mixture (2 quarts to 40 gallons), and makes it adhere better to foliage.

COPPER SULPHATE SOLUTION.

For Fruit Trees Before Buds Burst.

Copper sulphate (bluestone)	1 lb.
Water	20 gals.

As soon as dissolved it is ready for use. Use only before the buds open. To destroy wild mustard, spray before bloom, with 5 lbs. in 20 gallons.

AMMONIACAL COPPER CARBONATE.

Copper carbonate	5 ozs.
Ammonia	2 qts.
Water (1 barrel)	40 gals.

Dissolve the copper carbonate in the ammonia. The ammonia and concentrated solution should be kept in glass or stone jars, tightly corked. It is ready for use as soon as diluted with the 40 gallons water. To be used when Bordeaux cannot be applied, on account of staining the fruit.

FORMALIN.

For potato scab, soak the whole tubers before cutting up or planting.

For 2 hours in a solution of commercial formalin (formaldehyde), 8 ozs., in water, 15 gallons; or 1 oz., in water, 2 gallons.

For smut in small grains, soak the seed for two hours in formalin solution, 16 ozs. in 40 gallons water, before sowing.

UNIFORM FORMULA FOR LIME-SULPHUR MIXTURE.

Editor "The Farmer's Advocate":

There was a keenly-interested meeting of fruit-growers at St. Catarines on the 8th and 9th inst., and practically the whole time was taken up in discussing the San Jose scale and its treatment. Prof. Surface was present from Pennsylvania, and took a valuable part in the discussions. Prof. Fletcher, of the Michigan Agricultural College was also there, and gave a very interesting address on the improvement of plants by selection and cross-breeding. In my addresses I urged the necessity, or rather the great advantage, of the fruit-growers of the Niagara District settling upon one standard formula for the lime-and-sulphur wash. At present everyone who boils the wash seems to make some variation according to his own taste or convenience, but the resulting lack of uniformity in preparing the wash has a decided effect in causing many who are almost persuaded to spray to leave the matter until there is more uniformity of opinion as to the proper formula. In the Niagara District the lime is of good quality and fairly uniform; the three brands used are very similar in this respect. The sulphur used is also of practically the same purity; so there is no reason that I can see why a uniform formula should not be decided upon and widely used. In the spraying calendar I am sending you, I have advised the formula, lime 12 pounds, sulphur 12 pounds, water 40 gallons; but, as a matter of fact, the 40-gallon barrel is not filled to the top, and the consequence is that the formula I have advised is the same as the one known as the "1-1-3" formula (1 pound lime, 1 pound sulphur, 3 gallons water), which has given excellent results in the United States, and the best results in the State of Ohio, where the conditions are very similar to those prevailing in the Niagara Peninsula. Mr. Geo. E. Fisher, who did such excellent work in the Province of Ontario, tells me that his final experiments decided him to use 20 pounds of sulphur, 30 pounds of lime, and 40 gallons of water. This gave a formula very easy to remember, and one which left a deposit of lime on the trees which was easily seen after the work was finished. This is a great advantage in doing complete work. To be effective, this wash must cover every part of the tree, and in the first spraying it is almost impossible to cover the tree thoroughly, without missing some branches. If, however, the sprayed part is conspicuously white, in "trimming up" the orchard after spraying, the missed parts are easily detected, and can then be attended to.

JAMES FLETCHER,

Dominion Entomologist and Botanist.

THE FARM BULLETIN.

CONDITIONS IN THE SEED TRADE FOR 1907.

Editor "The Farmer's Advocate":

A week spent among seedsmen, seed dealers and seeds has brought its lessons. There may be others to learn, but there have cropped up some new and unexpected features, which it might be interesting for our readers to know.

The seed, compared with last year, is, on the whole, a little better from the purity point of view. Our Ontario grown seed, however, is hardly so large a seed or as well colored as prevailed last year, neither has the crop been so large in yield. In a number of cases, English seed has been imported, and either mixed with home-grown seed or sold as pure English seed. In size, the English seed is much larger than our seed, but it is not free from weed seeds. It is a fact worthy of notice that while the English trade kicks hard if we send over anything but the best and purest seeds, they will willingly load us up with their weed seeds, and very little of their clover seed is entirely free from ribgrass or buckhorn. Much of this English seed is reclaimed on this side, and used to grade up home-grown seed. While their clover seed is larger than ours, their weed-seed specimens are also very healthy, vigorous-looking seed, and farmers in buying would do well to look out for new weed seeds, such as are not mentioned in the Act, or are as yet known, so far as I am aware, in our fields.

It is gratifying to know that farmers are examining seeds much more carefully than ever before. One man, I learned, spent at least half an hour deciding between three lots of red clover, and all of them high grades. It is pleasing to note, too, that the best grades are being more and more called for, until, I learn, some of the leading seed houses are unable to supply the demands for their choice goods. This, however, is opening the way to a chance for unfair competition among seed dealers. Often a town has five and six handlers of seeds. They are anxious to do business, and under the term, Government Standard, and a lead seal—devices originating among the seedsmen themselves—some of them ask a price for grades, which will not grade No. 1 under the Act, within 25c. or 50c. of the very best grades offered. While they simply sell it as Government Standard, it is a chance for evading the Act, and leading to considerable trouble among the dealers themselves. I believe it would simplify matters, and work to the advantage of wholesalers, retailers and users of seeds, if all seeds were made, by law, to be sold as No. 1, No. 2, etc., and the use of brands and Government-standard terms done away with. There would be less chance for litigation or unfair competition.

Last years, farmers learned that Government Standard and a lead seal stood for something, as they thought, pretty good, until I learn that many of them would jump for seed so branded like a trout for a fly. They little suspected that a dealer who wished to play sharp and get the price for poor seed could sell out the good seed from bags of marked, and then dump the poorer quality in to sell at the same price. There are some weed seeds, like ribgrass in red clover and alfalfa, false flax and catchfly in alsike, ox-eye daisy and false flax in timothy, which will be passed over by most farmers, unless a very close scrutiny of the seed is made. Of course, the farmer should not expect absolutely pure seed, as, with the exception of a limited quantity of seed, such a thing is impossible in the present condition of affairs.

It is gratifying to hear leading seedsmen say they believe the Act is doing a lot of good for the trade, and as one Brantford dealer said, "There is nothing in my memory that has done so much to improve seed around here as the Act." Occasionally, we hear a complaint that the Act falls short in letting the farmer off; but when we tell them that is not true, and that the Act applies to the farmer's case where he offers low-grade seeds of timothy, alsike and red clover, either himself or through others, for seeding purposes to brother farmers, which contains the weed seeds of ribgrass or buckhorn, false flax, ox-eye daisy, catchfly, blue weed, white cockle, Canada thistle, curled dock and chickory, as it does to the dealer, it puts things in a different light. So far, the seed grain examined has been free from the noxious weed seeds mentioned in Sec. 3 of the Act, and have not, therefore, been required to be labelled. On the whole, the seed grain offered by the trade is of better quality in size and color and purity than obtained last year. In buying seed grain, farmers should be on the lookout for labels giving the necessary information, where information is required. If nothing is seen on bin or package containing such seed grain, it should be practically free of 14 weed seeds, or else it is misrepresented.

It is also gratifying to know that the co-operation on the part of seed merchant, seed vendor and farmer in handling seeds is extending all the time, and when all join in hearty co-operation to handle, for seeding purposes only, high-grade, pure seed, then we can expect, with the best methods of cultivation, to clean up our farms of noxious-weed life, and increase their productive capacity at the same time.

T. G. RAYNOR.

The Iowa Railroad Commission has granted the petition of the Corn-belt Meat-producers' Association, and reduced Iowa rates on live stock 15 to 18 per cent.

MR. BARR ASSISTANT DOMINION DAIRY COMMISSIONER.

Geo. H. Barr, Chief Dairy Instructor of Western Ontario and secretary of the Western Ontario Dairy-men's Association, has resigned to accept a position in the Dairy Commissioner's Branch of the Department of Agriculture, Ottawa. It is surmised that his position will be head of the dairy division, under Commissioner Ruddick, who now has general supervision over the dairy, fruit and cold storage and markets divisions. There are few public servants so capable, genial and faithful as Mr. Barr. His motto is, "Do something that will be useful not ten years from now, but to-day and to-morrow." After fifteen years' experience as a maker in some of the best cheese factories in Western Ontario, he was for one year in the employ of the cheese-buying firm of Lovell & Christmas. In 1902, he served as instructor in a group of factories in Lambton Co., Ont.; the factory-instruction work was then in its experimental stage. Next year, 1903, it was fully organized, and Mr. Barr was made chief instructor in Western Ontario, having general charge of the instruction work. Since then, he has also been appointed superintendent of the Western Dairy School, at Strathroy, and secretary of the Western Ontario Dairy-men's Association. He expects to leave London about April 15th to spend a couple of months investigating the export trade in Montreal. His successor is Frank Hearn, of Strathroy, who has been an efficient member of the instruction staff during the four years since its inauguration, during which time and for some years previous he was also on the staff of the Western Dairy School. To his new duties he comes with exceptionally good qualifications. Incidentally, it is of interest to note that the Strathroy school will not be open another term.

THE DAIRY-SHOW PROPOSITION.

After considerable discussion, at a meeting of representatives of the Eastern and Western Dairy-men's Associations and dairy cattle societies in Toronto, March 12th, a resolution was adopted in favor of holding a distinct National Dairy Show, at St. Lawrence market next January or February. President McKee, of the Ayrshire Association, declared that the interests of the dairymen had suffered greatly through their winter dairy exhibition being held at the same time as the Guelph Fat-stock Show, where the dairymen invariably took a subordinate position, and he advocated the holding of a separate show. The sum of \$200 had been set aside by them for this purpose. J. B. Mallory, representing the Holstein breeders, announced that they had put aside the sum of \$300 to aid in starting the show. Mr. John McQuaker, of the Western Dairy Association, and Mr. John R. Dargavel, M. P. P., of the Eastern Association, favored the proposal. This point settled, the question of location became a live topic. Twenty delegates were present from Peterboro to urge the advantages of that city.

The members adjourned at one o'clock to wait on the Minister of Agriculture, with a request for a substantial grant. The deputation, some eighty in number, urged that the dairy interest was of paramount importance, and that the plan at present adopted of giving small amounts to two or three shows was not in the interest of the dairy industry in general. The Fat-stock Show, in Guelph, did little for the dairymen. The deputation suggested \$4,000 as a reasonable sum. It was proposed to still further enlarge the scope of the Association by taking up the question of the supply of milk for large cities, and generally improve the lot of the dairymen.

Hon. Mr. Monteith promised consideration.

FROM TIMBER TO OIL.

Present appearances of the weather would seem to indicate an early spring, as the snow is disappearing fast; but we generally have a lot of cold weather if the snow goes early. On account of the scarcity of feed, an early spring would be very beneficial, as it would decrease the loss of stock, which has not been much yet. Hay is selling at from \$15 to \$20 a ton; oats, 50c. a bushel; peas, 80c.; and not many cattle are being stalled. Timbering has been good with those who have been fortunate to have any, as it is getting pretty well done here, and we are turning our attention to the oil, which is being found here. There have been some good wells found at Manitowaning and at Gore Bay. The coming summer will give it a pretty good test, as there are quite a number of drilling outfits on the island.

J. W. T.
Manitoulin Island.

MANCHESTER AS A CATTLE PORT.

A deputation from Manchester, Eng., is touring Canada and United States in the interests of that city as a cattle port. Manchester has, within a radius of 40 miles of its cattle market, a population of 8,000,000 people, of whom 2,500,000 are within 16 miles. The ship canal enables ocean-going vessels to reach the docks and wharves, and save 24 shillings and two pence per ton railway freight, by the more convenient. The Manchester City Council has voted \$485,000 on its market.

The recently-drafted constitution of the State of Oklahoma will prohibit the issue of warrants that makes the books of all corporations subject to inspection, and rigidly prohibits the liquor business, what is said to be the most stringent prohibition in existence.

HOLSTEIN BREEDERS OF QUEBEC.

A meeting of a large number of the Holstein breeders of Quebec Province was held on March 12th, at St. Lawrence Hall, Montreal; President J. E. K. Herrick in the chair.

The meeting was opened by the annual address of the President, who called attention to the rapid growth of Holsteins in Quebec; the great sanitary and food value of the milk; the great records of the breed, and the great length of time they had existed as a breed.

The Secretary, F. E. Came, of Canaan Farm, Lachine, gave a report of the doings at the annual meeting of the general Holstein Association at Toronto, and called attention to the advantages of the yearly Record of Performance, lately started by the Ottawa Government. Regret was expressed of the loss to the association by the death of Dr. Craik, who was an enthusiastic breeder and great advocate of the health value of Holstein milk; and also the death of Sir Wm. Hingston, who had but lately taken up Holstein breeding. The general association has increased 50% during the past year, and the number of Quebec members about 100%. All the milk tests at the different fairs during the past year have been won by Holsteins, and at Ottawa recently the Holsteins swept everything. The great scarcity of stock was dwelt on; breeders finding no trouble in disposing of stock at satisfactory prices.

A motion was made and carried, that Messrs. Herrick and Came be appointed to arrange with the Dominion Exhibition authorities at Sherbrooke this year, to extend by two the number of prizes in each section, so as to help the greatly-increased exhibit.

Delegates at the different county fair boards were appointed. These will unite with said boards to help the Holstein exhibit to be a greater success.

The following officers were elected: Hon. President, Hon. Jules Allard, Minister of Agriculture, Provincial Government; President, J. E. K. Herrick; 1st Vice-President, Dr. L. de Lotbiniere Harwood; 2nd Vice-President, Antoine Ashby; 3rd Vice-President, I. Paquette; 4th Vice-President, Neil Sangster; Secretary-Treasurer, F. E. Came; Assistant Secretary, A. N. Deland. Directors—Ogden Sweet, H. Beauregard, Dr. Godreau, Paul Lussiee, J. J. Riley, Jr., C. Fournier, P. Fiset.

Mr. Forget moved, and Felix P. Ashby seconded, that the Hon. Mr. Allard, Provincial Minister of Agriculture, give a special grant to the agricultural societies, to be applied for larger prizes for all registered cattle.—Carried.

M. Pettees moved, and Mr. Ashby seconded, that A. N. Deland be authorized to communicate with the Minister of Agriculture, to the effect that the Government discontinue to encourage the awarding of premiums for grade animals.—Carried.

After the business meeting a banquet was enjoyed, there being addresses in both French and English, by the President, Ogden Sweet, Dr. Harwood Pettee, Capt. Riley, Forget, Riches, Gaith, Deland, and others.

THE NOXIOUS-WEED LAW.

Mr. T. H. Lennox has introduced in the Ontario Legislature a bill to amend the Noxious Weeds Act, by adding to subsection 1, section 8, chapter 28, the following words at the beginning of such subsection: "subject to any by-law which may be passed pursuant to the proviso hereinafter contained," and by adding thereto the following proviso—

"Provided always that the council of any municipality may by by-law direct that the overseers of highways in such municipality shall see that the provisions of this Act relating to noxious weeds are carried out within their respective highway divisions by cutting down or destroying, or causing to be cut down or destroyed at the proper times, to prevent the ripening of their seed, all the noxious weeds growing in the highways or road allowances within their respective divisions, and may in such by-law direct that such work be performed as part of the ordinary statute labor, or be paid for at a reasonable rate by the treasurer of the municipality, as such council may see fit."

As the law now stands, the duty of cutting down the weeds to the center of the highway is cast directly upon the owner or occupant of the adjoining land. The proposed amendment would enable the municipal council to provide for the work being attended to in a systematic manner, under the immediate direction of the local overseers of highways.

RAPID MARITIME TRANSIT.

Editor "The Farmer's Advocate":

Our mails are very slow. Our winter boats were stuck fast for three weeks. Mails were drawn over the backs of the capes on the days. We certainly want the aid of a fleet of airplanes to keep up communication with our neighbors on the mainland. The M. T. was about two weeks fast in the ice, with 27 passengers on board, and sleeping accommodation was very scarce. How is that for constant communication with our neighbors in Canada? W. SIMPSON.

SHIRE HORSE SHOW, LONDON, ENGLAND.

Twenty-eight years have passed since this annual show of the Shire horse was instituted. Success has followed it all the way through. The society is most prosperous, and it provides for the prizes, which amount to £2,150, for the exhibitors out of its own funds, the number of members at the present time being just under four thousand.

The attendance at the show in the first week in March this year was very large, including their Royal Highnesses the Prince and Princess of Wales, and many of the leading landowners of the country. There were also present quite a number of foreign and colonial buyers, and the purchases at the sale included six stallions for New South Wales, two for the Argentine, and six brood mares for the latter country.

It is needless to go into details in respect to the individual merit of the many prizewinners, but it will be of interest to state that, including the reserve numbers, the h. c.'s, the commended, and the challenge cup and champion awards, and their reserve numbers, that no less than three hundred and nine awards were given to two hundred and eighty-nine different animals, or nearly fifty per cent. of the exhibits. The number of sires represented by these prizewinners, for we may mention that with every award card the Shire Horse Society give a money prize of from £1 upwards, was 169, and the honor of being at the head of this list must be given this year to Lockinge Forest King, for he has thirty of the awards to the credit of his progeny. Dunsmore Jameson, who has occupied this place for two successive years, comes a good second, with twenty-two awards to his credit, including the champion young mare.

The challenge cup and gold medal, and champion cup for senior stallion, was won by Lord Rothschild, with Birdsall Menestrel; the cup for the best young stallion went to the Earl of Egerton of Tatton; Messrs. J. Forshaw & Sons won the challenge cup and champion prize for best old mare, with Stolen Duchess, and challenge cup for the best filly went to Mr. R. Whitehead, for Peak Dolly.

The leading winners for stallions included Messrs. J. Gould, Earl Egerton, Lord Rothschild, F. Farnsworth, Sir P. A. Muntz, Victor Cavendish, W. Barrs, Lord Winterstoke, A. Nuttall, J. Forshaw & Sons and R. Green, and those for mares and fillies were Messrs. F. S. Freckleton, W. T. Everard, E. E. Orme, Lord Rothschild, R. Whitehead, E. E. Muntz, Max Michaelis, W. Whitley, P. Coats, Sir B. Sheffield, M. P., H. W. Kearns, Sir A. Henderson, J. Forshaw & Sons, Jas. Bradley, A. H. Clarke, S. G. Grimes, and A. C. Sparks.

To those resident in the colonies and elsewhere, the above list indicates many of the principal stud owners of this country; others of equal note took a good place in the competition, but we are unable to give fuller details, as our limit has been all through first and second prizewinners. Those who should happen to be visiting the Old Country during the last week of February in each year should make a point to attend this great annual show and sale. There is no sight to equal it elsewhere, and few can realize the degree of perfection to which the English Shire horse has been brought without inspecting and seeing this great show.

With reference to the sale, which of itself shows the value placed upon such stock by the breeder, it may be mentioned that 71 stallions were sold for an average of £121, and that fifty mares and fillies were sold for an average of £87. The highest price, 660 guineas (\$3,465), was paid for the brown stallion, Tatton Friar, by the Warwickshire Shire Horse Society.

The averages for the different ages, together with the range of prices, will be of interest: One-year-old stallions made in round numbers from £173 to £30, and averaged £67; 19 two-year-old stallions made from £693 to £52, and averaged £146; 22 three-year-old stallions made from £336 to £58, and averaged £135; 7 four-year-old stallions made from £157 to £52, and averaged £85; 13 stallions five years old and upwards made from £325 to £52, and averaged £122; the one-year-old fillies made from £141 to £42, averaging £69; ten two-year-old fillies made from £136 to £54, and averaged £76; 8 three-year-old fillies made from £141 to £65, and averaged £100; 7 four-year-old mares made from £210 to £48, and averaged £95; 14 mares, 5 years old and above, made from £157 to £50, and averaged £98. The average of the sale was £107 for 121 head. W. W. C.

THE IRISH HOME.

Editor "The Farmer's Advocate":

I saw in recent issue a subscriber wanted to know where there was an Irish Home. I saw in a newspaper a couple of weeks ago that there was one at Hespeler, Ont. I think about a couple of dozen boys and girls came out last year, and they were from Dublin; so now would be his time to apply, as some more may be coming out this year, as I suppose between March and June they would leave Dublin. Durham Co., Ont.

H. J. DEACON.

H. B. Smith, of Wanstead, Ont., a graduate of the Ontario Agricultural College, has been appointed by the Provincial Department of Agriculture to investigate the Ontario potato industry. Numerous reports have reached the Department of loss by rot, and of recent years there has been a large increase in the importation of potatoes from the Maritime Provinces.

A BETTER SHOWING ON THE INTERCOLONIAL.

Hon. H. R. Emmerson, Minister of Railways and Canals, was able to announce in Parliament, at Ottawa, last week, a surplus of over \$93,000 on the Intercolonial Railway for the fiscal year ending June 31st, 1906, as contrasted with a deficit of \$1,700,000 in the previous year. For the first six months of the current year; that is, from July to December, 1906, the surplus has been \$370,656. In speaking of the future of this great national railway, he anticipated its early extension to Toronto. He declared it was the cheapest freight-carrier in the world. The rates it actually charged in 1905-6 netted \$2,400,000 less than the standard rates of other roads, on an equal volume of traffic. Mr. Emmerson stoutly maintained that the Intercolonial should never be handed over to a corporation, and predicted that by and by the people of Canada will demand that branch lines be taken over as part of the Government system.

Every individual has some item of interest which would be beneficial to his fellows, and it is by exchanging ideas that we are enabled to give each thing its proper place. "There are tricks in all trades" is an old saying, but in farming "the trick" is in knowing how. In the business of farming there ought to be no secrets, but rather a community of interests for specialization along some line or lines whereby material can be disposed of in quantity. Markets are often poor because of an insufficient and unsteady output of first-class produce. It is impossible to estimate the loss due to misdirected efforts and slipshod methods.

More than twenty years ago, when the Ontario Agricultural College was fighting its way to the forefront under great difficulty, some of the master minds in agricultural circles conceived a plan whereby certain elements of knowledge, then in the hands of the few, might be given to the many, by means of public addresses in central points. This was the nucleus of the Farmers' Institute. Eventually the idea evolved into a properly-organized society for the solution of problems relative to agriculture, and to-day we find addresses and discussions on every subject of practical interest to the farmer. So far as possible the speakers secured to address these meetings are qualified, not only in theory, but in experience. The majority of them have made special study, and proved successful along the lines which they advocate. Still, in the farmer's slack season (the winter time), some of the meetings are poorly attended. This ought not to be the case. Interesting problems are being discussed. The wisest people are always those who know so much that they thirst for more. No man has a monopoly of information; consequently, if you do not know, why not put yourself in the way of enlightenment? On the other hand, if you are posted, why not pass on the benefit of your experience?

Efforts are being made to establish clubs, whereby farmers may meet frequently to discuss problems, and bring to the forefront the best methods relative to their work. This idea, if properly carried out, ought

to be productive of great good, both in the spreading of information and the arranging of one's thoughts and ideas in a clear and logical manner. In this practical age our ideas are not of much value unless we are capable of giving them expression or demonstration. Learning to think on one's feet is in itself a valuable training, but especially so when dealing with the problems upon which one's success depends.

However, we may allow the work to speak for itself. It is growing rapidly. Members state that they have learned improved methods, whereby their finances have increased in a marked degree. Then, too, work of any kind is more pleasant and satisfactory when we know WHICH method to use, and WHY it is better than others. MARGARET MANSFIELD. Waterloo Co., Ont.

VALUE OF THE INSTITUTE MOVEMENT.

Editor "The Farmer's Advocate":

In this age of keen competition along social and business lines, one can scarcely estimate the value of "The Institute Movement."

It is a non-political and non-sectarian organization, under the supervision of the Provincial Department of Agriculture, and is the outgrowth of a long-felt need. For years tradesmen and mechanics have co-operated and exchanged ideas, while the farmer stood apart from his fellows and failed to achieve the advancement due his calling.

Many farmers have "tilled the soil" in a haphazard manner, leaving nature to do whatever good was accomplished, apparently unconscious of the fact that nature and brains must co-operate for ultimate success. Moreover, to be successful farmers must co-operate with one another, and give their calling a professional stamp and a dignity which it lacks in many communities.

EARLY LAMBS.

The following information has been furnished by an old friend of "The Farmer's Advocate" now in California:

The Western Meat Co., whose packing-house is at South San Francisco, California, received, on March 11th, 1907, four carloads of lambs from Tulare County, Cal. These lambs were born in December, 1906. Variety—mixed ewes and wethers. Breeds—Shropshire-Merino cross, Southdown-Merino cross, Dorset-Merino cross, also Cotswold and Rambouillet (French Merino). Killed, March 12, 1907. Intestines, liver, heart, lungs and windpipe taken out; skin, head and feet left on; placed in cooler for 24 hours to get the animal heat out before placing in refrigerator car. Temperature of car reduced to 32 degrees when loading, owing to door being open; when first opened, car stood at 28 degrees. Loaded in car, March 13, for Swift & Co., Chicago; temperature of car, 32 degrees; number of lambs, 454; average weight with skin, 36 lbs., head and feet on. There are four places where car will be re-iced before reaching Chicago. H. G. M. Alameda, Cal.

QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to the "Farmer's Advocate" are answered in this department free. 2nd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer. 3rd.—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given. 4th.—When a reply by mail is required, the urgent veterinary or legal enquiries, \$1 must be enclosed.

Miscellaneous.

WILLOWS—CATTLE LICE.

1. I have cut several willow trees down that have been growing round the fences, and don't want them to grow again. 2. What is the best thing to use on cattle for killing lice? The hair on cattle is thick and long. J. McL.

Ans.—1. The best time to cut trees to prevent them sprouting up again is June or July. Cut close to the ground, and pull the roots out with team and chain. 2. Use a mixture of one part insect powder or herbore in three or four parts cement. Part the hair along the back and sift in plentifully. The weight of the cement will cause it to settle down the flanks.

RAISING HOGS ON SUGAR BEETS.

In your issue of January 17th, 1907, Wm. Linton, of York County, gave his method of winter-feeding hogs, and stated how cheaply they could be fed on sugar beets, with good results. As there are different kinds of sugar beets, I would like to know what particular kind of beet was grown, or is best for feeding hogs. J. B. L.

Ans.—We use the sugar beets used for making sugar. We put in two acres, intending most of them for the sugar factory, but found we could not get cars to take them for less than \$2.50 per ton, which made it prohibitory, so we concluded to feed them to our cattle; but a neighbor, who was at one time manager of the Warton Sugar-beet Factory, recommended feeding them to pigs, saying that when he was at the factory he had two pigs which he fed exclusively on sugar beets, and they got very fat, and made the nicest, sweetest pork he ever tasted. We have been feeding our pigs on beets exclusively since the middle of November, and they are fatter than we would wish; that is, the brood sows, and the other pigs have done as well or better than we had had pigs do when we fed them all the grain they required. I bought my seed from a firm of seedsmen in Toronto. Help the beets. WM. LINTON.

REGISTERING SHEEP.

Please let me know if it is possible to register Lincoln sheep, ewes not being registered, and, if so, how many crosses are necessary? P. L. A.

Ans.—No; both sire and dam must be registered, and trace to imported ancestry.

RATION FOR THREE-YEAR-OLD HOLSTEIN.

I have a large three-year-old Holstein heifer, which I am anxious to develop into a high-record cow. I am considerably handicapped at present by not having silage and roots, but have the following feeding stuffs in unlimited quantities: Red clover, alfalfa and timothy hay, ground flaxseed, wheat bran, corn meal, barley meal, crushed oats and middlings. Will you kindly prescribe a rather heavy ration from the above? SUBSCRIBER.

Ans.—In developing a heifer it is not wise to tax her capacity. Keep well within the limit, and, as she grows older, she can be crowded more. There is a wide difference in individuality. What would be a heavy ration for one, would be moderate or light for another. Try the following, working up gradually to it; If she responds and keeps hearty, it may be exceeded: Wheat bran, 3 pounds; corn meal, 3 pounds; barley meal, 2 pounds; crushed oats, 3 pounds; flaxseed, ½ pound per day. Feed alfalfa and timothy hay equal parts, or one-third alfalfa, one-third clover and one-third timothy.

AN UNSOUND COW.

A buys a cow from B, last November. A buys her for a sound cow; but, when he gets her home, finds a lump on her stomach the size of an egg. A tells B about it. He says he did not know it was there. The lump gets bigger, and breaks. A gets the veterinary to her. He says she is diseased. After a time another lump comes on her side. It breaks and runs. A has to kill the cow. Does A have to pay for the cow, or will B have to lose her? SUBSCRIBER. Ontario.

Ans.—A would seem to be legally liable for the price of the cow; but he may at the same time be in a position to counter-claim for damages for breach of warranty of soundness of the animal or for misrepresentation in that respect. He ought, however, to make very sure that he can command the necessary evidence to support such counter-claim before making any venture in the way of litigation. Indeed, it would seem to be a case where the parties might compromise to their mutual advantage.

A DIVISION-COURT SUIT.

Saw advertisement in our local paper to effect that a man, with horse and rig, was wanted to do some work with farmers and others. Sent in my name as an applicant. Shortly, a man representing a fire extinguisher company called on me and induced me to take an agency for three townships in our county. In order to do so, had to sign name to a written order for a quantity of such. Had option to pay in advance and have a deduction, or pay in full after selling same. Signed my name for two dozen at \$2, \$4.49 in all, with intention of paying in advance; but directly afterwards backed out, and decided on the other choice. He still retained my order just the same. Shortly afterwards, goods arrived at the station. To my disgust, I found goods sent C. O. D., and not subject to examination, and I again had my choice of paying in advance and have deduction, or sign my name to a note, and have same backed by my father. No mention was made of note at time of transaction. I decided on paying, and made arrangements with express agent to pay following day; so, without taking goods out of rig, returned home with same. Next day I opened one of two parcels, to give same, a trial, fully intending to pay for same. I was further dismayed, after trying, to find goods a gross misrepresentation, as I can swear that same will not create a gas and extinguish flame, as general agent represented. I at once repacked the parcel I opened and returned both to express office. Got express agent, on my behalf, to notify company of my refusal to accept same, unless said company gave a written guarantee that goods were what they represented them to be. No heed was taken to first notice. In due time dealt said company a second notice, shortly afterward receiving an answer to first notice, threatening to sue if goods were not taken out within a certain time; suit to take place at plaintiff's division court. In a day or two bailiff served me with a notice of suit. 1. Can said party or company hold me liable for payment? 2. What is my best course, whether liable or not? 3. Can said suit be legally settled in plaintiff's division court, or can it be transferred to the defendant's? Ontario. FARMER'S SON.

Ans.—1, 2 and 3. You should at once take to a solicitor the summons that was served on you, and have him attend to your defence, or negotiate a settlement, as he may advise after a personal consultation. We could not venture an opinion as to your legal liability or proper place for trial without seeing the order which you signed, or a copy of it.

DENATURED ALCOHOL.

Where can I get books on the subject of alcohol, as used by engines, or how it is manufactured? G. M. M. Ans.—Write Dept. of Publications, Washington, D. C.

HEIGHT TO ERECT WINDMILL.

We have a twelve-foot windmill, which we will use for crushing grain, pumping water and sawing wood. We are going to put it on a barn, thirty-six feet wide, eight-foot basement, and seventeen-foot posts. How high should it be placed above the peak of the roof? We are situated so as to have a good wind from all quarters. D. M.

Ans.—Twelve to fifteen feet above the peak of the roof.

HOMESTEADING.

If I lived on a homestead for four or five months and moved off, and was granted an extension of time from the Crown Lands Dept., Ottawa, will the four or five months that I lived on my homestead count as settlement duties, or will I have to start anew? A. D. Parkhill, Ont.

Ans.—We think that the 4 or 5 months in question ought to be allowed; at least, where there should be no great difficulty experienced in obtaining an allowance of same, under the circumstances, by the Government.

OATS FOR HAY.

Is it possible to cure or make out straw into feed the same as we do clover or timothy, by cutting while it is green? Would it make as easily and be as good when made, and what would be the feeding value compared with clover or timothy hay? Would it do to drill it about the first of July, or would it be better to plant earlier? E. F.

Ans.—Oat hay, cut when the seed is in the early-milk stage, may be cured into a bright dust-free hay of a quality well suited for feeding horses and dairy cows. There is no reason why wheat, oats and barley should not be more largely grown than they are to supplement winter-killed meadows. In composition, this hay would compare favorably with clover, being nearly as rich in protein and somewhat superior in protein and fat. With timothy, it compares much more favorably, of course, being twice as rich in protein and not materially poorer in the other constituents. Sow as early in spring as possible. We would advise mixing peas and oats, five or six pecks of each per acre. If required a portion of this crop might be used to excellent advantage for summer feeding.

MARKETS.

TORONTO.

LIVE STOCK.

Receipts of live stock at the City and Junction markets, last week, were liberal. 242 carloads all told, consisting of 8,896 cattle, 1,982 hogs, 365 sheep, and 223 calves. Monday's receipts of cattle at the Junction, 1,100.

Exporters.—Prices for exporters were easier on account of scarcity of shipping space. Prices ranged from \$4.85 to \$5.40, the bulk selling at \$5 to \$5.15. Export bulls sold at \$3.75 to \$4.40 per cwt.

Butchers.—There was a good demand for prime lots of butchers' for the Easter trade. One load of the best exporters, weighing 1,400 lbs., was bought by the Leveck Dressed-Beef Company, to kill here, at \$5.40. Several prime lots of butchers', weighing from 1,050 to 1,200 lbs., sold at \$5 to \$5.25; loads of good at \$4.75 to \$5; medium, \$4.85 to \$4.60; common butchers', mixed with cows, \$3.60 to \$4.20; canners, \$2 to \$3.

Feeders.—A few lots of short-keep feeders, 1,150 to 1,250 lbs., each, sold at \$4.50 to \$4.75.

Milch Cows and Springers.—A few good cows, and many medium to common, sold at \$35 to \$75, the bulk going at \$40 to \$55 each.

Veal Calves.—A plentiful supply, many of which were what is known as "bobs" or dairy calves, which sold at \$3 to \$4.50 per cwt.; good sold at \$5.50 to \$6.50, and prime, new-milk-fed, veals brought \$7 to \$7.50 per cwt.

Sheep and Lambs.—Receipts light; prices firm at unchanged quotations. Export ewes sold at \$4.75 to \$5.50 per cwt.; rams at \$3.75 to \$4.50; yearling lambs, \$5.50 to \$6.50 per cwt. for common, and \$7 to \$7.50 for prime grain-fed lots. Spring lambs are beginning to come, and are worth from \$6 to \$10 each.

Hogs.—Deliveries have been light for some time. Selects are quoted \$6.90, and lights' and fats, \$6.65. One or two prime lots sold at \$7; sows, \$4 to \$5; stags at \$2.50 to \$3.50 per cwt.

Horses.—There has been a brisk trade in horses at restricted prices. A large number of drafters and heavy delivery horses, with a few drivers, brought fair prices; but the bulk of sales were made at prices that did not suit many farmers and dealers that had placed them on sale. Good, sound, well-trained driving horses are scarce and hard to get, and odd sales have been reported at \$250 and one at \$300. Burns & Sheppard report prices as follows: Single roadsters, 15 to 16 hands, \$125 to \$175; single cobs and carriage horses, 15 to 16.1 hands, \$125 to \$200; matched pairs, carriage horses, 15 to 16.1 hands, \$350 to \$450; delivery horses, 1,100 to 1,200 pounds, \$140 to \$175; general-purpose and express horses, 1,200 to 1,350 lbs., \$150 to \$190; draft horses, 1,350 to 1,750 pounds, \$150 to \$225; serviceable second-hand workers, \$50 to \$80; serviceable second-hand drivers, \$60 to \$90.

BREADSTUFFS.

Grain.—Wheat, No. 2 white, 72c.; No. 2, mixed, 71c.; No. 2 red, 71c.; No. 2 Goose, 65c.; Manitoba, No. 1 Hard, 90c. bid.

Buckwheat.—56c.

Corn.—No. 3 American yellow, 52½c. to 58c.; Ontario, 46c. to 47c.

Oats.—No. 2 white, 39c.; No. 2, mixed, 38c.

Rye.—No. 2, 70c.

Barley.—No. 2, 52c.; No. 3X, 50c.; No. 3, 45c.

Peas.—No. 2, 79c. to 80c.

Bran.—Still scarce at \$22.

Shorts.—Scarce at \$23.

Flour.—Manitoba patent, \$3.85, on track, at Toronto; Ontario, 90 per cent. patents, \$2.97 bid for export; Manitoba patent, special brands, \$4.50; strong bakers', \$4.

COUNTRY PRODUCE.

Butter.—Receipts moderate; market firm for choice dairy. Creamery rolls, 27c. to 30c.; creamery boxes, 26c. to 27c.; dairy pound rolls, 25c. to 26c.; tubs, 22c. to 23c.; bakers' tub, 19c. to 20c.

Eggs.—Receipts large, with prices lower at 21c. to 22c.

Cheese.—Prices steady. Large, 14c.; twins, 14½c.

THE SOVEREIGN BANK OF CANADA

Head Office, - - - TORONTO

RANDOLPH MACDONALD, President.

A. A. ALLAN, Vice-President.

D. M. STEWART, General Manager.

Capital Subscribed	\$ 4,000,000
Capital Fully Paid	3,998,000
Reserve Fund	1,255,000
Assets Over	25,000,000

GENERAL BANKING.

SAVINGS DEPARTMENT.

INTEREST CREDITED QUARTERLY.

78 branches throughout Canada.

Honey.—Market firm. Prices steady at 12c. for strained; combs, \$2.60 to \$2.75 per dozen.

Evaporated Apples.—9c. per lb.

Potatoes.—Market firm, New Brunswick Delawares, by the car lot, on track, at Toronto, \$1 per bag.

Poultry.—Supplies light; prices firm; turkeys, 16c. to 20c.; chickens, 15c. to 17c. per lb.; hens, 11c. to 13c.

Hay.—Supplies limited. Car lots of baled No. 1 timothy, \$13; No. 2 timothy, \$11 to \$12 per ton.

Straw.—Baled—Car lots, on track, here, \$7 per ton.

Beans.—John Fisher, wholesale dealer in beans, reports, car lots, in bags, prices as follows: Hand-picked, \$1.30; primes, \$1.20 per bushel. Small lots sell at \$1.50 to \$1.60 for hand-picked, and \$1.35 to \$1.40 for primes, in bags.

SEEDS.

Toronto seedsmen are quoting the following prices for re-cleaned seed to farmers for spring seeding: Red clover, \$14.50 to \$16.50 per cwt.; alsike, \$10.50 to \$13 per cwt.; timothy seed, \$5 to \$7 per cwt.

HIDES AND TALLOW.

Prices are quoted as follows by E. T. Carter & Co., 85 East Front St., Toronto: Inspected hides, No. 1 cows and steers, 10½c.; inspected hides, No. 2, cows and steers, 9½c.; country hides, cured, 9c.; country hides, green, 8c.; calf skins, No. 1, city, 13c.; calf skins, No. 1, country, 11c.; sheep skins, each, \$1.55 to \$1.65; horse hides, \$3.50 to \$3.75; horse hair, No. 1, per lb., 30c. to 32c.; tallow, per lb., 5½c. to 6c.

MONTREAL.

Live Stock.—Shipments of cattle from Portland, Me., and St. John, N. B., for the week ending March 16, were 1,918 head, against 1,898 the previous week. It is estimated that shipments for following week will not exceed 1,500 head. This curtailment of shipments is due to the discouraging advices which continue to come in from abroad. Argentine chilled and frozen beef is now going forward to England in large quantities, and this will enter into competition with shipments of live stock from this side. It is stated that 8,000 to 10,000 head of distillery cattle were fed in Western Ontario this winter, and that some of the feeders are asking 6c. to 6½c. per lb. for them. Offerings of cattle on the local market are fairly liberal, and the quality of the animals shows a great improvement, doubtless owing, in large part, to the approach of Easter. Prices, on the whole, were higher than a week before, notwithstanding the continued lower cables from England. Some choice, stall-fed, Easter cattle changed hands at 6c. to 6 1-3c., six carloads being secured for shipment to Quebec. Some choice bulls brought 4½c. to 5c. per lb., but little business was put through for export account. Local offerings were out in fair numbers, and the market was active. Choice cattle averaged 5½c. to 5¾c. per lb., while others sold at 5c. to 5½c. good, 4½c. to 5c. for common, and 4c. to 4½c. for poor. Spring lambs are coming on the market, and prices range around \$5.00 to \$8.00 each. Sheep sell at \$2.00 to \$3.00 and lambs at

13½c. for finest goods, but they probably could not get more than 13½c., and it is likely purchases could be made at that figure.

Seeds.—Red clover and alsike appear to be now all in, and dealers are beginning to put it out again. They are charging \$13 to \$16 per 100 lbs. for alsike, f. o. b., Montreal, \$15.50 to \$17.50 for red clover, and \$14 to \$20 for white clover. Timothy has begun to come in at last, and dealers expect to get it started out again before very long. They are paying \$1.75 to \$2.75, at country points, per bush. of 48 lbs.

Flour and Feed.—The car situation has apparently not improved for some time past, and millers are beginning to get somewhat desperate. They continue to quote \$4 per bbl., in bags, for Manitoba strong bakers' flour, and \$4.60 for patents. Manitoba bran and shorts are any price, bran being possibly \$23.50, and shorts, \$1 less. It is almost impossible to get the goods, and it is hard to say what would be paid for immediate delivery.

Grain.—Practically the only grain being handled, locally, in quantities worth noting, is oats. This is in fair demand, but trade is not at all active, and supplies are moderate. Prices are 43½c. to 44c., store, for No. 2; and 42½c. to 43c. for No. 3, and 41½c. to 42c. for No. 4.

Hay.—The market is firm, owing to a better local demand, and an improvement in the export market. Prices show little change, at \$13.50 to \$14 for No. 1 timothy; \$11.50 to \$12.50 for No. 2; \$10.50 to \$11.50 for clover-mixed, and \$10 to \$11 for pure clover.

Maple Syrup.—The first arrivals of the really pure goods are expected here this week. The weather has been very favorable during the past week, although some days were too gloomy. Prices are expected to range around 7c. per lb., or 90c. per gallon, to jobbers.

Hides, Wool, etc.—The market is steady, this week, there being no change in prices. Local demand is fair.

CHICAGO.

Cattle.—Market steady, but dull; common to prime steers, \$4 to \$7; heifers, \$2.65 to \$5.25; cows, \$3.25 to \$5; bulls, \$3.25 to \$4.60; stockers and feeders, \$3 to \$4.90.

Hogs.—Choice heavy shipping, \$6.47½ to \$6.50; light butchers', \$6.47½ to \$6.50; choice light, \$6.50 to \$6.55; packing, \$6 to \$6.45; pigs, \$4.50 to \$6.50; bulk of sales, \$6.45 to \$6.47½.

Sheep and Lambs.—Sheep, \$4 to \$6.40; yearlings, \$5 to \$7; lambs, \$6.40 to \$8.00.

BUFFALO.

Cattle.—Light demand; unchanged.

Veals.—Active, and 50c. higher, \$4.50 to \$9.50.

Hogs.—Heavy, mixed, Yorkers and pigs, \$6.95 to \$7; roughs, \$6.10 to \$6.25; stags, \$4.50 to \$5.25.

Sheep and Lambs.—Steady; lambs, \$5 to \$8.25.

BRITISH CATTLE MARKET.

London.—Liverpool and London cables are 11c. to 12½c. per lb., dressed weight; refrigerator beef, 8½c. to 9c. per lb.

QUESTIONS AND ANSWERS. Miscellaneous.

MILLET—LIGHT BRAHMA EGGS

1. Could it be possible to plant millet early enough so as you could get a crop of buckwheat off the same piece of land, using the millet for hay?

2. Could you tell me where I could obtain a setting of pure-bred Light Brahma eggs?

SECOND-YEAR SUBSCRIBER.

Ans.—1. We would not advise planting millet for hay with the expectation of following it with buckwheat. Millet requires a warm soil in which to germinate and grow. As a rule, it is best to defer sowing it till the last of May or first of June in Western Ontario, and in Frontenac County it would be rather later. If hay is wanted, try oats and peas.

2. Breeders of this superb fancy and table variety of fowls should note this inquiry. Many subscribers, besides our querist, would appreciate a chance to obtain a setting of Light Brahma eggs.



HOME MAGAZINE

EASTER DAY.

A song of sunshine through the rain,
Of spring across the snow,
A balm to heal the hurts of pain,
A peace surpassing woe.
Lift up your heads, ye sorrowing ones,
And be ye glad of heart,
For Calvary day and Easter day,
Earth's saddest day and gladdest day,
Were just one day apart.

No hint or whisper stirred the air
To tell what joy should be:
The poor disciples grieving there,
Nor help nor hope could see.
Yet all the while the glad, near sun
Made ready its swift dart,
And Calvary day and Easter day,
The darkest day and brightest day,
Were just one day apart.

THE DAYS GONE BY.

By L. J. Gilleland, Ayton, Ont.

"The old days!—the far days!
The over-dear and fair!
The old days—the lost days—
How lovely they were!"

—Riley.

While wondering through Dream-land, I came upon the quaint old log-house nestled among the trees of the orchard. The logs had been hewn flat on two sides and set on edge. They were held in place by being dovetailed at the corners where the ends met. The spaces between the uneven logs, where the round sides lay together, were filled up with long, three-cornered strips of wood. The chinks were then well plastered with mortar to keep out the weather. Under the corners, and at intervals along the sides of the house, were blocks that had been sawn from a large tree and placed on end in holes in the ground. These made the foundation on which the house rested. To prevent the wind from getting under the house and causing cold floors, the earth was banked up all round, and pounded with the flat of the shovel to keep the rain from washing it away.

It was a large square house, without a veranda. In the building of it, no time was lost on the artistic. Plenty of room, at little cost, was the great consideration. There were two doors, on opposite sides of the house, each placed midway between the two windows, which were of the usual small-pane variety used in those days, six panes of glass to each sash. The upper half of the window had a white cotton blind that was nailed at the top and rolled up half way on a pine stick, and pinned to prevent its falling. On the windowsill stood two varieties of geranium—the common, smooth-leaf, flowering kind, with single and double blossoms, and the plant with the divided, scented leaf. Modern authority says that the latter is the only true geranium; but, after all, the name is of as little consequence now as it was then. The house-plant was worshipped because of the cheer it brought, and what greater service can be rendered, even by the gorgeous, present-day flowers, with their wise-sounding titles?

At the east end of the house there was an outside door to the cellar, with steps cut in the hard clay leading down to the level of the cellar floor. This was the summer entrance to the cellar. In winter it

was filled up with straw or sawdust, and this in turn was covered with earth, to keep the frost from the bins of apples and potatoes, and from the rows of glass jars containing the "preserves."

In the fall the house was banked up a little higher with earth, and the cracks freshly plastered to stop every

The coon hunt was a great event. Sometimes we would tramp for miles and never start a single coon. Patch after patch of corn was visited and trampled down without success, so far as coons were concerned, but we always had roast corn, with butter and salt. We went prepared to feast after either success or failure.

feet into a narrow ravine, and, not striking the ground as soon as he expected, gave vent to a terrible, blood-curdling yell. He fell on a muddy bottom that prevented any broken bones, but being badly frightened and bewildered by the sudden drop, he tried to get out at the deepest side, and kept shouting for help. When his friends arrived with the lantern, they found the opposite bank only three feet high.

At last the coon was treed, and all hands gathered round to decide on a line of action. If the tree proved a small one, it was chopped down, and the dogs rushed into the top to finish the coon. But when the tree was very large, or the axe had been forgotten in the hurry of departure, someone had to climb the tree to shake off the coon. It was not an easy job, for a club had to be taken along to keep the coon's teeth from the climber's legs. The animal's fall among the dogs caused a fearful yelping and snarling and biting for a few moments, and in that short time some of the dogs received ugly scratches.

At the close of the scrimmage, one of the boys carried the carcass home by the tail to be skinned. When the pelt was cleaned of all dirt and fat, it was tacked up to dry on the barn door or on the end of the log house. After thorough drying, it was tanned by a homemade process. The final stage was reached when the fur was cut up into caps and mitts for the men and boys to wear during the winter. Some of the farmers made the animal render up "coon oil" as well as the pelt. The oil was considered a sovereign liniment.

At the foot of the rising ground on which the house stood was a tall hickory tree. After the first frost, the nuts lay thick on the smooth grass around the foot of the tree. They were of the thin-husked, bitter variety, and therefore useless to the boy. From the trunk of the tree stretched a long wire clothesline, secured at the other end by a stake fastened to the lane fence. The line was originally low, but the growing tree had lifted it very high at one end. The wire had cut its way into the trunk, or, rather, the tree had grown around the wire, which at length passed through the center of the tree. This was a witness to the age of the log house. To wondering childhood, it seemed a long, long time.

From the hollow at the hickory tree, a well-worn path led through the orchard, up the slope, to the front of the house. Along both sides of the path ran rows of black currant and gooseberry bushes. The rows terminated in two tall lilac bushes, which met and formed an arch overhead, and almost obscured the house from view. Passing through the archway, one came to a smooth open space in front of the house. This was the chief playground. Through the action of the sun and years of tramping feet, it had become as hard as brick, and was always ready for use, even after a shower. At either end were stakes used for pitching horseshoes, this being the favorite amusement of the men in the old days on the farm.

In the summer, the bank of clay along the side of the house was made into flower-beds. A board held on



Before the Binder Had Supplanted the Cradle.

nook and cranny. Some residents preferred the manure from the barnyard for banking, because they claimed it to be warmer. At any rate, it was more odoriferous. When this material was used, it had to be carted away every spring in the wheelbarrow and dumped on the vegetable garden.

When the hunt was over, a bonfire was quickly started, and all hands commenced roasting ears of green corn. We did not wait for hot coals to form, but held the cobs in the flame. The blacker the corn, the sweeter it seemed to taste.

When the dogs started a coon, then there were doings. The animal al-



The Old Log House.

Here and there in the end of the house were driven large nails, on which hung various articles, such as chains, bits of wire, rings, staples, bolts, nuts, an old scythe, and several tin cans. During the corn season an occasional pelt was tacked up to dry, a trophy of the "coon" hunt with the dogs.

ways headed for the woods to reach a tree. We followed the yelping dogs over every obstacle, and soon had sorry-looking clothes. On a certain dark night, during such a hunt, one of the boys ran along a fallen tree that lay in his path, and jumped from the end of it to continue the chase. He dropped about eighteen

its edge by stakes was placed in front of the bank, and filled in with loose earth. Here were grown all the old-fashioned flowers—rosemary, ribbongrass, bachelor's button, old man, and hen-and-chickens. Up each side of the doorway was stretched pieces of string for the morning-glory to twine upon. The vines followed the strings as far as the nails driven into the logs, just above the door. Having nothing more to cling to, the long tendrils hung swaying in the wind. Some of them caught the branch of a peach tree that stood at one side of the doorway close to the house, and on this kindly arm continued their journey upward.

On the outer side of the playground grew two bunches of flowers, the tiger lily and the blue flag. These were to be seen in every garden. A short distance from the flags were large clusters of horse-radish, that proved so useful in supplying an appetizer for the table.

Behind the line of bushes that bordered the path was a large open space, set apart for the apiary. The hives were plain wooden boxes, resting on pine boards raised about two feet from the ground on stakes. Little notches were cut in the front of each box for the passage of the bees.

During the swarming season there was always great excitement. When a swarm was expected we used to repeat the following rhyme:

"A swarm in May
Is worth a load of hay.
A swarm in June
Is worth a silver spoon.
A swarm in July
Is not worth a fly."

Notwithstanding this wise proverb, the swarms would come along in July with pleasing regularity. There was once an exception to the pleasure.

One twelfth of July the Orangemen were having a celebration in our market town, and every man, woman and child who could get away went to see the procession and to hear the music of the fife and drum. Any noise is music to youthful ears, not excepting the bagpipes. My mother and I were left at home to watch the bees. Sure enough, one swarm did go off. We got out an old cow-bell and rang it as hard as we could to prevent the swarm leaving—at least we were told it would have that effect. Finally the swarm settled, and hung from the limb of an apple tree in front of the house. Mother could not go near the bees. One sting was enough to disable her for several days. Some of the neighbors could hive bees and show no trace of swelling, even from numerous stings. There were no neighbors near, and my mother could not help me, so I had to try to save the swarm the best way I could alone. I set a large table covered with a white sheet just below the bunch of bees. On this was placed the empty hive, which had been sprinkled inside with salt water for luck. Having covered my face and neck with a veil and put on long gloves, I went to work. I saved off the branch from which the bunch of bees was suspended, and gently dropped the whole mass under the front of the box, which was tilted back ready for them. A great many of the bees took wing and rose again, but I kept brushing the mass under the box with a bunch of leaves. I must have succeeded in getting the queen-bee into the box, for soon the whole swarm moved toward the entrance and were saved. I lifted the box to a stand that I had hastily made near-by, and the battle was won without a single sting. I could never be coaxed to have anything to do with the bees again. I had lost my nerve, and was ever after afraid of them.

When honey was introduced, I was in no wise bashful. My fear of bees did not affect my appetite for honey, when a hive was "taken" in the fall. The old way of getting the honey was a very destructive one on the bees. A whole hive was held over a pan of burning brimstone, and all were smothered. The honey was safely obtained, but the bees and

their store of bread were destroyed. When the bees were all dead, the box was brought into the house to have the great masses of comb removed.

This "taking" of a hive was one of the occasions when there was no limit placed to the gratification of all desires. The boy ate honey until he could eat no longer. Then, with the big tin dipper, he would take a drink of cold water from the supply in the wooden pail standing on the long, four-legged bench near the door. This refreshing draught brought back his appetite, and he went at the honey again with renewed vigor. He ate and drank, and drank and ate, and smeared himself with sticky sweetness from head to foot, until at length he retired from the contest, vanquished, but satisfied and happy—for the time. He went to bed exhausted, although he was ready again to renew the struggle the very next night, but was not permitted to do so. The feast was over, and, in consequence, the supply of honey was strictly limited. The unbounded license was for one night only.

After an evening of feasting, the boy always dreamed dreams, and saw "things" that made him roll about in bed and shout. He would often walk about in his sleep all over the house. There was a railing around the opening of the stairs, or he might have fallen down and broken his neck. Many a time he did wake up and find himself astride of the railing, playing horse. Had his horse proven balky and thrown him, he would have ridden no more railings bare-backed. Another of his common practices when in these fits of somnambulism was to climb the high front of the bedstead, or to mount one of the tall corner posts. Sometimes he would get on top of the dresser, or make an effort to climb the bare wall. He was always trying to do some impossible thing, but could not accomplish it. Herein lay the torture. It may be just as well that he did not succeed, or he would not now have been telling of his failures. Had he been able to climb into space from the top of a bedpost, after the manner of the fakirs of India, he might have gone so far as to be unable to return in time for the morning call. For variation, he would occasionally have dreams of the fearful nightmare variety, but this always followed an evening of ghost stories instead of a feast and its resulting indigestion.

The bees had a strange fascination for me. Although I was afraid of them, they attracted me. The habits of "the little busy bee" brought me again and again to watch the hives. Sometimes large bunches would be seen massed outside the box or hanging from the support. This may have been for coolness, but it was then thought to indicate an approaching swarm. Numbers of bees would often collect around the entrance of the hive and keep up a constant whir with their wings. The boy was told that these bees were calling; but the modern sage says that it is for ventilation. The sustained movement creates a circulation of pure air throughout their home. One by one the bits of romance go down before the exact sciences. The cutting of the hay and grain was often delayed on account of the action of the bees. It was said that the little workers were never known to be caught in a shower of rain. If the bees were seen entering and leaving the hive regularly, rain was not near; but on the approach of continued rough weather, the whole colony worked with redoubled energy. The bees were in a perfect ferment, and so nervous and irritable that it was dangerous to molest them.

Sometimes during the swarming season the new colony of bees would leave for parts unknown, notwithstanding all the noise we made with cow-bells and cow-bells. They just disappeared. They had made up their minds and did not hesitate as to the course these swarms would take. I have seen these swarms, would loathe to be in the woods. Honey was a favorite pas-

time on Sunday afternoon for a certain class of young men. One night we heard the crash of a mighty tree in the woods, and suspected that a bee-tree was being felled and robbed by the boys. Early in the morning we located the fallen giant, which had been emptied of its store of sweets. There was still enough left to fill several pans with the delicious comb. In the dark and hurry, the robbers had overlooked part of the precious treasure.

It is many years since I last saw the old home where I spent my boyhood. Yet I have a very vivid recollection of it and of the old life on the farm. As I sit and dream, with a far-away gaze, the old log-house rises before me as though I were walking up to it. I almost expect to see my long-absent mother come out to meet me. She was the Guardian Angel of that hallowed spot, and every incident that comes to mind brings with it her sad, familiar face. I imagine myself again a boy coming home from school and rushing into the house for something to eat after the long walk and the long fast. Half a day was a long time for a boy to go without eatables of any kind. Mother always kept some of the soup left over from dinner. I have often thought since that the schoolboy's share was taken out first and put away in a large bowl in the pantry. It never occurred to the boy to feel thankful. Indeed, he often complained when there was no soup on hand. How little he knew of the strength of that mother's love. He realized it when it was too late to show appreciation.

Who can be so thoughtful as a mother? Every want of the boy was foreseen and provided for long before he felt the want or made it known. His need in the future struggle with the world was anticipated. Many a time has he been thankful that he was forearmed for the temptations that come so subtly and unexpectedly. His mind was kept pure and stored with high ideals, and when the temptations came they were passed safely and unconsciously. They were not even recognized as temptations, his ideals giving his mind and will a bent in a totally different direction. All honor should go to the mother for perils and pitfalls safely passed. All pity should go to the boy who has no such mother for his Guardian Angel.

RAMBLES ABOUT THE OUTSKIRTS OF ONTARIO.

A BUSH HAPPENING.

In a whole summer of canoeing and camping in the yet indifferently-known northern forests, the dead-level of monotony is not infrequently relieved. So we found, at least. Our hero, who modestly desires to avoid the bright light of publicity, had killed the first moose, and already so far forgotten how that deceased animal had made his heart skip beats and his arms act strangely, as to be able to yawn with a fair assumption of ennui, and express a desire to collect a few bear skins. Moose-hunting was interesting, but lacked excitement. A nice thick, black rug would look well on the floor of his den in the city. The other fellows, of evenings, would admire it, and listen with a tinge of hero-worship to reminiscences told with a perfect sang froid. The toy-like .22 rifle hanging on the wall would come in for its share of glory as well.

One afternoon, when coming down the Wabinoch River—four of us in two canoes—opportunity met us at a turn in the stream, not the fleet-footed one of the streaming forelock, but a defiant strumpet, who dared us to seize her. A chorus of querulous grunts were being emitted somewhere in the thick undergrowth on shore, accompanied by the occasional snap of brushwood. Our Indian companions exchanged quick glances, and Peter vouchsafed for our enlighten-

ment: "Muquah (bear)! He got young ones."

A moment later we caught sight of two cubs in the top of a dead tree, climbing about playfully, and evidently much less bothered by our intrusion than their parents below.

Here were plenty of bear-skin rugs in the raw state. Our Nimrod recollected that he only wanted one, but we others assured him he needn't kill both. One should be let escape to care for the cubs.

During our little parley the unsuspecting creatures had retreated some little distance away from shore, and, the current being strong, we ran ashore—very quietly, of course; the bears might be alarmed or annoyed by any noise. Nimrod counted over his cartridges (what a lot there were!) and stepped ashore a grim, remains-to-be-sent-home expression on his countenance. We followed the courageous example, drawing the canoes up lightly. Peter set about stripping the bark from a canoe-birch and twisting it into a long roll.

"What's that for, Pete?"

"Oh, muquah don't like fire; we chase him."

Nimrod failed to conceal a gleam of interest. The bark torch prepared, and ready for ignition, the stealthy procession tiptoed towards the bushes. Nimrod cautiously offered the position of honor to the torchbearer, but he had met a very Chesterfield. Jerry, the younger Indian, kept well in the rear. After firmly overruling some remonstrance, I remained at the landing-place to look after the canoes. The others pointed out that they could not easily float off; but canoes are uncertain things. Besides, the hunters might travel far after the game and have difficulty in locating themselves, in which case I would halloo. Nimrod smiled oddly at my reasoning—almost bitterly.

The halloo was unnecessary, however. The cracking of bushes grew fainter, slowly, between long silences, in which the cautious hunters listened intently. From my seat in the canoe—it was quite unnecessary to remain ashore—I could see the cubs moving about like round balls of fur, playing or staring down in my direction. Then the disconcerting grunts arose anew, succeeded by a furious crashing of undergrowth. Nearer and nearer it came. Both old bears must be in full chase. There had been no gunshots. Perhaps they had charged unexpectedly. The crashing grew louder rapidly, and, for a moment, the unnerving idea of the quarry—the bears, I mean—reaching the canoes first came to mind. I seized my paddle, and got ready to shove out into the current. But excitement brings quick thinking. It occurred to me that they would consider the chase over when the hunters had been overtaken.

Just then Jerry appeared, his arms before his face to protect it from the branches, followed closely by the bigger Indian. Nimrod, who has long legs, was only a short distance behind, having been hampered by his rifle. Then—the frenzied bears? No, nothing. The habitual quiet had resettled upon woods and river. Up in their dead tree the cubs clung motionless, staring curiously down at us. Where were the old ones? The forest bore an aspect of inscrutable calm, yet, perhaps, somewhere within it a couple of furry countenances wrinkled with amusement.

Actions indicated the hunt over, for everyone took his place quietly, and we were again homeward bound. A camp one day old had already taken on a cheerful, domestic atmosphere. As we paddled down the river, curiosity mastered me. "Were they very large bears?" "Yes." "Had they been very close to them?" "Ye-es." "No chances of a good shot?" "No. Oh, we didn't see 'em at all; it was very thick in there." After paddling silently for a while, "Why didn't you light your torch, Pete?" "Oh, dunno; lost him."

C.
Of the Geological Survey of Canada.

OUTDOOR WORK FOR WOMEN.

If Mr. MacCallum can endure a few more thoughts on so "painful" a subject as outdoor work for women, I would like to reply to his letter of March 14th.

Instead of this being a "nightmare of the past," it is only an evidence of the common-sense spirit of the age. When the country was young, women worked out of doors, and no one scoffed or criticised; but, as prosperity increased, help became more plentiful and the pendulum swung to the other extreme. Any woman who worked outdoors was looked at as a freak, and was thought to be bold and masculine. This was the day of the "clinging-vine" type of women, who fainted at shadows. But once more common sense has saved the situation; the clinging vine is as undesirable as the amazon, and now we find women doing whatever their health and inclination allow them to do. We read continually of successful dairy, poultry and bee women. But evidently Mr. M.'s chief aversion is the woman who can drive machinery, feed stock and build a load of hay. I did not suggest that a girl learn to do this work as a prospective occupation (though, if her health would allow it, I see no disgrace in it), but that she might be able to cope with emergencies that she might have to face as a farmer's wife. For the same reason, I would teach a farmer's son the simpler details of cooking, ventilation and nursing. It is all very well for the man who has abundance of help, both indoors and out, to say, "Women must stay in the house"; but when a man and his wife are alone on a farm, neighbors a mile away, and perhaps strangers at that, it is often very convenient to know something of work other than one's own.

As to the "dear experience" by which a girl learns these tasks, she is in no danger when learning, a little at a time, on her father's farm. Please read again that the first requisite of education is care of the health, and an equally important one is care of one's children; therefore, a properly-educated woman will neglect neither of these for the sake of anything else—and so will she also escape that threatened insane asylum. I wonder if Mr. MacCallum knows that the hysterical, neurotic creatures who fill the asylums are almost invariably women of so little enlightenment that their one idea was to scrub and clean, and patch and save, that they might either hoard up a few extra dollars or purchase with them a silk gown, an upholstered parlor suite, or some silver spoons. No broad-minded, properly educated woman ever becomes a drudge. She will have ingenuity enough to eliminate the non-essentials, and get out of the trouble some way.

Indeed, I would have a woman "many-sided," and "have her begin young and continue long" (even as long as she lived), to learn all she could of whatever came her way; for it is well known that judicious employment of the mind throughout life is the best preservative of youth. No labor, in itself, is degrading—only as the mind of the laborer is coarse and common. A woman is no more likely to become masculine by learning to feed stock than a man becomes effeminate by learning to make toast.

The wives of barristers, physicians, etc., are not obliged to learn the business of their husbands, because their husbands succeed as well without them as with them. But surely you will agree with me that no farmer can succeed without a wife (or substitute of some sort).

Now, dear Editor, I have tried to be as brief as possible, and where I have erred, it was to show plainly my understanding of the case. Like Mr. MacCallum, I trust my letter may not be all in vain, and hope that Mr. M. will occasionally read *Angle Nook*, and learn there that women do outdoor work, and none of the threatened disasters overtake them, either.

BERTOLET.

The Quiet Hour.

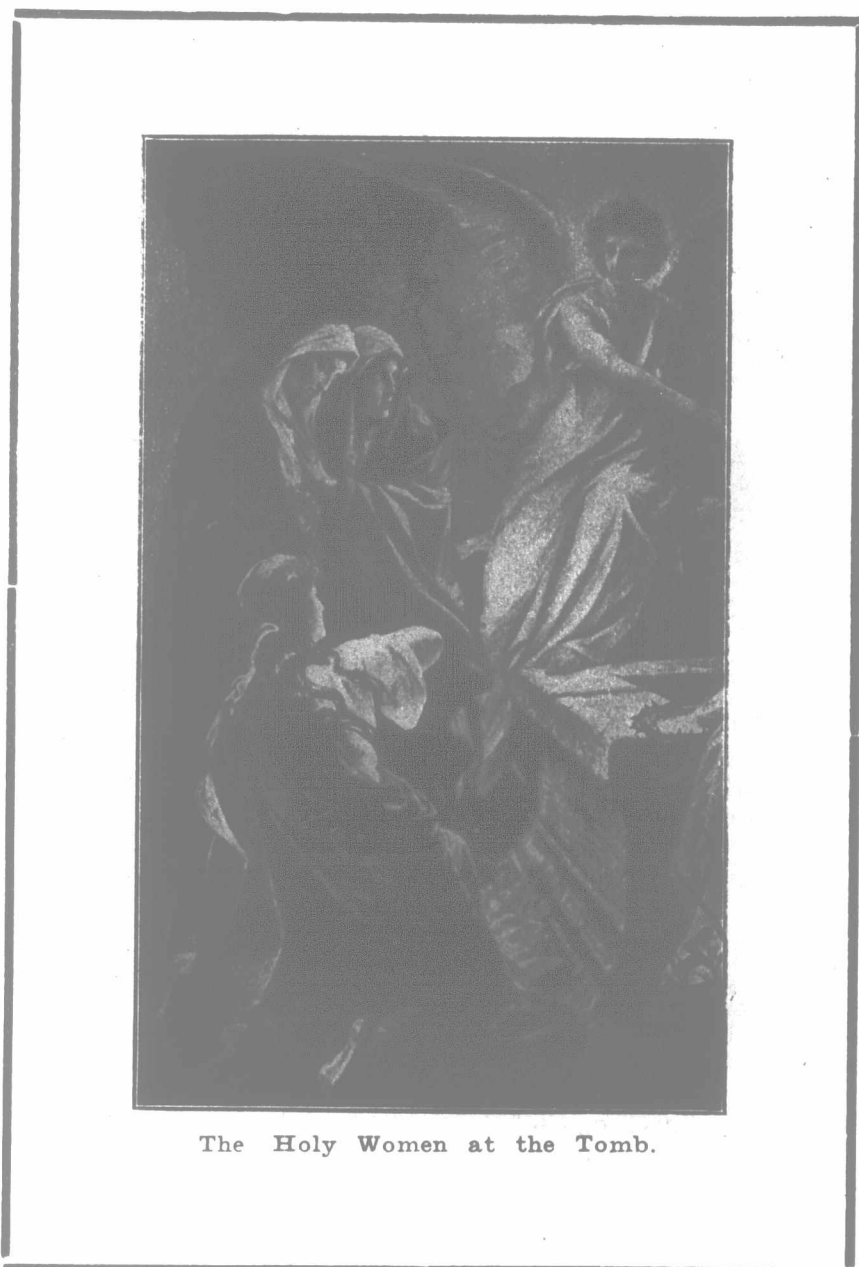
THE CAROL OF THE GLADNESS OF GOD.

O ye who, greeting now your Risen Lord,
Deep joy—drafts from His Easter Chalice
drink;
Lift up your hearts, O lift them up and
think
What Easter meant to GOD!
The Father sent the Son the world to
save!
Then what, 'mid all the bliss of Heaven
above,
Must it have meant to His Eternal Love
To see that empty Grave?
And what did Easter bring (ah, who
shall say)
Of full content, of longing satisfied,
Of bliss exceeding, to His Heart Who died
And rose again to-day?
Ah! we must think upon the Thorn-
Crowned Head,

THE FOUNTAIN OF LIFE AND LIGHT.

With Thee is the fountain of life: in
Thy light shall we see light.—Ps. 36:9.
In Him was life; and the life was the
light of men.—St. John 1:4.

At this season we are thrilled and inspired with the rush of new life—new life in the world around us, new life and vigor in our bodies. New energy which makes housekeepers fling open doors and windows to the glad spring sunshine, and go about with broom and scrubbing brush, with paint-pot and wall paper, trying to make everything inside the house match the freshness outside. But the renewal of physical life is only the type or shadow of the renewal of spiritual life which flows into our souls from Him Who is the Life of the world—the Fountain of Life from Whom all our fresh springs flow. "Life and Light!"—how closely linked those grand words are. Christ is the Fountain of Life, and from His face shines out the Easter sunshine which enlightens the world. "In Thy light shall we see light," or, as St. John puts it,



The Holy Women at the Tomb.

And Pierced Hands, ere we in touch can
be
With the deep rapture of His "I AM HE
That liveth and was dead!"
We, too, must share the Lent of willing
pain,
Which Jesus suffered while on earth He
dwelt,
If we would share the joy that Jesus felt
The day He rose again.
But meanwhile, at Thine Easter Altar,
Lord,
We think that joy to Thee this morning
brought,
And find fresh courage in the mystic
thought,
That Easter joy of GOD,
Until Thy Living Face unveiled we see,
And as Thy feet in sinless worship fall,
To learn in that most Lovely Vision all
That Easter meant to Thee!

—Gertrude Hollis.

Light shining from the Sun of Righteousness conquers the darkness of sin, making the character bright, and beautiful.

We get so discouraged sometimes with the progress we are making in spiritual matters, and perhaps feel like giving up the struggle in despair. Why is GOD so patient, when He sees our failures far more clearly than we can do? In reading the Gospel we can see and feel our Lord's tenderness to all who came to Him with a real hunger for holiness and real sorrow for Sin. It is impossible to conceive of Him as impatiently breaking a bruised reed or quenching smoking flax. St. Peter must have felt sure of forgiveness when he met that loving, reproachful look—else he, like Judas, might have been driven despairingly to suicide. But how can GOD be so patient and trustful, hoping for holiness when men seem to be utterly degraded? Surely it is because He knows the glorious power of development, which is contained in the smallest germ that is alive. An acorn looks small and lifeless, yet it has within itself the power of developing into a splendid tree, which may, in the course of time, produce millions of acorns. What an infinite power of reproduction is contained in each tiny seed, which has life within it! And GOD can afford to wait patiently when He sees any real life in a soul, knowing that it has all eternity before it for growth and increase. What is the eternal life which Christ has offered so freely to all who come to Him? He says Himself that it is the knowledge of GOD—an increasing life. "I am come," He declares, "that they might have life, and that they might have it more abundantly." What a wonderful thought it is that this knowledge of GOD, for which our deepest nature craves, will be poured more and more fully into our hungry souls through all eternity! Our God is infinite, therefore we can never reach a limit to that knowledge. We are near of kin to the Most High GOD. We can give back love for His love, we desire to be perfect as our Father is perfect, anything less than absolute perfection can never satisfy us. Surely there is something divine in these mysterious natures of ours. Just because we have the life of God stirring in our veins we reach out eagerly for more and more life; and those who really hunger and thirst after righteousness will continually get more and more life from Him.

"He liveth and we live!
His life for us prevails!
His fulness fills our mighty void,
His strength for us avails.
Life worketh in us now,
Life is for us in store,
So death is swallowed up of life;
We live for evermore."

But, because GOD is patient with our slow development and growth in holiness, we have no right to sit down comfortably and expect holiness to come to us without effort on our part. How can we be sure that the life of GOD is growing stronger in us? Perhaps it may be growing weaker, instead. St. John gives us an infallible test: "We know that we have passed from death into life, because we love the brethren." As Keble says, "Love is life's only sign." If we are satisfied to get good things for ourselves, satisfied if we can feel sure of our own salvation, and caring very little about the higher good of our neighbor, then the life and light within us must be very weak and faint. Listen to the words of Bishop Brooks:

"The 'live man' is the man who loves goodness and desires it for himself and for his brethren, and lets his love go out into effort wherever it gets a chance. If a man love Me, he will keep My words, and My Father will love him, and we will come unto him and make our abode with him—there was Christ's idea of a live man—the life of GOD in the soul of man. Let no other life delude us. Let us feel Him standing with His hand upon our hearts, and know that He thinks nothing of any life that He does not feel beating there with the steady pulse of love for holiness and Him."

If Christ is the Fountain from Whom Life and Light are constantly flowing into the world, then surely there must be some outward sign of the power of that Life, some visible manifestation of the love which is kindled and kept vigorous by His Love. He never leaves Himself without a witness. Look round you and see how active love wakes up in every

soul that is really given up to His service. One who cares nothing for Christ may spend his days in comfortable selfishness, but when the new life grows strong in him he is constrained to be "helping" somewhere. He is "constrained," though he works with the joy of a free man and not with the sullen submission of a slave, for the life that fills him with fresh energy is not an isolated germ. It flows with ever-increasing force from the Fountain and Source of Life, on through all His members and back again to the central Heart. A religion that has no love in it may be very "orthodox" in outward form, but it is dark and dead, and can never transfigure existence for anybody. One who keeps his whole being open towards GOD and towards his neighbor becomes a channel through which Divine Life and Light pour into the lives of other men. A personality entirely given up to the will of GOD possesses an almost miraculous power of inspiring others with a hunger and thirst after righteousness—and yet the life-giving power is not from, but through, the consecrated man or woman. The Fountain of Life can pour freely through a personality that is placed unreservedly at His disposal; and that is why we see in every age a man here and there who stands out like a light in the darkness. It is not what he says, nor what he does, but the magnetism of a consecrated personality that attracts weary and thirsty souls to come

and drink for themselves from the Fountain which fills another life with power and beauty. Christ sets His disciples to be lights in the world; and bids them shine, not to win glory for themselves, but so that men may see their good works and glorify the Fountain of Life from which their life flows in a steady stream of vigor. The Life of the world is LOVE—that mighty Love of GOD, shown not less clearly in the Resurrection than in the Incarnation.

"In leaping out to enclose, and quicken, and upraise the dying Son, it leapt out too, by one and the same impulse, towards us, whom it saw lying dead in the Death of the Son, and whom it identified with the flesh of that Holy Body with undivided love, when it lifted It, and endowed It with recovered and eternal life, endowing our dead souls and bodies, at that one fiat, at that masterful stroke, by that one rush of power, by that one act of gift, with a right to all the life, and force, and grace with which it filled full the Risen Body of the Lord. Dead once with His Death, we are now held tight and fast by the hand of GOD'S encompassing love within the folds of the Son's requicken'd Life. Like a magnet, that strong love of GOD for the Son draws us, sucks us within the currents of its uplifting energy; we are caught up with Christ, we are, under that omnipotent attraction, enfolded within its heart, we quiver with its very

life, we feel ourselves taken in within its mastery, within the pressure of its upward force. As the blood rushes homeward under the suction of the central heart, so we are dragged upwards towards that home where GOD'S efficacious love carries forward the work of regeneration through Christ, the Beloved Son, the Heart and Center of the Church, which is His Body."—H. S. Holland.

If we are only willing to give Him full control of our lives, Christ will fill our souls with His own wonderful life of love, and whiten and purify our characters with the sunshine of His continual Presence. Can anything short of Divine Life satisfy our hunger and thirst?

"Tis life whereof our nerves are scant,
More life and fuller that I want."
HOPE.

THE EASTER QUEST.

I knew Thou wert coming, O Lord divine;
I felt in the sunlight a softened shine,
And a murmur of welcome I thought I heard
In the ripple of brooks and the chirp of bird;
And the bursting buds and the springing grass
Seem to be waiting to feel thee pass;

And the sky, and the sea, and the throbbing sod
Pulsed and thrilled to the touch of God.

I knew Thou wert coming, O Lord divine,
To gather the world's heart up to thine;
I knew the bonds of the rock-hewn grave
Were riven, that, living, thy life might save.

But, blind and wayward, I could not see
Thou wert coming to dwell with me, even me;

And yet the light of thy kingly face
And my heart, o'erburdened with care
And sin,
Had no fair chamber to take thee in.

Not one clean spot for thy foot to tread,
Not one pure pillow to rest thy head;
There was nothing to offer—no bread, no wine,

No oil of joy in this heart of mine,
Illumed for thyself a small, dark place,
And I crept to the spot by thy smile made sweet,
And tears came ready to wash thy feet.

Now, let me come nearer, O Lord divine;
Make in my soul for thyself a shrine;
Cleanse, till the desolate place shall be
Fit for a dwelling, dear Lord, for Thee.
Rear, if Thou wilt, a throne in my breast,
Reign—I will worship and serve my Guest.

While Thou art in me—and in Thee I abide—
No end can come to the Eastertide.

Children's Corner.

AN EASTER PARABLE.

"What becomes of the Frog when he goes up out of this world, I wonder?" said a young Water-Grub, who lived at the muddy bottom of the pond.
"You'd better ask him, if you're so anxious," said another grub, as he darted after a fat insect. "For my part, I don't see that it matters to us."
But the inquisitive Grub thought it was worth while to ask the grave old Frog whether there was any other world besides the one he lived in. He stole meekly up to the dignified creature, and asked, humbly, if he might speak.
"Speak away!" said the Frog, fixing his great goggle eyes solemnly upon the poor, ugly little grub.
"I want to know what there is beyond the world. There is a beyond the world, isn't there?"
"Well," said the Frog, "there's dry land."

"What's that?"
"Well, it is like the mud down here, only dry."
"Can you swim in it?" said the puzzled grub.
"That you can't!" said the Frog. "Dry land isn't water. But, hang on tight to my back, and I'll take you up to see for yourself."

But when the Frog leaped out on the green bank, no Grub was on his back. For no sooner did the first breath of air strike him, than a deadly faintness came over the inquisitive creature, and he tumbled back into the mud, and did not recover for hours. After that he decided that the Frog had deceived him.

"There is nothing but death beyond this world," he told the other grub.
"I told you not to bother," said the other. "Of course, there couldn't be anything different."

But one day the Water-Grub began to feel a queer swelling in his eyes, and he was too tired to chase the insects any more. And what frightened him most was that something seemed to be drawing him up to the top of the pond. He was sure that as soon as he got there that would be the end of him.

"Don't go," said his brother grubs.

"I can't help it!" he said, feebly, and they all gathered sadly round to see the last of him, as he crawled slowly up a bulrush stalk. When he was at the top, they all stared up after him, but their eyes were only made for muddy water, and they could see nothing. So they went sadly back, thinking they had seen the last of their poor brother.

If they could only have seen their poor brother! Strange to say, he did not die when the air touched him this time. He only felt too tired to move any further. The bright sun was shining on his back after awhile his black, hard body began to crack! And then it fell off.

gether, and the most beautiful new body came out! The Grub was turning into a Dragon-Fly. His fine new wings were a little crumpled, but presently he shook them out, and looked about him. Never had he dreamed of such a beautiful world as this. The blue pond, the green bulrushes, the yellow marigolds, the trees, the sunlight, the fresh air—nothing in the bottom of the pond had made him think of such loveliness. And, next, he found he could fly—such a strange, delightful feeling it was, to skim over the water after the midges, with his wings sparkling with green and gold and blue.

"I'll go down and tell my brothers that I was mistaken!" cried the glorious Dragon-Fly.

But, alas! to put his head under water was death to the Dragon-Fly, so he had to give it up. He came back over and over again to the same spot, wishing for a chance to tell them the good news, and so, one day, he saw his favorite brother come crawling up the stalk, and then there were two happy Dragon-Flies, you may be sure.

"Why didn't you come and tell us?" said the second. "We thought you were dead, and it has been so sad and gloomy down in the old world."

"I tried, but I couldn't get down. But once they get up here it won't matter. We couldn't make them understand without seeing it."

So the Dragon-Flies went skimming about in the sun, and the grubs went mourning for them in the bottom of the pond.
Cousin Dorothy.

An Australian Cousin.

Dear Cousin Dorothy,—You will be surprised to get a letter from a little Australian girl. Father has taken "The Farmer's Advocate" for some years now, and has given copies to a lot of people in Victoria, to try and get them to take it too. I know that some did so. We live in the part of Victoria called Gippsland, eleven miles from the main railway line, and six from a branch line. Our place is in the hills, and our house is on top of a hill, so we have a mile to go down to school and church. Would like a letter from some of the cousins, if anyone would care to write. Please do not think, like so many people do, that we are black because we are Australians. My grandparents were British. Mother's father came from Oxford, and was teaching here till he was over sixty years of age, and father's people were Scotch, as our name will show. I am thirteen years old, and in the sixth class at school. I have never been out of Victoria yet, but I have read a great deal about the other countries. We have a lot of English names about North America.

Yinnar, Gippsland, Victoria, Australia.
MADHEE BREWSTER.
Thank you for the pretty pressed flowers. I have some growing at

this time of the year in Australia? I hope you will soon tell us some more about your interesting country. C. D.

Dear Cousin Dorothy,—We have never written to the Children's Corner before, but we have enjoyed reading the letters which others have written, very much. We live on a farm, twenty-five miles from the city of Toronto. We live in a brick house, and have a bank barn, with a windmill on it. We are very fond of reading books, some of them are "Mike Lindsay's Schooldays," "Ishmael," "The Doctor," and other good books. We have lots of pets, a dog named Sandy, a cat named Sammie, and they are very mischievous.

ALEXZENA AND CHRISTENA B. Coleraine, Ont.

Dear Cousin Dorothy,—My father has taken "The Farmer's Advocate" for three years, and likes it very much. I enjoy it also, as I like to read the Children's Corner, and like to get the riddles. I go to school every day, unless I am sick, as I only have a half a mile to go. I like going very much. I am in the Second Book. I will not be eight till March. I have two pet dogs; their names are Sport and Jip. They like to play with me when I am out sleigh-riding; but I don't have much time for play, as I have to study music lessons every night.

1. What is most like a mouse looking in a hole? Ans.—One looking out a hole.

2. What side of a pitcher is the handle on? Ans.—The outside.

Wishing "The Farmer's Advocate" every success.
ANNIE NEIL (age 8).
Mooresville.

Dear Cousin Dorothy,—My daddy has taken "The Farmer's Advocate" for seven or eight years. I always look for the Children's Corner, for I like to read the letters written by other cousins. I have been interested in the letter written by Fred Black. I am surprised to think that any Canadian boy or girl would ever think that the yellow race will ever be greater than our own Great Britain. I have been reading some very good books lately; some of them are "The Dog of Flatlers," "A Puzzling Pair," "Black Beauty," "Teddy's Button," and some of G. A. Henty's. The one that I am reading now is the "Cornet of Horse," which I like very much. I would like to hear from some other cousins, and I would like to know what they are reading, and what they like best.
DON WARREN (age 11).
Beaverton, Ont.

Dear Cousin Dorothy,—Here comes a girl from Brant County, knocking for admittance to the club. I live on a farm, three miles west of the town of Paris, and near a small village called Falkland. I will be glad when the sum-

mer comes again; and we can hear the sweet songs of the birds, and the bleat of the lambs. When the winter comes, the birds go to their summer homes; the streams are frozen; the fields bare. Everyone is glad to see the summer come.
ADDIE RAYNOR.

Falkland, Ont.

A New Idea.

Dear Cousin Dorothy,—Do any of the cousins gather grasses or wild flowers for the fall fair? I did, last fall, and took first prize. I am going to gather more next fall. I got twenty-one different sorts of grasses.

MADELINE CUPPAGE (age 16).

Orrilia, Ont.

Dear Cousin Dorothy,—My papa takes "The Farmer's Advocate," and likes it. I like to hear the letters in the Children's Corner. We have four horses; their names are Maud, Barney, Floss and Cassie. I have a dog I call Collie. I harness and hitch him to my sleigh, and he will draw me anywhere I want to go. I have two aunts going to school; they live next farm to us. I like to play with them. As this is the first letter I have written to your Corner, I hope it will not find the waste-basket.

GEORGE CLIFTON FAULKNER (age 4).
Listowel.

Dear Cousin Dorothy,—My father has taken "The Farmer's Advocate" for four or five years, and we all like it. Our pets are three cats. We had a little pup, which father brought to us from Brantford. It was behind the stove, and an iron fell on it, which was on a ledge, and broke its ribs. We felt sorry, because it was such a pretty pup.
SADIE MATTHEWS (age 11).
Blayney, Ont.

AT EASTER.

In mellow surge the organ notes
Ecstatic roll and range;
As though a thousand rhythmic throats
Raised raptures new and strange,
The music roars, and falls, and floats
In rhapsodies of change.

Resplendent through the pictured panes
An argent effluence streams,
And falls, like vivifying rains,
A blessing where it beams,
Until the soul walks, free from strain,
The land of heavenly dreams.

I take thy hand, O sainted heart,
The hand thou gav'st of yore—
My spirit lifted where thou art
Beyond the world's uproar—
And with thee, in a place apart,
I walk the jasper shore.

—Clinton Scollard.

About the House.

AN OUTDOOR DINING-ROOM.

Summer is coming with its busy pleasant days, and the necessity of saving work in order that one may have time to enjoy its pleasantness. We wonder how many of our readers have ever tried an outdoor dining-room. Not many, perhaps, and yet to every woman who has her own work to do, its advantages must be obvious. Writing of one in *House Beautiful*, an enthusiastic correspondent says:

"The house is in the White Mountains; it is nearly one hundred years old, but the vines and the humble little porch before the house have a history of two summers only. It is the porch which I wish to describe, hoping that its cheapness, beauty and convenience as a dining-room may tempt some chronic house-dwellers into the fresh air, at least in pleasant weather.

"Rough boards were used for the roof and floor. The posts—half a dozen young spruce trees—were cut in the woods nearby. The roof is covered with tarrad paper. The eavestrough is made of two long boards nailed together and painted on the inside, and the porch is between seven and eight feet high, fourteen feet long, and seven feet wide. It was built in half a day, by one carpenter.

"The vines are nasturtiums and wild cucumbers. Nasturtiums grow away from the sun; and these had to be pruned continually, or they would have filled the porch. As it was, they half covered the rough underside of the roof, stretched long stems and flower-stalks beneath the table, and grew luxuriantly in every shady corner. Wild cucumbers, on the other hand, love sun. In a few weeks they made a dense leafy screen on the east, and almost covered the roof.

"The furniture of this dining-room consists of one large, square table, wooden chairs, and a block nearly two feet in diameter, cut from the trunk of a silver birch. This block was intended to be used as a sideboard, but the nasturtiums wound themselves around and across it so beautifully, and with such an altogether charming effect, that we had not the heart to displace them. The table is made of the boards of a packing-box and the trunk of a beautiful brown-spotted birch.

"An important feature of this outdoor dining-room is a cupboard which communicates both with the porch and the kitchen. The arrangement is simple. A backless cupboard is set before a window from which the sashes have been removed, the blinds, covered with netting, being its outside doors.

"The unpopular work of dishwashing ceases to be drudgery when it is done in sight of the hills, in the fresh air, behind columns and banks of nasturtiums and the exquisite flower-spikes of the wild cucumbers. The dishes, when dried, may be put directly into the cupboard.

"This dining-room is always ready for use; consequently, the whole culinary department is not thrown into disorder whenever a meal is taken out of doors. After a hot hour over the kitchen stove, nothing sweetens the temper and soothes the nerves like an hour in the fresh air. Meals and the washing of dishes consume, in most houses, three or four hours daily. Those hours might be spent in the open air and in beautiful surroundings."

OVER-WINTER VEGETABLES.

There are several vegetables which, left in the ground over winter, are likely to come out in the spring fresh and crisp, a welcome change after the perhaps somewhat wilted cellar specimens of this season. Among these are parsnips, artichokes, salsify and horse-radish. Parsnips, it is true, develop poison if permitted to grow year after year, but those which simply remain in the ground over winter after the first year's growth are quite as harmless as though kept in the cellar. If you have any of these vegetables in your garden this spring, try some of the following recipes:

Fried Parsnips.—Scrape the parsnips, and boil gently until tender. Drain, and then cold cut in long, thin slices. Sea-

son with salt and pepper; dip in melted butter, and then in flour, and fry until both sides are browned.

Parsnip Fritters.—Take three large parsnips, three tablespoons flour, one tablespoon melted butter, two eggs, one cup milk, one teaspoon salt. Boil parsnips until tender, mash well, and pick out stringy parts. Beat the eggs, and stir them into the parsnips, beating hard. Add the butter (measured after it is melted); the milk, salt, and flour. Fry in small cakes on a griddle.

Artichokes.—Pare the tubers of Jerusalem artichokes thinly, soak in cold water for a while, then put in a saucepan of boiling water, with a little milk in it to keep them white. When boiling, add some salt. As soon as tender, take out, as a little too much boiling will harden them. Serve with cream sauce.

Both artichokes and salsify may be sliced, boiled in a very little water and milk, then served with heated milk to which has been added butter, pepper and salt, and cracker crumbs.

Salsify, Fried.—Scrape, boil, cut in short lengths, and fry the same way as given above for fried parsnips.

Salsify Fritters.—Make according to the same recipe as that given above for parsnip fritters.

Horse-radish.—Simply grate and mix with vinegar. Before serving, if you choose, mix in some stiffly-whipped cream.

RECIPES.

German Pancakes.—Make some small pancakes from the prepared pancake flour which comes in packages, and as each one is taken from the gridiron spread it with jam or jelly and roll it; lay it on a hot platter in the oven until all are

With the Flowers.

A TROPICAL CORNER.

There are sometimes certain situations in a garden which nothing but a tropical effect seems to suit. In such cases, nothing will give more satisfaction than a clump of ricinus or castor-bean, with, perhaps, a few caladiums, and some bunches of ornamental grass. All of these do well under the same conditions: a position sheltered from strong north and west winds, a deep bed of manured muck, or, failing that, of heavily-enriched loam, and plenty of water.

The ricinus is a very effective plant, and since, under favorable conditions, it grows to a height of five or six feet, it is especially valuable as a background for lower-growing plants. The seed, which germinates in from twelve to fifteen days, should be planted in the house as early as possible now. It is best to start them in small pots, shifting into larger ones when necessary (the roots make very rapid growth). They should not be planted out in the garden until all danger of frost is past, and when transplanting, the greatest care should be exercised not to disturb the roots in any way.

Canna and caladium tubers should both be started now, as soon as possible. Cannas should be started in sand, which affords less harborage than loam for the rot, which sometimes attacks the tubers. Place the sand flats in a warm, sunny place, and keep constantly moist. If the seeds be used, plant in well-manured

grass, and *Pennisetum ruppelianum*, or purple fountain grass. As these do not require so much water as the above-mentioned plants, it is best to plant them along the edge of the bed or border.

Current Events.

Canadian.

The Salvation Army proposes to buy 250,000 acres of land in the Northern Ontario clay belt for colonization.

The term for medical students at McGill University, Montreal, has been increased to five years.

By a recent decision of the Board of Railway Commissioners, three cents per mile will be the maximum rate allowed the railway companies for all passenger traffic east of the Rockies. The ruling will affect chiefly Alberta and Saskatchewan, where the rates have been 3½ and 4 cents per mile, and Quebec, New Brunswick, and those parts of Ontario lying east and north of Toronto, where rates have been 3-3 cents per mile. The passing of the measure has been, to a great extent, due to the efforts of Mr. W. F. MacLean, who, both by his representations to Parliament, and in his journal, *The Toronto World*, has held out for it persistently. Mr. MacLean is now bending his efforts towards the establishment of a uniform 2-cents-a-mile rate over greater Canada.

British and Foreign.

Lord Curzon, former Viceroy of India, has been elected, in preference to Lord Rosebery, as Chancellor of Oxford University.

San Salvador has united with Honduras in her war against Nicaragua. The whole trouble is said to have arisen out of a dispute over a mule.

The Grand Duke Michael, brother of the Czar, has given \$100,000 to the famine relief fund in Russia, and has sold to the Peasants' Bank, at \$14 per acre, 65,000 acres of his estates, for distribution among the peasants. It is expected that many nobles and land owners will follow his example.

Germany and Austria are said to be actively united in providing arguments to meet the question of limitation of armaments, which will be submitted by Great Britain at the coming Hague Peace Conference.

The kirk session of Carmyllie, near Dundee, Scotland, is erecting two memorial windows in the parish church as a memorial to a former pastor, Rev. Patrick Bell, D. D. Perhaps the point of interest in this item of news to the Canadian farming world lies in the fact that Dr. Bell was the inventor of the reaping machine.

Helicon Hall, the home of Upton Sinclair's socialistic colony, has been destroyed by fire. Of its fifty-five inmates, one, the carpenter, was burned, the rest escaping with much difficulty. The Hall was an immense building, established at Englewood, N. J., last October, as a sort of revived Brook Farm, or co-operative home, for several literary people, with Upton Sinclair, author of "The Jungle," at their head. All servants were engaged on the co-operative plan, the children were taught by a governess within the building, and meals were eaten in a large central dining-hall. The experiment was watched with much interest, and the query will now be as to whether it has been successful enough to command re-establishment. There is a suspicion that the fire was due to an incendiary, and an investigation is in progress.



Caladium Esculentum (or Elephant's Ears)—a very tropical-looking plant.

ready, and then sift powdered sugar mixed with cinnamon over them. These cakes can also be made from rice.

Coffee Blanc-mange.—Mix a cup of strong coffee with one of milk; wet two tablespoonfuls of cornstarch to a paste with a little cold milk, and add this to the hot mixture, and then put in two tablespoonfuls of sugar; cook till smooth and thick, pour into a mould, and serve with cream. This may also be used as a thick custard by taking only one spoonful of cornstarch.

Bread Pudding and Cream.—Soak a cup of bread crumbs in two cups of milk until soft, beat it smooth, add a tablespoonful of sugar, the beaten yolks of two eggs, a little salt, and a half teaspoonful of vanilla. Choose a tin mould and butter slightly, and stick raisins on the butter; fill the mould and put it in the oven in a pan of water, and bake twenty minutes. Turn out and surround with spoonfuls of whipped cream.

Coffee Jelly.—Take the coffee left from breakfast and heat on the stove; sweeten to taste with sugar, and stir until it dissolves. Add sufficient gelatine dissolved in cold water to set it, and turn it into a mould. One-half a box of gelatine sets a quart of coffee.

muck, first filing the seed on the end opposite the germ, until the white shows through, then soaking in hot water for an hour or two. Cannas must not be set out until all danger of frost is past, and it must not be forgotten that they need plenty of water during every stage of their growth.

The caladium is, like the ricinus, grown for the sake of its foliage rather than its flower. The most striking variety is, perhaps, *Caladium esculentum*, or "elephant's ears," a native of the Sandwich Islands, where its leaves grow to an immense size, the roots being made into a sort of food called *poa*. The tubers should be started in small pots of muck or good loam, the top of the tuber being placed just above the surface of the soil. Keep moist and warm, and set out when danger of frost is past in a deep bed, prepared as described above. As the leaves of this plant grow very long and broad; plenty of space should be left on all sides for their development. The fancy-leaved caladiums are of smaller growth, but are also very effective. Both canna and caladium bulbs should be wintered in the cellar in a warm, dry place.

Of ornamental grasses, perhaps the prettiest are *Stipa pennata*, or feather

Thomas Bailey Aldrich, the author, died recently in Boston.

In accordance with the general anti-trust movement now in progress in the United States, an investigation into the affairs of the International Harvester Company has begun. The investigating committee is trying to ascertain whether competition in local trade has been suppressed, and whether the quality of farm machinery is as good as it was before the combination was formed.

Premier Stolypin, in his declaration of policy before the Douma, on March 19th, laid down as the cardinal principle that the Government was creating such standards of life as will change Russia into a constitutional state on the basis of the granted reforms, and the chief task was to co-ordinate the old and new principles of government. He enumerated the Government's projects of law as follows: Freedom of speech and of the press; liberty of faith; habeas corpus on the same basis as other States; the substitution of a single form of martial law for the various decrees of exceptional severity; local self-government; reform of the Zemstvos; responsibility of officials; agrarian reforms, and popular education.

A recent writer on the Far Eastern problems asserts that Japan is feverishly preparing for a possible future war against the United States. Fifty thousand men, he says, have during the past few months, been busy in the arsenals turning out guns and small arms, while the cartridge works, which employ 20,000, are turning out 500 rifles daily, and the projectile works at Tokio 600 shells per day.

A PRECOCIOUS CHILD.

The trend of some recent if somewhat abortive attempts at certain measures of legislation in divers countries, which have been wont to consider themselves at the pinnacle of civilization, turn one's gaze perforce toward a little land—little in comparison with those great countries which may now be following slowly and with much difficulty in its wake—New Zealand. Only now is the question of female suffrage becoming pertinent in Great Britain and other countries of the Occident. New Zealand gave the franchise to women ten years ago. Only now is the consideration of annuities for the aged becoming a matter of interest in the Dominion of Canada; old-age pensions are a well-established feature in New Zealand legislation. Only now has the cry against trusts in the United States of America reached a strength by which it may demand investigations into Standard oil, corrupt railway management, and so on down the long line of evils: New Zealand long since made provisions by which trusts within her borders are impossible. There are no strikes in New Zealand, no multi-millionaires, no beggars, no over-long working hours, no poor-houses, no troops of idle men at any time walking the streets.

The attainment of this idyllic condition has been unquestionably due to the efforts of a few men—individually, a carpenter, a miner, a telegraph operator, a farmer and a journalist. That these men were true patriots, with the very good of the people at heart, was, however, due perhaps to a happy chance rather than to any unusual foresight of the New Zealanders who elected them; probably no country in the world was more surprised than New Zealand herself at the innovations which followed.

Nor was this surprised New Zealand at first a happy New Zealand. Men called these reformers dreamers, crack-brained dreamers. What! close the shops at five every afternoon, and give all employees a half-holiday every week? What! fix a minimum wage for workmen higher than many employers would be willing to pay? What! prevent a man from owning as much land as he liked, and put clogs on his race to wealth by a heavy, graduated scale of taxation? Preposterous! Capitalists and manufacturers would be driven completely out of the country. Ruin, nothing but stark staring ruin would be the outcome of it all. Never was such an uproar in New Zealand.

But the dreamers went right on. They held out for the good of the people, not for the supreme good of the few wealthy and influential men who had come to think themselves pretty much at the head of affairs. . . . The "people" for their part, liked the short working hours. They also liked the good wages. As a matter of course, they did not object when the Government took over all the railways, and fixed uniform and invariable freight and transportation rates, nor when it took possession of all the coal mines in the country, and reduced the price of coal, nor when it acquired the telegraph and telephone systems, etc., administering all for the common weal.

The rich men grumbled, but hoped for better things. A few occurrences, however, served to show them that business was in the air. Almost the first act of the Government was to break up the big landed estates, by compulsion, if the owners would not sell without it. . . . Then certain manufacturers and others who, taking advantage of the hard-a-port individuals who drifted in somehow, made secret bargains to pay less than the stated minimum wage, were set right about face. Some of them were fined \$100, some \$3,000, according to the gravity of the offence. . . . The drawers of big incomes came next. If a man drew only \$1,500 a year, or less, he escaped taxation; if more, he paid for the privilege by a tax levied in direct ratio to his increase.

The whole policy of the Government, in fact, was speedily seen to be to make it easy for the poor man and hard for the rich man to increase his store. Sometimes the tenants, who had leased or bought holdings on the big torn-asunder estates, were so poor that they could not buy implements or food for the first year. In such cases, money was loaned them at 3½ to 5 per cent. interest, reducible by prompt payment. As a matter of fact, \$20,000,000 has been thus loaned out to farmers who might otherwise be paying 8 per cent. interest. The taxes also were arranged with discrimination in favor of the poor. Holders of small farms were exempted from the land tax, and no extra tax was placed on any land holder for improvements. On large holdings (which were not permitted to exceed a certain area), a graduated tax was placed, with 50 per cent. in addition, if the owner did not reside on his land.

In order to assist the unemployed to find work, a Colonial Labor Bureau, at which anyone who wished was free to register, was established. Every policeman is an agent of this Bureau, and must find work for the applicant, upon railways or other public works, if nothing else present itself. Hence, there need be no unemployed in New Zealand, nor anyone without means of subsistence. By the old-age pension, even the needy aged are provided for; the only qualifications necessary for the drawing of the pension being that the applicant has been of good moral character and a resident of the colony for twenty-five years.

Neither is the health of the public overlooked. At the present time the Government is acquiring land near the larger towns, and erecting thereon model cottages, as perfectly lighted and ventilated as may be for the workmen.

Notwithstanding all this, the commerce of the country has not flagged; the manufacturers have not taken their departure; the capitalists still have enough to eat and wear, and a moiety of surplus beside; the work people, with their time for play, have not degenerated into rogues and scoundrels; the country has not gone to the dogs. On the contrary, New Zealand never was so prosperous, never so happy.

There may be weak spots somewhere in the governmental system of this wonderful country. It is conceivable that under men of different calibre, things might not have worked out so successfully, or might yet come to a state less satisfactory. Yet the results are results, and it is little wonder that today many eyes that would see better things are fixed upon this precocious British child of the Antipodes.

SUFFRAGE AND THE SUFFRAGE.

The defeat of the bill for granting the franchise to women, introduced into the British House of Commons by W. H. Parnell, is a source of great outcry among the female suffragists of the home land. They are of the opinion that play has not been shown, and that the bill was simply

talked down and never put to the vote, there seems some cause for the accusation. The set-back, too, must be extremely exasperating to the enterprising females who have been in the forefront of the movement. From the day when they first appeared behind the grille of the House, interrupting the members as they spoke, and shrieking "things" at certain astounded objects of their especial wrath, their energies have not flagged. From besieging Mr. Asquith in his house and jangling at his door-bell while he, poor man, evidently feeling like "the Bishop of Bingen in his mouse-tower on the Rhine," discreetly refused to appear, to marching upon the House of Parliament itself in the face of policemen and gendarmes, the band has stood as one. Facing of law-courts, imprisonment itself—solitary except (they say) for the company of—bedbugs—were not sufficient to intimidate. Some of the fair objected, objected strenuously, it is true, but they never once promised to be good, and so had to be carried off bodily by policemen. To be sure, they had the satisfaction of kicking and screaming on the way, but probably the policemen never put in a better day's fun in their lives.

Much as the methods of these British suffragettes may be disapproved of, clear as it may appear that their object would have been at least in no wise retarded by a more businesslike procedure and lady-like demeanor, it is impossible not to recognize that there are two sides to the story. Upon the one hand it may appear that women have enough to do without troubling themselves over politics; and the question may arise as to whether, if granted the franchise, any considerable percentage of them would really take the trouble to find out the real meaning of affairs, and why they should vote thus and thus; or whether a much greater number would not merely vote as husband, brother or sweetheart advised, and the real representation be no better than before. No doubt the sympathies of many must go with the 12,000 British women who signed a petition praying that the suffrage be not granted to women.

On the other hand, there are reasons, very telling reasons too, why women should be enfranchised. In Great Britain, conditions hold not less true than in Finland, where, in granting the franchise to women last year, two main planks were laid down: (1) that women got the same education as men; (2) that women were occupied side by side with men in many lines of work, were as truly subjects of the realm, and, therefore, should not be required to obey laws in whose making they had no word whatever.

The Premier of Great Britain, Sir Henry Campbell-Bannerman, has, from the first, been in favor of the movement, although opposed to the way in which the more extreme element among the suffragettes tried to compel it. Exclusion of women from the franchise is not, he said, justifiable or politically right. Women should not be treated as "utlanders." Other members of the House, on the other hand, opposed the enfranchisement of the gentler sex because of their physical inferiority, and it was argued that if the measure were passed, the Government would, since there are 1,000,000 more women than men in Great Britain, pass into the hands of women.

It is a tangled question, and the end of it is not yet. In Finland and New Zealand, female suffrage seems to have worked perfectly. Whether it would do so upon the greater scale of larger countries is the question.

AN EASTER BONNET.

A little bit of pearly lace that droops and crinkles gracefully,
With tiny sprays of crimson bloom a nodding everywhere;
Two dainty wings—celestial things!
Two twisted crimson velvet strings,
That start amid the flowers and steal
 adown my lady's hair;

Some little silvery ornaments that shine and sparkle saucily—
A Lilliputian bow or two, half shyly hid away.

In size it might perhaps be right
To shield a humming bird from sight—
'Tis useless where my lady's curls in
 bright profusion play.

—Mildred McNeal.

The Ingle Nook.

SOME SCREEDS ABOUT PAPERING

Browsing about for some information in regard to wall papers and paper-hanging, I have come upon a few ideas that may be useful to some of the Chatterers who have papering to do this spring. In the first place, I would say consider your house before you do any buying. If your rooms are for the most part isolated, you may choose almost any color scheme you choose for each; but if they open one into another, especially if the openings are large (arches, etc.), as you value the artistic appearance of your house, fix upon colors that harmonize. To illustrate—imagine this outlook: a hall papered in red opening into a living-room papered in figured blue; the living-room in turn opening into a dining-room in old rose—and all visible as you enter the front door. Now imagine the same perspective, the hall papered in soft olive green, with a yellow ceiling; the living-room in two-toned green, also with a yellow ceiling, and the dining-room, gold-on-brown, soft yellow, or yellow and green figure. Now, do you see what we mean? Can you not see the difference as you look from room to room?—the first combination fairly making your teeth grit, the second forming a pleasing sequence and suggesting union and harmony rather than dissension and crazy patch-work.

So before choosing paper, think out the effect you would like to see worked out, then buy accordingly. Blues and grays produce cool, even chilly effects, and are only to be recommended for rooms already overflowing with sunshine and good cheer. Reds are to be used with discretion. They are popularly supposed to give warmth, but often produce an effect of dinginess, most of the shades serving only to absorb the light, and produce an effect of contraction. Yellow, on the contrary (soft, artistic yellow, of course), adds light and makes a room look larger. Some of the tans and golden browns, especially if used in conjunction with some other harmonizing color, are very satisfactory for rooms that lack warmth; while the greens—the soft olives and deep rich greens—seem suitable for almost any situation, being at once artistic, unobtrusive, and restful to the eyes.

"Two-thirds" effects are often very handsome, especially in living-rooms, dens, bedrooms and dining-rooms. For instance, in a bedroom have the lower two-thirds of the wall in plain green, the upper third in a lighter shade of the green, flowered with wild roses or buttercups; place the picture moulding between the two, and hang pictures only over the plain paper. . . . Or, for a dining-room, have the lower two-thirds in a two-toned brown, or brown and yellow brocade pattern, the upper third plain brown (of the lightest tint in the two-toned paper) or soft yellow. Have a plate rail between upon which to set a few decorative plates and ornaments, and dispense with pictures.

Burlap, grass-cloth, canvas, etc., are often used for the lower portion. They cost a great deal more than paper to begin with, but will outlast many papers, and when they are old may be retained. Papers, on the other hand, may be had at any price, from ten cents to many dollars per roll. Two-toned papers usually cost more than the ordinary figured kinds (although some of the figured papers are high-priced and very handsome), while ingraings, than which nothing is more tasteful, may be bought as low as 15c. a roll, and form the most admirable background for pictures possible. As a rule, if you have fine pictures, and wish to show them to the best advantage, use a plain or almost plain paper, which must not be too bright or clear in coloring, else it may detract from the effect of the pictures; if you have few pictures, or none worth hanging, you may venture on a tasteful figured paper. The two-toned papers, by the way, do not usually fade as rapidly as the plain ones. Greens and blues are ordinarily the "worst" for fading, while yellows, fawns and golden browns keep their color very well.

For bedrooms, flowered papers are always dainty, but the flowers must be small, and artistically disposed over a soft-colored ground. It is well, however, to have at least one bedroom, which may be used in time of illness, finished in

ook.

PAPERING

formation in per-hanging, s that may atterers who ing. In the sider your ousing. If t part iso- any color out if they ally if the c.), as you ce of your harmonize. outlook: a to a living- the living- dining-room you enter the same a soft olive the living- so with a room, gold- yellow and e what we ference as —the first your teeth leasing sed harmony zy patch-

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plain paper of some kind. We should not have even a fancy border in this room; even the flowers or figures in a border may become maddening to the poor ill one, who is almost sure to keep "counting the roses," or following out the figures with an uncontrollable persistency. Much better would be a plain ceiling and "drop" of one-third at the top of the wall in some soft harmonizing color, with a narrow picture-moulding below the drop. . . . A quite pretty scheme for a child's room is to have the lower two-thirds plain, the upper one a continuous picture. A very attractive border of this kind, which we saw recently, represented a succession of very Hollandish-looking canals and tulip fields, among which little Dutch maidens sailed, or worked, or disported themselves.

Regarding the finish of wall papers, the dull, rough surface is usually the most artistic, although there is a fine satin-coated (not glazed) kind, which is much used for drawing-rooms or very dainty rooms of any kind. In some of the most handsome papers usually among the two-toned varieties, the figures are so shaded as to appear slightly raised. Imitations are not often to be recommended, yet among the dull-finished papers there is an "imitation burlap," which deceives nobody, and is quite effective for certain situations. For kitchens and bath-rooms, a varnished variety, which somewhat resembles oil-cloth when on the wall, is shown. It costs about 30 cents a roll, but lasts very well, and, as it may be wiped off frequently with a damp cloth, is very sanitary.

Whatever be the shade of the paper, the floor-coverings, curtains and woodwork should harmonize with it. In floor coverings, the same general coloring, but in a darker shade, should, as a rule, be predominant (with yellow or buff walls, the floor must, of course, have brown, green, terra cotta or old blue rugs), while the curtains should, as Prof. Evans told us, reproduce the dominant tone of the wall paper. We saw a dining-room the other day in which the lower two-thirds of the wall was a dark green, the upper third (separated from the lower by a broad-topped moulding, which took the place of a plate-rail), a figured tan and green. The curtains were of transparent Madras, sash-length, and of the same shade of green, and the effect of the whole was very handsome. When curtains of different colors are used in different rooms, a uniform appearance may be secured for the outside of the house, if desired, by using white net or muslin inside curtains, or sash-curtains close to the glass on the lower half of the windows. For bedrooms, of course, white or cream curtains are always pretty. Just here may I remind you of Prof. Evans' suggestion re "cider-cloth" for curtains, and of his hint that cheesecloth, dyed to match the exact tone of the paper, is to be recommended? A wide inset of rather coarse insertion down the inner edge and across the bottom, inside of a wide hem, is all the ornamentation needed.

Before leaving the question of rugs, I must tell you about some I heard of the other day. They were in an "old rose" bedroom, and were simply made of rags dyed a dull coral, and fringed at the ends with white, woven thickly—I should judge with three ply of rags as quoted in a previous issue of "The Farmer's Advocate." One could imagine such rugs made of dull red, coppery brown, soft green, delft blue, to match any room.

The following are a few color schemes which may recommend themselves to you for wall-coverings:

1. Hall, deep soft yellow; living-room, olive green, or golden brown, with yellow ceiling and drop; dining-room, two-toned yellow, brown rugs.
2. Living-room, green, with buff ceiling; dining-room, burnt-orange and brown, floors and furnishings, brown.
3. Dining-room, golden-brown brocade effect paper, buff ceiling and drop, buff and brown Madras curtains.
4. Hall, tan; living-room tan and green; dining-room, deep soft yellow.
5. Living-room, walls two-toned terra cotta, green and terra-cotta curtains, green rugs.
6. Hall, two-toned yellow or golden brown; living-room, green; dining-room, dull blue and green figured paper; rugs the same, but with either blue or green dominating.
7. Dining-room, gobelin or old blue walls, yellow or cream ceiling and curtains.

8. A red room—wall in soft Oriental red, rough finish, imitation burlap; ceiling and curtains, ecru (red curtains seldom look well in a red room).

9. Bedroom schemes: (1) Old rose and ivory; (2) old rose and gray; (3) apple green and pink; (4) old blue and ivory; (5) apple green and buttercup.

In some of the new houses, some of the walls are not papered at all, but are left with a somewhat rough finish and tinted. Alabastine is also much used where paper hangings are not favored.

DAME DURDEN.

P. S.—In carrying out any of the above color schemes, it must be remembered that the right shades must be chosen; otherwise hideous effects might be the result. Where greens are used, a very dark rich green is usually to be recommended, except when in combination with rose or buttercup, when a dull apple or sage shade, or a very soft olive may be used. Remember that every color has many shades, and you must use your own judgment as to which are the harmonious ones.

D. D.

From a "House Builder."

Dear Dame Durden and Ingle Nookers,—It is a long time since I wrote that "sensible" letter (?), but I have been enjoying the letters from the Nookers, and am so glad that we Chatterers have given you a chance to say your say about those cupboard. That talk on "Fads and Fancies" just came in the opportune time. I thank you for the many helpful suggestions and ideas. I agree with you that one could do without a pantry by building plenty of cupboards. In the lower part of one cupboard, a dumb-waiter could be made, with a door to open and close, and thereby be part of the cupboard. There would then be no danger of cold air from the cellar. Why not have the cupboard in the dining-room come no farther down than the height of a wainscot? It would save stooping, and, I believe, a broad cupboard would look as well as a long, narrow one.

Was it Wrinkles who gave us, long ago, the idea of a lamp closet? It is a wrinkle worth remembering. If you had the door hinged at the bottom, held with a small chain at each side, when open it would serve as a table to clean your lamps on. Then, too, I believe, we owe "The Farmer's Advocate" the idea of a wood-box in the wall, to be filled from the outside, the door opening from within, thereby saving a great deal of walking and untidiness.

All those who saw the Eaton Co. exhibit of the ideal kitchen at Toronto Fair, last fall, would notice the high window, which would work as well in a dining-room as a kitchen. It could be made fancy or plain, and would give light and air, and save space below for other purposes.

Our Dame's thought that polished floors and large rugs are better than carpets is no doubt true; but when the floors are not even well-finished boards, one feels as though one must keep them covered. Do you Nookers find that matting is serviceable for bedrooms and halls? Some complain of the dust going through it. Well, you will think my hobby is house-furnishing in cupboards and carpets, but I believe it is pictures, pictures that will give us something helpful to think about, something we may learn. We can tell the children stories from them, while the object lesson is before them. I know there is a great deal to learn about suitable frames, the best place to hang them, etc. It is not the amount of money that is spent on a home that gives it a "homey" look. There is real talent shown in a comfortable, well-arranged home, with scanty means; while no credit is due the one who has a well-filled purse to spend on curtains and carpets. I am afraid Dame Durden will repent of her invitation to talk on this topic, when she reads this long epistle.

I enjoyed Helponabit's story. Our home, to me, is lonely, but not just in the same way as Helponabit's. Our little son is gone to heaven; you mothers will know how we miss the little footsteps. But I must not sadden your hearts, for I seem to hear these words, "Go bury thy sorrow, the world has its share." So, for the Master's sake we must remember others' burdens, and help to bear them. Not now, but in the coming years, it

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The Sherlock-Manning Organ Co., London, Ont.:

GENTLEMEN, — REGARDING THE SHERLOCK-MANNING ORGAN, style 20, No. 44, which I bought in August, 1908, I wish to say that it has given entire satisfaction in every way.

WE HAVE BEEN USING IT CONTINUALLY since we bought it, and both the tone and finish keep right up to what they were when we bought the organ.

Yours truly,

John Burn, Hespeler, Ont.

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THE only medium which conveys weekly to the farmers of Canada the advertiser's place of business is the Farmer's Advocate and Home Magazine.

may be in the better land, we'll read the meaning of our tears; and, there, sometime, we'll understand."
Middlesex Co., Ont. **RUBY.**

UNIQUE FLOWERPOTS.

Before I forget, I must tell you about some of the prettiest things "ever" that I saw at the flower show yesterday. These were no more nor no less than little birch-bark canoes, filled with earth, and mounted on stands made of bits of branches crossed at the ends, saw-horse fashion, to hold the canoes—anyone could make them. In the canoes, shamrocks or oxalis, which need comparatively little root-room, were growing—in some, the genuine article from the old sod; in others, the better known varieties with white, pink or yellow blossoms. You have no idea how pretty they were.

Not long ago, too, I had occasion to call at a convent, and saw there an idea (or rather the result of an idea) for covering a fern-pot, which appealed to me. The pot was simply hidden by coils of bare vine stems—Virginia creeper or grapevine stems would do equally well—twined roughly and with the ends of the stems sticking out here and there in a very rustic manner. Over all, the fronds of the Boston fern in the pot drooped gracefully, and the effect was very pleasing.

Touching upon jardinières—don't you just hate those big blue and gilt flowered china specimens?—even a plant has all it can do to keep from looking vulgar in one. I saw a rather handsome one (a jardinière, not a plant) the other day, in a sage green, dull finished china. Of course, the price was handsome too—in the tantalizing way that prices "have." Those dull red pottery ones, with Japanese-looking dragons in gilt, also appeal to one somehow; and more than all those beautiful woven Bombay-reed ones in brown or green. Failing these favorites, however, I should have the twisted vine stems, and save my coppers for my new spring hat.

Home Dressmaking.

Dear Dame Durden,—Being a home-dressmaker myself, I was much interested in your article on spring sewing. I wonder if a little "dodge" that has been useful to me since I learnt it from a dressmaker, would help anyone else out of a difficulty. You know, in patterns for skirts, blouses, etc., to be made of cloth, the pleats are marked by a row of perforations. The question is, how to mark these pleats exactly alike on both fronts of a waist, for instance, and to get them marked on the right side. Generally, there are two rows of perforations, one row to be laid over to the other to form the pleat. You have cut out your two fronts at once, the wrong side of the material outwards. Now, mark with chalk through each perforation. Then rule a straight line from the top perforation to the bottom one. Now, you have two or more straight chalk lines on the wrong side of one of your fronts. Take a long thread of a contrasting color (doubled), and sew through these lines, through both thicknesses. Mark this special peculiarity about this kind of sewing. The stitches are about half an inch long, and are not pulled tight. Leave a little loop of thread between each stitch. When you have sewn through all your marks in this way, separate the two fronts gently, so that the double thread, instead of lying in loops on the outside, is drawn through to the inside. Now, take your scissors and cut the threads up each line, on the inside. If you have been able to understand these directions, you will have two or more rows of cut threads on the right side of each front. It is then easy enough to lay one row over to the other, and you have the satisfaction of knowing that your pleats are perfectly straight, and both sides exactly alike. Beware of pulling out the short threads as small, compared to the worry of trying to make a pleat by one's eye in a waist, say, for instance.

Hope this may not be too difficult to understand.
Yours truly,
MRS. N. DOROTHY.

From Another Invalid.

Bluebell sends a sympathetic letter, which has been forwarded to June Eve. A part of it, which was intended especially for the Chatterers, has been reserved. Our Chatterers will be sorry to hear that Bluebell is also invalidated for a time with the same affliction that has come to June Eve. We trust the operation which she will have to undergo in the hospital may be successful.

"While I write this letter," she says, "I am rocking one twin baby, and trying to please the other beside me in the bed, and he shakes me so it is almost impossible for me to write. I must tell you how I manage lately. We have been using bakers' bread, and got so tired of it that I ventured to bake, and I have done several bakings, with my knee on a pillow on a chair. I use the yeast which I have named 'lightning riser.' I see some of you call it perpetual yeast, but the name does not do it justice, as it is so quick you can have your bread baked so early. I find baking very easy by the use of 'lightning riser.' Before I close, I must say to Helponabit that I enjoyed her letter or story. I hope she is well again after her accident; her name is suggestive of help to all. I had a good laugh over that rascal of a nephew of hers, who did not give her time to show off her new bonnet. I will write again to June Eve when I return from the hospital. In the meantime, I would like to hear from June Eve, also from any member who like writing. Being a shut-in, I appreciate a letter very much. The letters in the Nook have been so very sociable, sympathetic, and interesting this last while that I always feel sorry when I get to the end of the last one. I will close by sending a cure for ingrowing toenail: Simply scrape the nail on the top (not at the edge where you cut the nail, but on the top). If one scraping does not cure, do this two or three times, and you will be cured. This is an old cure, but perhaps someone may not know it. Au revoir. **BLUEBELL.**
"Victoria Co., Ont."

A BUNCH OF PUSSY-WILLOWS.

I lay my cheek against your furry faces—
Ye that have seen the sky from some far quiet spot—
And dream of spring in pleasant country places,
The noisy turmoil of the town forgot.

I dream of olden haunts by wood and river;
Of bare hills, shadowed by the flying cloud;
Of winds that set the slender pines a-quiver;
Of rich brown field and fallow newly plowed;

Of sunny silence in the sheltered meadows,
And pungent scent of distant burning brush;
Of flick'ring lights and misty purple shadows,
And chirp of bird amid the woodland hush.

Dear buds, that whisper of the year's unfolding,
What messages of quick'ning life ye bring!
Yet that within your hearts are warily holding,
The great, glad mystery of the wak'ning spring.

—Harper's Weekly.

RECIPES.

Feather Cake.—One cup sugar, ¼ cup sweet milk, 1 egg, 1 tablespoon butter, 1 cup Five Roses flour, a little salt, 1 teaspoon baking powder; flavor to taste.

Potato Scones.—One cup mashed potato, 1 tablespoon milk, ¼ cup Five Roses flour, ½ teaspoon salt. Roll, cut in cakes, and bake in a quick oven.

The wind blows, the sun shines, the birds sing loud,
The blue, blue sky is decked with fleecy, dappled cloud,
Over earth's rejoicing fields the children dance and sing,
And the frogs pipe in chorus, "It is spring! It is spring!"

—Celia Thaxter.

Bob, Son of Battle.
BY ALFRED OLLIVANT.

[Serial rights secured by "The Farmer's Advocate and Home Magazine."]

CHAPTER XXIX.—Continued.

So he crept up to his master's feet, and the little man never moved.
"Wullie—ma Wullie!" he said very gently. "They've aye bin agin me—and noo you! A man's mither—a man's wife—a man's dog! they're all I've iver had; and noo ain o' they three has turned agin me! Indeed I am alone!"

At that the great dog raised himself, and placing his forepaws on his master's chest tenderly, lest he should hurt him who was already hurt past healing, stood towering above him; while the little man laid his two cold hands on the dog's shoulders.

So they stood, looking at one another, like a man and his love.

At M'Adam's word, Owd Bob looked up, and for the first time saw his master.

He seemed in nowise startled, but trotted over to him. There was nothing fearful in his carriage, no haunting blood-guiltiness in the true gray eyes which never told a lie, which never, dog-like, failed to look you in the face. Yet his tail was low, and, as he stopped at his master's feet, he was quivering. For he, too, knew, and was not unmoved.

For weeks he had tracked the Killer; for weeks he had followed him as he crossed Kenmuir, bound on his bloody errands; yet always had lost him on the Marches. Now, at last, he had run him to ground. Yet his heart went out to his enemy in his distress.

"I thowt t'had bin yo', had," the Master whispered, his hand on the dark head at his knee—"I thowt t'had bin yo'!"

Rooted to the ground, the three watched the scene between M'Adam and his Wullie. In the end the Master was whimpering; Andrew crying; and David turned his back.

At length, silent, they moved away.
"Had I—should I go to him?" asked David, hoarsely, nodding toward his father.

"Nay, nay, lad," the Master replied. "Yon's not a matter for a man's friends."

So they marched out of the Devil's Bowl, and left those two alone together.

A little later, as they tramped along, James Moore heard little pattering, staggering footsteps behind.

He stopped, and the other two went on.

"Man," a voice whispered, and a face, white and pitiful, like a mother's pleading for her child, looked into his—"Man, ye'll no tell them a'? I'd no like 'em to ken 'twas ma Wullie. Think an t'had bin yer ain dog."

"You may trust me!" the other answered thickly.

The little man stretched out a palsied hand.

"Gie us yer hand on't. And G-God bless ye, James Moore!"

So these two shook hands in the moonlight, with none to witness it but the God who made them.

And that is why the mystery of the Black Killer is yet unsolved in the Daleland. Many have surmised; besides those three only one other knows—knows now which of those two he saw upon a summer night was the guilty, which the innocent. And Postie Jim tells no man.

CHAPTER XXX.

The Tailless Tyke at Bay.

On the following morning there was a sheep-auction at the Dalesman's Daughter. Early as many of the farmers arrived, there was one earlier. Tupper, the first man to enter the sand-floored parlor, found M'Adam before him.

He was sitting a little forward in his chair; his thin hands rested on his knees, and on his face was a gentle, dreamy expression such as no man had ever seen there before. All the harsh wrinkles seemed to have fled in the night; and the sour face, stamped deep with the bitterness of life, was softened now, as if at length at peace.

"When I coom doon this mornin'," said

POULTRY AND EGGS

Condensed advertisements will be inserted under this heading at two cents per word each insertion. Each initial counts for one word, and figures for two words.

At Valley Mills Poultry Ranch—Fertile eggs from Single-Comb White Leghorns, Buff Orpingtons, \$1 per setting, \$4.50 per hundred.

BARRED ROCKS—Eggs for hatching; \$5.00 for 108. M. C. Herner, Marneheim, Ont.

BREEDER and exhibitor of Barred Plymouth Books, exclusively. Eggs for hatching. Stock for sale. Prices right. Leslie Kerns, Freeman, Ont.

BARRED Rock eggs from superb matings. Write for full particulars. W. W. Dods, Alton, Ont.

BUFF ORPINGTONS—Yards 3 and 4—Headed by males whose grandams had records of from 340 to 292 eggs in one year. Eggs, \$1.35 per 15; \$5 per 100. Circulars. C. Everard Brown, Havville, Ont.

CHOICE White Wyandottes—Great layers. Eggs, \$1.50 per 15; \$5 per 100, Chas. A. Goulding, Vinemount, Ont.

EGGS—White Wyandottes (McKellar strain), Barred Rocks (Thompson strain). Per two settings one dollar. W. Bryant, Carington, Ont.

EGGS—Buff Orpington, White Wyandottes (Duster strain), B. Rocks. Bred for winter laying. \$1 per 15; \$4 per hundred. J. H. Fordon, Beachville.

EGGS—Single-Comb White Leghorn and Buff Wyandottes; good strains; \$1 per 15. George Lewis, Ballville, Ont.

EGGS for hatching from McCormack's prize-winning White Leghorns at \$1 per 15 upwards. Send for mating list. Jas. L. McCormack, Brantford, Ont.

EGGS for sale from a choice, well-selected heavy-laying strain of Barred Rocks. Eggs, \$1.50 per 15; \$5 per 100. John McKenney, Lyons, Ont.

EGGS—White Wyandottes, White Leghorns. Standard stock. Fertility guaranteed. Dollar per setting. E. W. Burt, Paris, Ont.

EGGS FOR HATCHING from choice birds—Barred Rocks, Pekin ducks, Bronze turkeys. Mrs. Howard, St. Julians, Sutton West, Ont.

FOR SALE—White Wyandotte eggs from selected pens of choicest laying strains.

INGLENOOK Poultry Farm offers eggs from selected pens of choicest laying strains of White and Brown Leghorns, Black Minorcas and Buff Orpingtons, also a select pen of White Wyandottes for show birds, but not tested for laying quality.

LOCHABAR Stock Farm and Poultry Yards offers eggs from the following varieties: Barred Rocks (Latham's strain), Buff Orpingtons, S. L. White and Partridge Wyandotte, \$1 per 15. Imperial Ice in duck eggs, \$1 per 9. Eggs from Imp. Bronze turkeys, 30 cents each. D. A. Graham, Wanstead, Ont.

MAMMOTH Bronze turkeys—A few good toms left. Some thirty pounds. G. E. Nixon, Arva.

MAMMOTH Bronze Turkeys, Silver-Gray Dorkings, Barred Rocks, from prize winners. Pairs not skin. Alfred E. Shore, White Oak, Ont.

RHODE Island Reds—Rose-Comb (exclusively), bred eight years from carefully-selected heavy winter layers; large, brown eggs; \$1.50 per 15. Good hatch guaranteed. Jno. Luscombe, Merton, Ont.

P. Edwards, Prop., South Salt Springs Poultry Yards, British Columbia. Eggs and stock for sale. R. C. R. I. Reds, Black Minorcas, Buff Rocks, Blue Andalusians, Pekin Ducks. Write for prices.

WHITE Wyandotte eggs one dollar. Prize-winners in breeding pen. W. D. Monkman, Bond Head, Ont.

150 BUFF Orpingtons (pure-bred); pullets and yearling hens laying now. Good stout cockerels. Prices reasonable. Eggs in season. Satisfaction guaranteed. Hugh A. Scott, Caledonia, Ont.

237-EGG Strain Barred Rocks for particulars, write for circular. J. R. Henry, Waterdown.

MAMMOTH BRONZE TURKEYS—Sired by imported prizewinning tom. A few young toms left, weighing from twenty-eight to thirty one pounds, and some heavy-weight pullets. Turkey eggs in season. W. E. WRIGHT, Glenworth.

Eggs for Hatching

White Wyandotte \$1 00 per setting. Barred Rock " " " " " " " " Buff Orpington " " " " " " " " Special mating Buff Orpington. " " " " " " " " The Glenhudson Co., Myrtle Station and P.O., Ont.

LORNE FOSTER, MANAGER.

BIRMINGHAM BULL SALE.

At the annual show and sale of pedigree bulls, at Birmingham, England, March 6th, the red yearling Shorthorn bull, Shenley Victor, bred and exhibited by C. F. Raphael, sold for 1,000 guineas (\$82,200), to Mr. McLennan, for Argentina, the next highest price being \$2,100 for Ascott Wanderer, shown by Mr. L. Rothschild. Twenty others sold at prices ranging from \$500 to \$1,800 each.

Teddy Bolstock in a whisper, "I found 'im sittin' just so. And he's not moved nor spoke, since."

"Where's th' Terror, then?" asked Tupper, awed somehow into like hushed tones.

"In t' paddock at back," Teddy answered, "marchin' hoop and doon, hoop and doon, for a' the world like a sentry-soger. And so he was when I looked out o' window when I wake."

Then Londeley entered, and after him, Ned Hoppin, Rob Sanderson, Jim Mason, and others, each with his dog. And each man, as he came in and saw the little lone figure for once without its huge attendant genius, put the same question; while the dogs sniffed about the little man, as though suspecting treachery. And all the time M'Adam sat as though he neither heard nor saw, lost in some sweet, sad dream; so quiet, so silent, that more than one thought he slept.

After the first glance, however, the farmers paid him little heed, clustering round the publican at the farther end of the room to hear the latest story of Owd Bob.

It appeared that a week previously, James Moore with a pack of sheep had met the new Grammoctown butcher at the Daleman's Daughter. A bargain concluded, the butcher started with the flock for home. As he had no dog, the Master offered him Th' Owd Un. "And he'll pick me up i' th' town to-morrow," said he.

Now the butcher was a stranger in the land. Of course he had heard of Owd Bob o' Kenmuir, yet it never struck him that this handsome gentleman with the quiet, resolute manner, who handled sheep as he had never seen them handled was that hero—"the best sheep-dog in the North."

Certain it is that by the time the flock was penned in the enclosure behind the shop, he coveted the dog—ay, would even offer ten pounds for him!

Forthwith the butcher locked him up in an outhouse—summit of indignity; resolving to make his offer on the morrow.

When the morrow came he found no dog in the outhouse, and, worse, no sheep in the enclosure. A sprung board showed the way of escape of the one, and a displaced hurdle that of the other. And as he was making the discovery, a gray dog and a flock of sheep, travelling along the road toward the Daleman's Daughter, met the Master.

From the first, Owd Bob had mistrusted the man. The attempt to confine him set the seal on his suspicions. His master's sheep were not for such a rogue; and he worked his own way out and took the sheep along with him.

The story was told to a running chorus of—"Ma word! Good, Owd Un!—Ho! ho! did he that?"

Of them all, only M'Adam sat strangely silent.

Rob Sanderson, always glad to draw the little man, remarked it.

"And what d'yo' think o' that, Mr. M'Adam, for a wunnerfu' story of a wunnerfu' tyke?" he asked.

"It's a gude tale, a vera gude tale," the little man answered dreamily. "And James Moore didna invent it; he had it from the Christmas number o' the Flock-keeper in sixty." (On the following Sunday, old Rob, from sheer curiosity, reached down from his shelf the specified number of the paper. To his amazement he found the little man was right. There was the story almost identically. None the less it is also true of Owd Bob o' Kenmuir.)

"Ay, ay," the little man continued, "and in a day or twa James Moore'll ha' another tale to tell ye—a better tale, ye'll think it—mair laffable.—And yet—ay—no—I'll no believe it! I never loved James Moore, but I think, as Mr. Horn-but aince said, he'd rather die than lie. Owd Bob o' Kenmuir!" he continued in a whisper. "Up till the end I canna shake 'im aff. Haffins I think that where I'm gaein' to there'll be gray dogs sneakin' around me in the twilight. And they're aye behind and behind, and I canna, canna—"

Teddy Bolstock interrupted, lifting his hand for silence.

"D'yo' hear that?—Thunder!"

They listened; and from without came a gurgling, jarring roar, horrible to hear.

"It's comin' nearer!"

"Nay, it's goin' away!"

"No thunder that!"

"More like the Lea in flood. And yet—Eh, Mr. M'Adam, what is it?"

The little man had moved at last. He

was on his feet, staring about him, wild-eyed.

"Where's yer dogs?" he almost screamed.

"Here's ma—Nay, by thunder! but he's not!" was the astonished cry.

In the interest of the story no man had noticed that his dog had risen from his side; no one had noticed a file of shaggy figures creeping out of the room.

"I tell ye it's the tykes! I tell ye it's the tykes! They're on ma Wullie—fifty to one they're on him! My God! My God! And me not there! Wullie, Wullie!"—in a scream—"I'm wi' ye!" At the same moment Bessie Bolstock rushed in, white-faced.

"Hi! Feyther! Mr. Sanderson! all o' you! T' tykes fightin' mad! Hark!" There was no time for that. Each man seized his stick and rushed for the door; and M'Adam led them all.

A rare thing it was for M'Adam and Red Wull to be apart. So rare, that others besides the men in that little tap-room noticed it.

Saunderson's old Shep walked quietly to the back door of the house and looked out.

There on the slope below him he saw what he sought, staking up and down, gaunt and grim, like a lion at feeding-time. And as the old dog watched, his tail was gently swaying as though he were well pleased.

He walked back into the tap-room just as Teddy began his tale. Twice he made the round of the room, silent-footed. From dog to dog he went, stopping at each as though urging him on to some great enterprise. Then he made for the door again, looking back to see if any followed.

One by one the others rose and trailed out after him: big blue Rasper, Londeley's Lassie, Ned Hoppin's young dog; Grip and Grapple, the publican's bull-terriers; Jim Mason's Gyp, foolish and flirting even now; others there were; and last of all, waddling heavily in the rear, that scarred Amazon, the Venus.

Out of the house they pattered, silent and unseen, with murder in their hearts. At last they had found their enemy alone. And slowly, in a black cloud, like the shadow of death, they dropped down the slope upon him.

And he saw them coming, knew their errand—as who should better than the Terror of the Border?—and was glad. Death it might be, and such an one as he would wish to die—at least distraction from that long-drawn, haunting pain. And he smiled grimly as he looked at the approaching crowd, and saw there was not one there but he had humbled in his time.

He ceased his restless pacing, and awaited them. His great head was high as he scanned them contemptuously, daring them to come on.

And on they came, marching slow and silent like soldiers at a funeral: young and old; bob-tailed and bull; terrier and collie; flocking like vultures to the dead. And the Venus, heavy with years, rolled after them on her bandy legs, panting in her hurry lest she should be late. For had she not the blood of her blood to avenge?

So they came about him, slow, certain, murderous, opening out to cut him off on every side. There was no need. He never thought to move. Long odds 'twould be—crushingly heavy; yet he loved them for it, and was trembling already with the glory of the coming fight.

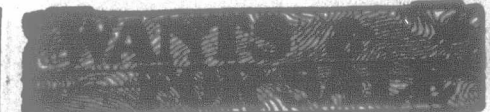
They were up to him now; the sheep-dogs walking round him on th'ir toes, stiff and short like cats on coals; their backs a little humped; heads averted; yet eying him askance.

And he remained stock-still, nor looked at them. His great chin was cocked, and his muzzle wrinkled in a dreadful grin. As he stood there, shivering a little, his eyes rolling back, his breath grating in his throat to set every bristle on end, he looked a devil indeed.

(To be continued.)

THE SMILE THAT CAME OFF.

Teacher (to little boy).—Freddie Brooks, are you making faces at Nellie Lyon? Freddie Brooks.—Please, teacher, no, ma'am; I was trying to smile, and my face slipped.



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

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

BUY rick farming and grazing lands in the Edmonton District, the most fertile district of Alberta. Pandleton Co., Lamont, Alta.

FOR SALE—To settle up the estate of the late J. W. Brown, a farm of 40 acres near Frelton, will be sold. Possession April 1st. For particulars apply to Jas. A. Gray, agent for the administratrix, Frelton, Ont.

FERTILE leading varieties of strawberry and cane berry plants. Seven varieties of seed potatoes. Catalogue free. Jas. Downham, Strathroy, Ont.

FABRIVIEW Farm for sale—6 1/2 acres, 60 cleared, balance timber. Soil clay loam. Well watered. Seven-roomed new brick house. Bank barn 40 x 60. Well fenced, Victoria two miles. Terms easy. Apply to George Hewitt or M. T. McCall, Victoria post office.

GREAT bargains in fruit, stock and farm lands; in very center of garden of Canada; grapes, peaches, etc., abundant; profitable. H. V. Robins, Beamsville, Ont.

SABLE Collie Pups—Three extra good bitches, one dog. Cheap for immediate sale. John E. Peares, Wallaceburg, Ont.

SNAP—Fifty acres valuable peach land; build- ings; Grimsby township; near lake and electric cars; also two 100, 50 and twenty acres; farm of one hundred acres, fruit and stock. Box 93, Winona, Ont.

STRAWBERRY Plants—Best varieties; first-class plants; prices lower than most growers; send for list. H. D. Clemenson, W. Hinton, Ont.

SEED POTATOES—The great Scotch potato, Evergood—the potato that doesn't rot. Grown last season from imported seed. Fine flavor, great producer, rot proof. Good shape, shallow eyes, perfect keeper, mid-season. Especially adapted to heavy soils. Five pounds, post-paid, \$1. W. Hargrave, Linwood, Ont.

WANTED—Working foreman for six-hundred-acre farm. Must be competent and experienced handler of men, machinery and horses. Apply to the Rathbun Farm, Deseronto, A. Leitch, Supt.

WANTED—Farms in all parts of Ontario. The Big Cities Realty & Agency Co., Limited, 6 College St. Toronto, Ont.

WHEAT lands in the great golden West, where free homesteads are still available. Clean open prairie in tested localities; good water and near railways; splendid investment. You may double your money in one year. Call on me when you reach Regina, or write me. Geo. S. Houston, Box 9, Regina.

WANTED—Ladies in rural districts desirous of engaging in profitable business will do well to write the Robinson Corset & Costume Co., London, Ont.

480 ACRES, excellent soil, with stream, 5 miles south-west of Leacombe, Alberta, and near Senator Talbot's model stock farm. An opportunity at twelve dollars per acre, and terms. Write owner, J. Everard Ranons, Calgary, Alta.

WANTED—Willing, clean, intelligent young men, single or married, who like to milk and care for pure-bred cattle or horses, and to work on a large farm at general farm work. Good wages. Good chances to right men. In first letter state wages wanted for a year, age, experience, references, and whether use tobacco or liquor. Box 19, Bronte, Ont.

WANTED—Man to work on farm. Steady employment. State wages and experience. A. J. Graham, Ivan

WANTED—Married man to work on large farm and board. Harvest hands. Experienced Canadian preferred. Apply E. Todd, Caledonia, Ont.

Mr. H. G. Boag, Barrie, Ont., advertises for sale three high-class Clydesdale stallions, two of which are imported, also two imported Clydesdale mares. The imported stallions are sons of the champion Hiawatha, and Mackinley, and the Canadian-bred horse is a noted prizewinner. The mares are big and of flesh quality. See the advertisement, and write for particulars.

It should not be overlooked that the Shorthorns to be sold at auction by C. C. McAvo, at Atha, Ont., on April 2nd, are of the most select breeding, and that they are being sold without much preparation, as the sudden failure of Mr. McAvo's health is causing the sale. The four imported cows were bought to establish a herd second to none in any country, now they, with the increase, must be sold, and somebody will get the benefit. They are money-makers, for this blood will sell at any time.

The Clydesdale mares are large and well bred, and the Berkshires have been kept up-to-date by the importation of Royal prizewinning sires for the past four years or more. The farm will be sold too, and it is one of the best in Canada. Remember the date, and the place, near Claremont station (C. P. R.), 25 miles east of Toronto, and about 7 miles from Pickering (G. T. R.). For particulars of these cattle, see "The Farmer's Advocate" for March 21st, page 497.

QUESTIONS AND ANSWERS. Miscellaneous.

REGISTRATION NUMBERS.

Can you give me the number of Rankin Boy, owned, several years ago, by Thomas McLaughlin, also of Testalle, owned by Emery, both Clydesdale stallions? OLD SUBSCRIBER.

Ans.—Rankin Boy (imp.) [1626] (8119); foaled May, 1881; imported, 1883, by Thos. McLaughlin, Brussels, Ont. We do not find the other in the studbook.

STRAIGHTENING A LINE FENCE.

The question given you to answer some weeks ago, re line fence, was not given right. A and B lands lie side by side. A part of the line fence belonging to A was laid a little off the line to save going through the heavy timber, about 30 or 40 years ago. The fence being crooked gives B about one-fifth more land than he should have, and also spoils the shape of the fields. No steps have ever been taken to straighten this line fence. A wants to build this portion of his line new this spring.

1. Can A go on and straighten this fence on the line lawfully, without giving any notice to B?

2. Or, if A gives notice to B, and B refuses, can he go on and build the fence straight on the line lawfully?

Ontario.

Ans.—1. Yes.
2. Yes.

HORSE CHAMPING.

Could you suggest any plan to cure a horse of the habit of tramping round with the front feet when being fed? Have one four-year-old so bad that a stranger would be afraid to go into the stall, yet the beast would neither kick nor bite.

SUBSCRIBER.

Ans.—Horses, like men, are not all perfect-mannered, and some like to hear themselves making a racket. Often, the habit of champing is contracted by hearty horses, whose feeders are tardy about putting the oats into the box. It is just possible that worms have given him an abnormal appetite. If so, their presence should be manifest in his condition and droppings. It might be worth while examining. Further than this, all we can suggest is to stand the horse on a dull-sounding floor, and be as prompt as possible about getting the feed into his manger. Fairly liberal feeding, by taking the edge off his appetite, may help to overcome the trouble in time. Regular work will have a tendency to tone him down, and reduce the temptation to indulge this manifestation of surplus energy. If any of our readers has a plan he has found effectual, we shall be glad to print what he has to say.

HOW MANY GEESE AND DUCKS TO A MALE?—PROBABLY CHOLERA.

How many geese is it safe to keep with one male? Would six be too many?

2. Also, how many ducks?

3. My hens all died of colic last year, and now my young fowl are going. Can you suggest a remedy?

A SUBSCRIBER.

Ans.—1. The rule is one to four geese for each gander. Six would be too many. Young ganders often take up with only one goose each; older ones generally mate with more.

2. The rule for ducks is five to a drake until June; after that, ten. Some breeders, who have water range, claim to be able to run seven, eight or nine ducks to a drake throughout the season, but this is not generally advised.

3. There is no disease of poultry that we have ever heard of known as colic. It might be apoplexy, which is due to confinement and overfeeding; but the epizootic character of this affection suggests cholera. A great deal of information about this disease, its symptoms and treatment, has appeared in the "Poultry" and the "Questions and Answers" departments of "The Farmer's Advocate" during the past year. Look it up, and, if still unsatisfied, write again, describing the disease, and, particularly, the droppings of the fowls. If the birds have cholera, the best thing is to go out of the business entirely for a year or two.

SCHOOL LANDS SALE

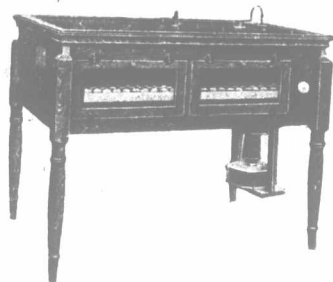
The School Lands of Manitoba are nearly all sold, but we can sell you farms on practically the same terms, viz.,

Ten Per Cent. Cash and Balance in Nine Yearly Installments,

with interest on deferred payments at six per cent. per annum. These farms are all in the Province of Manitoba, and are within three miles of railway stations, markets and schools. Write to us for catalogue and maps.

McINNIS & CLARK,
Bank of Commerce Building, BRANDON, MAN.

HAMILTON HIGH-GRADE INCUBATORS



Awarded highest honors at exhibitions. Have won out in every test, and are patented. The HAMILTON Incubator regulates its own heat.

It requires only 10 minutes of your time twice a day to operate it.

It takes only 1½ gallons of oil to each hatch. The HAMILTON hatches big, healthy, fluffy chicks, and the HAMILTON BROODER will take care of every chick.

WRITE US TO-DAY FOR OUR BIG FREE CATALOGUE, PRICE LIST AND EASY TERMS.

The Hamilton Incubator Co., Limited, Hamilton, Ontario.

HENS NOT LAYING—GRIT FOR GEESE AND DUCKS.

1. I keep 30 Barred Rock and Orpington hens; they are not laying very well yet. I would like if you could tell me what is wrong with them. They are fed half a gallon wheat, oats and peas (mixed) every day, in a litter of dry chaff. I feed them lard renderings for meat, and turnips for vegetables, and they get plenty of good water. Most of the hens are looking well. They are in a pen, where they have 10 square feet of room each. There is one large window on the south side, which is half cotton and half glass, and a smaller glass window on the south-west side of the window. They get a handful of grit every morning.

2. Do geese and ducks need as much grit as hens? G. M. C.

Ans.—1. Any one of several reasons might account for the paucity of eggs. The hens may be too old; they may be from a poor-laying strain; they may be too fat, or, again, they may not have got into strong laying condition till late in the winter. The conditions, care and feed seem excellent, except that it might be better to substitute lean-meat scraps and green bones (either cut with a machine or pounded with an axe on a block of wool) for a part of the lard renderings. Lard, though good in its way, tends to produce fat rather than growth and eggs.

2. Grit is necessary for the digestion of ducks and geese. Whether they will consume as much as hens is a point we have never observed.

PIGS DYING OF THUMPS.

A litter of Yorkshire pigs, now eight weeks old, thrived well for four weeks then got very thick in the neck, stout-looking, and dry in the hair, took a sort of panting, and one could hear them breathing outside the pen. They do not care to eat, and are dying. I had them first in stone pen (cement floor, plank sleeping place), then put them in a frame stable, but they have done no better. I had the same trouble last winter.

1. What is their trouble?
2. How may I prevent it with another litter? NEW SUBSCRIBER.

Ans.—These pigs had thumps. They were killed by kindness. Lack of exercise and liberal feeding of rich food caused blood to accumulate about the heart, and the result was in congestion. A remedy is to be about the worst for pigs, and you can be so tried, as it gathers about the heart. We would advise studding the pigs with boards.

When young pigs in winter cannot get out for exercise, it is well to arrange, if possible, for them to move about in the passages of the pen, and to compel them, if need be, by whipping them around the pen with a broom or something of the kind. The sow, while nursing them, should be fed bran and oat chop rather than more heating food. There is little hope for pigs when they get thumps. The best practice is, if possible, to get them out on the ground and in the sun line, and on grass as soon as possible.

Veterinary.

TUBERCULIN.

What effect would a dose of tuberculin that should be given to a 1,200-lb. heifer, have, if given to a calf of 650 lbs.? If she reacted 2½ degrees, would you consider her tubercular? J. M.

Ans.—My experience has taught me that the size of the dose makes little or no difference, and a healthy animal will not react, even to an over-dose. Hence, as the heifer reacted 2½ degrees, you are safe in considering her tubercular. V.

LUMP JAW.

1. I treated a steer with iodide of potassium as recommended for lump jaw, until the skin became scurfy. Ten days later, his legs swelled a little, and he became slightly bloated. It is now two weeks since I ceased giving the drug, and the lump is a little smaller; but his appetite is not good, though he drinks well.

2. What can I do to work off the effects of the drug?

3. How can I tell if the disease is cured?

4. If the lump remains, how can I remove it?

5. I dissolved the drug in warm water, and sprinkled it on his food. Can you suggest any better method of administration? T. W. J.

Ans.—1. You did right to cease giving the drug when the skin became scurfy, even though the other symptoms of iodism were not shown.

2. It will gradually disappear, but can be hastened by giving a purgative of 1 lb. Epsom salts, and following up with 1 dram each sulphate of iron and nuxvomica, twice daily, to improve the appetite.

3. By the lump remaining the same size or getting smaller. In many cases, especially when the bone is diseased, the lump does not disappear.

4. If the bone is enlarged, it cannot be

removed. If the lump is not attached to the bone, it can be dissected out.

5. There is no better way. If preferred, the patient can be drenched with the solution. V.

CONSTIPATION.

Cow got sick, with symptoms of indigestion. I gave her 2 lbs. salts, followed by a quart of oil, and then another 2 lbs. salts, and rectal injections. There was no movement of the bowels, and the rectum protruded about four inches. She died. What was the trouble? J. B.

Ans.—She died from constipation of the bowels, and you treated her properly. All that could have been done more was to give about 2 drams of nuxvomica, three times daily. V.

LAME COLT.

Colt, nine months old, goes lame when first let out of the stable, but the lameness soon disappears, until after he stands again. J. Q.

Ans.—The symptoms indicate bone-spavin. I would advise you to blister the anterior surface of the hock, especially at the lower and inner parts. Take 2 drams each biniodide of mercury and cantharides, and mix with two ounces vaseline. Clip the hair off the parts. Try so that he cannot bite the parts. Rub well with the blister daily for two days, and on the third day wash off, and apply sweet oil. Turn loose in a box stall now, and oil every day. As soon as the scale comes off, repeat the blistering, and after this blister once every month until lameness disappears. V.

TUBERCULOSIS.

Please state law regarding cattle affected with tuberculosis. A farmer sells some cattle to a buyer to butcher. The buyer is forbidden to take the cattle on the grounds that they are diseased. The cattle are returned to owner, and inspected by veterinary, and pronounced diseased.

1. Can he be compelled by law to destroy said cattle?

2. Or, can he let them run at large on his own farm as long as he chooses?

Ans.—1. We think not.

2. Most probably he can.

GOSSIP.

Mr. Wm. McHarey, Russell, Ont., whose auction sale of imported Clydesdale mares and fillies is to take place at the Butler House, Ottawa, on April 2nd, writes that the importation has arrived safely and in good condition, and are an extra fine lot, including a superior four-year-old mare in foal to the noted sire, Baron's Pride.

A GREAT SALE OF IMPORTED CLYDESDALE MARES AND FILLIES.

At the Caistor House stables, Woodstock, Ont., on Tuesday, April 16th, Messrs. Butler, Innes, Schafer & McClary will sell by auction 60 imported Clydesdale mares and fillies, from one to four years of age, and a few imported Clydesdale stallions, including the 1907 champion and Cawdor-Cup Winner, Baron Kitchener (19199), said by the Scottish Farmer to be the best Clydesdale stallion that ever crossed the Atlantic. Perhaps never before in the history of Canada was the opportunity afforded the people of this country of purchasing heavy-draft mares, at their own prices with so many to pick from, as this sale will offer. Every one of this large number was selected by their respective owners on account of their individual excellence and rich breeding. Many of them are safe in foal to leading sires in Scotland, thus making them doubly attractive as an investment, practically guaranteeing the purchaser two imported animals for the price of one. Farmers should remember that the season is late, and very few, if any more, importations will be made this spring; besides, fillies are surely advancing in price in Scotland, and a very small advance in price there will practically prohibit their importation to this country, except at a decided increase of price to the farmers of Canada. Therefore, it is to their advantage to stock up now, and certainly a better opportunity will not present itself than this sale will offer. Remember the date, and arrange to attend.

Eastern Ontario Poultry Show Prize List, 1907.

LIGHT BRAHMAS.—Cocks—1 and 3, W. B. Nantel; 2, Galt E. Brown. Hens—1 and 2, John A. Belford; 3, W. B. Nantel. Cockerels—1 and 3, W. B. Nantel; 2, Dr. J. Pritchard. Pullets—1 and 2, W. B. Nantel; 3, John A. Belford.

DARK BRAHMAS.—Cocks—1 and 2, Lew Sage; 3, W. B. Nantel. Hens—1 and 2, Lew Sage; 3, W. B. Nantel. Cockerels—1 and 2, W. B. Nantel; 3, Lew Sage. Pullets—1 and 2, Lew Sage; 3, W. B. Nantel.

BUFF COCHINS.—Cocks—1, W. B. Nantel; 2, Dr. J. Pritchard. Hens—1, W. B. Nantel; 2, Morley Peaker; 3, J. H. Williams. Cockerels—1 and 2, W. B. Nantel; 3, Tooker & Bowey. Pullets—1 and 2, W. B. Nantel; 3, Tooker & Bowey.

PARTRIDGE COCHINS.—Cocks—1, Richard Oke; 2, W. B. Nantel. Hens—1, R. Oke; 2, Tooker & Bowey. Cockerels—1, Wm. C. Wilson & Sons; 2 and 3, W. B. Nantel. Pullets—1 and 3, W. B. Nantel; 2, R. Oke.

BLACK COCHINS.—Cocks—1, W. G. Murray, Strathroy. Hens—1, W. G. Murray; 2, W. B. Nantel. Cockerels—1, W. G. Murray. Pullets—1, W. G. Murray; 2, W. B. Nantel.

WHITE COCHINS.—Cocks—1, W. B. Nantel; 2, W. G. Murray; 3, J. H. Williams. Hens—1, W. B. Nantel; 2, W. G. Murray; 3, J. H. Williams. Cockerels—1, W. B. Nantel; 2, W. G. Murray; 3, Tooker & Bowey. Pullets—1, W. B. Nantel; 2, W. G. Murray; 3, Tooker & Bowey.

LANGSHIANS.—Cocks—1 and 2, R. McCurdy. Hens—1, J. Burgess; 2 and 3, R. McCurdy. Cockerels—1 and 2, R. McCurdy; 3, J. Burgess. Pullets—1 and 2, R. McCurdy; 3, J. Burgess.

BARRED PLYMOUTH ROCKS.—Cocks—1, M. C. Neate; 2, Garland & Gilchrist; 3, F. A. James; 4, Alex. Dynes. Hens—1 and 2, F. W. Beckstead; 3, M. C. Neate; 4, J. A. Lambertus. Cockerels—1, F. W. Beckstead; 2, John A. Lambertus; 3, F. A. James; 4 and 5, Garland & Gilchrist. Pullets—1, F. A. James; 2, Garland & Gilchrist; 3, John A. Lambertus; 4, Frank W. Beckstead; 5, M. C. Neate.

WHITE PLYMOUTH ROCKS.—Cocks—1, F. A. Andrews; 2, Geo. E. Craig; 3rd, Geo. Roberts. Hens—1 and 2, F. A. Andrews; 3, Geo. Robertson. Cockerels—1 and 2, F. A. Andrews; 3 and 4, Geo. Robertson. Pullets—1 and 3, F. A. Andrews; 2 and 4, Geo. Robertson.

BUFF PLYMOUTH ROCKS.—Cocks—1, Garland & Gilchrist; 2, D. Cumming, Russell; 3, Wm. F. Garland. Hens—1, Garland & Gilchrist; 2, D. Cumming; 3, Ottawa Poultry Yards. Cockerels—1 and 2, Garland & Gilchrist; 3, Ottawa Poultry Yards. Pullets—1 and 2, Garland & Gilchrist; 3, Ottawa Poultry Yards.

GOLDEN-LACED WYANDOTTES.—Cocks—1, Tooker & Bowey. Hens—1, Tooker & Bowey. Cockerels—1, Rev. J. H. Chant; 2, Tooker & Bowey; 3, H. Fulford. Pullets—1, Rev. J. H. Chant; 2, Tooker & Bowey; 3, H. Fulford.

SILVER-LACED WYANDOTTES.—Cocks—1 and 2, Garland & Gilchrist; 3, William Delary. Hens—1, 2 and 3, Garland & Gilchrist. Cockerels—1, Wm. Delary; 2, Garland & Gilchrist; 3, Tooker & Bowey. Pullets—1, 2, 3 and 4, Garland & Gilchrist.

BUFF WYANDOTTES.—Cocks—1, C. J. Packham; 2, Tooker & Bowey; 3, W. H. Carleton. Hens—1, C. J. Packham; 2, C. M. Taylor; 3, Henry Fulford. Cockerels—1, C. M. Taylor; 2, Tooker & Bowey; 3, C. J. Packham. Pullets—1, W. H. Carleton; 2, C. M. Taylor; 3, C. J. Packham.

WHITE WYANDOTTES.—Cocks—1, Geo. Higman; 2, Wright Bros.; 3, G. Lake; 4, J. McFadden. Hens—1 and 5, Geo. Higman; 2, W. Arnold; 3, Wright Bros.; 4, Craig & Snetsinger. Cockerels—1, G. Lake; 2, Geo. Higman; 3, McDougal & Vout; 4, Craig & Snetsinger; 5, W. Arnold. Pullets—1 and 5, McDougal & Vout; 2, W. Arnold; 3, Wright Bros.; 4, Craig & Snetsinger.

PARTRIDGE WYANDOTTES.—Cocks—1, J. E. Fidler; 2, Lew Sage; 3, L. L. Rodier. Hens—1 and 2, J. E. Fidler; 3, Lew Sage. Cockerels—1 and 3, J. E. Fidler; 2, C. J. Daniels. Pullets—1 and 3, J. E. Fidler; 2, Lew Sage.

A. O. V. WYANDOTTES.—Cocks—1, Tooker & Bowey; 2, G. & J. Bogue. Hens—1, Tooker & Bowey; 2, G. & J.

(Continued on next page.)

I will guarantee it for TEN years and give you THREE years to pay for the "PEERLESS" INCUBATOR

Page 13 of my FREE Book tells why the air is always clean inside this one incubator--and why that matters to you

Most Incubator-men talk loud about steady Heat and little about Clean Air. I can afford to talk both, and more besides. Because:

The Peerless is the incubator that hatches with clean air,—the incubator that has real ventilation. Now the quality of air an incubator-chicken gets before it's hatched is far more important than the quantity of food it gets after it hatches.

And many a poultry-for-profit venture has gone to smash by the carbon-dioxide route—bad incubator-air. Carbon-dioxide is a deadly gas every egg gives off as it hatches. Open the ordinary incubators' door and sniff,—that sulfurous, musty choking smell is carbon-dioxide; and it is poison to animal life.

There is no smell in a Peerless—the poison is continually flushed out of the Peerless hatching chamber. Remember that for almost 500 hours the chick breathes what air seeps through the porous shell. If that air is poison loaded, as it is in badly-ventilated ordinary incubators; that chick is stunted, its vitality impaired, its vigor weakened.

It never can thrive as Peerless-hatched chicks, that breathe pure, clean air, do thrive.

Remember, too, that this is only one of fifteen plain reasons why the Peerless incubator not only hatches every chick that can be hatched, but gives those chicks the right start.

Every one of the fifteen reasons means the difference between money made and money lost in poultry-raising.

Suppose you send me your address—use a post-card if you like—and let me send you the free book that tells some things you need to know, whether you are a beginner in poultry-raising or an expert.

Sending for the book doesn't commit you to buying the incubator. All we ask you to do is read the book. I won't importune you nor bother you.

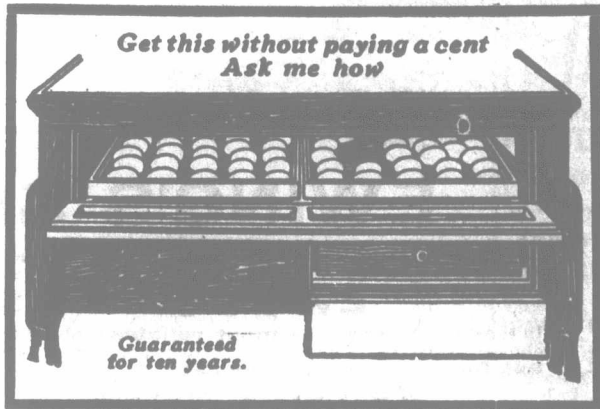
Just send for the book and read it—that's all. If you will do that right now, I will tell you, also, how you can make the Peerless earn its whole cost long before you pay one cent for it.

Whether you have ever thought about raising poultry or not,—whether you know all about incubators or you don't, I will show you why it will pay you,—pay you, personally,—to know what the Peerless is and what it could do for you if you wanted it to.

Simply your name and address fetches what will tell you that,—and no obligation on your part. The obligation will be mine to you, if you'll just write now.

In this Free Book I show you how to start in the poultry business without spending a cent for the important part of your outfit. I will make you a partnership proposition that puts the risk mostly on me and leaves the profit wholly for you.

I will tell you how to get the incubators and brooders you need without paying for them till they have paid for themselves twice over. I will show you why that beats all the free trial offers you ever heard, and why my way is the only sensible way for you to start raising poultry for profit.



Send for my Offer—Get the Free Book—Do it Now

To save time and freight Western Orders will be shipped from our Winnipeg Warehouse; but all letters ought to be sent to The LEE-HODGINS COMPANY, Limited 1 PEMBROKE STREET, PEMBROKE, ONTARIO

GUARANTEED FOR TWENTY-FIVE YEARS WILL LAST A CENTURY "OSHAWA" GALVANIZED STEEL SHINGLES

CHEAP AS WOOD—MORE DURABLE THAN SLATE Send for Free Book on "ROOFING RIGHT" The PEDLAR PEOPLE of Oshawa

Address our Nearest Warehouse: 321-3 Craig St. W. MONTREAL 11 Colborne St. TORONTO 423 Sussex St. OTTAWA 69 Dundas St. LONDON 76 Lombard St. WINNIPEG 625 Pender St. VANCOUVER

DAIRYMEN De you know how much each cow is earning for you! The only way to know this is to buy a Peerless Babcock Tester IT WILL TELL YOU ORDER TO-DAY 4-BOTTLE MACHINE, PRICE, \$55.00 C. Richardson & Co., Box 500 St. Mary's, Ontario

Write for our circulars on PORTABLE WELL-DRILLING MACHINES AND DRILLERS' SUPPLIES. London Well-Drilling Machine Co. LONDON, ONT.



"Maritime" wire fences are stronger than ordinary wire fences. Made from High Carbon and Hard Drawn steel wire, specially imported from England on account of its superior galvanizing, "Maritime" fences are from 75% to 100% stronger than common wire fences. Sturdy enough and sufficiently high to hold the largest stock, "Maritime" wire fence is still woven small enough to keep in small animals.

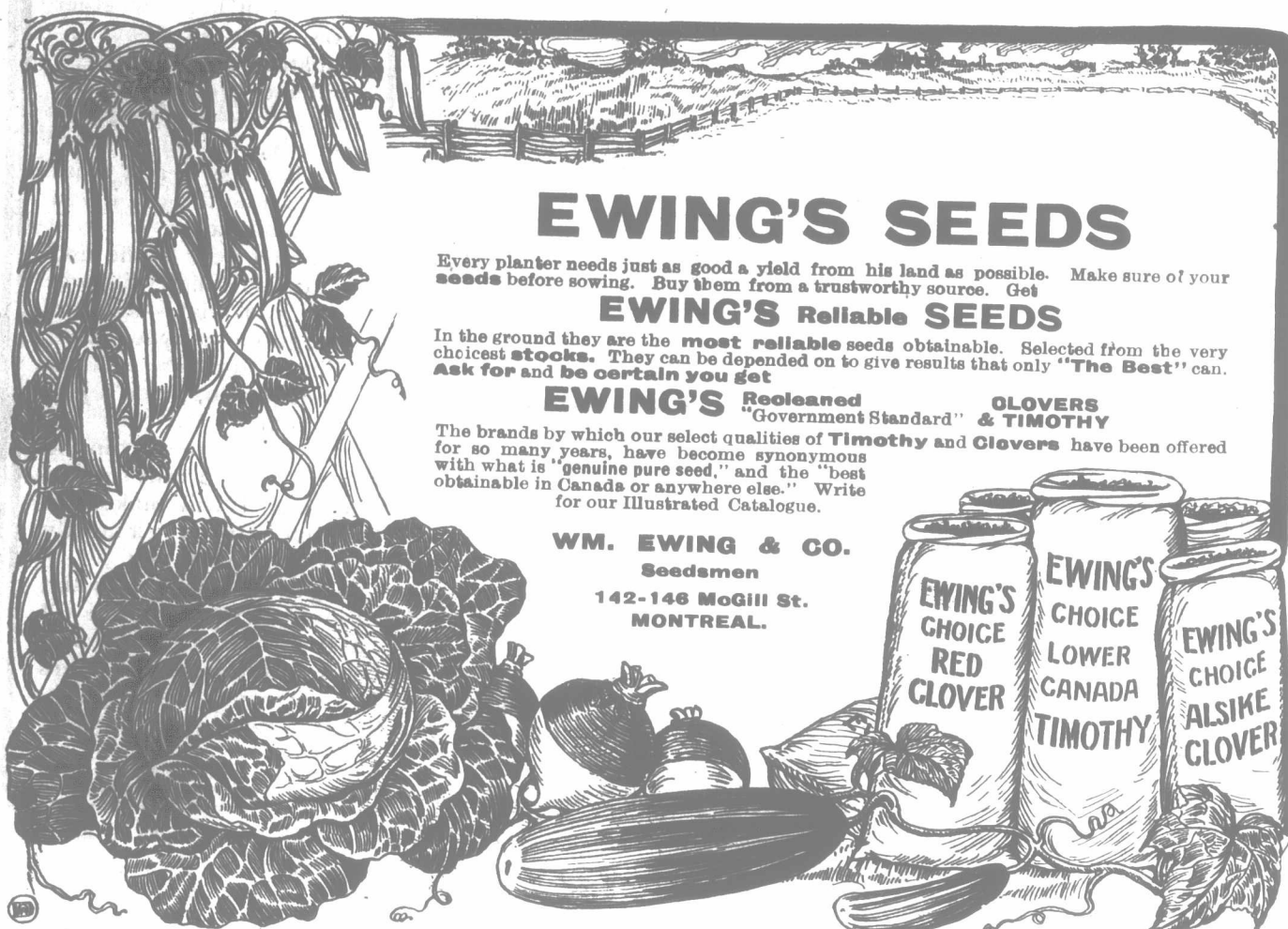
The absolute regularity of the weaving, equally distributes any strain or pressure which may occur. "Maritime" wire fences are always taut.

Write for catalogue and price list.

Fence Sturdiness

MARITIME WIRE FENCE

NEW BRUNSWICK WIRE FENCE CO., Limited.
MONCTON, N.B.



EWING'S SEEDS

Every planter needs just as good a yield from his land as possible. Make sure of your seeds before sowing. Buy them from a trustworthy source. Get

EWING'S Reliable SEEDS

In the ground they are the most reliable seeds obtainable. Selected from the very choicest stocks. They can be depended on to give results that only "The Best" can. Ask for and be certain you get

EWING'S Re-cleaned "Government Standard" & **TIMOTHY** CLOVERS

The brands by which our select qualities of Timothy and Clovers have been offered for so many years, have become synonymous with what is "genuine pure seed," and the "best obtainable in Canada or anywhere else." Write for our Illustrated Catalogue.

WM. EWING & CO.
Seedsmen
142-146 McGill St.
MONTREAL.

GOSSIP.

Seed oats are advertised for sale by James Dickson, Orono, Durham Co., Ont., near Newcastle Station (G. T. R.). Write for samples and prices.

A DISPERSION SALE.

On April 1st, as advertised in this paper, Mr. Geo. Snell, of Yeovil, Grey Co., Ont., near Holstein Station, on the Palmerston to Durham branch of the G. T. R., will sell at auction, without reserve, as he is going West, 18 head of pure-bred Shorthorns, 40 head of grade Durham cattle and 37 Leicester ewes and lambs. The Shorthorn offering includes the red six-year-old bull, Newton Prince (Imp.) =40402=, winner of 35 first prizes, and 5 young bulls and 6 heifers, by this sire, the heifers being in calf to Imp. Silver Plate. The females belong to good sound Scotch and Scotch-topped families, and most of the cows, four of which have calves at foot or will be due to calve soon, are good milkers and from deep-milking strains. Easter rates, single fare, returning April 2nd, and easy terms. 12 months' time, should make this a favorable opportunity to get good cattle and sheep at the buyer's own price. See the advertisement.

"The Maple Leaf"
CREAM SEPARATOR.



The separator that gives the best results.

Perfect skimming. Smooth cream.

Enclosed gears. Easy to operate.

Reliable active agents wanted where not represented.

Write now.

The Canadian Manuf'g Co.,
Limited.
182-186 Shearer St.,
MONTREAL.

Capacity 500 lbs. Guaranteed.
Price, \$65 00.

Bogue. Cockerels—1, Tooker & Bowey; 2, G. & J. Bogue; 3, E. R. Frith. Pullets—1, G. & J. Bogue; 2, E. R. Frith; 3, Tooker & Bowey.

BLACK JAVAS.—Cocks—1, G. & J. Bogue; 3, W. H. Reid; 2, Richard Oke. Hens—1, Richard Oke; 2, G. & J. Bogue; 3, Craig & Smetsinger. Cockerels—1, Craig & Smetsinger; 2, G. & J. Bogue. Pullets—1, G. & J. Bogue; 2, Craig & Smetsinger; 3, W. H. Reid.

MOTTLED JAVAS.—Cocks—1, Richard Oke; 2, W. H. Reid. Hens—1, G. & J. Bogue; 2, Richard Oke; 3, W. H. Reid. Cockerels—1, G. & J. Bogue; 2, W. H. Reid; 3, R. Oke. Pullets—1, G. & J. Bogue; 2, R. Oke; 3, W. H. Reid.

RHODE ISLAND REDS.—Cocks—1, Ottawa Poultry Yards; 2 and 3, Ottawa Poultry Yards. Hens—1, 2 and 3, Ottawa Poultry Yards. Cockerels—1 and 2, Ottawa Poultry Yards; 3, E. R. Frith. Pullets—1 and 3, Ottawa Poultry Yards; 2, E. R. Frith.

B.-B. RED GAMES.—Cocks—1, S. Stapleford; 2, Treadgold & Trebilcock; 3, A. G. H. Luxton. Hens—1 and 3, S. Stapleford; 2, Treadgold & Trebilcock. Cockerels—1, S. Stapleford; 2, A. G. H. Luxton; 3, G. E. Brown. Pullets—1, S. Stapleford; 2 and 3, A. G. H. Luxton.

BROWN-RED GAME.—Cocks—1, Treadgold & Trebilcock; 2, A. G. H. Luxton. Hens—1, Treadgold & Trebilcock; 2, W. H. Reid; 3, A. G. H. Luxton. Cockerels—1 and 3, Treadgold & Trebilcock; 2, A. G. H. Luxton. Pullets—1 and 2, Treadgold & Trebilcock; 3, A. G. H. Luxton.

DUCK-WING GAME.—Cocks—1, A. G. H. Luxton. Hens—1, Treadgold & Trebilcock. Cockerels—1 and 3, A. G. H. Luxton. Pullets—1 and 2, A. G. H. Luxton.

PYLE GAME.—Cocks—1, Treadgold & Trebilcock; 2, W. H. Reid; 3, A. G. H. Luxton. Hens—1, A. G. H. Luxton; 2, W. H. Reid. Cockerels—1, A. G. H. Luxton. Pullets—1 and 3, Treadgold & Trebilcock; 2, A. G. H. Luxton.

INDIAN-LACED GAME.—Cocks—1, Galt E. Brown; 3, Dr. J. Pritchard. Hens—1, D. Cumming; 2, Dr. J. Pritchard; 3, Galt E. Brown. Cockerels—1, D. Cumming; 2, Dr. J. Pritchard; 3, G. E. Brown. Pullets—1, Dr. J. Pritchard; 2, Galt E. Brown.

A. O. S. V. OR W. INDIAN GAME.—Cocks—1, H. R. K. Tozer; 2, W. H. Reid; 3, C. J. Daniels. Hens—1, C. J. Daniels; 2, W. H. Reid; 3, H. R. K. Tozer. Cockerels—1, G. & J. Bogue; 2, W. H. Reid; 3, C. J. Daniels. Pullets—1, C. J. Daniels; 2, W. H. Reid; 3, G. & J. Bogue.

OLD ENGLISH OR PIT GAME.—Cocks—1, 2 and 3, E. H. Benjamin, Ottawa. Hens—1, 2 and 3, E. H. Benjamin. Cockerels—1, 2 and 3, E. H. Benjamin. Pullets—1, 2 and 3, E. H. Benjamin.

S.-C. WHITE LEGHORNS.—Cocks—1, Herbert Byshe; 2, Donald McKellar; 3, W. H. Carleton. Hens—1, W. H. Carleton; 2 and 3, Clante & Laderoute; 4, Donald McKellar. Cockerels—1, 3 and 4, Donald McKellar; 2, W. H. Carleton. Pullets—1, Thos. S. Crouch; 2 and 3, Donald McKellar; 4, W. H. Carleton.

S.-C. BROWN LEGHORNS.—Cocks—1, G. H. A. Collins; 2, W. J. Player. Hens—1, W. H. Reid; 2, W. J. Player. Cockerels—1, W. J. Player; 2, G. H. A. Collins; 3, D. Cumming. Pullets—1, G. H. A. Collins; 2 and 3, W. J. Player.

S.-C. BLACK LEGHORNS.—Cocks—1, Henry Fulford; 2, W. M. Osborne. Hens—1 and 3, W. M. Osborne; 2, Henry Fulford. Cockerels—1 and 2, W. M. Osborne. Pullets—1, 2 and 3, W. M. Osborne.

R.-C. BROWN LEGHORNS.—Cocks—1, Wm. C. Wilson & Sons; 2, H. R. K. Tozer. Hens—1, H. R. K. Tozer; 2, W. H. Reid; 3, Wm. C. Wilson & Sons. Cockerels—1, Wm. C. Wilson & Sons; 2, W. H. Reid; 3, D. Cumming. Pullets—1, D. Cumming; 2, Wm. C. Wilson & Sons; 3, W. H. Reid.

A. O. S. V. R.-C. LEGHORNS.—Cockerels—1, R. Oke; 2, Wm. C. Wilson & Sons. Pullets—1, Plante & Laderoute; 2, R. Oke; 3, Wm. C. Wilson & Sons.

SPANISH.—Cocks—1, J. H. Warrington; 2, G. & J. Bogue. Hens—1, J. H. Warrington; 2, G. & J. Bogue. Cockerels—1, J. H. Warrington; 2, G. & J. Bogue. Pullets—1, J. H. Warrington; 2, G. & J. Bogue.

ANDALUSIANS.—Hens—1, E. A. Carswell.

BLACK MINORCAS.—Cocks—1, William Ellis; 2, Garland & Gilchrist; 3, Ottawa Poultry Yards. Hens—1, Garland & Gilchrist.

(Continued on next page.)



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Wage unremitting war on lice, if you would keep hens with either pleasure or profit. Those little specks so like the color of the feathers, are the gray body lice that suck the very life blood from the hens and make them almost wholly unprofitable.

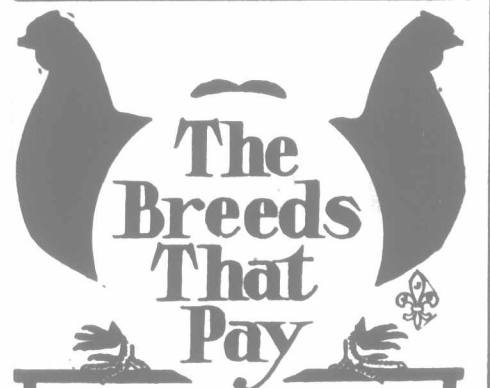
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will rid the hens of these dreadful parasites thoroughly, quickly, and with the least trouble to yourself. Kills lice on poultry, horses, cattle, sheep ticks, bugs on cucumber, squash and melon vines, cabbage worms, slugs on rose bushes, etc. It is a perfect disinfectant and deodorizer. Look for the word "INSTANT" on the can—then you have the genuine.

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Seed Grains Tarter King Oats and Emmer. Oats—extra strong strawed and good yielder. Emmer—abundant yielder and excellent feed. Write for samples and prices. JAMES DICKSON, Orono, Ont.

Gilchrist; 2, William Ellis; 3, Ottawa Poultry Yards. Cockerels—1, 3 and 4, Garland & Gilchrist; 2, G. A. McInnis, Prescott. Pullets—1, William Ellis; 2, E. R. Frith; 3 and 4, Garland & Gilchrist.

WHITE MINORCAS.—Cocks—1, W. M. Osborne. Hens—1, J. A. Benson; 2, W. M. Osborne; 3, Garland & Gilchrist. Cockerels—1 and 3, J. A. Benson; 2, W. M. Osborne. Pullets—1, J. A. Benson; 2, W. M. Osborne.

BUFF ORPINGTONS.—Cocks—1 and 3, A. W. E. Hellyer; 2, J. W. Clark. Hens—1 and 3, J. W. Clark; 2, A. W. E. Hellyer. Cockerels—1 and 4, J. W. Clark; 2 and 3, A. W. E. Hellyer. Pullets—1 and 4, A. W. E. Hellyer; 2 and 3, A. W. E. Hellyer.

WHITE ORPINGTONS.—Cocks—1, W. J. Anmand; 2, R. C. Binning; 3, Jas. J. Logan. Hens—1 and 2, Jas. J. Logan; 3, W. J. Anmand. Cockerels—1, F. C. Bogart; 2, R. C. Binning; 3, Jas. Stoddard. Pullets—1 and 2, Jas. J. Logan; 3, W. J. Anmand.

A. O. V. ORPINGTONS.—Cocks—1, C. J. Daniels; 2, Murray & Son; 3, W. E. Thom. Hens—1, C. J. Daniels; 2 and 3, W. E. Thom. Cockerels—1, W. E. Thom; 2, Murray & Son; 3, W. H. Snelling. Pullets—1, W. H. Snelling; 2, W. H. Snelling; 3, Murray & Son.

SILVER-GRAY DORKINGS.—Cocks—1, A. G. H. Luxton. Hens—1, A. G. H. Luxton; 2, J. H. Warrington.

COLORED DORKINGS.—Cocks—1, J. H. Warrington; 2, W. H. Reid. Hens—1, J. H. Warrington; 2, W. H. Reid. Cockerels—1, G. & J. Bogue; 2, J. H. Warrington; 3, W. H. Reid. Pullets—1, J. H. Warrington; 2, G. & J. Bogue.

WHITE DORKINGS.—Cocks—1, J. H. Warrington. Hens—1, J. H. Warrington. Cockerels—1, J. H. Warrington. Pullets—1, J. H. Warrington.

HOUDANS.—Cocks—1, W. H. Reid; 2, G. & J. Bogue; 3, L. L. Rodier. Hens—1, W. H. Reid; 2, L. L. Rodier. Cockerels—1 and 2, G. & J. Bogue; 3, L. L. Rodier. Pullets—1 and 2, G. & J. Bogue; 3, Smith & Brown.

GREVE COEUR.—Cocks—1, G. & J. Bogue; 2, J. H. Warrington; 3, R. Oke. Hens—1, G. & J. Bogue; 2, R. Oke; 3, J. H. Warrington. Cockerels—1, G. & J. Bogue. Pullets—1, G. & J. Bogue; 2, R. Oke.

LA FLECHE.—Cocks—1, G. & J. Bogue; 2, J. H. Warrington; 3, R. Oke. Hens—1, G. & J. Bogue; 2, R. Oke; 3, J. H. Warrington. Cockerels—1, G. & J. Bogue; 2, R. Oke; 3, J. H. Warrington. Pullets—1, R. Oke; 2, G. & J. Bogue; 3, J. H. Warrington.

FAVEROLLE.—Cocks—1, Geo. Higman; 2, L. L. Rodier. Hens—1, Geo. Higman; 2 and 3, L. L. Rodier. Cockerels—1, W. B. Nantel; 2, Plante & Laderoute; 3, Geo. Higman. Pullets—1, W. B. Nantel; 2, Plante & Laderoute; 3, Geo. Higman.

BLACK HAMBURGS.—Cocks—1 and 2, R. Oke; 3, W. H. Reid. Hens—1 and 2, R. Oke; 3, W. H. Reid. Cockerels—1 and 2, Richard Oke. Pullets—1 and 2, R. Oke; 3, W. H. Reid.

GOLDEN-PENCILLED HAMBURGS.—Cocks—1 and 3, R. Oke; 2, Galt E. Brown. Hens—1 and 2, R. Oke; 3, G. E. Brown. Cockerels—1 and 3, R. Oke; 2, David Stillie. Pullets—1, R. Oke; 2, David Stillie; 3, G. E. Brown.

SILVER-PENCILLED HAMBURGS.—Cocks—1 and 2, R. Oke; 3, G. E. Brown. Hens—1 and 2, R. Oke; 3, W. H. Reid. Cockerels—1 and 2, R. Oke; 3, Wm. C. Wilson & Sons. Pullets—1 and 2, R. Oke; 3, Wm. C. Wilson & Sons.

GOLDEN-SPANGLED HAMBURGS.—Cocks—1, R. Oke. Hens—1, R. Oke; 2, G. & J. Bogue; 3, G. E. Brown. Cockerels—1, G. & J. Bogue; 2 and 3, R. Oke. Pullets—1, G. & J. Bogue; 2 and 3, R. Oke.

SILVER-SPANGLED HAMBURGS.—Cocks—1, R. Oke; 2, G. E. Brown; 3, E. A. Carswell. Hens—1, R. Oke; 2, Galt E. Brown; 3, E. A. Carswell. Cockerels—1 and 2, R. Oke; 3, A. Thompson. Pullets—1 and 2, R. Oke; 3, David Stillie.

RED CAPS.—Cocks—1, C. J. Daniels; 2, G. & J. Bogue. Hens—1, C. J. Daniels; 2, G. & J. Bogue; 3, J. H. Warrington. Cockerels—1, G. & J. Bogue; 2, C. J. Daniels. Pullets—1, G. & J. Bogue; 2, C. J. Daniels.

BRONZE TURKEYS.—Cocks—1, D. Cumming; 2, A. Thompson; 3, Geo. R. Bradley. Hens—1, A. Thompson; 2, Geo. R. Bradley; 3, D. Cumming. Cockerels—1, Craig & Snetsinger; 2, Geo. R. Bradley. (Continued on next page.)

QUESTIONS AND ANSWERS. Miscellaneous.

A BINDER PATENT.

I would like to know where I can get an invention for a binder patented, and how. Would I have to pay any money to get it patented? J. B.

Ans.—Apply to Hon. S. A. Fisher, Dept. of Agriculture, Ottawa, who has charge of the patent office for patents in Canada. It is necessary to have another for the States.

GRAVEL ROOFING.

Please give directions for making a pitch or gravel roof—the least amount of fall that may be given per foot satisfactorily, the weight of the roof per 100 square feet, amount of material required, and estimated cost per square. Also, do the boards on roof require to be better than for a tin or shingled roof?

D. B. R.

Ans.—The following figures are submitted by the city engineer's department, of London, Ont.:

1. A felt-and-gravel roof requires just enough fall to allow the water to run off. A half-inch fall per foot is sufficient. 2. The materials required to lay 100 square feet are as follows:

Table with 2 columns: Description of materials and their cost per square or per 100 square feet. Includes items like gravel, tar, pitch, felt, and labor.

3. The sheeting may be the same as for a tin or shingled roof.

ELECTRO-MAGNET.

1. Give instructions how to make an electro-magnet for use with a weak battery.

2. What kind of wire could be used for the same purpose? SUBSCRIBER.

Ans.—To make an electro-magnet take a piece of soft, round iron rod from 1/2 to 1 inch in diameter and from 2 to 6 inches in length, depending on the size of the magnet needed. Bend the iron into a U shape. Secure a piece of hard rubber or fibre-board about 1/2 inch thick, and cut out four washers that will fit tightly on the iron. Force one of these washers on each leg of the U till it reaches the point where the leg begins to bend. Then force another on each leg about 1/2 or 1 inch from the end. Each leg now has the appearance of a spool. The washers should stand out about 1/2 to 1 inch, and a small hole should be drilled near the edge of the two nearest the bow. Now procure some insulated copper wire or magnet wire, as it is sometimes called, not larger than No. 18, and long enough to wind six or eight layers on each spool. When the dimensions of the spools and the size of the wire are known, it is an easy matter to calculate the length of wire needed. Find the middle of the wire, and cross it between the legs of the U, and wind one spool with one end of the wire, and the other spool with the other end; winding both in the same direction. The layers should be wound regular and smooth, and there should be six or eight of them if the wire is No. 18, but more if the wire is finer. Put on an even number of layers, and you will finish winding at the bow of the magnet. The ends of the wire should be brought out through the small holes drilled in the bow washers. WM. H. DAY.

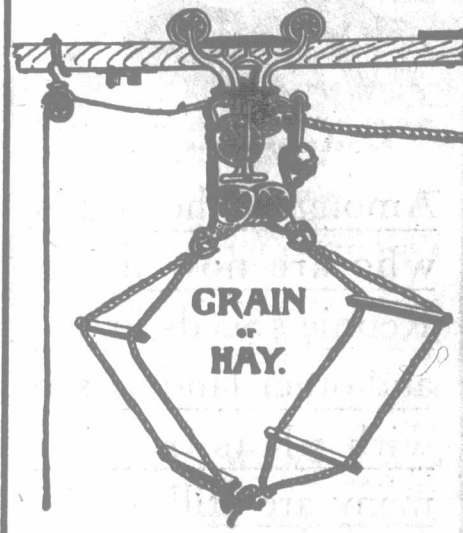
O. A. O., Guelph.

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TRADE TOPIC.

MAKE READY FOR HARVEST.—Getting ready for harvest is the most important thing after seeding. It is money in the pocket of farmers to buy the best machines that can be had. Particularly is this true with machines that concern the hay and grain harvest. This naturally calls to mind the Champion, Deering, McCormick, Milwaukee, Osborne and Plano binders manufactured by the International Harvester Company. There are a half-dozen machines from which to choose. It is unquestionably true that no mistake can be made by choosing any one of the six. They have all been on trial many years. All have been improved wherever improvement has been shown by experience to be possible. The International machines afford a good guarantee that your busy harvest work will go uninterrupted, and that you will get all the grain, with little annoyance, and with the saving of all the unnecessary work possible, both for man and team. International agents are to be found almost everywhere. That is an important consideration, particularly when you take into consideration the necessary repairs, which are matters that frequently require most urgent haste. If you are not fully prepared for the coming harvest, look up one or more of the local International agents in your town, get the catalogues, make a study of them, and then talk to the agents about the machines you will need. The agents will have the machines on hand to speak for themselves, and they will be able to answer all your questions.



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Every Garment Guaranteed Good enough to last years Low in Price

Bradley; 3, A. Thompson. Pullets—1, G. R. Bradley; 2 and 3, Craig & Snet-singer.
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A. O. S. V. TURKEYS.—Cocks—1, A. Thompson; 2 and 3, A. G. H. Luxton. Hens—1, A. G. H. Luxton; 2 and 3, A. Thompson. Cockerels—1 and 2, A. G. H. Luxton. Pullets—1 and 2, A. G. H. Luxton; 3, A. Thompson.
TOULOUSE GEESE.—Ganders—1, A. G. H. Luxton; 2 and 3, A. Thompson. Geese—1 and 2, A. Thompson; 3, A. G. H. Luxton. Ganders, 1906—1, A. Thompson; 2, W. L. Montgomery. Geese, 1906—1, A. Thompson; 2, D. Cumming; 3, A. G. H. Luxton.
EMBDEN GEESE.—Ganders—1 and 2, A. Thompson; 3, A. G. H. Luxton. Geese—1 and 2, A. Thompson; 3, A. G. H. Luxton. Ganders, 1906—1, A. Thompson; 2, W. L. Montgomery. Geese, 1906—1, A. Thompson.
CHINESE GEESE.—Ganders—1 and 3, A. G. H. Luxton; 2, A. Thompson. Geese—1, A. Thompson; 2 and 3, A. G. H. Luxton. Ganders, 1906—1, A. Thompson; 2 and 3, A. G. H. Luxton. Geese, 1906—1, A. Thompson; 2 and 3, A. G. H. Luxton.
A. O. V. GEESE.—Ganders—1 and 3, A. Thompson; 2, A. G. H. Luxton. Geese—1 and 2, A. Thompson; 3, A. G. H. Luxton. Ganders, 1906—1, A. Thompson; 2, A. G. H. Luxton. Geese, 1906—1 and 3, A. Thompson; 2, A. G. H. Luxton.
ROUEN DUCKS.—Drakes—1, G. & J. Bogue; 2, A. Thompson; 3, E. H. Ben-jamin. Ducks—1, G. & J. Bogue; 2, A. Thompson. Drakes, 1906—1, G. & J. Bogue. Ducks, 1906—1, G. & J. Bogue.
PEKIN DUCKS.—Drakes—1, Craig & Snet-singer; 2, A. Thompson. Ducks—1, A. Thompson; 2, Alex. Dynes. Drakes, 1906—1, Craig & Snet-singer; 2, A. Thompson; 3, R. Reid & Co. Ducks, 1906—1, A. Thompson; 2, Craig & Snet-singer; 3, R. Reid & Co.
AYLESBURY DUCKS.—Drakes—1, A. Thompson. Ducks, 1906—1 and 2, A. Thompson. Ducks, 1906—1 and 2, A. Thompson.
CAYUGA DUCKS.—Drakes—1, G. & J. Bogue; 2, A. Thompson. Ducks—1, G. & J. Bogue; 2, A. Thompson. Drakes, 1906—1, G. & J. Bogue; 2, A. Thomp-son. Ducks, 1906—1, G. & J. Bogue; 2, A. Thompson.
A. O. V. DUCKS.—Drakes—1, A. Thompson. Ducks—1, A. Thompson; 2, A. G. H. Luxton. Drakes, 1906—1, A. G. H. Luxton; 2, A. Thompson. Ducks, 1906—1, A. Thompson; 2, A. G. H. Lux-ton.

GOSSIP.

Capt. T. E. Robson has recently sold to Mr. Thomas Mercer, Markdale, Ont., the Cruickshank Clipper bull, King's Crest, bred by W. C. Edwards & Co., Rockland, and purchased at the Pine Grove sale in January. He was sired by Prince of Fashion (imp.) =36080—, out of Zoe 4th (imp.). King's Crest has been selected by Mr. Mercer to head one of the leading herds in British Columbia. He is said to be a remarkably good young bull, very much the same type as Imp. Wanderer's Last, sold for \$2,100 at one of Capt. Robson's sales a few years ago.

Notwithstanding a very cold, change-able winter, the Jersey herd of Messrs. H. S. Pipes & Sons, of Amherst, Nova Scotia, were found in fine condition when seen recently by our correspondent, and doing as well at the pail as though they were on June pasture, the lot bought of Messrs. Bull & Son giving about as much milk per day as when purchased at the Dominion Exhibition, at Halifax; the aged cows milking, per day, 30 lbs., 35 lbs. and 40 lbs., according to time of freshening. A young heifer, with first calf, milking eleven months, safe in calf, is at this date giving 16 lbs. per day. This young cow has about 500 lbs. of butter to her credit this season, which, with water at 30c. per lb., milk at 7c. per quart, cream at 30c. per quart, and butterfat at 5c. per quart, makes Jersey a paying proposition, leaving a good profit, and the pleasant part is that the cows are continually praising the breed. A few young bulls and cows are being sold each month, and a few more, as the season progresses, can be spared.

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STEEL SHINGLES

TORONTO.

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"EASTLAKE" METALLIC SHINGLES

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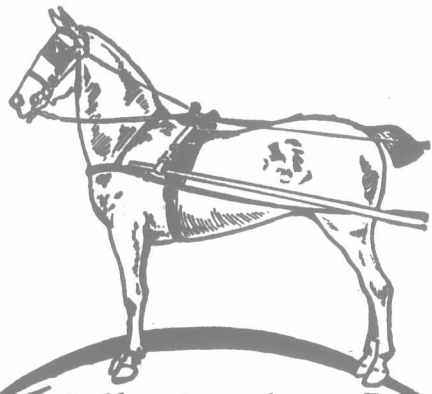
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Strome Bros., Props., Successors to Gillies & Martin.

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WAGONS, SLEIGHS, PLOWS, HARROWS, SEEDERS, PULPERS, SCHOOL SEATS, MOWERS, DISC HARROWS, SCUFFLERS, TURNIP SEEDERS, WOOD SAWS,
and all repairs for Gillies & Martin's Plows kept in stock.

WRITE FOR CATALOGUE AND CIRCULARS.

When Writing Advertisers Please Mention this Paper.



Accidents to your horses may happen at any moment. GET READY for emergencies. Buy a bottle of

Fellows' Leeming's Essence

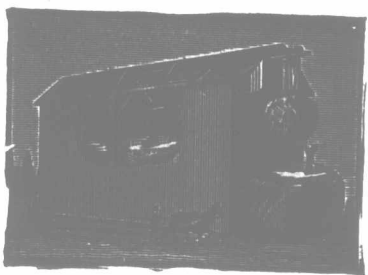
For Lameness in Horses

Only 50c. a bottle—and saves dollars worth of time by curing lameness of every description.

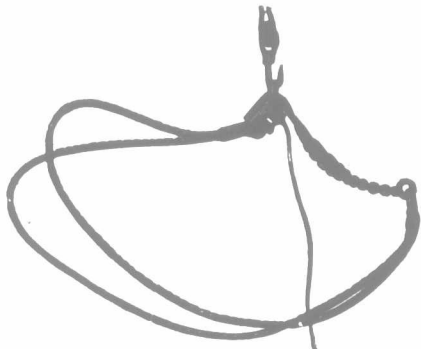
At dealers, or from
National Drug & Chemical Co., Limited,
MONTREAL.

BUCHANAN'S (Malleable Improved) PITCHING MACHINE

For unloading hay and all kinds of loose grain.



Unloads on either side of barn floor without changing car. No climbing necessary. Malleable iron cars. Steel Forks. Knot Passing Pulleys. Will work on stacks as well as in barns. Satisfaction guaranteed.



The Common-Sense Sheaf-Lifter

Works in connection with Pitching Machine, and is the most complete apparatus ever offered to the public for pitching sheaves. Sheaves left in the mow just as they come from the load.

RESPONSIBLE AGENTS WANTED

Circulars, Prices and Terms on application to
M. T. BUCHANAN & CO., Ingersoll, Can.

SASKATCHEWAN LANDS

Wild and improved, in one of the best districts in the West. Write:

J. F. MIDDLEMISS,
Wolseley, Sask.

WHY NOT

Be a telegraph operator and earn from \$45 to \$125 monthly. Send to-day for Free Booklet "K," which tells you how.

CANADIAN SCHOOL OF TELEGRAPHY,
Cor. Yonge and Queen St., TORONTO.
Oldest Telegraph School in Canada.

FARMER'S ADVOCATE "Want and For Sale" Ads. bring good results. Send in your ads. and you will soon know all about it. The Wm. Weig Co., Ltd., London, Ont.

GOSSIP.

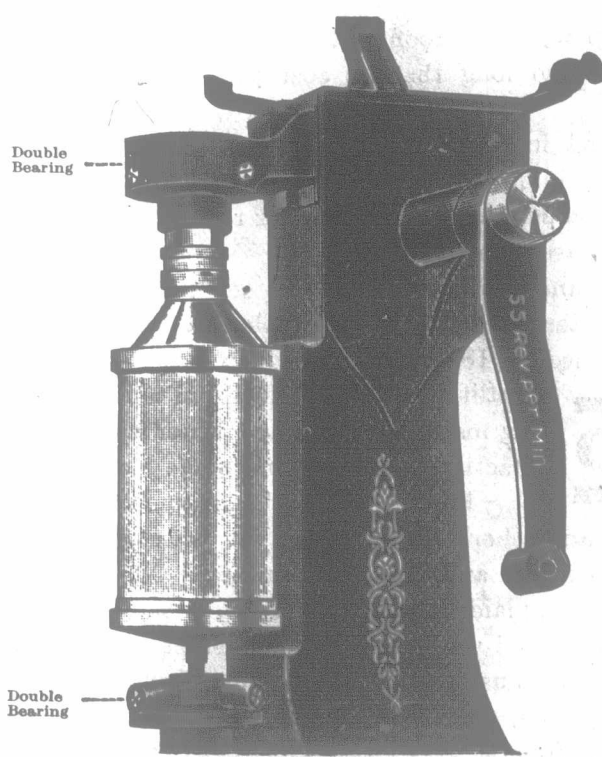
F. Martindale & Son, York P. O., Ont., write: "Since our last report we have made the following sales: To Alex. Borowman, Amherstburg, Ont., the Lincoln ram, Ronald; to J. H. Golden, Amherstburg, one Shorthorn bull, twelve months old, and to William Lang, Caledonia, one bull, nine months old. We still have three young bulls fit for service; very choice ones, which we offer at reasonable prices, and easy terms. They are from good-milking families, and are growthy fellows, just in the right condition for using. We also offer a few females of choice breeding and quality. In Berkshires, we offer four sows, five months old, also sucking pigs."

VALLEY HOME SHORTHORNS.

An inspection of the Valley Home herd of Shorthorns, property of Messrs. S. J. Pearson, Son & Co., of Meadowvale, Peel Co., Ont., will impress anyone that this is a herd strong in milking propensities as well as beefing qualities, the herd numbering at present about sixty head, comprising animals to suit all classes of buyers. The females are breeders of the right sort, many of them nursing fine, thrifty calves, and others well gone in calf. As an evidence of how this herd is increasing, four very fine calves have arrived inside of a week. The two bulls at the head of the herd are Royal Scot =49818= and Royal Diamond 2nd =58459=. The Messrs. Pearson were not content to use an inferior bull at the head of the herd, because he was imported, which is a mistake many have made. By looking over the young stock of this herd, these are sires equal to the very best. Royal Scot is sired by Scottish Pride (imp.), dam Rosie 3rd (imp.). He is a Jilt-bred bull, a family of high-standing in Scotland. Royal Scot is a low-down, thick, even-fleshed bull, and quality all over, with a model head and horn, and his dam has very few equals as a dairy cow. He is also registered in American herdbook. Most of the young bulls for sale are sired by Royal Scot, and they are chips off the old block, being low-down, fleshy fellows, with smooth, even tops, good over the shoulders, with nice heads and horns. The highest-priced bull at the late Guelph bull sale was sired by Royal Scot. There are twelve one- and two-year-old heifers, sired by Royal Scot, that are worthy of their sire, and are the type that has made the Scotch Shorthorns so famous, being the thick-fleshed, early-maturing sort. Space will not permit of individual description. Some of these heifers are bred, and the younger ones will be bred to Royal Diamond 2nd, a two-year-old half-brother to Royal Favorite, the grand champion bull over all ages at Toronto Exhibition last year. The breeding of Royal Diamond 2nd is gilt-edged, being sired by Royal Diamond (imp.) (84600), dam Mina of Kinellar 7th (imp.), by Lucky Archer. Royal Diamond was the highest-priced bull calf at the Duthie-and-Marr sale before coming to Canada. Royal Diamond 2nd is a bull that, if the proprietors conclude to exhibit this fall, will be a hard one to turn down, being a low-down, thick, smooth, even-fleshed bull, with quality all over, and grand style. His calves are coming right, with lots of quality. All of Royal Scot's heifers are being bred to this bull, and some of the young cows. Parties wanting to secure a cow, heifer, or bull, or a young herd, should not miss a chance to secure such stock. In Berkshires, here is a herd, perhaps, equal to any in Canada; judging by the numerous sales and the satisfaction given, they must be the right sort. The young sows are ordered as fast as can be bred. There are two boars at the head of the herd: Victor 20th, a boar of immense scale, smooth and even, being a first-prize winner at many leading shows in 1904. There are ten handsome young sows sired by him that are being bred to the imported boar, Myrtle's Prince, a hog of grand bone and substance, and having the credit of being the sire of many prize-winners. Anyone wanting good stock of these classes should call and see the Valley Home herd, or write for particulars. Valley Home is 20 miles west of Toronto, one mile from Meadowvale Station (C. P. R.), and six miles from Brampton (G. T. R.).

Magnet Cream Separator

Has a Double Bearing to the Bowl.



This double support to the bowl enabled John Douglass, of Creekside, Sask., to skim his milk with the MAGNET sitting on the open prairie all last season.

The double support to the bowl on the MAGNET prevents wobbling, and, therefore, produces smooth cream.

The double support to the bowl on the MAGNET renders it impossible for the bowl to get out of balance.

The double support to the bowl of the MAGNET prevents wear. It will surely last a lifetime.

The double support to the bowl of the MAGNET makes it the easiest separator to turn.

The double bearing on the MAGNET is protected by patent. The one-piece skimmer in the MAGNET takes all the cream out of the milk.

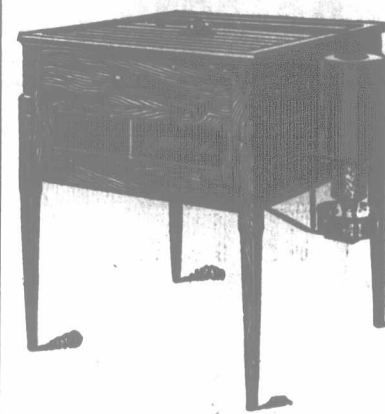
The one-piece skimmer in the MAGNET is easy to clean. Six days' labor saved each year.

Write for catalogue and learn all about the excellent construction of the MAGNET.

THE PETRIE MFG. CO., LIMITED,
Hamilton, Ont.

Winnipeg (Man.), St. John (N. B.), Carstairs (Alta.)

OUR MODEL INCUBATORS AND BROODERS



Are the only panacea for failure past, present and future. Just take a few minutes and read the following two of many hundreds of unsolicited testimonials from our satisfied customers:

Bayham, Ont., Jan. 31, 1907.
After using Model Incubator for one year Mrs. Mitchell writes us: "I would not be without my Incubator for the price of two if I could not get another of the Model Incubators."
Yours truly, MRS. W. MITCHELL.

Orangedale, N. S., Feb. 11, 1907.
Sirs,—No trouble to run your Model Incubator, as I was away from home for 11 hours each day and machine ran itself, temperature of cellar changing 35 degrees in 12 hours; temperature of machine did not change in the least, only the last days showed an upward tendency of half to one degree. Ran machine at 108, hatched 149 chicks from 178 eggs. There was only one chick dead in the shell in the lot. Dead germs of about 8 days in the nest. Eggs were very dark-shelled, making safe testing very difficult.
JOHN D. McNEIL.

OUR CATALOGUE MAILED FREE.

MODEL INCUBATOR COMPANY, LIMITED, 123 River St., TORONTO, ONT.

PAGE ACME White Fences

Any height to 8 ft. Any length you say. From 16 cents a foot. Gates to match, from \$2.25. Last longer. Easy to put up. Get booklet.

PAGE WIRE FENCE CO., Limited
Walkerville - Toronto - Montreal
St. John - Winnipeg

A Bargain.

For Sale in Saskatchewan—320 acres of good land, adapted for mixed farming, 90 acres ready for crop. House plastered, with a stone cellar and concrete floor; stabling for 40 head; poultry-house and workshop; good water and fuel; situated within one mile of G. T. P. town site, and in a good locality. Stock and implements may be had on premises. Owner wishes to move to Southern States. For immediate sale, \$16 per acre. Terms arranged. Correspondence solicited. Apply

F. D. Burns, 506 McIntyre Block,
Winnipeg.

Advertise in the Farmer's Advocate.

Get Ready for Spring Roofing

When you build, you want the roofing that will give you the best service—that will last so long that its cost per year is less than any other.

Paroid has proved in actual use on farm and dairy buildings, on factory and railway buildings, on government buildings at home and abroad, to cost less per year than any other roofing.

There are good reasons for it:

It is better made and is made of better materials.

Its basis is a better, tougher, more durable felt—made in our own mills. (Established in 1817.) We are in a position to know

PAROID

that it is. You cannot afford to buy a roofing made from a cheap felt nor from a manufacturer who does not make his own felt.

Paroid has a thicker, smoother, more pliable coating than any other ready roofing. It is better all the way through. You can see and feel the difference.

It is the only roofing laid with square, rustproof caps which do not rust nor work loose, and which have the largest binding surface.

Read our offer and let us prove to you its superiority. If your dealer cannot supply you, don't take a substitute. Write to us direct. We'll pay the freight.

Send Now for Free Samples.

and find how to save money on your roofing. If you enclose 4c. in stamps for postage we will send you free our new 48-page book of Complete Plans for Farm, Poultry, Dairy and Live-stock Buildings. It will save you money.

F. W. BIRD & SON,

(Established in U. S. A. in 1817)

Canadian factory and office: Hamilton, Ont.

Originators of roofing roll containing complete roofing kit. We stand back of every foot of Paroid.

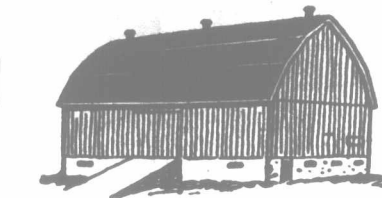
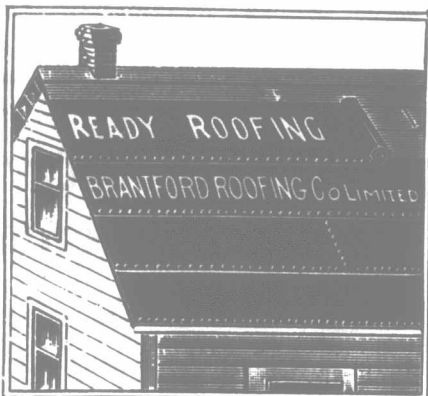
OUR OFFER

Buy one lot of Paroid; open it; inspect it; apply it to your roof, and if then you are not satisfied, send us your name and address, and we will send you a check for the full cost of the roofing, including cost of applying.

SAY, DAD!

That **Brantford Roofing**

Has 'em all trimmed—
No mistake.



John Smith covered his barn last fall, never leaked a drop since. Keeps out wind and rain. Everything inside is warm and dry. And now he's going to put it on his house.

Cheaper and better than shingles.

Samples and prices free.

BRANTFORD ROOFING CO'Y,
Limited
BRANTFORD, CANADA.

DISPERSION SALE

SHORTHORNS GRADE CATTLE AND LEICESTER SHEEP

On Lot 25, Con. 12, Egremont Tp., Grey Co., 5 miles east of Holstein station, G.T.R., on

MONDAY, APRIL 1st, '07.

18 Head of Pure-bred Shorthorns, including 5 young bulls 8 months to 2 years old, and 6 heifers, all sired by Newton Prince, imp.; in calf to Silver Plate, imp.; 4 cows with calf at foot. Also Newton Prince, imp., 6 years old, has won 35 first prizes. 40 Head of Grade Cattle. 37 Leicester Sheep (22 ewes, 15 lambs). Everything must be sold, as owner is going West.

Terms: 12 months' credit on approved notes, or 6 per cent. off for cash. Easter rates. Single fare, good to return April 2nd. Trains will be met at Holstein. Sale commences at 1 o'clock. Lunch provided.

D. McPHAIL, Auctioneer.

GEORGE SNELL, Yeovil P.O., Ont.

The only medium which conveys weekly to the farmers of Canada, the advertiser's place of business, 52 times a year, is THE FARMER'S ADVOCATE AND HOME MAGAZINE. Subscription, \$1.50.

GOSSIP

Mr. G. B. Muma, of Ayr, Ont., on the C. P. R. (Toronto to London and Windsor branch), proprietor of the Elmfield herd of Large English Yorkshires, whose advertisement runs in this paper, writes: "I have about 40 pigs, from two to five months old, some young boars ready for service, a number of young sows, bred and ready to breed, all from registered imported and Canadian and bred to imported boars of the right type and quality, and can supply pairs not akin at moderate prices, quality considered."

The noted Coach stallion, Prince George, bred and owned by Mr. W. C. Brown, Meadowvale, Peel Co., Ont., died at the home of his owner recently from a severe attack of appendicitis, which lasted but eighteen hours. All that veterinary skill could do was done by Dr. J. F. Quinn, of Brampton, who was called over the phone, but who held out no hope from the first, so severe was the attack. Prince George was one of the straightest-line-bred horses ever bred in Ontario, and was a frequent winner at the Toronto and other leading exhibitions.

A PROLIFIC COW.

Mr. J. L. Warren, a farmer near Acton, Ont., has a grade Shorthorn cow which produced four calves in two and one-half years, ending with the second of May last, and she is due to freshen again on April 20th next. The first of the four calves produced was a heifer, which has herself become the mother of a calf. The first of the four calves was born July 20, 1904; the second, May 28, 1905; and on May 2nd, 1906, twins were dropped. If the fifth calf comes as expected on the 20th, prox., that will make five calves inside of three and one-half years; certainly a remarkable record, and the cow is said to be an excellent milker, too.

THE "FIRS."

In the outskirts of the city of Woodstock is the ideal residence, "The Firs," the property of Mr. J. W. Boyle, one of the leading stockmen of Oxford County, in whose stables are to be seen some choice representatives of Clydesdale horses (imported and Canadian-bred), Thoroughbred horses, Scotch Shorthorn cattle, Lincoln sheep (of which a large importation is now on the ocean), and Yorkshire hogs. At the present time, Mr. Boyle is pushing the Yorkshires, of which he has on hand about 150 head, and for their better accommodation has erected on his farm a new and up-to-date piggery, 100 by 32 feet inside, built of planed and matched lumber, both inside and outside, with tar paper on both sides under the sheeting, the floor being cement, with plank sleeping berths, the pens separated by heavy wire netting, and in the loft are bins for feed. There is also a root cellar and cooking-room, thus making one of the most complete piggeries in Canada. On hand and breeding are 75 sows of the Minnie, Lady Frost, Queen Bess, Clara, Princess, Cinderella, Pride and Fame strains. The stock boars are O. L. Druid 30th, a son of O. L. Park Royal (imp. in dam); Firs Prize, by Dalmeny D. C. (imp.), and Firs Rex, also by Dalmeny D. C. (imp.). Here are a lot of stock hogs that, for type, character, quality and constitution, are simply perfection. Among the brood sows are such rarely good ones as O. L. Fame 29th, by Holywell 6th (imp.); O. L. Princess 21st, by Holywell Cardiff (imp.); O. L. Minnie 55th, by Holywell Cardiff (imp.); Lady Frost 3rd and Lady Frost 4th, full sisters, got by O. L. Chancellor; Queen Bess 82nd, by O. L. Sid; O. L. Clara 54th, by Dalmeny D. C. (imp.), etc., an array of breeding along the more fashionable Yorkshire lines not excelled in the swine records of this or any country, and besides the individuality of the herd is the very best. In younger stuff are a very large number of both sexes—young sows bred and ready to breed, show-ring quality, and boars of all ages—pairs and trios not akin. This herd is one of the best in Canada, and all in splendid condition. There are on hand for sale a large number, and purchasers can depend on getting exactly what they want, as no culls will be shipped. Write Mr. Boyle, to Woodstock P. O., Box 563.

HALDIMAND COUNTY COUNCILLOR SPEAKS

AN IMPORTANT MESSAGE THAT CARRIES CONVICTION.

The importance of a statement by a gentleman in whom the people who best know him repeatedly express their confidence by electing him to a position of honor and trust, cannot be overlooked in so vital a question as the one now under consideration. Life and health are unquestionably the most vital subjects to every human being. How to retain these concerns all. Here is what Byrce Allan, Esq., for many years a prominent figure in Haldimand County, and a member of the county council, says:

"Believe me, I am fully as gratified to tell you of my recovery with Psychine as you are to hear of it. Last fall I became weak, run down and nervous through overwork and worry. Was unfit for work, had no appetite, and felt as if I had lost all interest in life. I contracted a series of colds from changing winter weather, and gradually my lungs became affected. I tried remedy after remedy, and a number of doctors prescribed for me, but got no relief. I began using Psychine. After two months' treatment, I regained my health and strength. I am sound as a bell to-day, and give Psychine all the credit."

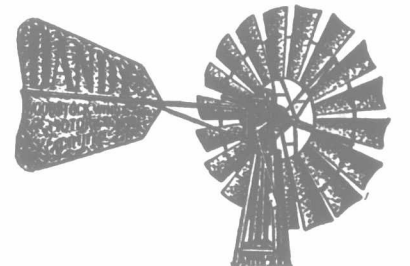
"BERT ALLAN.

"Jarvis, Ont."

Thousands of others have borne similar testimony to the power of Psychine to not only cure coughs, colds, la grippe, catarrh, bronchitis, chills, night sweats, but also consumption and all wasting diseases. It strengthens the stomach, aids digestion, and builds up the entire system. It is a never-failing remedy.

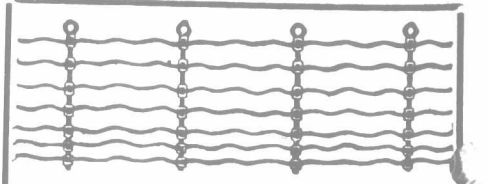
Psychine, pronounced Si-keen, is for sale at all drug stores at 50c. and \$1 per bottle, or at Dr. T. A. Slocum, Limited, 179 King Street, West, Toronto.

WINDMILLS



Grain Grinders, Tanks, Water Boxes and Foundry Supplies. Write for our free catalogue. Estimates cheerfully given.

WOODSTOCK WIND MOTOR CO., Limited,
Woodstock, Ont.



Write for our wholesale prices. We can save you 25% to 40%.

National Wire Fence Co.,
Merrickville, Ont.

Clydesdale Stallions and Mares.



For sale: Lyon Stewart (2732), too well known in Canadian show rings to need any comment. The Nobleman (imp.), 4 years old, sired by Hiawatha. MacKinley 2nd (imp.), by MacKinley, dam by Prince of Wales (673). The mares are big, flashy animals, 3 years old, and were imported by myself. All are registered in Clydesdale book. Prices reasonable. Long-distance phone.

H. G. Boag, Barrie, Ont.

Advertise in the Advocate

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ALLAN.

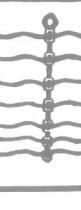
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TRADE TOPICS.

A SPECIAL OFFER TO EVERY READER.—The tremendous increase in the price of lumber in the last few years has made shingles an expensive material to use on farm buildings. In order that every reader of this paper may become familiar with a roofing which is rapidly taking their place, the Barrett Manufacturing Company, who are the largest manufacturers of roofing in the world, have offered to send, free, a sample of their Amatite Roofing to every reader of this paper.

The feature of this roofing is a real mineral surface on top, which not only makes coating and painting unnecessary, but is a splendid fire-retardant. By doing away with painting and coating it will save time, money and at the same time make repairs unnecessary.

We suggest that every reader write at once for a free sample and illustrated booklet. Few things are more important to the farmer than a good tight roof, as a leaky one is an abomination and is apt to cause losses and sickness.

The request for sample should be addressed to the Barrett Manufacturing Company, at New York, Chicago, Philadelphia, Cleveland, Cincinnati, Boston, St. Louis, Allegheny, Kansas City, New Orleans or Minneapolis.

FARM LABOR.—Haying and harvesting has become a serious matter with Ontario farmers, hired help being so hard to secure. Fortunately, manufacturers of farm implements have supplied a much-needed assistance in the way of farm machinery, without which we could not carry on our work successfully. It is nearly thirty years since a young man came to this office with what seemed to us a good article in the shape of an unloading outfit. He has carried an advertisement in this paper almost every season since, and thousands of our readers have adopted the plan of equipping their barns with pitching machines. M. T. Buchanan, of Ingersoll, is the man to whom we refer. He is now the head of the firm of M. T. Buchanan & Company, makers of unloading tools of superior quality. They claim to be able to supply an apparatus that will unload all kinds of hay and grain, cornstalks, etc., and we recommend our readers to investigate the quality of their implements. The advertisement referred to appears elsewhere in this issue.

GOSSIP.

D. THOMPSON'S BERKSHIRES. When in Woodstock a few days ago, a representative of "The Farmer's Advocate" called on Mr. Douglas Thompson, of that place, the well-known breeder of Berkshire swine, and found his herd in grand condition. Prominent among his brood sows is the wonderfully sweet and richly-bred Crompton Queen (imp.), a daughter of the unbeaten champion, Baron Kitchener. She is a sow of great scale, smoothness and quality, and about to farrow to Woodstock Laddie, a son of Imp. Polgate Doctor, he by the champion Baron Kitchener. Thus this litter will have a double cross of that great sire. Woodstock Laddie's dam was Willow Lodge Spot, a sow that won first at Toronto and London in 1904, in the six-months-and-under class, and first and sweepstakes at the Winter Fair, at Guelph, in the under-nine-months class. She has, it is claimed, bred more prize-winners than any other sow in Canada, excepting her illustrious mother, Belle of Milton. Another rarely good brood sow is Imp. Dawn, a daughter of Polgate Dawn (imp.), she by Baron Kitchener. Polgate Dawn won first and championship at Toronto in 1905. Imp. Dawn is due to farrow to the same boar, Woodstock Laddie. Princess Martha, by Longfellow 10th of H. F., is still another grand good sow. She won first at Toronto in the six-months-and-under class, and is soon to farrow to Woodstock Laddie. Woodstock Daisy is a daughter of Imp. Polgate Doctor, and out of Willow Lodge Spot, and, as might be expected from such royal breeding, she is a rarely smooth, even-quality sow, and is soon to farrow to Imp. British Duke. In younger stuff are two boars and two sows about six months old, sired by Imp. Polgate Doctor, and out of Imp. Crompton Flower, that looks as if they will carry off something red at Toronto next fall. On hand for sale are young things of both sexes, which can be supplied singly, or in pairs or trios not closely akin.

GOSSIP.

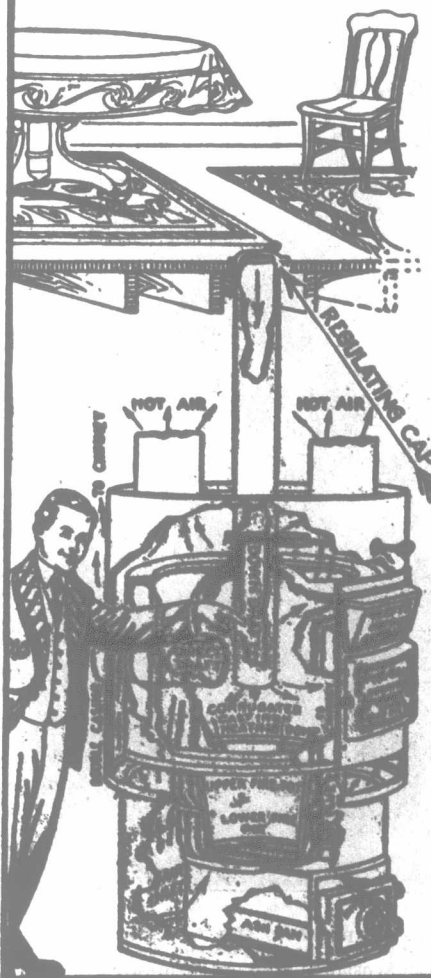
The Glen Hodson Company, Myrtle Station P. O. (C. P. R.), Ont., make a change in their advertisement in which they offer eggs for hatching of the following excellent breeds: White Wyandotte, Barred Rock and Buff Orpington, For prices, etc., see their advertisement.

H. J. DAVIS' SHORTHORNS AND YORKSHIRES.

For many years, one of the leading importers of Shorthorn cattle and Yorkshire hogs in Canada, Mr. H. J. Davis, of Woodstock, Ont., is too well known to need any introduction in these columns, a gentleman whose energy, pluck and sound judgment in stock-breeding lines has done so much for the improvement of our Canadian herds. He is a man the people, and particularly the farmers of Canada, may well be proud of. In his commodious stables, about four miles north-west of Woodstock city, at the time of our visit, a few days ago, were about 50 head of richly-bred Shorthorns, the bulk of which were imported, representing such fashionable strains as the Rosewood, Duchess, Princess, Broadhooks, Red Lady, Roan Lady, Jilt, Butterfly, Kiblean Beauty, Bracelet, Merry Lass, Claret, Verbena and Marr Beautys, the get of such noted sires as Royal Star, Watchman, Ramus, General White, Superior Archer, Prince of Fashion, Imp. Prince of Novar and Imp. Bapton Chancellor, breeding gilt-edged, and not excelled in any herd in the world. The bulls on hand and being used for stock bulls are: Imp. Westward Ho, by Merry Morning, dam Mistletoe 11th, by Captain of the Guards, grandam by William of Orange. This bull is improving in thickness and type every day, and is one of the best in the country, and as mellow as silk, being so richly bred, and so extra good a doer, coupled with this thick, even-fleshed type, he should make a sire of a very high order. Bellerophon of Dalmeny (imp.) is a red yearling, a very growthy bull, with extra true lines, grand flank and shoulder, sired by Villager, dam Gay Bessie, by Groomsman, grandam by Elocutionist. He is a straight-bred Bessie, and a desirable herd-header. Queen's Councillor (imp.) is a roan yearling, a high-class show bull, sired by Brave Boy, dam Juanita 5th, by Duke of Sanquhar. This bull is exceptionally evenly put up, with ideal lines, well-sprung ribs, full crops, and abundance of quality and character. Royal Scot (imp.) is a red yearling, another thick, even, mellow young bull, sired by Royal Velvet, dam Buttercup 2nd, by Illustrious. He is a Jealousy-bred bull. Butterfly King (imp. in dam) is a roan yearling, by Prince of Navarre, dam Butterfly Girl, by Superior Archer. He is also closely related to the great Champion of England, and is a straight, even-quality youngster. Besides these, there is one Canadian-bred bull, Red Conqueror =60367=, by Springhurst, a bull pronounced by Mr. Duthie as one of the best bulls he saw in Canada, dam Crimson Bessie, by Royal Archie. He is straight-bred Crimson Flower, and, individually, is strictly up-to-date in type. All, or any of these bulls, are for sale, and no fancy prices are asked. As before intimated, the breeding cows of the herd are an exceptionally well-bred lot. Nearly all have calves at foot, and a better lot of calves we have not seen for many a day, and, if present indications are reliable, there is a lot of grand good show stuff coming on in this herd. In heifers, there are a number of one, two and three-year-olds, some of them imported, others with imported sire and dam, a very desirable lot, all for sale.

The Yorkshires are equally as high-class lot. All the brood sows are either imported or from imported sire and dam. The stock boars are all imported, the principal ones being Worsley Duke 21st (imp.), by Worsley Duke 4th, dam by Borrowfield Eclipse; and Dalmeny Woodstock 3rd (imp.), by Ebro, dam by Dalmeny Topsman, a pair of stock hogs of ideal type, strong bone and abundance of quality. The sows belong principally to the Duchess, Princess, Lassie and Sorby strains. Two of them, Dalmeny Lassie and Dalmeny Duchess, both imported, are suckling litters by Imp. Craigcrook Duke. Broomhouse Sally (imp.) has a litter by the same sire. On hand for sale are young stock of both sexes, also sows bred and ready to breed, and boars fit for service.

The Down Draft Furnace makes Heating easy.



It is the new idea in furnace construction that does it.

The Down Draft Principle.

By this principle the air is brought down a pipe through the dome of the furnace to within eight inches of the coal. The fire burns from the top, and owing to the pressure all gases and soot are burned, and it does not permit the heat to be sent up the chimney, as is the case with other furnaces.

Every particle of heat is extracted from the fuel.

Heavy Corrugated Cast-Iron Dome, which doubles its heating capacity and durability.

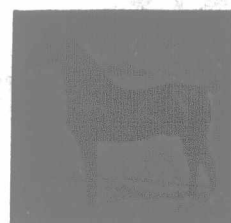
It is especially adapted for burning Soft Coal, which it does with great economy—as other furnaces will do this. The heat-saving devices of this furnace will lessen your fuel bill 15 to 30%. Do you recognize what a saving this is?

It costs no more to have it than any other. Write for Catalogue and information.

The Down Draft Furnace Co., GALT, ONT., CANADA.

Carnefac Grows in Favor

And should be used in every stable.



It is an absolutely sure preventive and cure for indigestion and scours in calves or young pigs, and saves thousands of dollars worth of stock to the farmers of Ontario every year. CARNEFAC is convenient to use, acts quickly, and never fails to give satisfaction. If your dealer has not Carnefac, take no substitute, but write us at once.

THE CARNEFAC STOCK FOOD CO'Y Toronto, Ontario.

Imp. Clydesdale Fillies by Auction

20—From 2 to 4 years old—20 At OTTAWA, ONTARIO.

I have personally selected in Scotland 20 of as good fillies as ever came over for size, quality and breeding. Sired by Baron's Pride and his best sons and other noted sires. A number prizewinners. Sale at one o'clock.

APRIL 2nd, 1907, At Butler House, OTTAWA.

Terms cash, or two months on bankable paper.

WM. MEHAREY, - Russell, Ontario.

W. C. KIDD, LISTOWEL, ONT.

Importer of Clydesdales, Shires, Percherons, Belgians, Hackneys, Standard-breds and Thoroughbreds

of highest possible quality and richest breeding. Have sold as many stallions the last year as any man in the business, with complete satisfaction in every case. I have always a large number of high-class horses on hand. My motto: "None but the best, and a straight deal." Will be pleased to hear from any one wanting a rare good one. Terms to suit. Long-distance phone. LISTOWEL P. O. AND STATION.

UNRESERVED AUCTION SALE

of SEVEN STRAIGHT SCOTCH SHORTHORNS, consisting of four Bruce Augustas, and three Crucidshank Butterflies; four of them imported and three bred from them. FOUR CLYDESDALE MARES, all registered. About SIXTY BERKSHIRE PIGS, headed by the imported Royal first-prize boar. All the farm stock and implements at the farm, LOT 32, CON. S. PICKERING, one mile from Atha Road, on C. P. R., and four miles from Stouffville on G. T. R., on TUESDAY, APRIL 2ND, 1907. Owing to ill-health I must sell.

O. O. M'AVOY, ATHA, ONTARIO.

For catalogue write ROBERT MILLER, Stouffville, Ont.

60 Imported CLYDESDALE MARES AND FILLIES

And Several Imp. Clyde Stallions

By Auction

At the CAISTOR HOUSE STABLES, Woodstock, Ont., on
TUESDAY, APRIL 16, 1907.



Including the champion, Baron Kitchener, whose cut appears in this ad. These mares and fillies are essentially a high-class lot, the get of Scotland's most noted sires; they are from 1 to 4 years of age; many of them winners in Scotland; many of them safe in foal; many matched pairs among the lot; they range from the medium-sized flashy kind to the very large draft kind. The property of Messrs. Butler, Innes, Shaver & McClary. Terms: Cash, unless other arrangements are made before the sale.

CAPT. T. E. ROBSON,
Auctioneer.

For catalogues address: **W. E. BUTLER,**
Ingersoll, Ont.

40 WAVERLY HACKNEYS 40

Imported Stallions and Fillies.



Every one a high-class actor and a show animal. Splendidly-matched pairs and singles. Positively the highest class lot of Hackneys to be found on any one farm in America. All ages. Also 4 imported Clydesdale fillies. A big flashy lot, full of style and quality.

ROBERT BEITH,
Bowmanville P. O. and Station.
Long-distance Phone.

323 PERCHERONS FRENCH COACHERS

Best Collection Stallions in America
Most Reasonable Prices
Safest Guarantee

4 IMPORTATIONS SINCE JULY 1, 1906.

SEND FOR CATALOGUE.

WE PAY FREIGHT AND BUYERS' FARE.

DUNHAM & FLETCHER, Wayne, Ill.

Clydesdale Stallions!

first-class Hackney.

I have on hand for sale another choice lot of Clydesdale stallions, newly imported, ranging in age from two to six, with plenty of size, style and good true action. Also one

Wm. Colquhoun, Mitchell, Ont.
Phone to residence.



Graham & Renfrew's CLYDESDALES and HACKNEYS

Our Clydes now on hand are all prize-winners, their breeding is gilt-edged. Our Hackneys, both stallions and mares, are an exceedingly high-class lot. We also have a few high-steppers and carriage horses. Yonge Street cars pass the door every hour. Phone North 4483.

GRAHAM & RENFREW, BEDFORD PARK, ONT.

GOSSIP.

Messrs. J. Crouch & Son, of La Fayette, Indiana, announce in their advertisement a new importation just arrived, of 100 Percheron and Belgian stallions and mares. This firm claim to have won more prizes in 1906 in American show-rings than all other importers combined.

Mr. Andrew Aitchison, Guelph, Ont., writes: "Having sold most of my last importation of Clydesdales, I am leaving this week for Scotland for a new importation of stallions and mares, the arrival of which will be announced in 'The Farmer's Advocate.' I have just sold the two imported stallions, recently advertised, to Mr. W. C. Kidd, of Listowel, and an imported filly to Mr. Charlton, of British Columbia."

Messrs. J. Watt & Son, Salem, Ont., write: "The Shorthorn cows and heifers we are offering are an exceptionally good lot, including some of our best females, and are in calf or have calves at foot, by Heatherman or Imp. Pride of Scotland, a brother to the \$5,000 bulk, Imp. Lord Banff. We have still one good bull left, a straight Marr Red or Roan Lady, and he will be sold cheap, as he is the only one left of last season's crop of calves. Our present crop of calves are the best we ever owned. We recently sold to Mr. John Pirie, of Winterbourne, Ont., a good, straight sixteen-months-old bull, Winnie's Pride. This bull is sure to do good work in Mr. Pirie's herd, as his breeding is of the best."

MAPLE LODGE SHORTHORNS.

Established 54 years ago, and never having been dispersed, makes the Maple Lodge herd of Shorthorns the oldest in Canada. The owner, Mr. A. W. Smith, Maple Lodge P. O., Middlesex Co., Ont., is probably as well known as any breeder in Ontario, and his many friends will be pleased to learn that he is rapidly regaining his health, and expects to return from Calgary the latter part of the coming summer. This herd, as above stated, was founded in 1852 by his father, the late J. S. Smith, on animals descended from Constance =85=, Imp. Lavinia =299=, and Imp. Jane 3rd =243=, all three noted for their excellent dairy qualities, and through all these years particular attention has been given to the breeding, development and improvement of these much-desired qualities, and the wonderful success that has been achieved by Mr. Smith in dairy competitions, particularly at Guelph, where he has won at least three times, and at London, where he has won twice, a winner in the milking tests, also, at the Pan-American, is proof positive that there is no better dual-purpose or dairy-bred herd of Shorthorns in Canada, or probably on the continent, and to-day, when the demand for a heavy-milking strain of Shorthorns is clearly on the increase, it is well for intending purchasers to remember that in this herd, which is a large one, there are always a number of choice heifers and young bulls for sale. As the herd exists to-day it is part pure Scotch and part Scotch-topped, and represents the Missie, Ceceha, Lovely, Rose of Sharon, Princess Thule, Gloxina, Constance and Duchess Jane strains, some of these Canadian families tracing back to the cows above mentioned; the get of such well-bred bulls as Mandarin Abbotsford, Imp. Sir Wilfrid Laurier, War Minister, Imp. Knuckle Duster and Imp. Prince Golden. Many of the herd are of the very thick-fleshed, low-down type, and are in splendid condition. Others, owing to their heavy-milking qualities, are not in such high condition. In young bulls for sale are four yearlings, all solid red, three of them sired by Imp. Prince Golden, the other by Imp. Knuckle Duster, two of them out of dairy-bred cows, and the other two straight Scotch, the one being a Mysie, the other out of Imp. Forest Princess. Here are a quartette of extra good young bulls, a thick, well-fleshed, mellow, good-doing lot, and their individual line of breeding, Scotch and dual-purpose, can scarcely be improved on. In females, there are a number of heifers, from ten months to two years of age, bred along the two lines indicated, a splendid lot in good condition, and all can be bought worth the money.

HOMES

For Settlers

IN
WESTERN ONTARIO
MANITOBA
SASKATCHEWAN
ALBERTA



How Made and How Reached

Write for free copies of
SETTLERS' GUIDE giving full particulars of special train service for settlers travelling with live stock and effects to the North west in March and April, with passenger and freight rates.

WESTERN CANADA Up-to-date description of the west and western conditions. 80 pages of information invaluable to settlers. Useful maps and statistics.

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TOURIST SLEEPING CARS

Leave Toronto daily. Comfortable, roomy berths at moderate rates. Fully equipped with bedding, cooking range and every convenience. Berths should be reserved (through nearest C.P.R. Agent) at least two weeks before departure.

Write to-day for free books and anything you want to know about the west and how to reach it. Address

C. B. FOSTER,
Dist. Pass. Agt., C.P.R., Toronto

WHEAT LANDS

Good values in wheat lands (improved and unimproved) in tested districts, near railways, elevators, churches, schools, etc., where water is easily obtained and homesteads are yet available. We have what you want. Write for particulars. Prompt attention given to all enquiries.

PEOPLE'S REALTY CO.

Box 737. REGINA, SASK.

SHIP NOW

Consign your **BUTTER, EGGS and POULTRY** to

QUEEN CITY PRODUCE COMPANY, LTD.
100 Front St. E., TORONTO.

Prices good. Quick returns.

Imp. Clydesdale Fillies!



Have now on hand about a dozen, nearly all imported. A high-class lot and very richly bred. Combine size and quality, and all in foal. Also one-year-old stallion. Write me, or come and see them.

Nelson Wagg, Claremont P.O. & Sta.

Imported Clydesdales



Two 4-year-old and two 2-year-old stallions; one 2-year-old and two 1-year-old fillies; positively the best bunch I ever imported; richly bred, full of quality, abundance of size, and nice, true actors. Will sell them right. Terms to suit.

Telephone con. **Geo. G. Stewart, Howick, Que.**

IMP. CLYDESDALES



Three stallions, rising 3, and 7 fillies, rising 3; the big heavy kind, full of character; a superior lot, every one a show animal; will make over-a-ton horses, and breeding the most fashionable. Prices a little below any of the others.

J. A. BOAG & SON, Ravenshoe P.O.
Brown Hill Sta.

CLYDESDALES and SHORTHORNS—Canadian-bred, registered. One stallion, rising 3, by Imp. Macqueen. Two stallions, rising 2, by Imp. Primrose. One filly, rising 2, by Imp. Macqueen. These are a choice lot. Show stuff among them. Also my stock bull, Gilbert Logan 36424; roan; weights 2,600; seven years old. Safe and sure. **W. D. PUGH,** Claremont P. O. and Station.



Cattle and Sheep Labels
Send your name and address for circular and sample. It costs nothing. Write to-day. Address: **F. G. James,** Bowmanville, Ont.

ARLINGTON SHORTHORNS and LEICESTERS Present offering: 2 bulls 8 and 11 months old, by Christopher's Heir 45459; also a few females of different ages, some from Imp. sires. No sheep for sale at present. Stock guaranteed as represented. **John Lishman, Hagersville P.O. & Sta.**

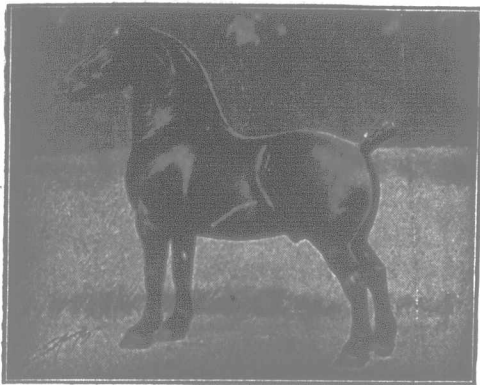


30 PERCHERONS

Also Shires, Hackneys and Clydes, have just arrived with our new importation from Scotland, England and France, of high-class stallions and mares. Many of them prizewinners in their native lands. Bred by the best breeders. Percherons, blacks and grays, weighing 1,500 to 2,000 pounds. Shires at two years old weighing 1,700 pounds. Clydes, bays and blacks, 4 and 5 years old, weighing 1,800 to 2,000 pounds. Our Hackneys are bays and chestnuts, combining size, quality and breeding that cannot be beaten. We have a few first-class young stallions that we will sell at cost, to make room for our next importation; and all for sale at reasonable prices.

HAMILTON & HAWTHORNE, Simcoe, Ont.

83 miles south-west of Toronto on the G. T. R.



The La Fayette Stock Farm

J. Crouch & Sons, Props., La Fayette, Ind. Largest importers in America of German Coach, Percheron and Belgian stallions. Over 200 head on hand at all times. All have the best of bone, style and action, and on which we will put a gilt-edged guarantee they must be satisfactory, sure breeders. Won more prizes in the American show-ring in 1906 than all other importers combined. Our guarantee is the best. Terms to suit buyers. Importations arriving every few weeks insure prospective buyers a large selection from which to make a purchase.

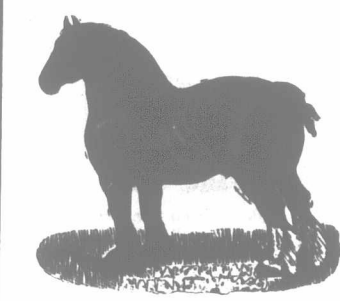
J. CROUCH & SON, La Fayette, Ind. La Fayette is but six hours' ride from Detroit via Wabash Railroad.

Just got in 100 head of Percheron and Belgian stallions and Percheron and Belgian mares.

IMP. GLYDESDALES & HACKNEYS

Stallions and fillies of both breeds, representing the best blood of England and Scotland, combining size and quality and faultless action. If in want of something exceptionally choice, come and see me. You will not be disappointed. Prices right.

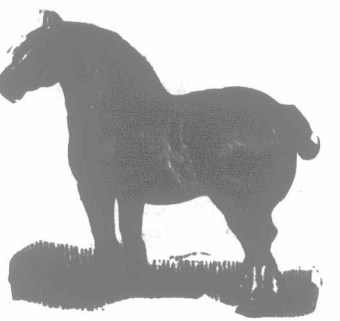
DUGALD ROSS, Streetsville, Ont. Write for catalogue.



Clydesdales, Percherons and Hackneys

I have still on hand 19 Clydesdale stallions, 4 Clydesdale fillies, all imported; Scotland and Canadian prizewinners; 3 years old, that will make 2100-lb. horses of choicest quality and richest breeding; 4 black Percheron stallions, 3 years old, big, flashy, quality horses, and 6 Hackney stallions, 1st-prize and championship horses among them. Will sell reasonable and on terms to suit.

DR. T. H. HASSARD, Millbrook P.O. and Stn.



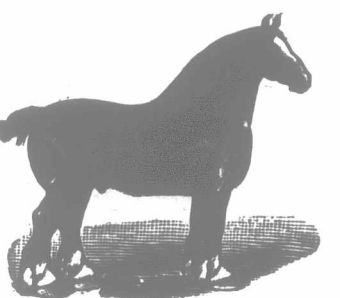
GRAHAM BROS.

"Calmbrogie," CLAREMONT,

IMPORTERS OF

HACKNEYS and GLYDESDALES

Established 80 years, and winners at all large shows in Canada and United States. Best of stock always on hand for sale. New importation of Royal winners just arrived.



DUNROBIN STOCK FARM

BREEDERS OF GLYDESDALES, SHORTHORNS and YORKSHIRES

Besides our high-class Clydesdale fillies, we are offering some well-bred SHORTHORN HEIFERS at reasonable money for a quick turnover.

DONALD GUNN & SON, BEAVERTON P.O. & STN. Farm Three-quarters of a Mile from Station.



SMITH & RICHARDSON, COLUMBUS, ONT.,

have now on hand a choice selection of Clydesdale Stallions, combining size and quality with straight, true action. Breeding unsurpassed. Individually unexcelled. Scotland prizewinners. Also a few Canadian-bred stallions, and imp. and Canadian-bred fillies.

Long-distance Phone Myrtle Station, C. P. R. Brooklin or Oakawa, G. T. R.



QUESTIONS AND ANSWERS. Veterinary.

TUMORS.

Horse has hard small lumps from the size of a pea to that of a hickory nut on his shoulders where the collar rests. Occasionally one forms matter and breaks.

Ans.—These are little fibrous tumors, and the only effective cure is to dissect each one carefully out, and dress the wound, three times daily, with a five-per-cent. solution of carbolic acid until healed. External applications do no good.

PIGS COUGHING.

Pigs, four months old, continue extreme coughing. They sleep in an elevated bed, kept dry, over a cement floor; are fed pulped roots, with some wheat and oatmeal scattered on it. They are not too fat. Kindly advise treatment to avoid coughing.

DURHAM SUBSCRIBER.

Ans.—Coughing is often due to constipation, but the feed given should not cause this. Feed laxative foods, and keep mixed charcoal, ashes and salt in a low box, where they can take it at will.

RED WATER—DIARRHOEA.

1. Cow has red water. She urinates frequently and little at a time, and the last that passes each time is quite red.

2. Pigs are troubled with white scours after weaning.

Ans.—1. Purge her with 1½ lbs. Epsom salts and 1 ounce ginger, dissolved in two quarts warm water, and given as a drench. Follow up with 4 drams chlorate of potash, and 1 dram each of sulphate of iron, gentian, ginger and nuxvomica, three times daily, as long as necessary. Feed well on food of first-class quality.

2. Add to their milk about one-sixth of its bulk of lime water. If necessary, to check the diarrhoea, give each one 15 drops laudanum in a little warm milk every six hours, until diarrhoea ceases.

HORSE DENTISTRY.

Could you inform me whether it is possible to get a course in horse dentistry alone in the Ontario Veterinary College or the O. A. C.? If so, how long would such a course be likely to last and what would it cost?

YOUNG INQUIRER.

Ans.—Neither the Ontario Veterinary College nor the Ontario Agricultural College gives a special course in horse dentistry. The only way for a student to acquire the diploma of the Ontario Veterinary College is to attend the course and pass the examinations. Hitherto, this course has covered only two years' work, but it is now being extended to three years. Students entering on or after October 1st, 1907, will be obliged to begin work on a three-years' course. Those who entered in 1906 will be permitted to qualify and graduate in two years' time.

Miscellaneous.

DRAINING A CELLAR.

I have a stone cellar (arch built), located on the side of a clay bank. The frost gets in, and heaves up the cement floor. I have drains built in. It seems as if the drains, somewhere, are closed up.

1. Can you tell me the proper drains to put in so as not to fill up?

2. How would I build a f.o.-proof floor, i. e., a floor that will not break up any concrete inside fixings?

3. How best to keep out frost?

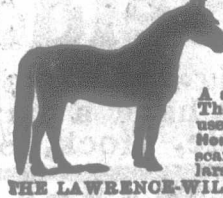
A. L. G.

Ans.—1. Tile drains in clay, with proper fall and outlet, should not fill up. If it is sandy at the bottom, covering the tiles with surface earth or straw will hinder filling. If your drain were all around cellar inside the wall, and down two feet, we think you would have no trouble.

2. Take out the earth to a depth of six inches or more, and fill up again with gravel or cinders. Lay your concrete floor on this.

3. Have double doors. A few inches from exposed walls, erect a slat or board wall, and fill space between with straw or horse manure. Cover roof in severe weather with straw.

HORSE OWNERS! USE CAUSTIC BALSAM.

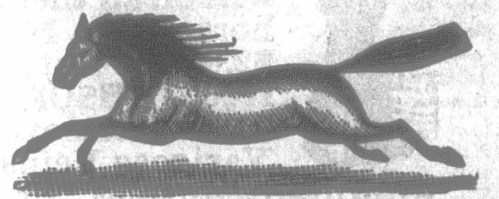


A safe, speedy and positive cure. The safest, best ELIXIR ever used. Removes all bunches from horses. Impossible to produce scab or bleb. Send for circular. Special advice free.

THE LAWRENCE-WILLIAMS CO., Toronto, Canada

The Repository

BURNS & SHEPPARD, Props.



Gen. Simcoe and Nelson Sts., Toronto

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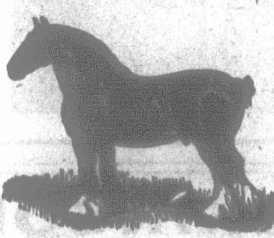
Horses, Carriages, Buggies, Harness, etc., every Tuesday and Friday, at 11 o'clock.

Special Sales of Thoroughbred Stock conducted

Consignments solicited. Correspondence will receive prompt attention.

This is the best market in Canada for either buyer or seller. Nearly two hundred horses sold each week.

Shire Horses



We breed the very best and soundest, which from birth are kept in their natural condition, neither forcing nor overfeeding for showing purposes. Canadian buyers visiting England are invited to call and see what we have.

No fancy prices, and all delivered free Liverpool landing stage. Correspondence invited. On

Station: Althorp Park, L. & N.-W. Ry.

JOHN CHAMBERS & SONS, Holdenby, Northampton, England

Bawden & McDonnell

EXETER, ONT.,



Have arrived home from Scotland with another importation of

12 Clydes and 2 Hackneys

selected from the best breeders in Scotland, and sired by Baron Pride, Montrave Mac and other noted horses. We have in all about 20 stallions in the barn—Clydes, Shires and Hackneys. Intending purchasers will do well to inspect, as these horses are all high class, and cannot be beat for true breeding quality and size.

Largest Stud in the World of American-bred

Percheron Shire and Hackney

STALLIONS AND MARES.

Have won more gold medals and championships than any other exhibitor. Stallions two to four years old, and mares in foal three to six years old.

Stallions \$700 to \$1,000; on easy terms.

Mares \$300 to \$600 for choice.

LEW. W. COCHRAN, Crawfordsville, Ind.

SHETLAND PONIES!

P. McCullough & Son, Breeders and importers of Shetland ponies, Markdale, Ont. We showed 8 ponies at Toronto Exhibition in 1906, and got 8 prizes: 3 firsts, 4 seconds and 1 third. All our ponies are imported. Our stallion, Foxglove, took first prize at Toronto. Our mare, Bessie, took first prize, and their foal, Bruce, took first prize also. Good accommodation for mares sent from a distance to breed. Ponies for sale. Our address: Markdale P. O., Ont.

For Sale: A Registered Clydesdale Stallion First-class, coming 3 years. Color, rich brown; small stripe and little white on two feet. Sired by Imp. Pioneer [1118] (8974), of Darley breeding. Dam out of the Imp. prizewinner, Gilmartin Lass (1918), and granddaughter of old Prince of Wales (678), sired by Imp. Queen's Own (7176) (1708), winner of several gold medals in Canada. A promising colt, of the very choicest combination of breeding, with near ancestors leading winners in keenest competitions. Price very moderate for quick sale. **JOHN CAMPBELL,** Fairview Farm, Woodville, Ont.




Seldom See

a big knee like this, but your horse may have a bunch or bruise on his Ankle, Hock, Stifle, Knee or Throat.

ABSORBINE

will clean them off without laying the horse up. No blister, no hair gone. \$2.00 per bottle, delivered. Book 8-C free. ABSORBINE, JR., for mankind, \$1.00. Removes Soft Bunches, Cures Varicose Veins, Varicocele, Hydrocele, Ruptured Muscles or Ligaments, Enlarged Glands. Allays Pain. Mfd. only by

W. F. YOUNG, P. D. F., 73 MONMOUTH ST., SPRINGFIELD, MASS.
Canadian Agents: LYMAN, SONS & CO., Montreal, Que.



THOS. IRVING

Winchester, Ont.
Established for over 30 years.
Importer and exporter of

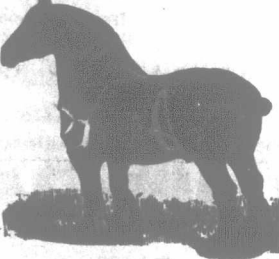
HACKNEY, CLYDESDALE and SHIRE STALLIONS and MARES.

New importation of winners just arrived. 90 miles west of Montreal on C. P. R.

HODGKINSON & TISDALE,

BEAVERTON, ONT.

Importers and Breeders of Clydesdale and Hackney Horses. We have on hand at present the choicest specimens of Clydesdale fillies in Canada, also a few extra fashionably-bred young Clyde stallions. People wanting good ones should see these before buying. Our farm, "Simcoe Lodge," is situated near Beaverton, on James Bay and G. T. Railways. Long-distance 'phone No. 18. Visitors will be met at Beaverton on notification.



CLYDESDALES AND FRENCH COACHERS, IMP.

Scottish and Canadian winners, stallions, ares and fillies. The Clydes represent the blood of such noted sires as Baron's Pride, Up-to-Time, Royal Favorite, Ethiopia and Aome. They combine size, quality and action. The French Coachers are a big, flashy, high-stepping lot, and are winners in both France and Canada. Our prices are right, and our horses good as the best. Long-distance telephone.

ROBT. NESS & SON, Howick, Quebec.

LANGTON STOCK FARM CO., LTD.

BRANTFORD, ONTARIO.
Breeders and Importers of Hackneys, Clydesdales, Shropshire Sheep, Berkshire Pigs and Scotch Collie Dogs.

2 Choice Hackney Stallions for Sale.

Hackney fillies and mares for sale. Three young Berkshire sows in farrow for sale. We are booking orders for March and April by Danesfield Donovan and from out imp. sows. We have a beautiful litter of puppies: two weeks old for sale, from Hollyrod Rose, sired by Niwel Conqueror; also one beautiful puppy half grown.

T. A. COX, Manager.

Imported Clydesdale Stallions and Fillies.

Having sold most of my last importation of CLYDESDALES, I am leaving for Scotland for another importation of stallions and mares, the arrival of which will be announced in this space in the columns of "The Farmer's Advocate." Come and see me on my return.

Andrew Aitchison, - Guelph, Ontario.

Pulls Stumps or Standing Trees.

Clears a two acre circle with one sitting—pulls anything the wire rope will reach; stumps, trees, grubs, rocks, hedges, etc. A man and a boy with one or two horses can run the

COMBINATION STUMP PULLER,

Stump Anchored or Self Anchoring.

A minute and a half is all it takes for the ordinary stump. No heavy chains or rods. Note the strong wire rope with patent coupler—grips the rope at any point. Does not chafe rope; far ahead of old-style "take-ups." Smallest rope we furnish stands 40,000 lbs. strain. It generates immense power and it's made to stand the strain. We also make the Iron Giant Grub and Stump machine, the L. S. T. stump puller, and the Grub and Stump Machine. Write for free literature to the nearest Largest manufacturers of Stump Pullers to the World.

Established 1884.

MILNE MFG. CO.,
200 8th St., Monmouth, Ill.



QUESTIONS AND ANSWERS. Miscellaneous.

HOG-FEEDING QUESTIONS.

1. At what price could wheat be more profitably fed to hogs than sold?
2. Which would be the cheaper to feed, wheat at 68c. per bushel, or corn at \$21 per ton?
3. Will it pay better to buy middlings at \$22 per ton to feed young pigs along with oats and barley, or oats and barley fed alone?
4. Will it pay better to feed mangels or sugar beets, with a little grain, than to feed grain exclusively? N. K. W.

Ans.—That depends on the price of pork, the price of other feeds, the skill of the feeder, his facilities as to stabling, and a number of other factors. In general, it may be said that wheat is a valuable food for swine; worth more, pound for pound, perhaps, than any other leading grain, except peas. As a purely fattening food, it is hardly equal to corn, though a combination of wheat and corn would give greater gains than either alone, while the addition of some wheat would insure the production of more lean meat and a better quality of bacon. An idea of how wheat compares with other grains may be gleaned from the following figures, quoted from Henry:

	Protein.	Carbo-hydrates.	Fat.
Wheat.....	10.2	69.2	1.7
Corn.....	7.9	66.7	4.3
Barley.....	8.7	65.6	1.6
Oats.....	9.2	47.3	4.2
Peas.....	16.8	51.8	.7

2. At the prices named, buy wheat chiefly for the young growing pigs, for the finishing stage make freer use of corn.
3. It will certainly pay to feed young pigs one-third to one-half middlings at price quoted.
4. It pays to provide pigs with a few roots in addition to their grain ration, but chief reliance should be placed upon the meal rather than the roots.

MILLET FOR HAY—GREEN MANURING—MARE ON TREAD-POWER.

1. Seeding down with clover last spring was almost a failure in our section. Would millet make a good substitute for hay? How would you prepare a field for it that is already plowed in the fall? What time is best to sow, and how much seed per acre?
2. Could you suggest anything to sow early in the spring to make good growth to enrich a field by plowing it under, and have it in time to sow rape for fall feed, the field being plowed in the fall?
3. Is it injurious in any way to use a mare that is in foal on the tread-power in short spells, if she is kept well shod, with no danger of slipping, and only walk at a slow gait? A. G.

Ans.—1. For such a purpose, millet will give fairly good satisfaction, though our own preference would be to sow a mixture of oats and peas to cut in the milk stage, and make into hay. Land for millet should be harrowed or disked as early as convenient, then worked repeatedly until time for sowing. The soil should be well firmed. There is no use sowing before settled warm weather arrives, say, the last of May or first of June. Of the smaller varieties of millet, sow from two to four pecks of seed per acre. Cover lightly with harrow.

2. It is doubtful whether it would pay to sow a crop as suggested. If anything is tried, we would suggest peas, 2 bushels per acre.
3. We should doubt the wisdom of working an in foal mare on a tread-power, owing to the risk of slipping or straining in getting in and out of the box but much depends on the disposition of the mare, and care in handling her. The position of the mare on the tread-power causes a pressure towards the rear, which might bring on abortion, if the mare had any tendency that way. Getting on and off the power is also attended with some risk. It is probable that the mare might be used on the power until a month or so before foaling without injury, at the same time there is an element of risk.

Veterinary Experience

Infallible guide to horse health. 100 page book, free. Symptoms of all diseases—and treatment, by eminent veterinary, compounder of

TUTTLE'S ELIXIR.

Sure cure for curb, colic, splint, recent shoe boils, most horse ailments. \$100. reward for failure where we say it will cure.

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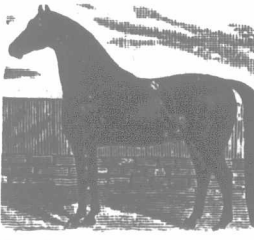
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Dr. Page's English Spavin Cure.

For the cure of Spavins, Ringbones, Curbs, Splints, Windgalls, Capped Hock, Strains or Bruises, Thick Neck from Distemper, Ringworm on Cattle, and to remove all unnatural enlargements.

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

J. A. JOHNSTON & CO., Druggists,
171 King St. E., Toronto, Ont.



Imported Shire Stallion for Sale!


BAY PRINCE V. (14476).
Sire Black Prince (2989); dam Oak Leaf, by Oak Apple (2472).

Weight, 2,150 lbs. in moderate condition. Perfectly sound. Guaranteed sure. His colts have won many first and second prizes at prominent shows, and are selling at \$200 to \$300 each. Would take as part pay a good driver.

Electric R. R. 6 miles from London.
D. THODY, Lambeth, Ont.

The Sunnyside Herefords.

To reduce the herd I will sell six breeding cows with heifer calves at foot. Prices reduced 20% from now until March 1st. Some choice heifers and a few bulls under 2 years old. Don't wait and miss this opportunity of procuring closely-bred high-class stock, but write for prices or come and see them. **MALCOLM H. O'NEIL, SOUTHGATE, ONT.**



Broxwood Herefords

Cows, heifers and calves
For Sale.

R. J. PENHALL, Nober, Ont.

FOREST VIEW FARM HEREFORDS

Four bulls from 8 to 19 months old; prize-winners and from prize-winning stock. Several heifers bred on the same lines; choice individuals for sale.

JOHN A. GOVENLOCK,
Forest Sta. and P.O.

HEREFORDS—We are now offering a few thick, smooth young bulls and a number of females—a low-down, even, body lot. If in want of something extra good, correspond with us. We can please you.

A. LOYERING, Coldwater P.O. and Sta.

Angus Cattle

The kind that get market topers. We have for sale 7 young bulls from 9 to 16 months old; also females all ages. All eligible for the American Herdbook. From good families and good individual merit. **J. W. BURT, Aberdeen Farm, Coningsby P. O. 3 1/2 miles from Erin sta., C.P.R.**

Aberdeen-Angus


Our herd in 1906 won all principal prizes at Toronto, London, Dom. Exhibition, Halifax, and Provincial at Charlottetown, Prince Edward Island. Also, we got the largest share in our class at Provincial Winter Fair, Guelph. Stock of all ages for sale.

JAMES BOWMAN, Elm Park, Guelph.

LOOK HERE!

Now is the time to place your order for young stock from choice dams, and sired by a son of the greatest cow in Canada, Bontaje and Pieterje De Kol (643 lbs. milk in 7 days; 96 lbs. in one day). His sire's dam, Calamity Jane, 25.1 lbs. butter a week; gr.-dam, Alta Poach, 27.07 lbs. butter a week. World's record under 3 years. Write for prices.

FRED ABBOTT, Harrietsville, Ont. Fairview Stock Farm.



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successfully used by the farmers of Ontario for over 30 years. Direct from manufacturer to consumer. Positively the best and cheapest cement you can buy. Price, 70c. per barrel, f.o.b. works. All information cheerfully given. Write us.

Isaac Usher, Queenston, Ont.

Valley Home Shorthorns and Berkshires

Special offering at very low prices for immediate sale: Eight young bulls 10 to 15 months old, five cows from 3 to 5 years old, with calves at foot; four 2-year-old heifers in calf to Royal Diamond 2nd = 58459-; also eight heifers one year old. The above are straight Scotch and a choice lot; and 10 young Berkshire sows, just bred to Myrtle's Prince (Imp.) - 14133-; and 30 young pigs of both sexes, from one to two months old. Visitors welcomed for personal inspection.

S. J. PEARSON, SON & COMPANY, Meadowvale, Ontario.
Stations: Meadowvale and Streetsville Jct., C.P.R.



ROCK SALT
for horses
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in ton and
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Importers and Breeders of

SHORTHORN CATTLE and OXFORD DOWN SHEEP.

FOR SALE—Females and bulls, of all ages from noted Scotch families.

Rowan Hill Herd of High-class SHORTHORNS

Herd headed by the Watt-bred bull, Royal Chief 65495, son of Mildred's Royal. Anything in herd for sale at living prices.

A. Duncan & Sons, Carluke, Ontario.

MAPLE + GROVE + STOOK + FARM Scotch and SHORTHORNS

Present offering: Cows and heifers in calf to Lord Mysie - 59627-. Some good young bulls and prizewinning heifers at very reasonable prices. For particulars write to L. E. POWELL, Wallenstein P. O., Wallenstein Station on the Guelph and Goderich Ry., O. P. R. Farm one-half mile from station.

J. BRYDONE,

Breeder of pure Scotch Short horns. Breeding females imported. Headed by the pure Cruickshank (Duthie-bred) bull, Sittyn Victor (Imp.) - 50098- (57397). 11 young bulls from Imp. dams for sale. Prices reasonable. Telegraph, Telephone, R. R. Sta. and P. O., Milverton.

FOR SALE 8 SCOTCH SHORTHORN BULLS

Aged 6 to 14 months. Marr Beautys, Campbell Claretts, Bessies, Claras and Rosebuds, got by the Broadhooks bull, Broadhooks Prince (Imp.) 55008. Also cows and heifers in calf or with calves at foot or being bred to same bull. Prices lowest at d terms easy.

DAVID MILNE, Ethel, Ont.

J. Watt & Son

Herd headed by Imp. Pride of Scotland and Heatherman. We have still about a dozen cows or heifers in calf or calves at foot. Also one good 13-months-old bull. These cattle will be sold reasonable, so as to make room for our crop of calves. Visitors welcome. Correspondence invited.

SALEM P.O. Elora Stations, G.T.R. and C.P.R.

SHORTHORNS AND LEICESTERS

Present offering: 4 choice young bulls from 8 to 13 months old. All sired by Rosierucian of Dalmeny (Imp.) - 46292-, and from grand milking dams. Prices away down for quick sale. Also a grand lot of young registered ewes now bred to our stock ram, and a few good rams at reasonable prices. Address:

W. A. DOUGLAS, Caledonia Station, Tuscarora P. O.

2 GOOD YOUNG SHORTHORN BULLS

and some heifers for sale, very reasonable. They must be sold, as we have disposed of part of the farm.

D. BARTLETT & SON, Smithville, Lincoln Co

Breeders of Shorthorns and Dorsets.

RAILWAY VIEW STOCK FARM SHORTHORNS

Herd headed by Lord Lieutenant, imported, - 50050-. Present offering: Four young bulls, from 6 to 8 months old. Cows and heifers, imported and home-bred. Prices reasonable.

SCOTT BROS., M. C. Ry. Stations, Highgate P. O., Ont.

Glen Gow Shorthorns

Our present offering is 9 bulls, from 6 to 14 months of age, sired by Imp. Ben Loman and Imp. Joy of Morning, and out of Imp. and Canadian bred cows. Also a number of very choice heifers. No fancy prices asked. Long-distance phone.

WM. SMITH, Brooklin & Myrtle Stns. Columbus P. O.

QUESTIONS AND ANSWERS. Miscellaneous.

BREEDING THREE-YEAR-OLD SHIRE FILLY.

1. Is a Shire mare, three years old, too young to breed?

2. Which would be better to breed to first, a young horse or an old one?

A. J. S.

Ans.—1. No.
2. Breed her preferably to a mature sire.

SOFT VS. HARD WATER—PIG'S THTROAT.

1. Which is better for stock, soft water or well water?

2. What is good for a pig that has a wheezing in the throat?

J. H.

Dufferin Co., Ont.

Ans.—1. As a rule, soft water, coming off roofs and held in tanks or cisterns, is not as clean and wholesome as well water. If clean, however, it is quite as wholesome.

2. Exercise on the ground; a bed on the sunny side of a building on fine days, and laxative food, including a little oil-cake meal.

BRITTLE HOOF.

Heavy colt, rising three, with small front feet, very brittle, dry and hard, has been fed well, with regular work. Her mother has similar feet, and is lame on them.

READER.

Ans.—It is possible this defect in mare and filly is due to hereditary weakness and disease of the coffin joint, and, if so, a cure cannot be effected, though the symptoms may be alleviated. Rest as long as possible; remove the shoes, and keep her in a well-bedded box stall. Keep her off hard roads. In spring, turn on pasture as soon and as much as possible. Meantime begin stimulating a growth of new horn by blistering about the coronet once a month. Applying moisture by standing in a tub of water, or by poulticing, also acts well. If you cannot give rest now, get an ointment made of 1 pound lanolin, 1/2 pound vaseline, and 1/2 pound oil of tar. Rub hoof, especially towards the top, and heels with this daily.

TREATING SEED POTATOES FOR SCAB.

1. Give a remedy for scab on potatoes.

2. Will ordinary barnyard manure cause the scab, the soil being a rich sandy loam?

3. Will scabby seed produce scabby potatoes?

E. C.

Ans.—1. Plant clean potatoes if possible. If obliged to use seed that is more or less scabby, soak the tubers, before planting, for two hours in a solution of 8 ounces formalin and 15 gallons of water. After treating, be careful not to allow the tubers to come in contact with bags or vessels that have contained scabby potatoes, or the seed will become re-infected with the spores of scab.

2. Barnyard manure seems to bring about conditions that favor the development of scab. Fertilizing with lime has a similar effect.

3. Yes, unless treated as above described to destroy the spores of scab.

EXPANDED METAL—TWENTY-YEAR-OLD SOD.

1. What is expanded metal, and how is it used in the making of cement posts?

2. How would you treat a field that has been lying in sod for 20 years? It is a deep clay soil, with fairly-good natural drainage. I propose to plow shallow early in May; work well, and plow again in July, and sow rape. The next spring, I will seed to clover in a light sowing of oats; cut one crop of clover, and then manure for roots. Have no manure to apply this year. Have I any chance of getting a crop of rape this year by the above method of working?

YOUNG FARMER.

Ans.—1. Expanded metal has angles or projections, which help it to strengthen the cement posts more effectually. It is imbedded in the post by laying it in the molds and filling the cement mortar about it.

2. The plan proposed is as good a one as we could advise. The field, however, would be excellent for corn as well as for rape. The chances for a successful crop of either should be good.

Many Women Suffer UNTOLD AGONY FROM KIDNEY TROUBLE.

Very often they think it is from so-called "Female Disease." There is less female trouble than they think. Women suffer from backache, sleeplessness, nervousness, irritability, and a dragging-down feeling in the loins. So do men, and they do not have "female trouble." Why, then, blame all your trouble to "Female Disease"? With healthy kidneys, few women will ever have "female disorders." The kidneys are so closely connected with all the internal organs, that when the kidneys go wrong, everything goes wrong. Much distress would be saved if women would only take

DOAN'S KIDNEY PILLS

at stated intervals.

Price 50 cents per box or three boxes for \$1.50, all dealers or sent direct on receipt of price. The Doan Kidney Pill Co., Toronto, Ont.

SHORTHORNS AND BERKSHIRES

Three young bulls fit for service; the right sort at reasonable prices and easy terms. Also heifers a d cows with calves at foot by Bando-leer - 40106-. In Berkshires: Sows five months old, and pigs soon ready to wean. F. Martindale & Son, Caledonia Sta. York P. O. Haldimand Co.

GREEN GROVE SHORTHORNS

Fairy Queens, Urrys, Floras, Claretts, Isabellas, Boss of Autumns, Village Girl. Females of all ages; 3 choice young bulls. Prices right. Breeding unsurpassed. W. G. MILSON, Spring P. O., Markdale Station.

SHORTHORNS

Six superior yearling bulls, some of them out of great milk cows; heifers of all ages. A lot of very big yearlings and a few heifer calves cheap.

CLYDESDALES

Two mares 5 years old, one an extra good one, and a pair of geldings 4 years old.

JAS. McARTHUR, Gobles, Ont.

Maple Lodge Stock Farm 1854-1907.

Am now offering a grand lot of young Shorthorn Bulls, several from choice milking strains. Also a few extra good heifers.

A. W. SMITH, MAPLE LODGE, ONT.

T. E. ROBSON, Live-stock Auctioneer

2 BEGHER ST., LONDON, ONT.

Spring Valley Shorthorns

Offer some nice young heifers and cows in calf and with calves at foot; also two nine months' bull calves, both very choice, sired by Imp. Bapton Chanoeller. Prices reasonable. Write, or come and see them.

KYLE BROS., Avon, Ontario.

Maple Hill Stock Farm Scotch Shorthorns—A special offering of a red bull calf of Missie family, sired by Rustie Chief (Imp.) - 40419-; also some choice females by 4 anderson's Star - 45555- and Lucerne (Imp.) - 50098- WM. H. ELLIOTT & SONS, Guelph, Ont.

Shorthorns Stamford's English Ladies, Mildred's Marthas, Nonpareils. 8 choice bulls 14 months old. 9 heifers, 3 cows. Breeding unsurpassed. Canadian and American registration. F. W. EWING, Salem P. O., Elora Station.

Shorthorns for Sale—Five choice bulls, all from Imp. dams; also females of all ages. Scotland's Fame (Imp.) at head of herd. ALEX. BURNS, Rockwood P. O. and G.T.R. Sta.

Brown Lee Shorthorns—Present offering is 9 to 12 months old, a nice straight, good-going lot, sired by Blenheim Stamp; also females of all ages, daughters of Imp. Sir Christopher and Mrs. Beacomps. Prices very reasonable. COULAS BROS., York P. O. and Station.

Young Shorthorn Bulls! Am now offering 5 grand ones from Scottish Peer (Imp.). Will make show animals. A few Berkshire boar pigs 5 months old. Also Lincoln sheep. JAS. SNELL, Clinton, Ont.

Belmar Parc Shorthorns

WE think we have as great a lot of young show animals as has ever been on one farm in Canada. Our herd is large, the individuals are choice and of the richest Scotch breeding, and our prices are moderate. 15 young bulls. 25 heifers under three years. A splendid group of breeding and show matrons. Mostly in calf to the champion Marigold Sailor =53258= and the prizewinning Nonpareil Archer (imp.) =45202=. Pembroke is on the main line of the C. P. R. and the Canada Atlantic Division of the G. T. R. You can leave Toronto 11 a. m., arrive Pembroke 12.05 p. m., see the herd, and arrive Toronto next morning at 7.20. We prefer you to see the cattle, but if you can't spare the time we take special pride in filling mail orders satisfactorily.

John Douglas, Manager.

PETER WHITE, Pembroke, Ont.

R. A. & J. A. WATT

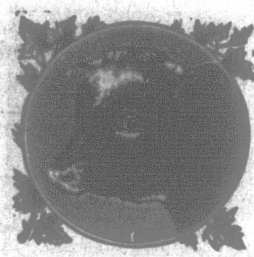
Offer special inducements to buyers of
SHORTHORN BULLS

For the next few weeks. They also price females of rare quality.

Elora Station, G.T.R. & C.P.R.

SALEM, ONTARIO.

Visitors always welcome.



Special Offering of Scotch SHORTHORN BULLS

3 just past two years old; 15 just over one year old;
7 just under one year old.

The best lot we ever had to offer in individuality and breeding,
and prices are right. Catalogue.

John Glanoy,
Manager.

H. CARGILL & SON,
Cargill, Ont.

AT "MAPLE SHADE"

Our young bulls are the best that our herd has ever produced. We can furnish Cruickshank bulls of high quality to head the best herds, and some that should produce the best prime steers. We have a bull catalogue. Send for one.

JOHN DRYDEN & SON,

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Stations: Brooklin, G.T.R. Myrtle, C.P.R. Long-distance telephone.

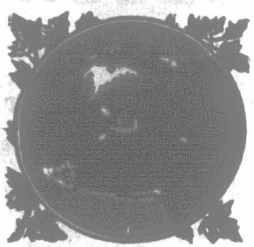
Pure Scotch Shorthorns

WE ARE OFFERING FOR SALE IMP.
SCOTTISH PRIDE -36106-

3 bulls just two years old. 6 bulls one year old.
7 bull calves from 8 to 12 months. (13 of these
bulls are from imp. cows.) Choice females of
all ages; 100 to choose from. 2 Imp. Yorkshire
sows due to farrow in March. 10 young sows 6
months old. Write for catalogue and prices.
Our farms are only one-half and one and one-
half miles from Burlington Junction, G. T. R.
Long-distance telephone in residence.

W. G. Pettit & Sons,
Freeman, Ont.

HOLLYMOUNT SHORTHORNS



Pure Scotch,
Imported,
and the get of
imp. stock.

25 HEAD

Anything for sale. 1
young bulls. Breeding
silt-edged and unsur-
passed. A few heifers
Prices right.

W. J. Thompson, Mitchell P. O. & Sta.

Clover Lea Stock Farm SCOTCH SHORTHORNS

Superior breeding and individual excellence.
For sale: Bulls and heifers—reds and roans,
some from imp. sire and dam. Visitors met at
Ripley station, G. T. R.

S. H. REID, PINE RIVER, ONTARIO.

STRUAN SHORTHORNS

For sale: Choice young bulls from four
to ten months old, sired by Scottish Beau
(imp.) (36000); also cows and heifers of
different ages. Write for prices, or
come and see my herd.

W. S. ROBERTSON, Ontario

Arnprior, Ontario

12 SHORTHORN BULLS FOR SALE

from 10 months to two years old. Several
of their dams or grandams winners in
Toronto. Prices very moderate. J. & W.

RUSSELL, Richmond Hill, Ont.

Queenston Heights SHORTHORNS

Special offer now: Several choice
Scotch bulls, two of which are
show bulls, a roan yearling and a
red two-year-old by Derby (imp.)
=32059=. Their dam is Bessie's
Maid =47779=, by the great sire
Royal Prince =26062=. There is
no better breeding. Also some
young cows and heifers at low
prices for prompt sale.

HUDSON USHER, Queenston, Ont.

GEORGE D. FLETCHER,

Breeder of Scotch Shorthorn
Cattle and Yorkshire Pigs.

Our herd of the most noted Scotch families is
headed by the \$3,000 Duthie-bred bull, Joy of
Morning (imp.) =33070=, winner of 1st prize at
Dominion Exhibition, Toronto. A few very
choice young bulls from 4 to 9 months old, also
females for sale. In Yorkshires are a choice lot
of either sex, 7 months old, from imp. sire and
dam. Bows bred to imp. hog if desired.

SINKHAM P. O., ONT. ERIN STATION AND TEL.

JOHN LEE & SONS, Highgate, Ont.



SHORTHORNS & LINCOLNS

The champion herd of Elgin,
Kent and Essex counties.
For Sale: 6 choice young bulls,
3 reds and 3 roans, of grand
type and quality; also good
selection of young cows and
heifers. Visitors welcome.

Six Red Shorthorn Bulls

12 to 15 months old, got by Proud Gift
=50077= (imp.); also cows and heifers,
imported and home-bred. Inspection
solicited. We think we have as good
Shorthorn cattle as we have Lincoln
sheep: 14 firsts out of a possible 19, our
record at Chicago, 1906.

J. T. GIBSON, Denfield, Ont.

Shorthorns and Clydesdales

I am now offering 6 young bulls from 8 to
20 months old Scotch bred, two of
them from the best milk families,
and a few choice heifers of good quality.

JOHN BROWN, Highgate, Ont.

Claremont, Ontario, G.T.R.

QUESTIONS AND ANSWERS. Miscellaneous.

POSSIBLY BLACK HEAD.

I had a number of turkeys last year
which did well at first; but when about
three or four weeks old, would droop
their wings and die. I fed them eggs
(cut), with cut green dandelions when
young, and, afterwards, fed small wheat
and corn meal, mixed with a cake made
of corn meal. Please tell me what was
wrong, and what is best to feed them.

R. R.

Ans.—The most probable supposition is
that the disease was black head, informa-
tion concerning which has been given in
these columns half a dozen times during
the year. The disease is very infectious,
and land where affected turkeys have
ranged is unsafe for turkeys or the poultry
the following year. To diagnose
black head positively, a post-mortem ex-
amination is necessary. The walls of the
caeca (or blind pouches at the lower end
of the small intestines) will be found
thickened, either throughout or in spots.
The membrane lining of the caeca becomes
reddened and eroded, and from this in-
flamed surface there is poured into the caeca
a quantity of creamy material or exudate,
more or less tinted with blood. The liver
is enlarged and darkened, while scattered
over its surface are distinct round spots,
sometimes whitish, or, again, with a yellowish
tinge. Young birds are more
especially subject to infection of black
head, and it is not confined to turkeys,
either, but may attack hens. Of course,
we cannot be sure your turkeys had black
head. It might have been lice, or some-
thing else, but the symptoms are suspi-
cious.

REMEDY FOR LICE—DEALERS IN POULTRY AND BEE SUP- PLIES—BOOKS ON BEE- KEEPING—CALVES SUCKING MANGERS.

1. Would a solution of Zenoleum, applied with a spray pump, be an effectual remedy for large blue lice and small lice on cattle?
2. Give addresses of any reliable dealers in poultry and bee supplies.
3. Please give names of any practical books on beekeeping for beginners, also prices of same, and where they may be obtained.
4. Are pulped turnips good for suckling calves one month old?
5. Give cause and remedy for yearling calves eating their manglers. They are fed on hay, roots and chopped oats.

W. S. M.

Ans.—1. We believe the manufacturers of Zenoleum claim it will do almost anything, fairly killing the lice at sight, but it would probably be better to apply with a brush or cloth. A mixture of one part insect powder in three or four parts cement, dusted along the backs of the animals, is a cheap and simple remedy.

2. A. J. Morgan, London, Ont., handles poultry supplies, and Gould, Shapley & Muir, of Brantford, Ont., supply beekeepers' wants.

3. "Langstroth on the Honey Bee," revised by Dodant, is probably the best book for a beginner who wishes to post himself. Price, through this office, is \$1.60 postpaid. "A B C of Bee Culture" is cheaper, at \$1.40.

4. Yes; in moderate quantities.
5. This is a habit, induced by any one of a good many causes, possibly by being allowed to suck the milk pails from which they were fed, or may be by the lack of some essential element in their food. Add to their ration a little brinn and oil meal. Give them all the salt they want, and in their feed, once or twice a week, put a teaspoonful of sifted wood ashes.

Fistula and Poll Evil

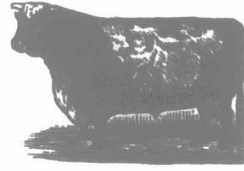
Any person, however inexperienced,
can readily cure either disease with

Fleming's

Fistula and Poll Evil Cure
—even bad cases that skilled doctors
have abandoned. Easy and simple; no
cutting; just a little attention every fifth
day—and your money refunded if it ever
fails. Cures most cases within thirty days,
leaving the horse sound and smooth. All
particulars given in

Fleming's Vest-Pocket
Veterinary Adviser
Write us for a free copy. Ninety-six
pages, covering more than a hundred veter-
inary subjects. Durable bound, in-
dented and illustrated.
FLEMING BROS., Chemists,
75 Church Street, Toronto, Ontario

T. DOUGLAS & SONS STRATHROY, ONT.



Breeders of Short-
horns and Clydes-
dales. 15 bulls, 60
cows and heifers, 1
imp. stallion, imp. and
home-bred fillies.
Write us what you
want or come and see
our stock. Farm 1
miles north of town.

Huntlywood Shorthorns.

Young bulls for sale. The best lot we
ever had, by imported Cicely's Pride
(78594), out of imported dams. Broad-
hooks, Lavenders, Lancasters, etc.
Prices reasonable.

W. H. Gibson, Manager,

Huntlywood Farm, Beaconsfield, Que.



John Gardhouse & Sons,

Importers and breeders of
Scotch Shorthorn cattle, Shire
and Clydesdale horses and
Lincoln sheep. Just now we
are offering a few extra choice
heifers—show stuff among
them; also three rare good
young bulls, bred from imp.
sire and dam. Highgate P. O., Western
station 3 1/2 miles. Telephone.

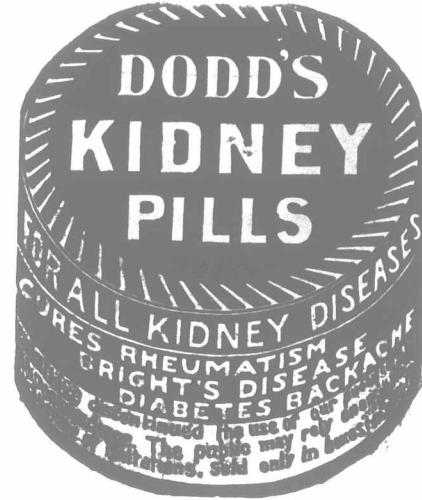
KENWOOD STOCK FARM. SHORTHORNS.

Headed by (Imp.) Jilt Victor =46197=. Offerings
are two bull calves, an 11-months Miss Ramsden,
from imp. sire and dam; a 19-months Missie, by
Blythesome Ruler, and other bulls; also heifers
of choice breeding. A few choice Berkshire
pigs just off the sow.

HAINING BROS., Highgate, Ont. Kent Co.

STIFF PRICES FOR BERKSHIRES.

At the Overton Hall auction sale of
Berkshires, at Nashville, Tennessee, last
week, the boar, Lord Premier 2nd, sold
for \$2,500, and the sow, Lee's Artful
Belle 11th, for \$1,325, the record price
for a sow of the breed. Thirteen others
sold for \$200 to \$1,100 each, and 50
head for an average of \$245.





Most economical and durable roof covering known. Easy to put on; requires no tools but a hatchet or a hammer. With ordinary care will outlast any other kind.

BRAMPTON JERSEYS

Canada's Premier Herd

Strengthened regularly by importations from United States, England and the Island of Jersey.

We have animals of all ages and both sexes for sale, and the largest herd in Canada to choose from.

Write for prices and particulars.

Long-distance 'phone at farm.

B. H. BULL & SON, Brampton, Ont.

SHORTHORNS. Just closed out the season's crop of bulls of breeding age, but have a few very nice youngsters coming up.

A. EDWARD MEYER Box 378, Guelph, Ont. Offers for sale, at prices you can stand, young SHORTHORN BULLS

Four of them from imported sire and dams Several cows with heifer calves at foot by Imp. Scottish Hero, and a few yearling heifers. All are of the choicest Scotch breeding. Write, or better come and look them over.

MAPLE GROVE SHORTHORNS My present offering consists of imported and home-bred cows and heifers, also four young bulls bred by Lord Banf's Conqueror.

SHORTHORNS We offer for sale 8 young bulls, a number of them from imp. sire and dam; also females with calf at foot or bred to our noted herd bull, Imp. Lord Roseberry.

SHORTHORN SNAPS Roan bull, just 3 years old, purchased from Messrs. B. A. & J. A. Watt; also one white bull calf 9 months old, two roan cows, 4 and 5 years, purchased from Messrs. J. Watt & Son; also 3 red heifers, 2 mos., 1 year and 2 years old.

Pleasant Valley Shorthorns Herd headed by Imp. Ben Lomond -45160-, assisted by Bud's Emblem, 2nd-prize senior bull at Toronto, 1906, son of Old Lancaster 50668.

MAPLE GL'N HOLSTEIN HERD Quality Tops for Sale In A. R. O. test a Sylvie female has just made 65 1/2 lbs. milk and 26.04 lbs. butter for 7 days.

Porter's Golden Fawn St. Lambert and Golden Lad JERSEY HERD.

I AM now breeding the two most popular and productive families of the Jersey breed known—the St. Lambert and Golden Lad. And what is more, my foundation stock of both families was purchased from the two most noted and best breeders of Jerseys on the continent.

THOMPSON PORTER, Carleton West. HIGH GROVE JERSEYS AND YORKSHIRES. For sale cheap, several choice young bulls and a few heifers, some of them prizewinners at Toronto this fall; bred from the best.

HOLSTEINS FOR SALE Four imported and one home bred bulls from 8 to 18 months old; also our entire crop of spring-bull calves from week old up to 18 months.

H. E. GEORGE, Crampton, Ont. RECORD OF MERIT HOLSTEINS Herd 110 strong. Over 40 head now in the Record of Merit. Two of the richest bred bulls in Canada at head of the herd.

Spring Brook Holsteins and Tamworths Herd headed by the first-prize bull, Nanuet Pletertje Paul, whose dam and sire's dam and g-dam have official butter records averaging over 25 lbs. in 7 days.

QUEEN CITY HOLSTEINS If you would like to purchase a young Holstein bull whose sire's dam has an official record of 560 pounds of milk and 26 pounds of butter in seven days, write to R. F. HICKS, Newton Brook P.O., York Co.

QUESTIONS AND ANSWERS Miscellaneous.

CANKER.

Our hens droop away, and their combs turn black; some last a week, others only about three or four days. They get plenty of fresh water, ashes, and everything else that goes to make healthy fowls.

Ans.—It is very difficult to say what is the matter with the chickens, as when a chicken gets sick it is almost sure to get droopy, and turn dark in the comb. To make a guess, I would say I am under the impression that this chicken has canker. Open the bird's mouth, and see if there is a white growth near the windpipe or on the tongue.

TREATMENT FOR OYSTER-SHELL BARK-LOUSE.

What is the best method of treating apple trees for oyster-shell bark-louse? W. J. A.

Ans.—Incorporate the trees by plowing the orchard shallowly, turning under some manure and a dressing of wood ashes, if available. Work this orchard with disc and drag harrow until July, then sow a cover crop of clover, vetches, buckwheat, oats or rape, to plow under the following spring.

DRAINAGE.

A drain has been surveyed, and levels taken through a considerable portion of wet land in the township of Derby. The proceedings have been carried on under the Municipal Drainage Act.

- 1. Can I make the engineer commence farther down the stream or ravine to give me more fall to drain by, the other parties having naturally four and five feet to the hundred rods in their respective outlets?
2. Can I make him give me as much as theirs, as by going down ravine 20 rods more it can be got? I am highest assessed of any for ditch. The majority of the owners of said lands asked for ten years to pay for said ditch.

Ans.—We see difficulties in the way of your doing what you purpose, and in almost every, if not every, particular. Still, it is possible that if the matter be attended to judiciously on your behalf your wishes may in the main be respected, and we would recommend you to see a solicitor personally, and be guided by him as to the course you ought to pursue.

ZAM-BUK SAVES A FARMER'S ARM

SOME SENSATIONAL PROOFS OF ITS HEALING POWER.

Every day brings interesting instances to light of the wonderful healing power of Zam-Buk, the herbal balm. Mr. Wm. Snell, a Langenburg, Sask., farmer, says: "I saved my arm by using Zam-Buk. I had a terrible scalding accident, and the arm, after the injury, took the wrong way."

ECZEMA CURED.—Mr. J. E. Cusick, of 349 Wilson St., Hamilton, says: "Every winter I used to have eczema on the back of my hands. Last winter I was especially bad—so bad that I had to be off work for three weeks. While suffering acutely, I was advised to try Zam-Buk, and did so. I could not have believed anything could have healed so quickly!"

Zam-Buk heals all skin diseases, cuts and bruises, eczema, scalp sores, ulcers, chapped places, Spring pimples, scrofulous ailments, poisoned wounds, swollen glands, boils. As an embrocation it cures rheumatism, sciatica, etc. All druggists and stores sell at 50c a box, or from Zam-Buk Co., Toronto. Six boxes for \$2.50. Send 1c stamp for dainty trial box.

ANNANDALE FINE STOCK FARM TILTONBURG, ONT.

Premier sire, Prince Posch Calamity, whose dam and sire's dam average in official test 86 lbs. milk in 1 day and 26 lbs. butter in 7 days.

No stock for sale at present. GEO. RICE, Tiltonburg, Ont.

MAPLE HILL HOLSTEIN-FRIESIANS Korndyke Teaks, calved Aug. 16, 1906. Thirty-nine sires in his pedigree have sired 508 daughters with official seven-day butter records. Twenty dams in his pedigree have official butter records averaging 23 lbs. 1 oz. of 85.7 per cent. butter in seven days.

Imperial Holsteins—An Advanced Registry herd for sale. One-year-old bull, a Toronto champion, four bulls from 6 to 8 months of age. A. R. O. on both sides. Imp. in dam from the U. S.

"GLENAROHY" HOLSTEINS 43 head of big, deep-bodied, heavy-producing Holsteins, many of them milking from 50 to 60 lbs. a day on grass. Young stock of both sexes for sale. A straight, smooth lot.

LYNDALE HERD Offer a number of young bulls fit for service, out of Record of Merit cows, and sired by Derby Wayne Paul Concordia, four of whose dams have official records averaging 23 lbs. 11 ozs. each. Eight heifers coming two, and due to calve in spring. Younger stock, either sex.

Holsteins and Yorkshires R. HONEY, Brickley, Ont., offers a very choice lot of young bulls, also boars and sows fit to mate.

Greenwood Holsteins and Yorkshires For sale, a few richly-bred bulls from one to eighteen months old. Also a few choice females of all ages. Yorkshires of either sex.

Grove Hill Holsteins Herd consists of fifty-four head, containing blood of De Kol, Pletertje, Korndyke, Royal Inks, and other families of good testing qualities. Young stock of both sexes for sale at present in limited quantities. Write for prices.

"THE MAPLES" HOLSTEIN HERD is made up of Record of Merit cows and heifers with large records, and headed by Lord Wayne Macchilde Calamity. Bull calves from one to five months old for sale. Walburn Rivers, Falden's, Ont.

SHARPLES' BUSINESS DAIRYING FREE

Contains all the money-making points of dairying. Among the subjects treated you will find How to Feed, What to Feed, When to Feed, What Foods Produce Most Milk, How to Take Care of Milk-Producing Foods, How to Feed Silage, the Care of the Milch Cow, and many other profitable and practical suggestions that help swell the profits of the dairyman. With the book we will send additional information telling you how and why you can get the most out of your milk by using the

Sharples Tubular Cream Separator

We guarantee that with a Tubular you can get 50 per cent more cream over the old pan method of skimming, and 6 per cent over any other cream separator made. Sharples Separators get all the cream and the Tubular is the easiest running, easiest cared for, and easiest kept clean. There is just one tiny piece in the bowl, the milk can is low and handy, the bearings are self oiling. Write for the "Business Dairying" at once stating number of cows you keep. Ask for booklet D. 193

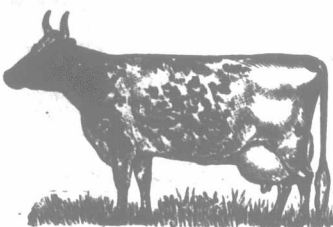


Mr. S. L. Boyer, Venetia, Pa., says "The Tubular makes me \$255.00 yearly."

The Sharples Separator Co.,
Toronto, Can. WEST CHESTER, PA. Chicago, Ill.

YORKSHIRES of Choicest Type and Breeding.

I have on hand 75 brood sows of Princess Fame, Cinderella, Clara, Minnie, Lady Frost and Queen Bess strains. My stock boars are true to type and richest breeding. For sale are a large number of sows bred and ready to breed, boars fit for service, and younger ones of both sexes. Pairs and trios not akin.



Ayrshires and Yorkshires

We now offer our grand imp. bull, Leansock Royal Star. Always winner of first prize at Toronto, except once, when he was placed second. Now four years old past. Other young bulls fit for service from heavy milking stock on both sides, with large teats. Females of almost any age. Young sows in farrow. One aged boar cheap. Pigs from 2 to 4 months old. Prices right. Long-distance phone, Campbellford Central.

ALEX. HUME & CO., MENIE, ONT.

MY SHROPSHIRE WON THE FLOCK PRIZE AT TORONTO

And I have imported and home-bred **RAMS** and **EWES** for sale that are of the same stamp. All kinds of good **COTSWOLDS** and **SHORTHORNS** as well. Prices always reasonable.

Robert Miller, Stouffville, Ontario.

AYRSHIRES & POULTRY

Holehouse Pilot (imp) Heads the Herd.
For Sale: Heifer and bull calves. A few two-year-old heifers in calf can be spared, bred from producing dams. Prices reasonable, quality considered. Also 10 pair of Toulouse geese, at \$5 per pair. W. Wyandottes, B.P. Rocks, \$1.50 each

W. THORN, Trout Run Stock Farm, Norfolk Co. Lynedoch, Ont.

AYRSHIRES FROM A PRIZEWINNING HERD

Have some nice bull and heifer calves for sale at reasonable prices. For particulars, etc., write to WM. STEWART & SON, Campbellford Stn. Menie P.O., Ont.

STOCKWOOD AYRSHIRES FOR SALE

All ages, from imp. and Canadian bred stock. Prices and terms to suit purchaser.
D. M. WATT, St. Louis Sta., Que.

Ayrshires 3 prizewinning bulls fit for service at reasonable prices, also younger ones for quick buyers.

N. DYMONT, Hickory Hill Stock Farm, Dundas Stn. and Tel. Clappison, Ont.

Please Mention this Page

Hillview Herd of Prizewinning AYRSHIRE CATTLE.

All animals bred and carefully selected for size, constitution, long teats and deep-milking qualities. Select animals of both sexes for sale at reasonable prices. For further information and prices write

A. KENNEDY & SON, Hillview Stock Farm, Vernon, Ont. Winchester Station, C. P. R.

SHANNON BANK STOCK FARM FOR AYRSHIRES AND YORKSHIRES

Young stock of both sexes for sale from imported stock.
W. H. TRAN, Cedar Grove, Ont.

Ayrshire Bulls

Two very choice, nearly 12 months old, and fit for service that gave last year more than enough to satisfy for "Record of Performance" test. W. BALLANTYNE, Long distance phone, Stratford, Ont.

SPRINGBANK STOCK FARM, North

Willow Brook, Ont. Ayrshires, both sexes, and all ages. Berkshires, both sexes and all ages. Down sheep, a few choice ones left; also 200 lbs. eggs \$1.00 per setting. \$4.00 per pair. J. J. Whitteker & Sons, Willow Brook, Ont.

QUESTIONS AND ANSWERS. Miscellaneous

DEPLUMING MITES.

One of my hens is losing the feathers on her head. There is a bare strip now about two inches wide just behind her comb. She seems in good condition otherwise. I think another hen is beginning in the same way, and fear the disease may spread.

PERPLEXED SUBSCRIBER.

Ans.—I am not just clear as to the condition of birds. There are three causes, and, I presume, one of the three is the proper one, for your chickens are feather-pulling, which is a vicious habit, due to a lack of exercise or lack of meat food. They may also be troubled with feather-eating vermin. This, I would be inclined to believe, is the cause in your particular case. The only thing that I know you could do would be to grease the bare spots with carbolized vaseline. You can procure this from any druggist at a moderate price. I would also suggest that you dust well with ordinary insect powder. The neck and the bare portions should be well greased. It might be caused by over-attention by the male, but this is doubtful.

BREEDING MARE—GEESE WANTED.

Mare, eight years old, has had four colts. The first was a good one; the next was stified; the next was another good one; the last one is not right in the stifle. They have all been from different horses. Would you recommend breeding her or not? She always had good luck other ways.

2. What is the best feed to make a mare milk? I am feeding a few turnips and a feed of boiled oats with bran at night. "The Farmer's Advocate" is a wonderful paper—better all the time.

3. Please have some of the readers of "The Farmer's Advocate" advertise the goose they call the Swan, as I would like to get one.

Ans.—1. The mare seems to transmit a congenital weakness in this part; but as she is a good breeder other ways, and any kind of a brood mare is at a premium now, it may be worth while taking chances, seeing she has raised two good colts.

2. The feed you are using is excellent. Though you do not say definitely, we take it for granted the grain ration is being fed two or three times a day, the evening feed being of boiled oats and bran. It is always better to give the grain in two or three feeds daily than in one.

3. Breeders of geese will find it in their interest to heed this inquiry.

ROUP.

I had a number of young chickens last December that had swollen heads. One side of their head, when first noticed, would look inflamed, and would keep swelling on the one side until the eye was completely shut. They could not shut their mouth, but their other eye would be all right. They would go down in flesh, and in time it would break and run, but they all died, and when I saw one getting it, I would hanish it. I didn't see any more for about six weeks, when an old hen turkey got it. I have her away from the rest. The swelled part of her head has broken, and she seems to be getting better. I gave her castor oil inwardly, and rubbed goose oil on her head.

Ans.—I am inclined to think these chickens have roup. It is one of the forms of roup that is known as swelled head, or some call it one-eye swelling. It is due, undoubtedly, to a germ, but in many cases it is induced by the chickens being exposed to a draft. Under ordinary conditions, the best treatment is to kill the specimens. If it is desired to treat the birds, I would recommend the use of potassium permanganate, as mentioned in another answer, as a preventive, also the same quantity of potassium used to one pint of water, immerse the bird's head in this, bathe with a weak solution of vinegar, which is frequently beneficial. My experience in this case is that the trouble of curing is worth more than the price of the bird, and unless the trouble becomes a regular epidemic, treatment is very unsatisfactory. In all such cases it is desirable to use salts for the entire flock as a means of prevention.

W. R. GRAHAM

Ringbone

There is no case so old or bad that we will not guarantee Fleming's Spavin and Ringbone Paste to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and one to three 6-minute applications cure. Works just as well on Sidesbone and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a blemish, write for a free copy of Fleming's Vest-Pocket Veterinary Adviser. Ninety-six pages of veterinary information, with special attention to the treatment of blemishes. Durable bound, indexed and illustrated. Make a right beginning by sending for this book. FLEMING BROS., Chemists, 75 Church Street, Toronto, Ontario

Ship Your **HIDES SHEEPSKINS FURS** To E. T. CARTER & CO., TORONTO.

SOUTH DOWNS AND **Scotch Collies.** Robt. McEwen, Byron, Ont. Long-distance Phone.

Sheep Breeders' Associations. American Shropshire Registry Association, the largest live-stock organization in the world. Hon. John Dryden, President, Toronto. Can. Address correspondence to MORTIMER LEBRING, Secretary, Lafayette, Indiana, U.S.A.

Canadian Agents for the Original **McDougall's Sheep Dip & Cattle Dressing** Imported direct. Price: Imperial pint, 50c; Imperial half gallon, \$1.25; Imperial gallon, \$2.50. Sold by druggists, or charges prepaid on one-gallon tins. THE WORTHINGTON DRUG CO., Toronto, Ontario.

SHROPSHIRE Can sell about 20 Ram Lambs. Mostly by an Imp. Butter-bred ram. **GEO. HINDMARSH, Missa Craig, Ont.** Oxford Down Sheep, Shorthorn Cattle, Yorkshire Hogs. Present offering: Lambs of either sex. For prices, etc., write to John Cousins & Sons, Buena Vista Farm, Harriston, Ont.

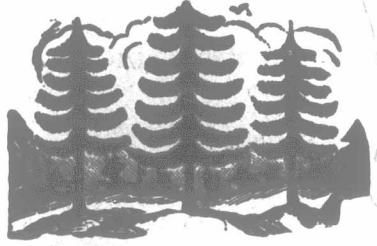
LARGE ENGLISH YORKSHIRES Pigs of the most approved type of both sexes, all ages, for sale at all times. We have more imported animals in our herd than all other breeders in Canada combined. We won more first prizes at the large shows this year than all other breeders combined. We won every first but one and all silver medals and Bacon prizes at Toronto and London, and at St. Louis we furnished all the first-prize hogs in the breeding classes except two; also supplied both champion and grand champions. Prices reasonable. **D. G. FLATT & SON, Millgrove, Ont.**

Meadowbrook Yorkshires Young stock of both sexes. A number of sows old enough to breed, all sired by Imp. Dalmeny Topman. Everything guaranteed as represented. **J. H. SNELL, HAGERSVILLE P. O. & STATION.**

Morrison Yorks. and Tams. on hand, for sale. Are both sexes of both breeds. Bred from prizewinners and extra choice. Prices right. **Charles Currie, Morrison P. O., Shaw Sta., C. P. R.**

PINE GROVE BERKSHIRES! Bred on aristocratic lines and from high-class show stuff, sired by the Toronto winner, Willow Lodge Leader. For sale are young animals of both sexes—4 and 6 months of age; of choice bacon type and showing form. **W. W. BROWN-RIDGE, Ashgrove P. O., Milton Sta.**

DR. WOOD'S



NORWAY PINE SYRUP

Stops the irritating cough, loosens the phlegm, soothes the inflamed tissues of the lungs and bronchial tubes, and produces a quick and permanent cure in all cases of Coughs, Colds, Bronchitis, Asthma, Hoarseness, Sore Throat and the first stages of Consumption.

Mrs. Norma Swanston, Cargill, Ont., writes: "I take great pleasure in recommending Dr. Wood's Norway Pine Syrup. I had a very bad cold, could not sleep at night for the coughing and had pains in my chest and lungs. I only used half a bottle of Dr. Wood's Norway Pine Syrup and was perfectly well again."

Price 25 cents a bottle.



Pat. 1903-04.

We manufacture Steel Cheese Vats, Cream Vats, Curd Sinks, Water Troughs, Hog Troughs, Steel Tanks, Tanks to Water Stock, Feed Cookers, Evaporators for Making Maple Syrup, Grain Boxes, Threshers' Steel Tanks, Smoke Stacks, Steel Whey Tanks.

Ask your implement agent for our free catalogue.

The Steel Trough & Machine Co., Limited, Tweed, Ontario.

ORCHARD HOME TAMWORTHS

Herd headed by Newcastle Warrior. This hog won first prize and silver medal at Toronto, 1905, and defeated his sire, Colwill's Choice (1943), who has won these honors three years in succession. Our brood sows are large and of the same high quality. If you want choice stock, we can satisfy you at a reasonable price. Young boars fit for service; also young pigs now on hand. All stock shipped in comfortable crates. Express prepaid and satisfaction guaranteed.

GRANDALL BROS., Cherry Valley, Ont.

Newcastle Herd of Tamworths and Shorthorns. We have for quick sale a choice lot of boars and sows from 2 to 6 months old, the produce of sows sired by Colwill's Choice and Newcastle Warrior, both our own breeding, and winners of sweepstakes and silver medal at Toronto, 1901-02-03-05. Several very choice sows due to farrow in March and April. Pedigree furnished with every pig. Several choice heifer calves and heifers in calf to our present stock bull. All of high show quality. Prices right. Daily mail at our door. COLWILL BROS., Newcastle, Ont.

MOUNT PLEASANT TAMWORTHS and HOLSTEINS. For sale: An extra choice lot of pigs of either sexes, from one to six months old, and two sows bred to farrow in March. They are nearly all sired by Colwill's Choice No. 1343; won sweepstakes and silver medal at Toronto in 1901-2-3. Also four bulls and one heifer from one to ten months old. Phone in residence. BERTRAM HOSKIN, The Gully P. O.

Tamworths and Dorset Horn Sheep. A choice lot of pigs of different ages and both sexes. Some fine shearing rams and ewe lambs JAMES DICKSON, Orono, Ontario "Glenairn Farm."

Willowdale Berkshires. Young boars and sows, 3 and 6 months of age, out of imp. sows, and sired by Imp. Poigate Doctor, Royal Masterpiece, a son of the \$3,500 boar, Masterpiece, and some of them imp. in dam. Satisfaction guaranteed. J. J. WILSON, Milton P.O. and Sta.

ELMFIELD YORKSHIRES. Have 40 young pigs from 2 to 5 mos. Some young boars ready for service; also young sows bred and ready to breed. Pairs supplied not skin. G. B. MUMA, Ayr, Ont.

Duroc Jerseys—Imported and home-bred sows and boars ready for service. Pigs fit to wean; also Buff Orpingtons and Buff Leghorn cockerels. MAC CAMPBELL, Harwich, Ont.

QUESTIONS AND ANSWERS Miscellaneous.

SUGAR BEETS FOR BULLS.

Are sugar beets injurious to feed bulls kept for service? If not, in what quantities, and how should they be fed to bulls, say, from one to five years old?

SUBSCRIBER.

Ans.—We have never heard any objection to feeding bulls sugar beets. Feed from a peck to half or even three-quarters of a bushel a day, according to quantity on hand and condition of animals' bowels as indicated by the manure. If the bulls will scoop the beets, they may be fed whole, although, as they are pretty hard, and small roots might cause choking; it would be safer to slice or pulp. It is a good plan generally to scatter meal over the cut roots.

HOG PASTURE—PEAS AND OATS MIXED.

1. I have a field which would make very convenient hog pasture. What would be best to seed it down with this spring?

2. In sowing peas and oats together, on which will peas and oats do the better, plowed stubble or sod?

YOUNG FARMER.

Ans.—1. You do not state the kind of soil. If it has good surface and subsoil drainage, it would be well to try alfalfa. Sow 25 pounds of seed per acre without a nurse crop, or with barley at the rate of a bushel per acre. Better scatter over it a load of soil from an old alfalfa field, or else send 25c. to the Bacteriologist, O. A. C., Guelph, for a bottle of nitro-culture with which to treat the seed. Next to alfalfa, we should suggest Jerusalem artichokes, though some object to these on account of the difficulty met with in getting rid of them. You might try a mixture of red, white and alsike clover, with a little timothy and Kentucky blue grass.

2. Sow a bushel of each per acre. We should expect rather better results on sod, though it depends largely on the relative condition of the two fields.

FEED FOR TURKEYS—VETCHES—LYMPHANGITIS.

1. How much should be fed to the average turkey to get her in good laying condition by spring or laying season? The feed is either buckwheat, oats, barley, peas or millet, sometimes mixed?

2. Are vetches good for pasture? 3. Are they good to be plowed under to enrich the soil? If so, what kind would you recommend for loamy soil, and how much would you sow to the acre?

4. Mare had lymphangitis this winter. Is there anything I could feed to prevent it from coming on again, and to reduce the swelling? B. C. F.

Ans.—1. It seems to us this is an unnecessary question to ask. We have never measured the amount of food consumed by the average turkey, and the information would be of no particular value anyway. Feed enough of the foods named to get them into strong, hearty condition.

2. Vetches make an excellent pasture for sheep or hogs, but are better sown with oats or some such upright-growing plants to hold them up.

3. Vetches are excellent for plowing under to enrich the soil. Being leguminous, they gather nitrogen from the air, and when they are plowed under, this is added to the soil. Either the common vetch or the sand vetch (also called hairy vetch) may be used. Probably the latter is better, but its seed is pretty expensive. Of the common vetch, sow 6 pecks of seed per acre; of the hairy vetch, perhaps, three pecks, or a bushel, might suffice. There is no better crop than hairy vetches to sow as a cover crop in an orchard or in the fall in a garden after the early crops have been removed, the crop to be plowed down the next summer.

4. Exercise daily; feed bran regularly in the evening, also a few roots at noon, if any are available. When the mare is to be idle for a day or two, reduce the grain ration by substituting bran chiefly, bulk for bulk. Pregnant mares seem disposed to this trouble, which disappears after they foal and get on grass. A small handful of Epsom salts, given two or three times a week in the feed, is said to be a means of prevention.

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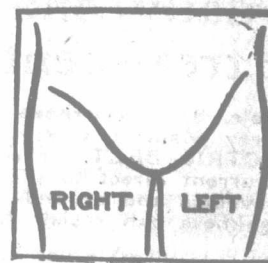
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Name..... Address.....

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Maple Grove Yorkshires. are among the leading Canadian herds for size, quality and true-ness to type, and are prizewinners all around. For sale are both sexes. All ages. Bred from imp. and home-bred stock. There are none better. H. S. McDIARMID, Fingal P. O., Shelton Station, Breeder and Importer.

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Every day we have evidence that the weakling has no place in the busy, bustling life of to-day. It takes nerve and strength to go up against the obstacles we are now forced to encounter, and this the weakling lacks. Look about you and see the successful man of to-day; it matters not whether he be a Merchant, Lawyer or Laborer, with head erect, eye clear, strength in his every movement, he is ready to tackle any problem with that enthusiasm which insures success.

I can make just such men of weaklings. I care not how long they have been so, nor what has failed to cure them. Let them wear my Dr. McLaughlin's Belt every night as I direct, and in place of the weak-nerved, debilitated being, I will show you a strong man—full of vigorous life, with nerves like steel and ready to look any man in the face and feel that he is the equal of the best of them and can do what they can do.

You will say this is promising a great deal. I know it, and can show you evidence that I have done it for twenty thousand weak men, and every one of them had spent from \$50 to \$500 on drugs before he came to me as a last resort.

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"One year ago I was a perfect wreck, but to-day can take my place with any man. Would not take \$1,000.00 for my Belt if I could not get another."—AARON MILLS, Linden, N.S.

"I am fully satisfied with my Belt; it is a good cure. I am stronger in every way and thank you very much for your Belt. It is well worth the money that I paid for it."—WILLIAM J. PEARSON, Fleming, Sask.

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For Sale—Ohio Improved Chester Whites, largest strain, oldest established registered herd in Canada; young sows in farrow; choice young pigs, six weeks to six months old; pairs not akin; express charges prepaid; pedigree and safe delivery guaranteed. Address: H. D. GEORGE, Putnam, Ont.

Large White Yorkshires.

A number of excellent sows, direct from imported stock, in pig to Worsley Duke, Imp.; also imported sows of different ages. Young boars and sows can be supplied not akin. Orders taken for young pigs. Write for what you want.

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HENRY MASON, SCARBORO P. O.
Street cars pass the door.

QUESTIONS AND ANSWERS.

Miscellaneous.

DOG SHOOTING.

A has a bitch. A's bitch went to B's place, and took B's dog away to A's place. While there, A allowed another man to shoot B's dog.

1. Who is responsible for the dog?
2. Is A allowed to keep a bitch and let her run at large when in heat and shoot the dogs that go there?

Ont. SUBSCRIBER.

Ans.—1. The man who did the shooting, and A, also, if the dog was shot at his instance.

2. No.

FIRST SEASON'S YIELD OF ALFALFA.

1. If a person sow alfalfa in the spring by itself, could he be able to cut it the same season?

2. Would it be advisable for a man to buy a sheep-clipping machine for a flock of 30, and do they work satisfactorily?

J. H.

Ans.—1. Sometimes on good soil a heavy growth comes on that may be cut the first season, and f.d green to stock; but this is hardly to be depended on, and it is generally advisable to clip with the mower bar set high, leaving the growth on the ground, if not so heavy as to smother the crop.

2. We believe they work satisfactorily, but we think it would hardly pay to purchase one for that number of sheep.

FERTILIZERS FOR OATS AND BARLEY.

I have four acres that I wish to sow with barley or oats this spring. It needs manure. I have none to put on. What would be the best fertilizer to use? How much per acre would it cost, and where can I procure it? A. I.

Ans.—It is understood that the use of commercial fertilizers is of the nature of an experiment in every individual case. However, we feel safe in recommending the following very light applications: For barley, 25 pounds nitrate of soda, 20 pounds sulphate of ammonia, 40 pounds dried blood, 150 pounds acid phosphate, and 50 pounds muriate of potash, total 285 pounds. This will contain about 12 pounds of nitrogen, 23 pounds phosphoric acid and 25 pounds potash. Its percentage composition will be 4.3:8.8:7. That is, it will contain 4.3 per cent. nitrogen, 8 per cent. phosphoric acid, and 8.7 per cent. potash. We might explain that the first three materials named, viz., nitrate of soda, sulphate of ammonia, and dried blood, contain no fertilizing element except nitrogen. The acid phosphate contains the whole 23 pounds of phosphoric acid, and the muriate of potash contains all the potash. For oats, we should recommend nitrate of soda, 75 pounds; acid phosphate, 125 pounds, and muriate of potash, 30 pounds. The total would be 230 pounds, and it would contain 5.4 pounds nitrogen, 8.3 pounds phosphoric acid, and 6.5 pounds potash. If our correspondent is willing to invest more heavily, he might increase the above recipes 50 per cent. all round.

It is altogether likely our friend will have difficulty in purchasing the above substances. The manufacturers will probably want to sell him a ready-mixed fertilizer. This will cost more per unit of value than the home-mixed article. However, if he wishes to avoid the work of mixing, he may purchase the ready-mixed article. If so, he may get fertilizers of approximate composition mentioned if he will ask for a barley fertilizer of formula 4.3:8.8:7, or thereabout; and an oat fertilizer of composition about 5.4:8.3:6.5. In these formulae, the first figure, 4.3 or 5.4, represents the percentage of nitrogen. The second figure, 8 or 8.3, represents the percentage of phosphoric acid, and the third figure, 8.7 or 6.5, represents the percentage of potash.

By way of explanation, we might add that in making up fertilizers, it is customary to use about 8 per cent. phosphoric acid as a basis. If with this there is combined a small percentage of nitrogen and potash, the fertilizer is termed low-grade. If the nitrogen and potash percentages are large, it is high-grade. A 2:8:3 fertilizer would be low-grade. A 5:8:6 or 5:8:8 would be high-grade, and, therefore, expensive.