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Vol. XLIV.

LONDON, ONTARIO, JUNE 3, 1909.

No. 871



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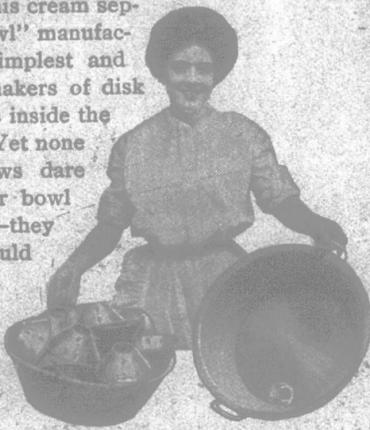
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Pictures Against Talk

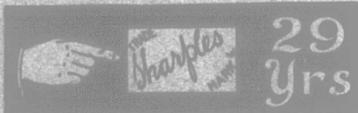
NO matter how complicated his cream separator, every "bucket bowl" manufacturer claims his machine is simplest and easiest to clean. Even the makers of disk machines—with 40 to 60 pieces inside the bowl—make the same claims. Yet none of these "bucket bowl" fellows dare put pictures of their separator bowl parts into their advertisements—they all realize that pictures would make their claims ridiculous.

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"Just as Good as the Pease"

ALWAYS INSTAL A
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"ECONOMY"
FURNACE

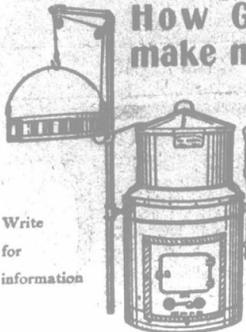
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Manufacturers Boilers, Furnaces, Combination Heaters, Etc. 1523

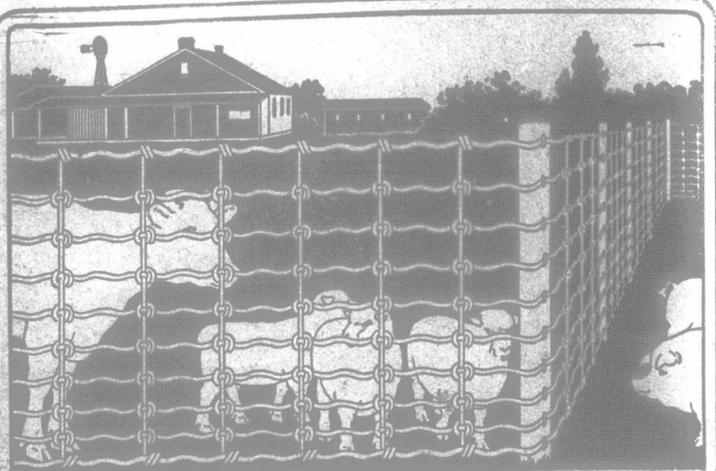
How Grocers and Farmers can make money in the Canning Business



Write for information

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Made of Steel

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Easy to Erect, Durable,
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Because, it air cures the hay preserving the rich juices. Such hay is sweeter, better color, worth more to feed or sell. It is a Tedder and Rake in one—only more and better than either. Three sets of slowly revolving rake teeth turn clover, alfalfa, timothy or any hay that grows, into loose, continuous windrows exposing every bit without harming the young, tender leaves. The teeth can be raised to rake above trash. They can be slanted forward to deliver heaviest hay into a fluffy windrow.

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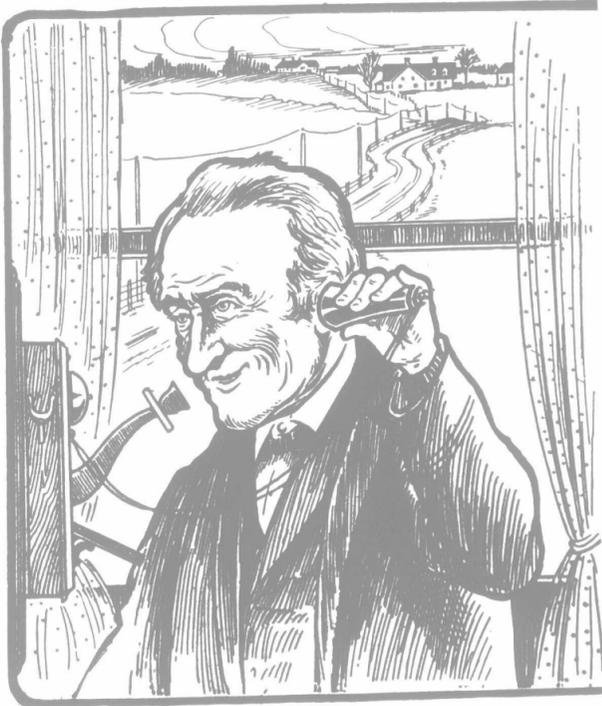
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"Buco" Hand Cultivator does twice the work of a Hoe in less time, less labor, trouble; more thoroughness. Digs deeply, extracting weeds by roots. Adjusted to any width for working around vegetables, etc. 4 1/2 ft. hard-wood handle; thoroughly tempered best steel Teeth. Simple, durable; lasts a lifetime; saves its own price many times first season. Sold by Hardware and Seed Stores. If dealer cannot supply you, send regular price, \$1.50, and "Buco" will be promptly sent you. Money refunded after 10 days trial if it is not satisfactory.

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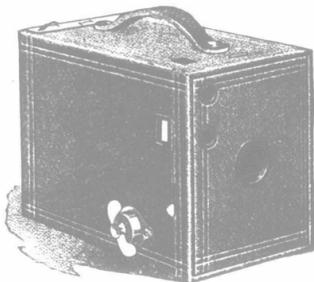
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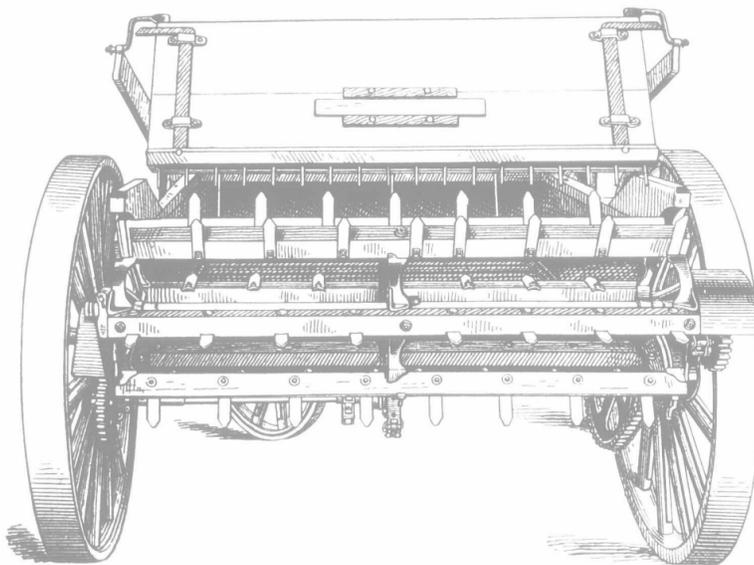
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Paint is cheaper than lumber. A dollar's worth of Ramsay's Paint will save ten dollars worth of repairing.
But be sure you get Ramsay's Paints. 60 different colors—a paint for every use—each, the best of its kind.
Every can guaranteed—and a 67 years reputation to back up the guarantee.
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Equipped with the Reversible, Self-sharpening, Graded Flat-tooth Cylinder. The latest improvements of J. S. Kemp, the inventor of the first Manure Spreader. The result of 34 years in the use and manufacturing of Manure Spreaders. Send for our catalogues, fully describing this machine, and also our Imperial Horse-lift Drill. The only drill equipped with a horse-lift.

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\$74.10 Return from LONDON Good Going May 20 to Sept 30

Return limit Oct. 31. Liberal stopovers. Wide choice of routes. Go by the direct Canadian line—see your own country—the West, the Rocky Mountains. Visit the Seattle Exposition and other special attractions.

Talk it over with nearest C. P. R. Agent, or write:

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BINDER TWINE.

Central Prison Binder Twine will be supplied to farmers as follows:

600 Feet per lb.	8 1-2c. per lb.
550 " "	7 3-4c. "
500 " "	7 1-4c. "

These prices are net cash. The twine is put up in fifty-pound jute sacks, and is manufactured from SELECT FIBER.

Quality and length guaranteed. Please specify at once what quality and quantity is required. Purchaser pays freight, and cash must accompany shipping instructions.

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HAVE YOU EVER REALIZED THE RESULTS OF "ADVOCATE" ADS.?

The Farmer's Advocate

and Home Magazine

"Persevere and Succeed."

Established
1866

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Vol. XLIV.

LONDON, ONTARIO, JUNE 3, 1909

No. 871

EDITORIAL.

Marketing Homemade Butter.

From all parts of the country frequently comes the cry about low-grade butter in country stores. How it gets there, remains for the storekeeper to explain. In some cases it may be due to the fact that he is not competent to discriminate between the good and the bad. Generally, however, it is due to the fact that he pays the same price for all grades of butter, in most cases getting even with the one who brings in the inferior product by charging more for goods taken in return, or giving inferior goods. Particularly is this the case in districts where a creamery or cheese factory is in operation. The consequence is that progressive farmers, who consistently put up a high-grade article, are obliged to take a lower price for their butter than the quality of their product demands. In other words, those who put up trashy butter keep down butter prices.

A keen demand always exists for a high-grade product, and certain classes are always willing to pay high prices for really superior goods. Two means of improving butter prices are possible. One is a consistent discrimination in prices paid by purchasers, in accord with quality; the other is more cleanly conditions in stable and dairy, and more up-to-date methods in making, and in preparation for market. The merchant who refrains from telling the person who brings low-grade product from the farm that it is not up to the standard, for fear he might lose trade, does not deserve custom. He places a price on his goods, according to quality, and he should teach his customers that what they bring him will be taken only on such basis. A little quiet advice would go a long way toward remedying the defects in future. The product, in too many cases, is just as good and no better than the purchaser demands.

The home buttermaker, in turn, should be prepared to be fair. There are very few who cannot distinguish between good and bad butter. If they would wait to consider that if a merchant gives them just as much as is given to a neighbor who takes in butter of a higher grade, he, in turn, gets even by giving inferior goods, or charging higher prices for goods of equal quality, they would not hesitate about endeavoring to make the necessary changes in methods.

Articles in recent issues show that a great deal depends on the care of the cream separator, on the farm. Regular and thorough washing of all utensils, and strict care to cool the cream as quickly as possible, and always before mixing with cream from a previous milking, are requisites. With due precautions, there is no reason why inferior butter should be taken to any market in Canada. It does not pay.

Australasian Pensions.

The Australasian Commonwealth Government's Old-age Pension Trust Fund now has to its credit £543,621, and, by the end of the current financial year, will reach the total of nearly £750,000, sufficient to enable the treasurer to inaugurate the national pensions system. The first year's payments are expected to absorb £1,500,000. When the invalids' pensions are made operative by proclamation, it is estimated the taxpayer will be required to provide £2,000,000 a year for the veterans of industry, and those who have been permanently injured while in pursuit of an honest calling.

Increasing the Returns from Pasture.

An idea persists in many quarters that pasture is a cheap feed, which costs next to nothing, and is necessary for the economical production of milk, meat or wool. Many farmers still consider themselves justified if they can carry their stock over winter without much or any increase in weight or yield of milk, just so that they may have it to make profit from in the halcyon days of summer pasture. This mistaken view is responsible for what, in the aggregate, bulks up into one of the most enormous losses of the farming business. As a direct result of it, millions of animals are maintained at a dead loss during six or seven months of the year, and at but a meagre profit during the remaining five or six.

Pasture is about the least-productive crop we raise. That is to say, an acre under pasture, grazed by stock, will furnish less sustenance for the human race than an equal area under any other crop. It is a very exceptional acre of Canadian pasture that will, without supplementary feeding, sustain an ordinary cow three months. More often it requires two acres. But suppose the case of a rich, well-seeded, well-manured, permanent pasture, on fertile soil, and assume that one acre of such land would graze a cow abundantly for three months. Now, put that land under alfalfa, and corn, roots, clover and mixed grain, grown in rotation. If well cultivated, and regularly enriched by the manure from the feeding of previous years' produce, such a field will come very close to turning off enough feed and bedding to sustain the same cow a twelve-month. The celebrated Pennsylvania dairyman, Mr. Dietrich, succeeded, on a small lot, in keeping considerably over a cow to the acre, by housing his cattle all the year round, and practicing a soiling system. What is more, he made it pay. Of course, this was intensive dairying; he was producing a high-priced product (milk for Philadelphia trade) on high-priced land, and had to utilize the full producing capacity of every acre of land. It would not be advisable for many Canadian farmers to follow his methods in full, but they carry a potent suggestion.

This brings up the question, "Under what conditions is it advisable to utilize pasture, and to what extent?" In general, it pays to graze stock where land is relatively cheap, in proportion to labor; and by labor, we do not allude to the cost of it per day, so much as the efficiency and productiveness thereof. The farmer who adopts wide-swath methods has cheaper labor at thirty dollars a month than his neighbor who hires at twenty dollars, but uses time-consuming implements, such as five-foot-cut mowers and single-furrow plows. Hence, we perceive that, while, in the long run, wages are ever rising, invention is fully counterbalancing such advance, so that, in the case of most kinds of farm work (milking being a notable exception), the labor cost of raising crops is not increasing, but rather decreasing, on the up-to-date farm, while rents and land values show a tendency to augment—a tendency that will become much more marked as the West fills up. Therefore, we see that land-rental values are becoming (relative to labor) an increasing factor in the cost of production, and this will progressively tend to decrease the profitability of pasture, as compared with crops to be harvested, and either cured or fed green. Even to-day there is not a shadow of doubt but that it would pay farmers, and particularly dairymen,

on the more valuable farms to practice summer stable-feeding to some extent, not merely as a precautionary measure against summer drouth, but as a settled practice. If an acre of alfalfa will furnish almost enough feed to keep a cow a year, or, say, three and a half to seven times as much as an acre of pasture, will it not pay liberal wages to grow some alfalfa to help out the pastures? Corn silage is another excellent feed that can be employed to advantage for the same purpose, while alfalfa and corn silage, or alfalfa and green corn together make an excellent feed. Even fresh, well-cured alfalfa hay is first-class for stable-feeding a herd of cows at night.

As stated before, we do not advocate the adoption of an exclusive soiling system, and, for two or three reasons. First, it entails too much labor to be profitable for any except extremely intensive practice; secondly, we hold strongly to the belief that the natural conditions of exercise, liberty, fresh air, sunshine, and palatable, wholesome food, which a watered and shady pasture affords, are a valuable contribution to the well-being of the stock. For breeding animals, a pasture is particularly beneficial. Let every farmer, therefore, provide such pasture for his stock, but let him also consider the economy of supplementing the pasture, for his cows, at least, by regular practice of stable-feeding at night during most of the summer. It would lead to the maintenance of a much larger stock, and much greater returns and profit per acre. It is one of the best means of enlarging one's farm without buying more land.

Orchard Management.

The seven systems of orchard culture, as outlined on another page, contain suggestions that demand the attention of every man who grows fruit trees. Soil and climatic conditions must always be taken into consideration, but, on the whole, thorough cultivation during early summer, followed by seeding to cover crop in July, is admittedly the best.

Figures quoted, as showing the results in Western New York, are not at variance with the results obtained by Canadian orchardists. Particularly has advancement been noticeable in districts where co-operative fruit-growers' associations are well organized. Numerous instances are known where orchards that lay in sod for a number of years were giving little or no annual profit. Rules of the association necessitated better cultural methods. Pruning helped to give larger fruit; spraying helped to keep down insects and fungi, and so insure freedom from blemish; cultivation, however, is acknowledged to be a most important factor in giving annually increasing returns from the area devoted to fruit-growing.

Prosecutions and Quality.

That Ontario inspectors, both in city and country, intend to put a stop to tampering with milk supplied for retail trade, or for factory use, is evidenced in the prosecutions made already this season. In the factories, also, a vast improvement is noticed in the shape of cement floors and such repairs as make it possible to maintain sanitary conditions throughout the season. There is, too, a prospect for strict action in regard to a few factory proprietors who are slow to make such changes as are essential to the manufacture of high-grade product.

Among the prosecutions made recently are one producer in the Woodstock district and one in

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED)

JOHN WELD, MANAGER

AGENTS FOR THE FARMER'S ADVOCATE AND HOME JOURNAL,
WINNIPEG, MAN.

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the vicinity of Locust Hill. In both cases the charge was that water had been added to the milk. Sufficient evidence was furnished to warrant heavy fines being imposed.

It is regrettable that such means have to be adopted to prevent roguery in the producing end of the dairy industry. One consolation is that only a trifling percentage are guilty of such practices. It is not necessary to have instructors and inspectors acting as spies. Their duties are to point out defects where such exist, and suggest a practical remedy. Where intentional fraud is evident, however, stringent measures are demanded. Prosecutions are objectionable to all concerned, but they, at least, have some influence in insuring honest milk for consumer and manufacturer.

The Hired-help Problem.

Editor "The Farmer's Advocate":

About this time o' year a gude mony o' oor farmers will be thinkin' o' takin' on some hired help for the simmer, seein' the days are lang, an' the chances are gude for gettin' the worth o' their money oot o' any mon they can get hauld o'. Sae, wi' yer permission I wad just be sayin' a word or twa on the "Labor Problem," as it relates tae oor interest as tillers o' the soil.

The first difficulty that confronts the maist o' us is tae induce any mon tae wark on the farm at a'. The next tribble is tae keep him, gin he happens tae be a guid one.

Noo, it's a fae' pretty weel kened, that the lang hours o' wark on the average farm hae a guid deal to dae wi' drivin' men an' women awa' tae the city, an' wha can blame them? The farm hand, as a rule, disna' ken when his day's wark will be ended, an' maist o' the time he quits when he canna' see tae dae onything mair. This system willna' wark vera much langer, if a system ye can ca' it. The great trouble wi' a lot o' oor farmers is that they dinna ken what system means. They will be aye jumpin' frae ae' thing tae anither, an' leavin' a job half done tae gang tae anither, which they will leave in the same condection, an' when their day o' sixteen oors is ended they hae about as muckle accomplished as a hen that tries tae hatch oot twa settins' o' eggs at the same time.

A guid rule for gettin' wark done is: finish

what ye hae on hand afore ye gang tae onything else. That is the first step in systematic farming, an' when ye hae learned tae tak' that yin, ye'll find the rest comin' natural eneuch. An' ane o' these after steps will be the gettin' o' yer day's wark doon tae a specified number o' hours. That is the first thing that is gaein' tae help us wi' this labor question that we hae under discussion. For the above rules there may be exceptions ye ken, noo an' again, but gin the hired mon has an idea that he willna' be called frae ane job tae anither, wi'oot rhyme or reason, an' that the days wark will be ended by, say, sax o'clock, I'll warrant ye that, wi' the added interest he wull tak' in his wark, along wi' his ability to dae mair, ye will be no' muckle behind on the experiment. An' gin he is a mon o' any sense he will na' be leavin' ye juist at the time ye are maist in need o' him, as sae mony o' them will be daein' the noo. When we ken eneuch tae gie oor hired help the same treatment that they get in the city factories that are takin' them awa' frae us, then I'm thinkin' oor troubles, gin they are no' ended, will be conseederably less than they are at present.

Another feature o' this same subject is that relatin' tae the children we get frae the Auld Country. The maist o' us hae conseederable o' a prejudice agin these "Home Children," as we ca' them, an' gin we are forced by necessity to tak' ane o' them intae oor hame we are apt tae be unco' suspicious o' them, an' let them ken that we dinna expect onything vera guid frae them at the best. Gin a person does this they willna' generally be disappointed. Treat a boy like a rascal an' it's a rascal he'll become. Why will ye no' gie him the same chance ye wad one o' yer ain bairns, an' think the best o' him, until ye find oot different onyway? The tribble wi' us is that we set up twa standards o' richt an' wrang, one for oor ain lads an' lassies, an' anither for the bairns that come tae us frae across the water. Gin we find them oot in ony wrang doing we canna' forgie' them or mak' ony allowance for the bad start sae mony o' them

gin they dae, I wull juist hae to say that I maun gie it up. There seems tae be na' ither way o' gettin' a young wumman tae wark on the farm but tae marry her, an' while oor Government willna' permit us men tae follow the example o' the Mormons, I doot the hoosewark will hae tae be done wi'oot ony extra help. Gin I didna' ken better I micht start preachin' the religion o' "system" for the wark in the hoose as weel as the wark on the farm, but we a' ken hoo systematic the ladies are the noo, so I willna' be wastin' ony mair o' yer valuable space.

SANDY FRASER.

HORSES.

The King's Plate Race.

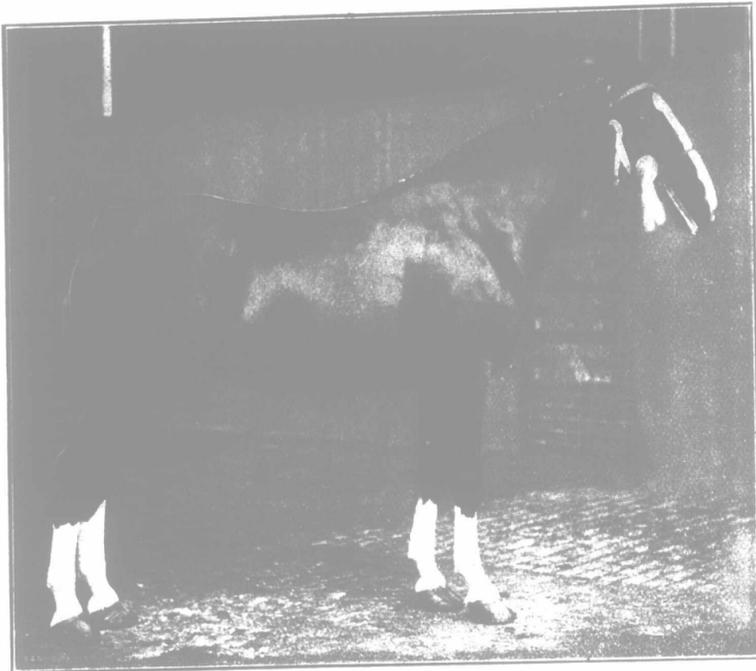
Hon. J. S. Hendrie's four-year-old Thoroughbred mare, Shimonese, by Martimas, dam Lyddite, Gilbert up, won the King's Plate race, 1 1/4 miles, at the Woodbine, Toronto, on May 22nd, by four or five lengths over the second horse, Jos. E. Seagram's Tollendal, in a field of eight starters; time, 2.10 1-5, a record for the distance, cutting 3-5 from the fast time made by Mr. Seagram's Seismic last year, which was 2.11. The estimated value of the King's Plate (the gift of His Majesty) is 50 guineas (\$250), with \$4,000 added by the Club. The prize was formerly known as the Queen's Plate, and this is the eighth race for the King's Plate, and the fiftieth, or Golden Jubilee, race for the prize, the first being run in 1860, and won by James White's Don Juan. The distance was 1 1/4 miles up to 1886, and in 1887 was reduced to 1 1/4.

Working Brood Mares.

The ideal method of management of the brood mare and her foal is to let them run together in the pasture field, where both may enjoy to the full the advantages of liberty and the diet which promotes a plentiful flow of milk, which the youngster may take at its will, indulging often, and taking a little at a time, which is the natural way, and the best for its digestive organs. But, preferable as this plan is, it is not always feasible to adopt it, as the mare often is required for work on the farm, and, by judicious management, she may do a considerable amount of work without serious detriment to either herself or her foal. It is not well to put the mare to work earlier than a month after foaling, as the effects of parturition are exhausting, and she should be given reasonable time to recuperate before being worked, and heavy or heating work should be avoided as much as possible, as over-exertion tends to reduce the milk flow and deprive the foal of its necessary supply of nourishment.

It is important that the mare should not be kept away from the foal too long at one time, as the latter is liable to get excessively hungry and take too much milk, which may lead to digestive troubles. A foal's digestion is of a delicate nature, and may be easily upset. Moreover, when a foal is kept separated from its dam for an undue length of time, it will fret, which militates against a thriving condition. The younger the foal is, the oftener does it require to suck, and, in the case of very young foals, their dams should not be kept away from them more than three hours, but, as the foals get older, the periods of separation may be extended to five or six hours. An important caution to be observed is not to allow a foal to suck when its dam is in a heated state from working, as her milk is then apt to disagree with it, and cause scouring. If the mare comes in hot, she should be allowed to cool off before letting the foal with her.

When the mare is taken out to work, the foal should be carefully shut up in a secure place, where it cannot get its feet into holes in the floor or the door, or get its head out between boards



Countess Clio (16974).

Hackney mare, five years old, chestnut. Winner of first in class and reserve champion, London Hackney Show, 1909. Sire Rosador.

must hae had on the streets o' some city in the Auld Country, but we aye pack them back tae the "Home" wi'oot an effort tae mak' them better, or gie them the second chance that we a' must hae, an' that we are gey willin' tae gie tae oor ain children, gin we found them oot in a like fault.

I'm no' advisin' ony parent tae be takin' these "Home" children intae their families, mind ye, gin they hae bairns o' their ain, but for the hoose that isna' blessed in this way, there can be na' objection to helpin' some lad or lassie tae get a start in the new land, that needs a' the guid citizens we can gie it.

Oor hired help are men an' women wi' the same feelin' as the rest o' humanity, an' gin we dinna respect their feelins' a wee, we canna' expect onything better frae them than some o' oor farmers get. A word o' appreciation or encouragement disna' cost onything, an' might mak' a muckle difference in the relations that exist atween us an' oor hired men.

I dinna ken, Mr. Editor, whether or no yer lady readers will be expectin' me to say a word in regard tae the domestic servant puzzle, but

in the partitions. The foal should be handled and petted, and induced to eat oats and bran, by putting a little of the feed in its mouth at first, and later in the manger. It is, where practicable, an excellent plan to keep two foals together for company when separated from their mothers, as companionship has a good effect in keeping them contented. Of course, at night they may run with their mothers at pasture, though, in case of cold rains, both are safer in box stalls together.

Well-ventilated Horse Barn.

The accompanying plans for a horse barn, although, perhaps, more elaborate than can be advised on the average farm, merit consideration by every horseman. A floor plan and a cross-section plan of the horse barn on the Central Experimental Farm at Ottawa are shown. Stabling accommodation is provided for 23 horses. Convenience and perfect ventilation are two features that stand out prominently. The following description is given by J. H. Grisdale, Agriculturist, in the annual report for 1907:

The accompanying plan of the ground floor explains itself for the most part. The doorway at the end, marked "doorway or stall," is not used as an entry or exit for horses. It is of such size and so constructed that it may, if occasion arises, be used as a stall.

Referring to the cross-section diagram, it is intended to show the (1) wall construction, (2) floor construction and inclines, (3) feed chutes, (4) mangers, (5) King system of ventilation, (6) Rutherford system of ventilation, (7) stall divisions.

The walls starting at the outside are built: vertical inch-dressed lumber, battens over joints, two building papers, rough lumber, horizontal; 6-inch studs and air space; rough lumber, horizontal; building paper; V-joint inside finish. The ceiling or upper floor is constructed similarly, joists supported by two beams resting on stall posts.

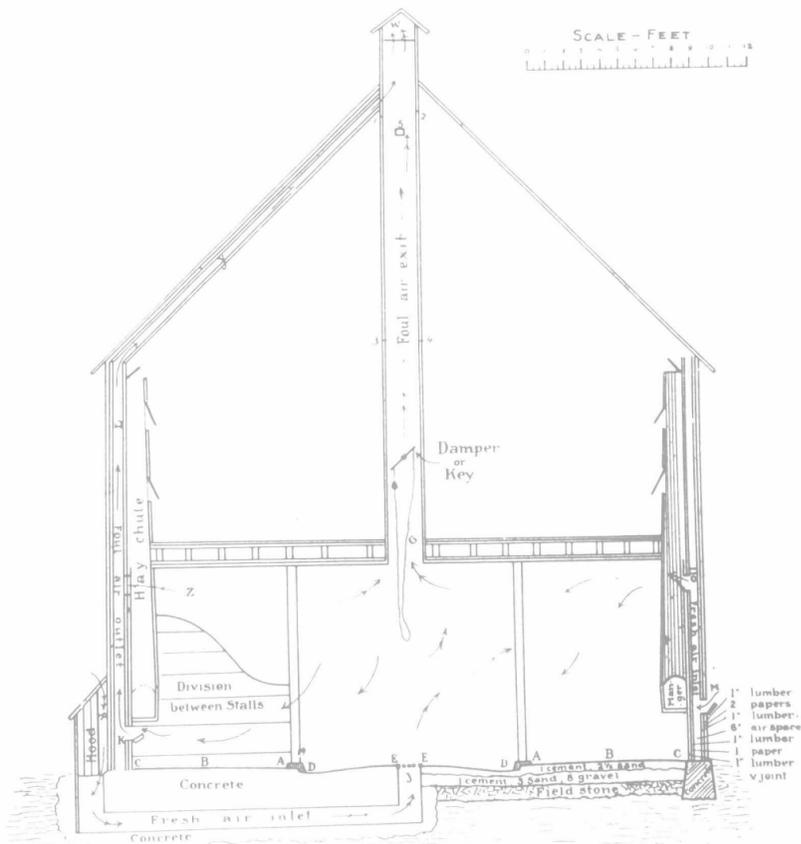
As indicated, the foundation is built of concrete. The floor, a regular set one, with the necessary pitches or inclines, etc., was built of rather unusual strength on account of its being for horses. A good depth of stone was laid on the ground, a layer of about five inches of rough concrete, one cement, three sand, eight gravel, followed and finished off with a second layer, one part cement, two and a half parts coarse sand, and a half part crushed granite. The surface of the passages is cut by inch-deep grooves into six-inch squares. The main passage, twelve feet wide, is about three inches higher in the center, descending with a convex slope to immediately behind the horses. The stand for the horses is about four inches higher than the gutter or lowest point of the twelve-foot passage.

The stands are nine feet long, first three feet level, and a fall of one inch in six feet at rear. Stalls vary in width from five feet to six feet one inch, the center of the stall floor being one-half inch lower than the outer edges. The horses stand on cement.

Feed chutes, as shown in diagram, begin at the plate and end in the manger. Doors to admit hay into chutes occur at top, about half way down and near the floor of loft. The chute is slightly bell-shaped, so that hay once started drops to manger. This plan of feeding long hay has been found very satisfactory.

The mangers extend clear across the stall, the hay chute falling into one end. The grain or meal is fed in the manger, no special box therefor. Horses are watered by man in charge. Tank at end of twelve-foot passage, to which they may be led if so desired.

This stable is equipped with two distinct systems of ventilation, either one of which may be operated quite independently of the other. They are what are known as (1) the King system of ventilation, (2) the Rutherford system of ventilation. In the King system the fresh air is allowed to enter at the ceiling, and leave at or near the floor. In the Rutherford system,



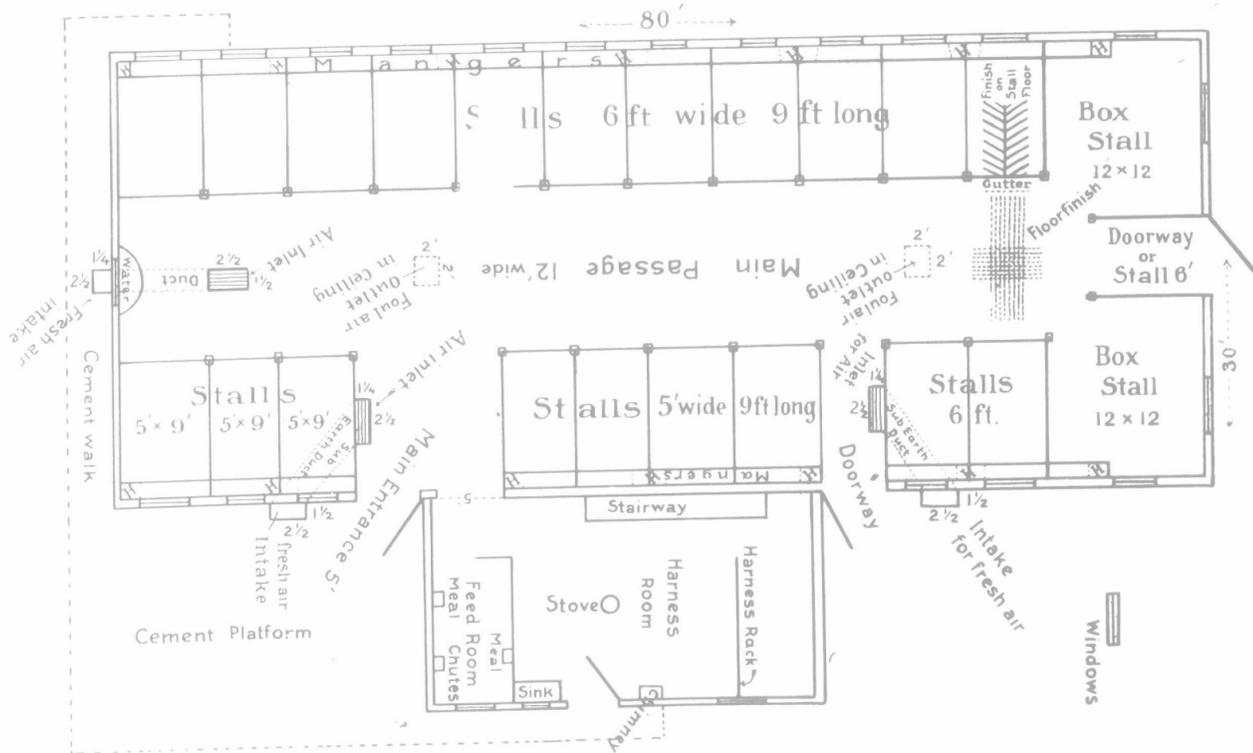
Cross Section of Horse Barn, C. E. F., Ottawa.

tem, the air enters at or near the floor level and leaves at the ceiling.

In the diagram the course of the air currents when the King system is in operation is shown by the single-headed arrows. That is, the air enters the intake passage at "M" on the right, ascends by "fresh-air inlet" to "O," where it enters the stable. The air then circulates, is befouled or mixed with the carbon dioxide gas, becomes heavier, falls to the floor, and is then driven out through the openings under the mangers, as at "K," passes up through "foul-air outlet," L.Y.W. If desired, and as recommended, controlled openings may be left in the outlet passage or tubes near the ceiling, as at "Z," to be used in case of the stable becoming too warm. This system has been found satisfactory in many stables.

The air currents in the case of the Rutherford system of ventilation follow the course indicated

by the double-headed arrows. The air enters by passages passing underneath the walls. The external openings are protected by a species of hood (see "Hood" in diagram). These passages might open into the stable immediately the wall was passed if the internal arrangement permitted, but may be conducted by underground or surface tubes or passages to whatever point or points may be considered most suitable. In this case air enters at "R," behind the "Hood," passes along underground passages and is discharged into stable at J. It circulates and escapes from the stable by "foul-air exit" G. W. This outlet should have a cross-section area of twelve square inches for each horse. The inlet capacity may be satisfactory if somewhat less. The outlet pipe is provided with a damper or key, which permits of the air current being controlled. It is also well to provide the "hoods" with keys or dampers to control the incoming air.



Floor Plan of Horse Barn, C. E. F., Ottawa.

LIVE STOCK.

Ireland's National Stock Show.

A big national show of live stock in an almost purely agricultural country like Ireland, is an event of more than insular importance. It is not merely to the exhibitor a carnival, and to the breeder a school, but to the outside world it is the country's advertisement. At our big spring show, under the auspices of the Royal Dublin Society, towards the end of April, all three functions were faithfully discharged. Visitors to the number of close on 20,000, from near and far, had an opportunity of examining and admiring the results of our herdowners' skill and enterprise. Just 450 exhibitors of cattle, pigs, heavy horses, hackneys and ponies, and dairy produce, had prizes exceeding £3,400 in value to compete for, and, lastly, the ordinary farmer was privileged to inspect hundreds of object-lessons in the art of breeding and showing among the 1,200-odd animals exhibited, thus gaining a clear insight into the ideals of those who are moulding animal form. Besides these, there were 180 exhibits, some of them very extensive and elaborate, doing duty for the leading firms who cater for the farmer's needs in the matter of feeding stuffs, seeds, veterinary specifics, and machinery and appliances of all kinds, the great majority of the last named being shown in motion.

Taken all round, the exhibition was a grand one, and a distinct credit to a country which has, of late, deservedly claimed a prominent position for pedigree-stock-breeding. Some of the best-known experts from England and Scotland acted among the judges, and close on 20 prominent breeders from England and Scotland contributed high-class exhibits. According to the cross-Channel papers, their object was to show us what good cattle should be. Possibly, but such delightful unselfishness is rare, and I think the likelihood of winning prizes amounting in some classes to £25 and £30 each, had something to say in this matter. Except in a few of the Shorthorn classes, Irish-bred animals more than held their own, as will be indicated later on.

The proceedings lasted four days, and interest never flagged. When the judging had been completed, auction sales began, and occupied the best part of two days, a very sound trade being experienced, especially for all bulls entitled to hold premiums under the scheme of the Department of Agriculture. Such selected sires—just 220 were chosen—were quickly disposed of at from 35 gs. to 55 gs., which ranged from £5 to £10 above those ruling on the corresponding occasion last year, although individual prices were hardly so high.

I do not propose, in this article, to deal with the details of the awards in the various sections. Canadian breeders are more likely to be interested in a few impressions as to how the rival breeds of cattle are progressing in Ireland, as suggested by this big show. Taking first the ever-popular and cosmopolitan Shorthorns, which are facile princes at Ballsbridge, as elsewhere, we had this year a grand turn-out of 573 entries in 13 classes. The practical observer of this magnificent display could not but be impressed with the vast contrast

that it presented with the class of coarse, leggy Shorthorn so common eight or twelve years ago. Now they appear as a shapely, good-handling and deeply-substantiated lot of capital market value. The great improvement that has taken place has often been appreciatively commented upon by English and Scotch authorities who have had to deal with us for store stock. The Shorthorn, of all breeds, is the one most likely to blend with the common cows of the country, as they resemble it rather in type, and the well-bred premium bulls which have during the past eight years been sent through the country have given the tenant-farmer a boon which his brother breeders of equal status in either England or Scotland do not possess. If the Dublin Show is a criterion, then a wonderful levelling up of pedigree Shorthorns has taken place, though there is still an amount of roughness to get rid of. The beef type has been the sort most favored, and this can be carried too far in a country which must primarily be a dairy-ing one. Latterly, however, this tendency has been recognized as unwise, and now the milking type of Shorthorn is being more encouraged, and premiums under the scheme are being actually awarded to young bulls, the produce of pedigree Shorthorn sires, off deep-milking cows that have been accepted for entry in the recently-established Irish Dairy Herdbook, started by the Department.

Nothing was more striking at the show than the great turn-out of the Aberdeen-Angus breed, of which, in ten classes 130 specimens appeared. This breed is making great headway, and, within its limited sphere, is wresting from the Shorthorn a share of its at-one-time unchallenged popularity. Irish farmers are finding out its special superiority as a first cross for quick-growing, fleshy stock for the butcher; but, unlike the Shorthorn, the black bulls cannot be successfully used on subsequent generations, their impressiveness being limited to the one mating. The Shorthorn scores here, as sires of the breed can be indefinitely used with successive generations, and effect improvement all the time, while the red, white and roan is also, of course, far better for dairy purposes. Irish breeders of Aberdeen-Angus cattle are a rather well-to-do class, and they have succeeded in greatly refining the specimens which they keep during the past few years. At the big Scotch sales, this spring, several high-priced "doddies" were bought by enterprising Irish enthusiasts, who thus manifested their confidence in their favorites. The pick of these purchases were entered for Ballsbridge Show, but it was in a sense gratifying that they were well ousted for the principal places by home-bred bulls and cows. The entire show of the breed was characterized by unusually good substance and typical character, a very satisfactory feature being the standard attained by the younger bulls.

Herefords are also moving ahead, and the formation, last month, of an Irish Hereford Breeders' Association should aid the future progress of this capital breed in our midst. For beef production, pure and simple, it is out by itself in many of the leading grazing districts in Ireland. The animals shown at Ballsbridge numbered 91 in eight classes, and the tussle for prizes found our Irish breeders leaving some noted English exhibitors in obscurity; indeed, the latter had hardly a look-in. There was, no doubt, capital style and quality shown in each class, but the im-

pressive weight and substance apparent among the Aberdeen-Angus were not so noticeable.

Kerries and Dexters, both native breeds, were capably represented by 44 exhibits, though it is to be feared that the show-yard tendency is inclined to militate against the development of the most utilitarian features of these varieties, which are unrivalled for thriftiness, and, for their size, unexcelled as milkers or beef-producers. Jerseys were a handsome, milky-looking group of 66, but Ayrshires, with only 8 entries, did not create a great impression. The latter breed may, however, yet secure many adherents among the dairy farmers of Ireland.

A word about the pig section is all I have space for. Compared with previous years, the display numerically was somewhat disappointing, but there were undoubtedly nice quality and bulk about the 40 animals shown. The Large White and the Large Black breeds made up the section, and, as regards merit, both were on a par with the average of other shows. The Blacks came to us with a great flourish a few seasons ago, and proved themselves very thrifty doers, in which connection they still enjoy a splendid reputation. Some bacon-curing firms in the south, however, practically boycotted dark-colored pigs in fairs and markets, and this opposition has undoubtedly hindered the progress of the variety among farmers who were less powerful than influential monopolies of curing establishments.

"EMERALD ISLE."

French-Canadian Cattle.

Few pure breeds of live stock have originated in America, and none in Canada, unless the so-called French-Canadian horses and cattle, found in the Province of Quebec, be accepted as such. There are people living who remember, with appreciation, the handsome, hardy and fleet French-Canadian horses of Quebec, in the early and middle years of the last past century, which, from neglect to perpetuate them in their purity, had well-nigh become extinct, until, in the last few years, during which a commendable effort has been instituted by the Dominion Minister of Agriculture, assisted by an organized society of Quebec breeders, to re-establish the breed by the selection and registration of inspected stallions and mares conforming most nearly to the original type, an undertaking which it is to be sincerely hoped may prove successful in restoring to the breed its pristine characteristics.

The French-Canadian cattle, which partake largely of the similar qualities of hardiness and healthfulness, have probably been maintained with a greater degree of purity of blood than have the horses of the Province, and are found in much greater numbers, conforming fairly well to the type of the breed. From an address by J. H. Grisdale, of the Central Experimental Farm, at Ottawa, before the Committee on Agriculture of the House of Commons, we learn that French cattle were brought into Canada about 1620, and that the cattle first brought here were similar to those now found in many parts of the Province of Quebec, as indicated in the memoirs of M. de Tracy, Intendant, and M. de Courcelles, Governor. These men were sent out from France in 1665, and brought with them some cattle. On reaching Quebec, they reported finding cattle similar to those they brought, black and fawn in color. Cattle of this color were at that time to be found in Brittany and Normandy. In Brittany, some parts of Normandy, Jersey, Guernsey and Ireland are to be found, even to-day, cattle similar in many respects to those known here as French-Canadian, and there is little doubt that the cattle in the different countries mentioned came from the same original stock, since a strong similarity can be traced in all the breeds—French-Canadians, Jerseys, Guernseys, Kerries, Dexter-Kerries, and some breeds or strains of Normandy cattle. To-day, in the Province of Quebec, they are found most commonly, and almost as the sole breed of cattle in that part of the Province along both shores of the St. Lawrence below Quebec City, and in the Lake of St. John district, and also in the counties west of Quebec City. The pure-bred herds of repute are not confined to any one district, but are to be found even in the Eastern Townships, some in the counties south of Montreal, some north of Montreal, and some as far north as Lake St. John.

These cattle are essentially a dairy breed; they are rather small, as a rule, standing on short legs, but they have well-sprung and deep ribs, roomy digestive organs, and large udders, generally well balanced and indicating great capacity for producing milk. They are, in color, black or dark brown, preferably with brown, fawn or cream colored muzzle, and brown, fawn or yellow stripe on back. They are hardy, healthy, and good foragers, easy to keep, contented, of quiet disposition and sure breeders—a feature peculiar to Quebec stock.

About the year 1881, friends of the breed, prominent among whom were E. A. Barnard, Director of Agriculture for Quebec; S. Lesage, Deputy



Royal Duke (100419).

Shorthorn bull, born May, 1907. Champion at Royal Dublin Show, 1909.

Minister of Agriculture; and Dr. J. A. Couture, started a campaign to rehabilitate the French-Canadian cow in the favor of the people, with the result that, in 1886, a herdbook for the breed was opened, which was held open for ten years for reception of foundation stock. Inspectors travelled throughout Quebec inspecting animals offered by farmers, and, on payment of a fee, animals found to conform to the requirements of the herdbook were admitted temporarily, at least, to registration. They were reinspected a year or so later, especially in the case of females, to see if they were turning out as they had promised.

At the end of 1896 the herdbook closed, and since that time, only such cattle as are direct descendants from animals registered previous to that date have been admitted for registration. When the foundation herdbook closed, December 31st, 1896, there were 5,307 cows and 922 bulls entered, and the first volume of the herdbook, which will be printed this year, will contain nearly 1,600 pedigrees. Since the establishment of the herdbook, more care has been given to the cattle, and the cows are becoming heavier producers. The first authentic test available is that of the Pan-American Exposition, at Buffalo, where five cows of this breed, in three weeks less than six months, gave an average of 4,935.7 pounds milk per cow, and an average of 205 pounds of butter in that time. The cow, Fancy—6252—, bred and owned by T. B. Macaulay, of Vaudreuil County, Quebec, which has found her way into the Advanced Registry, made a year's record of 7,425½ pounds of milk, showing 4.3 per cent. fat, giving 318 pounds of fat, equivalent to 375.05 pounds of butter. At the Experimental Farm, at Ottawa, is a cow of the breed that has given as high as 60 pounds at a milking; another that has given 7,694 pounds milk in a year, testing 4.96 per cent., or 418 pounds butter in one year; and another that has given nearly 9,000 pounds milk testing over 4 per cent.; and Dr. Couture is given as authority for the statement that a very small cow of the breed has given 11,310 pounds of milk in 318 days, and only 11 months between calves; while, as to the cost of production of milk, the results for six years, in comparison with Ayrshires, Guernseys and Shorthorns, at Ottawa, place the French-Canadians second, and, in the case of butter, first. Seven of these cows, at the Ottawa Station, two of which were heifers, in one year, averaged for butter sold at 24 cents per pound, \$77.48, the best one in the lot making \$109.02 for her butter product, and the second best \$99.81.

Another point in favor of the French-Canadians is their remarkable persistence in milking. Mr. Grisdale cites the case of a cow of this breed, which, having calved in November, produced 1,000 pounds of milk in December, 1,000 pounds in June, and approximately the same quantity for several months between, while almost all of the breed possess the same quality, although probably not to such a marked degree as in the case just mentioned.

Of course, the production of a herd of dairy cows depends largely upon the kind, quantity and quality of food fed them, and in this respect the French-Canadian cow in the hands of the average farmer in that Province has probably not been as liberally fed as are dairy herds in some other districts, but in the few instances quoted, in which they have received good treatment, it is seen that they have responded generously. And if given the same advantages received by other breeds, as to feeding and management, it is practically certain they would soon show results quite as satisfactory in proportion to the cost of food consumed, while, as to healthfulness, they would doubtless rank among the best.

As a distinctly Canadian product, the French-Canadian breed appeals to our pride and sympathy. A number of wealthy men are taking it up, outside Quebec, from motives of patriotism or novelty. While it is open to question whether its sum total of merit entitles it to a place on the farms of other Provinces than Quebec, the claim is well made that, for the Habitant dairy farmer, it admirably fills the bill.

Alfalfa for Swine.

As a pasture or soiling crop for sows and young pigs, alfalfa proves a wonderfully helpful ration for milk making in the sow and for growth in the pigs. Experiments have shown that pigs make better growth when the dam is fed considerable alfalfa than those from sows fed the best of commercial rations, but with no alfalfa. Of two sets of pigs, one fed clover, rape and soaked corn, and the other with access to alfalfa, in lieu of clover and rape, those having alfalfa seemed to grow the more rapidly. For brood sows, it is a most valuable food, either as hay, a soiling crop, or as pasture. The litters of such sows are generally large and vigorous, and the dams have a strong flow of nutritious milk. Alfalfa meal in slugs may be used with profit where the hay is not to be obtained. It is also claimed that sows fed on alfalfa during pregnancy will not devour their young, its mineral elements seeming to satisfy the

appetite of the sow while contributing to the foetal development of the pigs.

On a farm of former Governor Hoard, in Jefferson County, Wisconsin, all the brood sows have for several years been wintered on alfalfa hay of the season's third cutting, and their drink skim milk from the dairy, without any grain until the last two weeks of gestation. Mr. Hoard says the object is to give the sows a food that will keep them in a non-feverish state, and furnish protein sufficient to build the bodies of the forthcoming pigs.

A Finney County, Kansas, farmer reports having pastured 30 pigs on one acre of alfalfa from May 1st to September 1st, when they weighed 100 pounds each, and were in fine condition for fattening. Another Kansas farmer reports keeping 100 pigs from about the middle of April to September on five acres of alfalfa pasture. A little grain during the last two months would have gained him many pounds of pork. Many alfalfa-raising pig-growers insist that their pigs can be maintained from May to October on alfalfa for one-half what it would cost for almost any other feed.

The Utah Station found that young shoats gained one-third pound a day on alfalfa pasture, without grain. But the Station found, also, that the gain was not so great in older hogs. A Wisconsin dairyman reported that he kept nine sows all winter and sprung on alfalfa hay and skim milk, without any grain, and raised from them 75 pigs, all healthy and vigorous.

The Colorado Station considers that a ration of three-fourths corn and one-fourth alfalfa hay is the best for fattening hogs for market, but for young hogs not ready for fattening the proportions should be reversed. The Station does not recommend grinding alfalfa hay for hogs, probably on the theory that the hog's time is not worth much, at best, and he can do his own grinding.—From Coburn's "Swine in America."

Ventilation and Plan of Stable.

I built a basement, 50 x 65, in July, 1907, intending to put up a barn last summer, but I did not put any tile in the wall. Please tell me through your valuable paper how to ventilate, and the size of chimney and ventilator on top of barn.

2. My barn doors face the west. I will have shed 50 x 25 on south end; I will put manure there. The rest will be in stable and root house. The cow stable will be on the east side, tails to the east wall; box stall in the north-east corner; young cattle on west side, tails to the west; box stall north-west corner. I would like stable for calves in center, and root house. Please give your advice about stables, etc. I am going to have cement floors.

Ans.—1. I would suggest, as the best means of ventilating the above-described stable, that two ventilating shafts, each two feet square, be constructed from the ceiling to three feet above the peak of the roof. To insure their operating perfectly, they should be double-boarded, with an air space (1 or 2 inches), and one or two tar papers between. These ventilating shafts may serve for holes through which to let down hay or straw, if conveniently located. A door in the side at the floor level in the barn will permit of their being safely used for this purpose. About

30 inches above the top of the feed or straw door, a key should be fitted in the shaft to control the air current. This key may be regulated by cords attached thereto, which will serve to hold it in any position desired. To admit fresh air, openings should be made under the wall or through the wall at floor level. These openings should be so constructed as to cause the air to flow upwards, rather than along the floor level, as it enters the room. The inlets of fresh-air openings should be at least four in number, two on east and two on west side. Each opening should be at least one square foot in area. It is, of course, not necessary that the openings be square, but the given area is necessary.

2. Re suggested arrangement, I would say that I consider it inadvisable and unsanitary. A much better plan would be to have the manure shed, roots, etc., along north end, and have calves or cows along south end. One cannot get too much sunlight and good fresh air for any class of live stock. Thus, any plan which proposes to cut off the whole southern exposure, seems to me very inadvisable.

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

Road Dust for Lice and Bugs.

Editor "The Farmer's Advocate":

Allow me to advise some of my "Farmer's Advocate" friends, who are frequently asking for remedies for cattle and hen lice, etc., to scrape up a barrel of clay road dust this summer, and next winter keep a shallow box of it in a sunny place for the hens, and sprinkle it over your cattle for a few times during the winter, and mix it with Paris green and dust your potato bugs while the dew is on, and see if it is not the best-paying hour's work you did when you harvested a barrel of dust. OLD SUBSCRIBER.

Peel Co., Ont.

THE FARM.

Tiling Guards Against Both Wet and Drouth.

Editor "The Farmer's Advocate":

In this county the benefits of tile can be noticed on a dry year almost as readily as on a wet one. On a dry year the soil does not become so hard, and in cultivated crops, such as corn, one can always reach the moist soil with cultivator, while the same land undrained will become so hard and dry that the soil will crack many inches deep. In a wet year, no matter how many open ditches we may have, or how well the fields have been "water-furrowed," the soil becomes very hard and packed with the heavy rainfall, and have a "dead" appearance.

The benefit of tile is not fully appreciated, especially in the Western Peninsula of Ontario. The soil in these counties is exceptionally rich, and about the only failures are due to drouth or excessive wet, both of which conditions usually occur in the same season, and can be overcome by tile drainage.

Frequently, as is the case this spring, heavy rains interfere with the seeding and spring plowing greatly on untilled lands, and the ground be-



Thrifty English Leicester Lambs.

comes packed so hard that by the time it is dry enough to plow the land turns up in large lumps that are almost impossible to work down, and later in the summer it cannot retain moisture as readily as if it had been handled properly; while on well-tiled fields work can commence soon after the raining ceases, and the soil will work up very easily into a good mellow condition, that is not easily affected by dry weather when it comes.

Tile will pay for itself in most crops in three years, and will frequently do so in a single season. The greatest results can be noticed in hoe crops, and on clay loam or sand loam soils.

The cost of tile draining differs very much with the soil to be dealt with, but in ordinary soil, when the depth of trench would not exceed three feet, tile should be laid at a cost of about \$12.00 per acre, about half of which would be the cost of tile. Tile can be successfully laid on very flat land. I know of fields where the tile drains are 60 rods long, and laid on a water level. But in case of land as flat as this, nothing smaller than four-inch tile should be used; while three-inch tile would be large enough for 60-rod drains if there was 10 or 12 inches fall.

The winter season seems to be the best time to do the work. Help is easily obtained, and there is usually a little water in the soil, which is very necessary when tiling by hand.

In using a tile-laying machine, the early fall is the best time, as the soil is firm and will bear up the machine.

J. O. DUKE.
Essex Co., Ont.

The Round Stave Silo.

Editor "The Farmer's Advocate":

The farmer who thinks of building a silo this season should equip himself with all the information he can get before commencing it. Too many rush up any style or size of a silo without thought, only to find later that they have made a very bad mistake.

About the first thing to decide is what kind of a silo to build, and, in answer to this, I would advocate the round, stave silo, as I consider it has several important advantages over its next competitor, the round, concrete silo; that is, at the present time, anyway.

First, is the consideration of frost penetrating the walls of concrete, and thus causing considerable more loss than has yet been found to take place in the wooden stave wall. This is due to the wood being a very poor conductor of heat. In our district it is quite noticeable that the few concrete silos we have do not protect the contents from the "frost king" nearly so well as the stave silo does. But, even if we do not consider the question of frost, the difference in the cost of the two is so much in favor of the stave silo that it is almost possible to build two for the price of one concrete silo, and some of our oldest stave ones are yet in use, and, to all appearances, are as good as new. Of course, in order to have a long-lived one, we must use good wood, and I do not think that any of us can dispute the lasting qualities of our native tamarack, or even good clean, firm hemlock is not to be passed as uncertain to use in silo-construction.

As regards the preserving qualities, no person can find fault with a properly-built and well-hooped silo, for practically no air can penetrate the walls.

There are several varieties of stave silos, and of these none give better satisfaction than the common tongued and grooved 2-inch plank stave, with iron feathers at ends, or joints of planks. Some years ago, a few had plank walls built round, with plain-edged staves, and, as long as the hoops were tight, all was well, but just as soon as the wood became thoroughly dried, the whole structure became loose, and stood in danger of collapsing with the first wind storm which struck it. A remedy for this was to tighten up every hoop—all the rods would stand—and then paint the outside, thus, to a certain extent, overcoming the swelling and shrinking that accompanies the filling and emptying each year.

Of late years a double tongue and groove has been used, but this, too, has disadvantages, owing to its tendency to hold the dampness between the tongues.

The ordinary tongue-and-groove plank stave presents the happy medium between these two extremes, and, although it does not seem true, it is indeed the cheapest of all to build, as will be explained when I come to the erecting.

Having decided on the kind that is best to build, next it is necessary to determine the size required, and this, too, is of great importance from several standpoints—width, height, etc.

The width should be such as will furnish a good feed for the stock by removing 4 to 6 inches clear across each time it is used. By this method, good juicy, fresh silage is provided at all times for the stock, whereas, if the silo was too large, and only part of the surface was removed part way across for one feed, and the remainder for the next, that surface uncovered by the first removal has become dry, and very apt to be

moulded before it is fed out; thus, poor, unhealthful food is continually supplied. Then, if only a very thin surface is removed all over, that immediately under it has, to some extent, been reached by air, and, upon being further exposed, at once begins to deteriorate. But if a silo is built of a diameter that will furnish a good feed, and allow of removing from 4 to 6 or 7 inches each time, we have arranged to supply our stock with a good, cheap, wholesome food, and can rest assured that the silo will prove an investment of great value.

In order to arrive at a proper size a silo should be, to feed a given number of cattle, for a given time, I wish to submit the following carefully-prepared table.

The following is based on a feeding period of six months, but, if intended to store fodder for a longer period of feeding, these figures will give data on which to base any further calculation:

1. A silo 24 feet high, 12 feet in diameter, will feed 16 grown cattle six months, and will house five acres of good corn.

2. A silo 24 feet high, 14 feet diameter, will feed 18 grown cattle six months, and will house seven acres of corn.

3. A silo 30 feet high, 16 feet diameter, will feed 30 cattle six months, and will house 10 acres of corn.

If possible, do not set any silo in a place where the cold, northerly winds will get a sweep at it, as it is these winds which freeze silage far more than a steady frost.

Huntingdon Co., Que. ALF. A. GILMORE.

[Note.—While fully harmonizing with Mr. Gilmore's advice to build of such a size that a fair layer can be taken off each day, we would like to ask how he could feed six months from a 24-foot silo, and yet remove a depth of six, or even four, inches at a feed? Making allowance for a certain sponginess of the mass, which causes the successive layers to spring up somewhat when the super-imposed layer is removed, we think he will find, nevertheless, a grave discrepancy in calculation. The fact is, if one removes two inches a day with a shovel, in such a way as not to disturb the layer beneath, he can have first-class feed all the way down. The point about the silage not freezing so readily in a wooden as in a concrete silo is admittedly of considerable importance to stockmen in the colder districts of Canada, though, in Western Ontario, serious difficulty from freezing is seldom experienced by those who have concrete silos.—Editor.]

How the Largest Cuts of Hay May be Obtained.

Huntingdon, Que., has been the home for many years of a number of first-class farmers. The canny Scot settled in large numbers, knowing a good proposition when he saw it, even in the rough.

The other day I met a gentleman I will call J. T., who had farmed there some years ago, but, owing to ill-health, the result of overwork, he had drifted into another line of occupation, and was making a success of it, too. Although some twenty-one years had passed since he was personally engaged in farming, Mr. T. has never lost his love for the old farm or farm life. In this he exemplifies the feeling of hundreds of men who, by force of circumstances, have changed their vocation from farm life to some other calling, perhaps less arduous in a way, but certainly less independent.

Our conversation at the hotel table, where we chanced to meet for the first time, drifted along the line of weeds and seed selection, and Mr. T. gave me some of his experience. He is one of those men who couldn't sleep if he knew there was a wild-mustard plant anywhere on the farm, or any other noxious weed, for that matter. He was so impressed with the value of selecting his seed well that he said he used, in threshing with the old open-cylinder machine, to make four gradings of his oats. The largest, plumpest oats which came out at one place he would invariably keep for seed, and, during winter evenings he would pick it over by hand, to be sure it was pure, and the very best. Mr. T. always had good oat crops.

It was, however, along the line of getting a big cut of grass that he excelled. A neighbor used to say to him, "T—y, how is it that you get so much more hay to the acre than we do?" One morning the neighbor was greatly surprised to find a large field of hay, which was getting past its prime, owing to pressure of work, and which he had seen standing when he went in the house for the night, all in the swath next morning, when he got up. The fact was disclosed that Mr. T. had run the mower all night, rather than let that field of good hay get too ripe.

Mr. T. never pastured his meadows which he intended for a good cut of hay. Any aftermath he left as a protection to the crown of the grass plants, and so he always got an early, vigorous growth. This is how he discovered the secret. Mr. Spencer, a farmer from across the line, was

passing through Huntingdon one day, and he was attracted by the fine appearance of Mr. T.'s orchard, which got its annual wash with unleached wood ashes in the spring. As they were chatting about different lines of farming, Mr. Spencer, remarked, "Have you ever noticed how the grass starts up so quickly and more vigorously along a few feet out from the fences? I have often wondered how it was, and why it didn't grow as well in the center of the field." "Yes," said Mr. T., "I have noticed it, and your own observation has, in my opinion, given the clue to the whole situation. You see, the snow-banks along the fences protect the clovers and grasses until late in the spring, and they begin to grow even before all the snow is gone." "That gave me," says Mr. T., "an idea, and I said to myself, I will try to protect the plants in the center of the field by leaving the aftermath, and, instead of using that to pasture my cows, I will grow more corn and supplementary feeds. I did so, and that is how my meadows cut more hay than my neighbors', until they adopted a similar practice."

It is a noteworthy fact that many Middlesex farmers who pasture steers in large numbers never overstock their meadows, so that there is always a good math for the protection of the plants in winter.

T. G. RAYNOR.

Ontario Crop Report, May, 1909.

The following information regarding agricultural conditions in the Province about the middle of May, has been issued by the Ontario Department of Agriculture:

Vegetation.—In the opinion of many correspondents of the Ontario Department of Agriculture, the growing season of 1909 is the latest for at least a score of years, it being placed at from one to two weeks later than the average. The exceedingly wet and cool weather prevailing during April and the early part of May is the cause. Returns were made to the Department as to the conditions about the middle of May, and at that date more favorable weather conditions had given a fresh impulse to growth in both field and forest. Up to that time, only the earliest varieties of trees were coming into leaf, and in most localities pastures were only beginning to permit of live stock being turned upon them.

Fall Wheat.—Reports concerning the prospects of fall wheat vary greatly, even in the same localities, some describing the crop as looking well, though late, while others state that the fields are not only backward in growth, but are thin, and much "spotted." Owing to the dry period prevailing when most of the seeding was done, much of the new fall wheat did not start until the rains of late September came, and the young plants entered the winter with very little top. Winter conditions, however, were not unfavorable to the crop, except where ice formed, and an early spring growth would have brought the fields along nicely; but the cold and very wet weather of April retarded growth, and, on poorly-drained or low land, almost drowned out the crop. Much better growth was made on sandy and gravelly soils than on clays, owing to the excessive moisture. While there are many patchy spots, plowing up of the crop will not be generally resorted to, owing to the grass being seeded with the wheat, but barley or other spring grains will be drilled into the bare spots. The latest reports are the most favorable, showing that the crop is rapidly recuperating with the growing weather. There is less injury than usual reported from insects.

Winter Rye.—The acreage of this crop is comparatively small, it being raised chiefly for pasturing, soiling, or for plowing under. It has done better than fall wheat, and is looking very well.

Clover.—Old meadows poor, new meadows promising, is a fair summary of the returns received regarding this crop. Early reports spoke of considerable heaving, but later returns state that much of the loose sod is returning to place. Clover was injured by the long dry spell covering the latter part of last summer and the early part of the fall, and in many instances it was pastured too closely, owing to the scarcity of fodder. The unusually cold spring, with frequent rains, also hurt the crop, particularly on low or badly-drained land. Like fall wheat, clover looks best on high land and on light soils. While many correspondents predict a good yield of hay, others are looking for a comparatively light cut.

Spring Sowing.—The small portion of the spring crops that were put in early found an excellent seed-bed, but heavy rains immediately followed, and the land got too soft to work on, making further sowing almost an impossibility for weeks, except in a few cases, where, to use the expressive language of some correspondents, the seed was "puddled" in. While those on high, light, or well-drained land have made fair headway with their spring seeding, the bulk of farmers were not more than half way through with that work in the second week of May—a most unusual record for Ontario. However, farmers were ready and eager to get on the land with the first appearance of dry weather, and, while some cor-

respondents were taking a rather gloomy view of the situation, others were most hopeful that, with the advent of warm weather, there would be a quick advance in the growth of spring crops.

Fruit Trees.—All classes of orchard trees have come through the winter in good condition, so far as injury from the weather or mice is concerned, although bark-splitting is reported in some northern localities. Unfortunately, there are a number of references to the presence of San Jose scale and the oyster-shell bark-louse, and it is very evident that a steady warfare must be waged against these and other insect pests, if our fruit trees are to thrive. Several correspondents declare that too many of our orchards are still badly neglected. While leafing and blossoming were about a week or two backward, reports were to the effect that, barring late frosts and heavy rains at the time of bloom, a good yield of fruit may be looked for.

Fodder Supplies.—But for the comparative mildness of the winter, there would have been much scarcity of fodder before live stock got upon the late grass. As it is, many farmers have had to feed most economically, and some barns are rather bare of supplies. The scarcity of straw and roots told against generous feeding, and in many cases the situation was saved only by the good crop of corn and the use of the silo. Hay is in good demand, but in most cases there is only sufficient for local demand, as a good deal was baled and shipped during the winter. Oats and wheat are higher in value than for years, but the slow sales this spring, at very tempting prices, prove that farmers have only about enough for home consumption. In Eastern Ontario, oats for seeding are at a premium; in fact, all kinds of provender are scarcer in that section than in the more western counties.

Live Stock.—The general condition of live stock may be briefly described as thin, but thrifty. No disease of a serious or epidemic nature has appeared, the mild form of distemper reported in several parts of the Province being of a local nature. Horses are said to be in good heart, notwithstanding close feeding. The same may be said of both beef and dairy cattle. The chief ailments reported amongst this class of stock were cases of abortion and other parturient troubles with a number of cows, and scours in calves. Most of the stall-fed and other fat cattle have been disposed of, but the number of stockers going upon grass is somewhat less than in former years. Sheep have come through the winter nicely, and lambing has been upon a generous scale, but fear of the dog is holding back the sheep industry in Ontario. Loss of spring litters has been rather too common with sows, and several correspondents report cases of crippling of hogs; but otherwise, there are few complaints made regarding this class of stock, except that, while high prices are being paid for pork, the equally high cost of feed leaves very little profit for the farmer. A number of correspondents hold that, on this account, there will not be a surplus of hogs offering later in the season.

Killing Canada Thistle.

At least one experiment station in the United States has suggested a practical method of fighting Canada thistle. An Iowa press bulletin says, truly, that a good method to eradicate the weed is to plow shallow and cultivate frequently during the summer. It is pointed out that the roots of the Canada thistle extend deeply down into the soil, hence for this reason deep cultivation will be of no avail. After plowing, the soil should be dragged, and the roots exposed to the sun and removed when possible. It may be necessary to run over the field with a hoe to cut off stray plants that appear. This method was tried on a patch several years ago, and no Canada thistles have since made their appearance in this place. Various crops, such as clover and sorghum, are said to be effective in subduing the thistles.

Of the chemicals which have been used to exterminate Canada thistles, none are more effective than sodium arsenite. It is applied at the rate of one and one-half to two pounds to 52 gallons of water.

Carbolic acid, at the rate of one part to one part water, destroys the root where it comes in contact with the mixture, and for a little distance beyond. This is not an effective method, as the roots sprout out from below. In response to circulars of inquiry sent out by the station, the majority of correspondents recommended shallow plowing, disking and harrowing, and continuing cultivation and hoeing as long as the thistles make their appearance. Some report successful treatment with salt, when scattered thickly about the thistles, especially if cattle or sheep are given access to it. Some reported success with carbolic acid where it is applied directly to the stem.

THE DAIRY.

Australasian Butter Boxes.

The steady advance in prices for wooden boxes for butter packages, according to D. H. Ross, Trade Commissioner at Melbourne, Australia, has led to attempts being made to produce satisfactory boxes of other materials. Capitalists are interested in a company to exploit boxes made from waste paper, of indurated fiber. It is said that the sides and bottom of the indurated fiber box are moulded in one piece, and the lid fixed with nails. The cost is much less than the ordinary wood box. Tests were made some time ago at the Government cool stores, Melbourne, by opening up some butter packed for several months in indurated fiber boxes, with the result that the quality was unimpaired and free from the slightest trace of taint.

It is also claimed that a straw-pulp butter box has been made that is odorless and impervious to moisture, and tests indicate satisfactory results. The few sample boxes made show a strong paper material of great strength and easily nailed. The color is dark gray, and hence not so attractive as the ordinary butter box used in Australia, made from New Zealand white pine—a wood singularly well adapted for the purpose.

Standard of Pasteurization.

Some persons will naturally say that if all the disease in milk comes from germs, why not pasteurize it, and simply kill them by boiling, and thus at one stroke get rid of all the injurious consequences. I think we all know that boiled milk is not so palatable, and it is not so very healthful. As regards pasteurization, the first

the lives of those near and dear by using it. I believe that the experience of the Toronto General Hospital is proof that this can be done without any great expense, or without forcing the milk producers to incur large expenditures of money, but simply by making them carry into effect a few simple rules in regard to cleanliness. In view of this fact, is it too much to ask that the milk supply of our Province be placed on the same footing as other foods, in regard to cleanliness?—[W. K. McNaught, M. P. P.]

Thousand-dollar Dairymen.

Editor "The Farmer's Advocate":

A party whom I am interested in owns a fine 100 acres of good land in Eastern Ontario, 90 acres under cultivation. This farm has a herd of only thirteen fairly good Shorthorn and Holstein milking cows, but the cheese-factory returns amounted to only \$123 last year, and averaged about \$40, or a little over, each year. The factory opens early and closes late, making a good season for farmers to get rid of their milk. Also, bought ten hogs in the spring, and sold them in the fall, and never has any feed to sell. Now, from these two sources comes the only revenue of the farm, and they don't amount to a great deal, as you can plainly see, and the owner complains that farming does not pay. Now, don't you think that there is a screw loose in the management of this good farm, and consider it a hum-drum way of farming, and that it would increase this farmer's income if the manager would wake up, get out of this old rut, and run things properly, such as to build a silo and have silage for his cows and also increase his herd, and keep them milking almost the whole year, except for the short period of rest required by each cow;

also, to begin weighing the milk, weeding out his herd, and keeping only the good cows? I think this farm would support 30 or 35 cows, if he wanted to make a specialty of dairying, provided he would grow enough silage to last until after haying, and in the meantime the cows could pasture in the woods, as his neighbors' do. Kindly let me hear from you through your columns as soon as convenient, and state what you would consider a good income from this farm.

JAS. J. McEWEN.
Hastings Co., Ont.

[Note.—We cannot do better than suggest that the dairymen referred to follow the counsel above proffered, except the pasturing of cattle in the woods. Unless it be a very thick bush, such grazing is bad for the woodland, and should be avoided, by providing pasture and soiling crops



Esther Piebe De Kol 2nd 66791.

Holstein cow, aged six years. Authenticated test: milk, one day 108.9 lbs., seven days 747.2 lbs., thirty days 2,885.8 lbs.; butter, one day 4.46 lbs., seven days 29.43 lbs., thirty days 114.79 lbs. Owned by W. F. Schilling, Northfield, Minnesota. Sire Homestead Jr. De Kol.

question to be answered is that there is no legal definition as there ought to be, for the protection of the public, as to what pasteurization is. As a result, every dealer is entitled to have his own standard, and he does so, with the result that there is very little milk that is scientifically pasteurized, that is sold to the public. Even among scientists, there are different standards of pasteurization. The best method of pasteurization, adopted by the Straus laboratories of the United States, is to keep the milk at a temperature of 167 degrees F. for at least 20 minutes, and sometimes for 30 minutes. In contrast to this method, the Dominion Milk Commission, appointed by the Canadian Medical Association at its last annual meeting, recommended the following in their report: "The term pasteurize should be legally applied only to such milk as has been inspected by a local board of health, and guaranteed to be free from adulteration within the meaning of the act, and to have been subjected for at least 20, and not more than 30, minutes, to a temperature of not less than 140 degrees, and not more than 145 degrees F., and kept at that point until delivered to the consumer."

I consider pasteurization only a half-way house towards the pure-milk goal, and an expedient to be used only until we can secure a pure supply of raw milk. What we really need, and what we must have, is a supply of pure, wholesome milk, at practically the same price which we now pay for it—milk that the poor man can afford to buy, knowing that he is not endangering

instead. By the methods outlined, together with others in keeping, such as the use of a first-class pure-bred dairy bull, the adoption of a short rotation, the growing of alfalfa and some other soiling crops, and probably the underdrainage of his land, this dairymen, as well as a great many others, could soon step from the hundred into the thousand-dollar class. There are dairy farms of 100 acres in this Province to-day producing gross incomes of three or four thousand dollars a year, and very few that could not be made to produce two thousand per annum after a few years of up-to-date management. Nor does it require large capital to begin. The results indicated may be attained by any present dairymen, without borrowing a dollar of capital, though, of course, without spare capital his progress will be necessarily slow at first. It will, however, be all the more sure. Success in the long run is not a case of capital, of environment, of wife and children, nor of health, though these various circumstances may help or retard. Ultimately and mainly, it is a question of the man, his gumption, his zeal, his industry, his principles; above all, his unquenchable thirst for knowledge, and determination to achieve the best that is in him. Circumstances cannot hold such a one down. The waves of adversity may splash over him, submerge him for a time, dampen his ardor, and swamp his cherished hopes, but sooner or later he will rise triumphant on the crest of the wave, successful where the weak-hearted and timorous have failed. Whether in business, profession, artisanship or agriculture, you can't keep a good man down. And a poor farm, a backward community, even the

great misfortune of an unthrifty wife, cannot prevent a good dairyman from succeeding, if he goes at it the right way, informs himself, keeping his mind sharpened by close acquaintance with the experience of other men, the researches of science, and the advanced thought of his occupation. It depends on the man, and how he develops his faculties by keen study of his occupation. The successful dairyman is a reading farmer, a thinking farmer, and a zealous practitioner of the very best he can learn. Would we had more of them. —Editor.]

Instruct Cream Haulers.

Editor "The Farmer's Advocate":

As we operate a summer creamery, the hand cream separator has not had much effect in keeping down the returns from our product. The price of creamery butter in summer is pretty satisfactory to us, but there is reason in the argument that a farmer can more easily compete with a creamery in cold weather if he has a separator than he could without one; but in summer, if he does not put in a stock of ice, he cannot compete with a creamery.

We consider that sending the cream to a creamery has had a greater influence on the price of butter than making butter at home has. It would take three or four teams to cover the same ground for whole-milk gathering that one would cover for cream gathering. The labor in the creamery is decreased when it has not to be separated at the creamery.

The cream-gathering system is the most economical, gives the farmer a better chance to feed young pigs and calves, and turns out butter that gets a better demand in Canada than butter made from milk separated and pasteurized at the creamery.

We do not see that any remedy is needed. The cost of buttermaking has been reduced, and the farmer is getting more profit out of his cream. It is a good all-round change for everybody except the exporter and the creameryman who owns a plant fitted with a separator and pasteurizer.

The average farmer turns out a fair class of cream, but with some of them there is room for improvement. The trouble is that some of them are not careful enough in cleaning the cows and having everything clean where the milking is done. This could be remedied to a great extent if the Government would appoint dairy inspectors to visit the farms to see that everything is in proper order.

Another way to help the matter along would be for the Government to obtain the names of the cream drawers and of patrons who send their cream direct to the creamery, and mail them printed matter. Not any "high-flown" reading matter, but good, straight common sense put in a simple manner.

If creamerymen would have a few rules printed on the back of their monthly statement, giving an outline of the proper care of milk or cream, it would make some improvement.

Victoria Co., Ont. GRAHAM BROS. & CO.

Secretary for Commission.

The Ontario Milk Commission, comprising Chairman Pyne, and Messrs. Dargavel, Nickle and Macdiarmid, met last week and selected W. B. Roadhouse as secretary. Arrangements were made for a most complete investigation into the whole question of milk supply. The work will commence late in June, at Toronto, where all dairies will be visited. Then the commissioners will visit other cities in Ontario, and some of the leading cities across the line where special progress has been made in supplying pure and wholesome milk.

Mr. Roadhouse also has received the appointment of private secretary to Hon. J. S. Duff, Minister of Agriculture. This vacancy was caused by the resignation of W. B. Varley, some time ago.

Milk Producers Fined.

Prosecutions for watering milk have been made in some sections of Ontario recently. In the Woodstock district a farmer was fined \$25 and costs. Water to the extent of 11 per cent. was found to have been added. Producers who supply milk for Toronto retailers also are being watched, a Locust Hill man being obliged to pay \$10 and costs for a similar offence.

Record blanks for keeping account of the milk yields of individual cows are supplied free on application to the Dairy Commissioner, Ottawa. Many men, since commencing to record, are now receiving \$60 per cow, when they used to get but \$40, because they know which are the economical producers. It certainly does pay to test cows. Guesswork will not do these days. C. F. W.

Cows which are stabled at night during the early-pasture season should be well bedded, with plenty of absorbents used in the gutter.

POULTRY.

Broiler Raising.

The busy season is now on; so busy, in fact, that the fowl are apt to be neglected. The prices for eggs have dropped a little, and the hens may not demand as much attention as previously given, but don't neglect the growing stock. When the chick is growing is the time to build up a large, strong body that will stand the severe winter and lay steadily. Feed your chicks properly—it will pay.

Have you considered yet how you will dispose of your cockerels—sell them at Christmas in the same old way, and receive the usual low prices? Why not sell them at an early age, and receive nearly as much, and in some cases more, than at Christmas or late in the fall? If you do so the profit will be greater, and that's what we are after.

There are two methods of disposing of the cockerels, viz., as broilers and roasters. In the States a large number of capons are sold each year, but in Canada the superior quality of capons has not been recognized, and the price paid for them is the same as for cockerels, with the exception, perhaps, of a few of the larger cities. Besides, capons require too much attention to be raised by the average farmer.

The choice is between the broiler and roaster, and it will depend on the market which will be more profitable. The broiler must be sold at first-class hotels or private residences of the wealthy class, for the broiler is too costly to be used by the second-class hotels or private boarding houses. Farmers who raise Leghorns will do well to sell them as broilers; in fact, it is the only profitable method where Leghorns are raised, for the Leghorn makes a good broiler, but as a roaster or anything older is rather unprofitable.

The roaster, on the other hand, can be handled by either the above-named class of places, owing to its being larger. Where the demand is limited to roasters, as in a village or small town, the roaster must, of course, be raised.

Farmers who cannot sell for high prices for home consumption can ship to wholesale dealers in the cities and secure them. The prices paid by wholesale dealers are generally higher than for home consumption, but greater care must be exercised in dressing and preparing for market.

Of the two methods, we prefer the broilers. For one reason, they may be sold sooner, which is an advantage to the farmer, and the prices are always higher. We believe the profits greater—certainly the bother is reduced.

RAISING BROILERS—VARIETY—HOUSING—FEEDING.

It is somewhat difficult to make a selection of variety among the three great American breeds—the Rhode Island Reds, Wyandottes and Rocks. Each variety has its points of merit and its disqualifications. Of course there are favorite varieties, as in all other lines of the poultry industry. Perhaps the best breed is the Rhode Island Red. It is very hardy, and will stand the forcing well, and being a quick grower will give rapid returns, putting on flesh quickly. The next variety preferable seems to be the Wyandotte. It is also a quick grower, and its plump body presents a pleasing appearance when properly dressed. The Plymouth Rock is a hardy chick, maturing rapidly, but has considerable pinfeathers, which are difficult to pluck at this age. The Orpington is a good breed, but its white skin and legs are an objection in some markets. Any of the above varieties make excellent broilers, giving quick returns for the ration which I advocate, putting on flesh rapidly.

The house in which the cockerels are placed should be large and well ventilated. Muslin placed in the windows forms the best system of ventilation, giving a constant supply of pure fresh air. Sunshine is also essential, and should be supplied. Give attention to the dust and grit boxes, being sure that the chicks have plenty of fine grit. Do not feed the larger grit, such as is fed to older fowl. Place water or milk in a good fountain. A serviceable fountain is made as follows: Get a tin can the size you require; cut a notch in it at the top after having removed the lid entirely; fill with water or milk, and place a saucer or another dish over it, so that when inverted there will be only room enough for the chicks to drink and not stand in it. Invert quickly. The liquid will rise to the top of the dish if the notch has been cut properly. Have the roosts low down and flat. Small round poles make poor roosts. Don't let the chicks sit on the floor and crowd each other. The house must be always perfectly dry.

Have a large run which has plenty of grass in it. Place some boards along the bottom so that the other fowls will not be attracted when the broilers are fed. Place something in the yard which will protect the chicks from the direct rays of the sun, but which will allow the breeze to pass freely under it. Dust the chicks before placing them in the house, and keep everything clean to guard against lice.

FEEDING.

For the first few weeks feed the usual feed of hard-boiled eggs, mash, etc. The feeding of chicks for the first few weeks has been discussed so often that it need not be repeated; all that is required is a good healthy growth that will develop a large, strong frame which will stand the forcing well. Of course anyone who makes a specialty of broilers would advocate more forcing, but the pullets must not be too heavily fed.

As soon as the sexes can be distinguished, separate the cockerels from the pullets and feed the following wet ration: The ration which they are fed consists principally of mash, made as follows, by weight: Corn meal, ground fine, 3 parts; wheat middlings, 2 parts; wheat bran, 1 part; and if $\frac{1}{2}$ part clover meal is added it is better. This mash is moistened with warm skim milk, if procurable, as it is better than water. Of course water will do, but it is important that it is sweet when served. The chicks should be fed every two hours, if possible. Be punctual, use the clocks, and you will be amply paid for the extra trouble. In the morning a feed of wheat tailings, cracked preferable, may be given; if cracked, and there is too much waste, it may be slightly moistened. At 9 a. m. green food is given. This depends somewhat on what you have. Nearly everyone can obtain something—lettuce, carrots, fine clover, etc., will do. If there is plenty of grass the feeding of green stuff is not so important. A meat chopper is an excellent thing for cutting green food. At 11 a. m., mash; at 1 p. m., a cheap grade of boiled rice may be given, and every other day add a little cinnamon. Rice is a good preventive of bowel trouble. At 3 p. m., mash; at 5 p. m., cracked corn.

No rules can be given for the amount of feed to be fed at one time. This must be regulated by the attendant. Just give what they will eat up clean, and remove any that may be left; this is important. Feed carefully at first or they will eat too much and overload the stomach and refuse to eat for awhile.

The mash should be fed in shallow tins four inches in width, and any length desired. Keep everything clean. It pays.

A teaspoonful of tincture of iron added to every quart of water is a good tonic.

If the preceding rules are observed you will be almost sure of success. Broiler-raising is becoming more popular every year among farmers, and it is not as difficult as most people believe. Try it this year and you will always use this method. Lambton Co., Ont. BERT SMITH.

APIARY.

Valuable Work of Bees.

"Give the bee a chance, and it will literally break the boughs of your trees with the weight of fruit," declared Frank G. Odell, a beekeeper, of Lincoln, Neb., while giving a series of demonstrations with 50,000 bees at the National Apple Show in Spokane, Wash., last winter. "The bee is the expert assistant of the horticulturist and the farmer. So indispensable are its functions in the pollination of fruits, vegetables, cereals and grasses, that its activities may be said to lie at the foundation of all successful agriculture. Nature has ordained one supreme law, that of creation, the perpetuation of the race type. This law, universal in its application, and absolutely identical in its form, obtains in the plant world, as in the animal world. The luscious pulp of the fruit is the envelope, the package, the strong-box, devised by nature to protect the seed within from injury, and render it susceptible of germination, so that the type may be reproduced in all its perfection.

"The bee, like other insects, effects incidental pollination of flowers in its search for nectar; but its great value to the fruit-grower lies in this, that it goes to the flowers specifically to gather pollen, literally by the carload, in the hairy baskets on its legs, hastening from bloom to bloom, rolling and packing, and literally rioting in the golden dust, pregnant with the microscopic germs of plant life, until the golden pellets are packed away in its hairy baskets, to be carried to the hive for storage, as an indispensable portion of the food of its young during the winter months to come.

"It requires no expert knowledge to comprehend how perfectly the bee thus performs the office of pollination. Indeed, it is nature's chief agent in this great work. No seed, no fruit, is the universal law. Here is the only insect useful in all its habits, having fixed habitation accessible to man, dependent upon the pollen of every variety of flower as an indispensable portion of the food of its young, and going to the bloom specifically to gather that pollen, making possible marvellous fruit crops in Washington and the Pacific Northwest. That is why I say, give the bee a chance, and it will literally break the boughs of your trees with the weight of fruit."

GARDEN ORCHARD

Orchard Treatment in Summer.

No longer does the successful orchardist allow his fruit area to lie in grass from year to year, or even for three years out of four. Experience on individual farms, as well as at college and experiment stations, has shown that cultivation, for at least part of the season, is advisable.

In a bulletin recently prepared by Wm. Stuart, Horticulturist at Vermont Experiment Station, the various cultural systems in orchards are discussed. Figures are given to show the returns from an orchard in sod mulch, and one under the tillage and cover-crop system.

Seven methods of handling orchards are dealt with, as follows:

TILLAGE.

The tillage system, pure and simple, involves clean culture, and the maintenance of a dust mulch throughout the growing season. This method is advocated where the rainfall during the growing season is comparatively light, necessitating the conservation of all possible soil moisture, in order to insure a reasonably good tree-growth. In such localities, the humus content of the soil is maintained by applications of manure or straw.

TILLAGE WITH COVER CROPS.

The only difference between this system and the preceding one is that the dust mulch is maintained until about July 15th, and then seeded down with some cover crop, such as clover, vetch, oats, rye, buckwheat, etc. Several objects are thus accomplished. It serves to check too late growth of trees; the cover crop furnishes humus to the soil; and, if either clover or vetch is used, serves to increase its nitrogen content. The choice of cover crops should be determined by the appearance of the trees. If the leaves are light green, and the wood-growth is scant, a deficiency of nitrogen is indicated, and leguminous or nitrogen-gathering crops should be used. If the leaves are dark green, the foliage luxuriant, and the wood-growth ample, non-leguminous plants should be grown. To secure a maximum benefit, these crops should not be removed, but should remain as a winter protection, and be turned under early in the spring to supply humus.

TILLAGE WITH INTERCROPPING.

The system of tillage and intercropping is generally practiced in the orchard before the trees arrive at a profitable bearing age, and, after it has served its purpose, is usually succeeded by tillage and cover crops. The growing of companion crops or intercrops in the young orchard affords the orchardist an opportunity, by careful management, to make such crops pay for the care and management of the orchard during the period elapsing between the time of setting the trees and the age of their profitable bearing. The kinds of crops which may be grown in the young orchard are limited only by the climatic and soil conditions. Generally speaking, however, they should be restricted to hoed crops. Vegetables and small fruits are the most desirable. The writer prefers vegetables, because the orchardist can choose such crops as may be planted rather late and still mature a crop, thus permitting early and unrestricted cultivation of the soil for a short time before planting, thereby furnishing moisture and plant food to the tree when it is making its most vigorous leaf and wood growth. Such crops as late cabbage, squash, cucumbers, beans, tomatoes, etc., may be used to good advantage. Corn and potatoes may be grown, if not planted too close to the tree rows. Strawberries are preferred among fruits, followed by the bush fruits—currants, gooseberries, raspberries and blackberries. The objection to these crops is that their season of growth is practically identical with that of the apple tree, and that, unless, as has been said, they are planted at some distance from the rows, they are apt to deprive the young trees of needed moisture and plant food. The successful practice of the intercropping system is wholly dependent upon the intelligence displayed by the orchardist in furnishing a sufficient amount of plant food to meet the extra demand made upon the soil by both tree and companion crop, as well as upon the intelligent selection of intercrops, and the thorough cultivation of the soil to conserve moisture. For the past four seasons the writer has grown Hubbard squash upon certain portions of the young Station orchard. The squash is usually planted about June 17th to 20th, and, as yet, has not failed to mature a crop. This late planting permits of unrestricted cultivation of the orchard practically up to July 15th, or later, as desired, as the vines do not begin to run much before that date.

GRASS MULCH.

The grass-mulch system of apple orchard management consists in the maintenance of an ample mulch of grass, straw or other coarse material beneath, and extending out beyond the heads of the young trees. This mulch, as advocated by

Messrs. Vergon, of Ohio, and Grant Hitchings, of New York, two of its foremost champions, should be of sufficient depth to prevent the growth of grass or weeds beneath it. The claims made for it are that it obviates the labor and expense of plowing and fitting the soil for the reception of the trees, and all the subsequent cost of these operations. The trees are simply set in holes in the sod, and are thereafter kept liberally mulched. The grass growing on the orchard area is at first quite ample for this purpose, being cut once or twice during the season, raked up and piled beneath the trees. Other advantages claimed for this system are a slower, firmer wood growth, earlier formation of fruit spurs, and a more highly-colored, firmer-textured, better-flavored and longer-keeping fruitage. The main objection to the grass mulch is that the time finally arrives when the amount of mulch material produced in the orchard becomes insufficient, and when it becomes necessary to secure it elsewhere. In other words, as the trees increase in size, their demand for mulch increases, while the supply is continually decreasing. Eventually, therefore, the time arrives when the source of mulch supply must be located almost entirely outside the orchard. The question which will then confront the orchardist on land which can be tilled is as to whether mulch can be produced at less expense than a tillage and cover-crop system of management will cost.

Where the grass-mulch system, as thus outlined, is literally practiced from the time of planting, and where the orchard is located on a deep, rich, loam soil of a retentive character, good results may doubtless be secured. On rough, stony or hillside lands, where tillage is difficult or impossible the grass-mulch system may be recommended.

SOD MULCH.

The sod-mulch system differs from the grass-mulch system in degree and method of mulch. At present there seems to be more or less confusion in the interpretation of the two systems, some writers using the term sod mulch to designate what others term grass mulch. The writer conceives the term sod mulch to be properly applied to the practice of cutting the grass growing upon the orchard land once or twice during the season, and allowing it to remain where it falls. Such a system does not contemplate the bringing in of mulch material from other sources for the purpose of providing a more ample mulching of the ground beneath the trees. The two systems are quite different, and should give distinctly reverse results in orchard practice.

A ten-years' comparison of the merits of the sod-mulch and the tillage and cover-crop systems of orchard management was begun in Western New York in 1904, by the New York Station. No attempt was made to compare the grass-mulch system, and the results obtained have no bearing upon the merits or demerits thereof; a statement which the comparison of terms just alluded to makes pertinent at this point.

The results obtained with two lots of mature trees favor tillage.

APPLE PRODUCTION: SOD MULCH VS. TILLAGE AND COVER CROP.

	118 Trees. Sod Mulch.	121 Trees. Tillage and Cover Crop.
1904	615.1 barrels	591.9 barrels
1905	233. barrels	278.9 barrels
1906	210.3 barrels	531.1 barrels
1907	275.3 barrels	424.3 barrels
1908	325.3 barrels	722.5 barrels
Total for 5 years	1659. barrels	2548.7 barrels
Acre average	72.9 barrels	109.2 barrels

The tilled acre averaged 36.3 barrels more than did the sod-mulch area, a gain of 50 per cent. It took 131 apples grown on sod mulch to fill a barrel, while only 309 grown on the tilled area were needed. The one averaged 5.01 ounces in weight, the other 7.04 ounces. The tilled areas grew 9 per cent. more apples, in number, and they averaged to weigh 40 per cent. more.

It cost, on the average, for the five years, to handle the two plots: Sod mulch, \$17.92 per acre; tillage and cover crop, \$21.47. This \$6.55 extra cost, however, shrinks into nothingness in comparison with 36.3 barrels more fruit, and the better grade of the entire 109 barrels. The cost of orchard management was 27 cents per barrel on sod mulch, 21 cents on tilled and cover crop; in other words, it cost less per barrel to grow the better grade of fruit than it did to produce the poorer product.

The average growth of the branches were: Sod mulch, 3.4 inches; tillage and cover crop, 6.7 inches. The color and volume of the foliage notably favored the tillage and cover-crop system. The trend of the yields from 1904 to 1908 is downwards on the sod mulch, and upwards on the tilled areas.

GRASS REMOVAL.

This system is commonly called the "sod" or "sod-grass" method. The writer deems "grass removal" a more descriptive term, for it contemplates the entire removal of the hay crop. The owner hays the orchard, and if, perchance, the trees appropriate enough plant food to grow a crop of apples, it is so much gain. Such a procedure does not tend to grow vigorous, healthy, productive trees, and should be discarded. It has less merit than any system now in vogue, save, perhaps, that of intercropping with cereals for harvest.

SOD PASTURE.

The practice of pasturing the orchard, while not to be recommended, if one expects to secure maximum returns of fruit, may, under certain conditions, serve a useful purpose. In sections where the apple maggot or curculio is abundant, pasturing the orchard with hogs or sheep tends materially to lessen their ravages. Hogs and sheep injure the orchard less than do cattle or horses, as they do little browsing upon the tree and un-fallen fruit, whereas the depredations of cows and horses are quite serious. As a general rule, however, orchard pasturing should be discouraged.

Profits from Spraying Potatoes.

The potato-spraying experiments of the New York State Experiment Station (Geneva) for 1907 and 1908 are summarized in a single "popular bulletin," No. 307-311, which is now being distributed. These two years were dry seasons, so that blight was almost wholly absent one year, and little in evidence the other, yet spraying was profitable both years in the experiments at the Station, in business experiments in which farmers co-operated with the Station, and in volunteer experiments reported by other potato-growers. The Station tests have been continued seven years. The Station tests, at Geneva, of 110 bushels to the acre from spraying every two weeks, and of 84 bushels from spraying three times during the season. On Long Island, the gains were 54 and 29½ bushels, respectively. Six years of farmers' business experiments, covering almost a thousand acres, have given an average gain of 43.8 bushels to the acre, and an average net profit of \$17.94 an acre. On 1,700 acres sprayed during five years by farmers who have reported their results to the Station, the average gain has been 50½ bushels to the acre. Such results certainly prove spraying potatoes a most profitable practice. Those unfamiliar with the details of such work should send to Geneva for a free copy of the bulletin. Presumably, a limited number of copies would be available for Canadian applicants.

Essex Fruit Outlook—Other Crops.

Judged by the beautiful profusion of bloom and general condition in the famous South Essex fruit country, the prospects could not well be surpassed. This is especially true of the peach and cherry orchards, plums and pears not being so generally grown. If a fair proportion of the blossoms set and develop into fruit, it is expected by some peach-growers that severe thinning will have to be resorted to, if the standard of size and quality is to be maintained and excessive drain on the resources of the trees lessened. Since the killing frosts of two winters some years ago, which swept away tens of thousands of peach trees, confidence has been gradually restored. Re-planting has steadily increased, and this is very noticeable the present season, not only in the districts adjacent to Lake Erie, but back through the county. The number and size of bales of nursery stock distributed at different railway points have been surprising. No doubt the returns obtainable from a good peach crop are handsome and tempting, but it is well to bear in mind, as leading growers point out, that the problem of distribution in limited time, with its attendant expenses and risks of glutted markets, is so serious as to suggest the wisdom of not overdoing the business, and of improving the means whereby such luscious fruit can safely reach the increasing numbers of people who want it. The apple orchards have blossomed magnificently. The returns from apple-growing have not been encouraging, but men of wide observation and experience, like Joseph L. Hilborn, of Leamington, forecast a brighter day ahead for this staple fruit, with improved orchard methods and a better system of marketing, in order that growers will receive better returns from their crops. In too many cases the tendency has been to let the orchard go by default, and not a few trees and portions of orchards have been cut away entirely. Where the trees are decayed or of undesirable varieties, this is regarded by many as the wisest course to pursue, but it should not mean the abandonment of orcharding where the apple can be so well grown and is so largely used. There is no fruit more wholesome, none that can be put to so many domestic uses, and none so readily kept in storage. But any one who has taken the trouble to observe carefully the scrawny and ill-assorted

lots of apples exposed for sale in the average shop window of Ontario towns, will not wonder that people turn to bananas and oranges so attractively displayed. It is no secret that those in the orange business are pushing their trade from the far distant south with renewed energy and skill; but, after all, it is the apple that our people really prize for dessert and cooking purposes—the Spy, the Blenheim, the Fameuse, the Gravenstein, the Duchess, and many others that might be named, and they will pay the price for well-grown, sound and well-flavored fruit, as the soaring quotations of the past winter and spring would indicate.

Strawberry and other small fruit prospects in Essex are also good, and there is a large acreage of tomatoes, early cabbage, onions, etc., already growing in the open air, while melons are being developed under cold frames. Stimulated by the promise of a strong demand this year, there is likely to be an unusually large acreage under tobacco, but the long spell of cold, wet weather delayed the production of plants. Planting of corn, the great field crop of this county, began in earnest last week.

Southern Ontario Apples Again.

Editor "The Farmer's Advocate":

In your March 25th issue I noticed an article on apple-growing in Southern Ontario. Now, I don't care for what the writer himself says about the keeping quality of our apples, as I don't think he has any knowledge of the superiority of the fruit that can be grown here with the proper care and management of orchards. What I object to is that you, as the editor of "The Farmer's Advocate," seem to endorse what he says. You claim to be a practical man—if you are, and have been brought up in this Southern Ontario, can you, with a clear conscience, still claim that our winter varieties will not keep? Haven't you seen and eaten enough apples in April and May to know that they will keep under ordinary storage conditions? If you have not, you had better wake up, and see what is being done by growers who give proper care and attention to their orchards.

In your April 29th issue you have an article by Chief Alex. McNeill, stating that we can't grow winter varieties. What has he against the fruit-growers of Norfolk County that he publishes such a gross libel against them? I agree with him, that we can grow fall apples to perfection—we can grow them, and know it. We can also grow Spies, Kings, Baldwins, and other varieties of winter apples to perfection, and know it, but he doesn't seem to realize the fact. Now, when he states that our winter varieties will not keep

much past the New Year, he is either densely ignorant of the truth, or he has a wilful desire to do the growers of Norfolk County a grievous harm. When he states that our winter apples will not keep, he is making a laughing-stock of himself to the intelligent growers of apples all along the lake counties. We have no trouble in selling our winter apples for good prices. If our apples will not keep, and go bad on the buyers' hands, Mr. Editor, why is it that the latter come here, and buy every fall, and pay good prices? Why is it that the men we sold to last year are already asking us to put a price on our 1909 crop? Is it because our apples go bad on their hands, and they lose a lot of money every year for fun, or is it because they know where to get good stock, and are willing to pay the price for it? Last year our association put a card in the bottom of every barrel packed, soliciting a reply from the user of the fruit, and not one reply has been received but what is a good testimonial to the quality of apples packed. Our secretary is still getting replies from all over the Northwest, and every one is a tribute to the keeping quality of Norfolk apples. I hope you will carefully read such letters as Mr. McNeill's, before you endorse and publish them.

Norfolk Co., Ont. G. P. SCHUYLER.

[Note.—If our correspondent can refer us to page and date of issue of "The Farmer's Advocate" in which we endorsed anything that disparages the keeping quality of Norfolk County or Southern Ontario apples, we will be surprised. Occasionally we have commented on points mentioned, directing the attention of our readers to certain phases, but never in such way as to insinuate that winter apples grown in Southern Ontario will not keep. If he will read our editorial, on page 281, February 28th issue, he will see that the matter was simply opened for discussion, with the object of assisting our readers to make a proper selection of varieties for planting, and to ventilate the whole subject fairly. To our knowledge, we have not endorsed what Mr. McNeill or others have written.—Editor.]

Insects and Fungi.

Insects and fungous pests affecting vegetables are dealt with in Bulletin 171, recently issued by the Ontario Department of Agriculture. The insect group is taken up by C. J. S. Bethune, Professor of Entomology, while J. W. Eastham and J. Eaton Howitt, lecturer in botany, discuss the fungous diseases. Drawings are given to show the insects and fungi in the various stages through which they pass, and the damage done to crops attacked. In addition to full descriptions of the pests, approved remedies are mentioned.

Cover-crop Experiments.

A recent drive over the grounds of the Horticultural Experiment Station, at Jordan Harbor, Ont., afforded opportunity for an interesting observation of cover-crop tests. A considerable number of cover crops of various kinds had been sown last summer, in July, one series being on light and one on heavy soil. On May 24th last the only three which stood thick, green and vigorous-looking were alfalfa, rye and hairy vetch, all of which showed good growth. Rape had made a fair growth. Millet also grew well last fall, and served to hold the snow during winter, but died down, leaving no sign of life in spring. Taking everything into consideration, alfalfa and hairy vetch appeared to be the most promising cover crops. Both are nitrogen-gatherers, in which respect they have a pronounced advantage over rye. Hairy vetch seed and alfalfa seed are expensive, but the difference between the cost of it and of rye would be much more than compensated by the nitrogen added to the soil, and the fine, mellow condition in which these crops leave the land when turned under. In the ordinary course of operations, all these cover crops should have been plowed under before the date of our visit, but the continuous wet weather had delayed work on the land. Considerable grading, and some ornamental planting had been accomplished in the foreground of the farm, which is beginning to take on quite an attractive appearance.

THE FARM BULLETIN.

Late Seeding.

The bulk of the seeding will be completed this week (ending May 29th), except on a few heavy-land farms, where the work will go on into June. Last week, some farmers had finished (very few), and others had not started. It has been a repetition of last spring, and much land has been sown in very bad condition. I hear some farmers sowed the grain by hand, and gave a stroke with the harrow. Should we get a prolonged dry spell early in the summer, I fear many crops will be very light. Hay and pasture will be extra good. There will be a large acreage of buckwheat sown. Fall wheat is very good. Small fruits promise well. Orchards full of blossom.

Wellington Co., Ont. A. HUTCHINSON.

Federal Legislation Touching Agriculture.

Very little legislation affecting agriculture was enacted during the session of the Dominion Parliament just closed. No new measures were introduced by the Minister of Agriculture, although a small number of amendments to established measures received the sanction of the lawmakers of Canada. A slight change was made in the Act governing the bonusing of cold-storage plants. In its original form the Act provided only for the bonusing of warehouses having accommodation for the cold storing of all kinds of food products. The Act, in its amended form, allows the bonusing of warehouses adapted for any food product. This change, it is expected, will encourage the building of warehouses for the purpose of storing apples.

The alteration of a few words in the Diseases of Animals Act amounts simply to a correction of the Act in regard to the proportion of valuation that may be paid in compensation for pure-bred animals destroyed because of contagious diseases. In the drafting of the bill an error was made in stating that in the case of pure-bred animals the compensation would be three hundred dollars for each horse, one hundred and fifty dollars for each head of cattle, and fifty dollars for each sheep or pig destroyed. The intention was that the valuation should not exceed these sums, and the amendment makes this clear. The compensation made is two-thirds of the valuation, whether the slaughtered animal be grade or pure-bred.

Bills to regulate the manufacture and sale of commercial feeding stuffs and fertilizers were passed by the Houses of Parliament. The two bills are practically the same in principle, inasmuch as products of neither may be sold without bearing a registered number, provided by the Minister of Inland Revenue for a fee of two dollars. The bill provides against alteration of the composition of the material registered by demanding notification of changes in the formula, when a new number will be issued. In the case of either class of product an annual license costing five dollars has to be procured for each brand sold. The right is secured to duly appointed inspectors to collect samples of foods and fertilizers for examination and analysis. Severe penalties are

provided for fraud by adulteration, substitution, or other failures to comply with the Acts.

Commercial feeding stuffs governed by the Act include articles offered for sale for feeding domestic animals, and feeds claimed to possess medicinal as well as nutritive properties, excepting only coarse fodders, roots, and whole seeds or unmixed meals made directly from the entire grains of cereals, buckwheat, bran or middlings not mixed with other substances. Commercial fertilizers affected include every natural or artificial manure containing phosphoric acid, potash and nitrogen, except ordinary stable manure.

A measure of great importance to the rural population is the amendment of the Railway Act, under which, by the joint action of the Federal Government, Provincial and municipal authorities, together with the railway companies, level railway crossings are to be gradually removed, and a constant menace to life and property thereby effectually done away with. As a provision towards this end the sum of \$200,000 each year, for five consecutive years, from April 1st this year, is to be taken from the Consolidated Revenue Fund to aid in providing safe or protected crossings. It is provided that not more than twenty per cent. of the cost of such provision shall be met from this fund, and that in no case shall the Federal appropriation thus provided exceed for one crossing \$5,000, and that no such money shall in any one year be applied to more than three crossings in any one municipality, or more than once to any one crossing. Provision is made for Provincial contributions to this fund, whereby it is hoped that safe crossing will be hastened.

The appropriations for carrying on the work of the Department of Agriculture are practically the same as last year. The items are smaller, but this is accounted for by the fact that a large number of the employees have during the past year been transferred from the outside to the inside service, and now receive their salaries from the civil vote rather than from appropriation for agriculture.

For the work of the established experimental farms \$98,000 was voted, and in addition \$30,000

was voted towards the establishment and maintenance of additional branch stations. Already arrangements are being made to locate these, one in British Columbia and another in Prince Edward Island.

For the dairy, fruit and cold-storage branch, \$90,000 was voted. This is for the regular work. An additional \$7,000 was voted to carry on experiments in the cold storage of fruit. It is probable that the work will be done in some of the large commercial storages throughout the country. As a provision for the bonusing of cold-storage warehouses, that may be put into operation for fruit, according to the requirements of the Cold-storage Act, the amendment already referred to was necessary.

No change of policy or expansion of work is provided for by the Seed Branch. The vote for carrying on the work is \$49,000. Two thousand dollars of this is set apart to secure the observance of the Seed Control Act, this item being apart from the expenses of seed inspection. The number of violations under the Act during the past season would indicate that fully this amount will be required for the purpose stated. In the opinion of vegetable-growers an amendment to the Act is required. A strong deputation waited upon the Minister and urged that it be made illegal to sell garden seeds of any kind that fall below 75 per cent. of the standard of good quality for the kind, and that the non-warranty clause used by seed vendors be done away with, so far as seed merchants can be reasonably expected to assume responsibility. It is probable that the requests of the deputation will influence the first amendment that is made to the Act, and that in addition Grades Nos. 1, 2, 3 and Rejected will be provided for in the seeds of each of timothy, red clover, alsike and alfalfa, which grades will be based primarily on the purity of the seed. As a result of the agitation of vegetable-growers, upwards of one thousand samples of field root and garden seeds have been procured from the retail trade over Canada, and their quality is being investigated.

The vote for carrying on the work of the Live-stock Branch amounts to \$52,000. It is probable

that, in addition to the regular work of the Branch, a number of sales of pure-bred rams will be held during the coming autumn in districts particularly suited to mutton-raising, and where the stock needs improving. The Record of Performance work is rapidly extending, and bids fair to demand a large amount of attention and funds. In addition to the regular vote mentioned, \$10,000 was voted to defray the expenses of a commission to investigate the swine industry in Denmark and Ireland. This amount is expected to be sufficient to issue a large edition of the report of the findings of the body to be sent over. Another special vote touching live stock was \$1,000 towards Dr. Grenfell's experiments with reindeer in Labrador. Last year \$5,000 was voted for this work, and with it an importation from Norway was made. It is hoped to establish herds of these animals in sections of the colony to supply much-needed food, clothing and labor to the people.

The vote for the Health of Animals Branch is \$250,000. This is a slight reduction, due to the fact that compensation for animals destroyed is becoming less and less each year, because such diseases as glanders and hog cholera are gradually being stamped out. The vote for the administration of the Meat and Canned Foods Act is \$110,000. This is an increase, owing to the expansion of the work.

Ten thousand dollars are placed at the disposal of the Tobacco Division. Half of this is for the general work of the division, and half to conduct curing experiment stations. Two stations are located in Ontario and two in Quebec. One of these, situated at the Experimental Farm, will be used for the more technical investigations. The most important station is in the County of Essex. Here the culture and curing of Burley and Virginia tobaccos will receive most attention. Experiments will be conducted in the use of fertilizers, rotation methods, dates of planting and harvesting, etc. The stations in Quebec will deal in a similar manner with tobacco suitable for that climate and soil. These include both pipe and cigar varieties.

A special vote of \$10,000 was made towards the maintenance and expenses of Canadian representation at the International Institute of Agriculture at Rome.

Artesian Wells.

Editor "The Farmer's Advocate":

In reply to an inquiry about well for drainage, you say it would be absurd to think of drainage by means of artesian well, since it meant a continuous flow of water from the earth. There are many artesian wells around here, and most of them keep the water at the same level all the year; that is, about 15 feet below the ground, and I heard of one man who emptied the tile of a ten-acre field into one of them, and the water never rose.

Essex Co., Ont. LOUIS LOISY.
[Note.—While acknowledging with thanks the information as to the success of a bored well for drainage purposes, we would draw attention to the fact that such are not artesian wells in the strict sense of the term. The word "artesian" is derived from "Artois," the name of a place in France, and an artesian well, in the strict acceptance of the term, signifies a spouting well, bored down to a point usually at a great depth, where the water pressure, owing to the conformation of the geological strata, is so great as to force the water out at the surface. Nowadays, the name artesian is often applied to any very deep, bored well, but our answer was based on the strict and technical definition of the term. We think it is well to observe the distinction between artesian and ordinary bored wells.]

Transportation Tariff on Grain from Alberta.

Reports state that the C. P. R. has compiled a new tariff of rates on grain shipped from Alberta through Vancouver, for export, to go into effect on June 8th. This is known as a special proportionate tariff on grain and grain products in carloads for export to Africa, Asia, Australia, Europe, Fiji Islands, Mexico, New Zealand, Philippine Islands, and South America. The tariff does not apply to the United States or Alaska. The tariff goes into effect June 8th of this year, and is enforced from all C. P. R. stations in Alberta, and stations on the Alberta Railway and Navigation Company, to Vancouver wharf.

All the crop of this year will be handled on the new rates, and the company, by the time the grain is ready for shipment, will have facilities at Vancouver to handle the traffic.

The rates on the tariff are export rates, and do not apply as maximum to intermediate points. The shipments may be stopped in direct line of transit or at Vancouver for bagging, at an additional charge of 1 cent per hundred pounds. The rates are named exclusive of switching charges, by the elevators and warehouses in Vancouver, and include wharfage charges only at Vancouver.

The Brockville Holstein Sale.

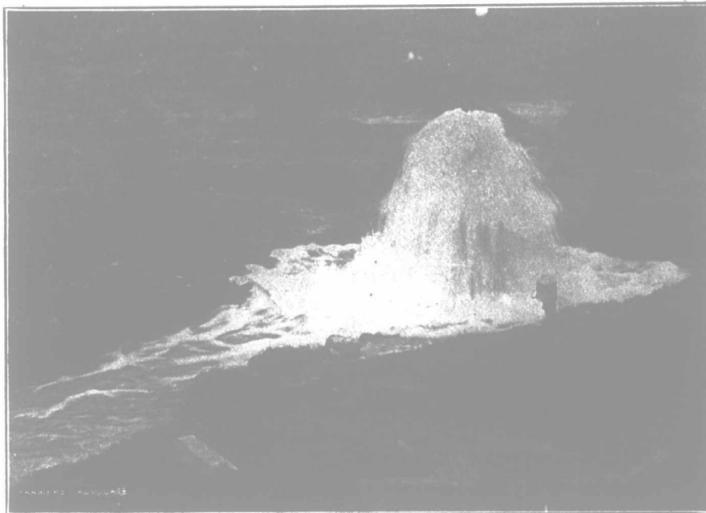
The auction sale of Holstein cattle from the herds of G. A. Gilroy, Glen Buell, and Gordon H. Manard, Manhard, Ont., held at Brockville, on May 25th, proved a decided success, the attendance being large and the bidding brisk, in response to the call of the clever auctioneer, Col. B. V. Kelley, of Syracuse, N. Y. The cattle offered were of high-class character and breeding, and the prices realized, while by no means sensational, must be regarded as satisfactory to both sellers and buyers. The highest price, \$130, was paid by G. W. Clemons, St. George, Ont., for the six-year-old cow, Beauty De Kol, contributed by Mr. Manhard. Forty-six head were sold, thirty of which made an average price of \$177.50, while the whole forty-six, including young calves, sold for an average of \$138.35. The buyers, with one exception, were residents of Ontario. Owing to the limited space, we give only the list of females selling for \$100 and upwards.

Lime and Inoculation for Alfalfa.

Bulletin No. 313, from the Geneva, N. Y., Experiment Station, impresses the importance of lime and inoculation for alfalfa. In 103 tests, where inoculating soil from the Station field was sent to farmers for use on their own fields, 66 crops were successful, while only 25 adjoining uninoculated plots gave good crops. In 61 tests where lime was used, all but 6 plots showed improvement, and 27 plots were changed from failure to success by liming. Where both inoculation and lime were used, 77 per cent. of the crops were successful, while less than 25 per cent. of the untreated plots succeeded.

South-west Ontario from a Car Window.

On May 27th a heavy and general rain fell over South-western Ontario. In Essex and Kent this was decidedly welcome as a crust-softening refresher on the spring grains, which had made a promising start. All along the Michigan Central Railway, the new clover seedings, grass lands and winter-wheat fields were looking remarkably well, and the rain was just what was needed. A great deal of the land which had been plowed for corn was working up very lumpy, and the rain was wanted in such cases as a pulverizer, in conjunction with the disk narrow and roller. These heavy rains, however, continue to emphasize the need for underdraining, as well as attention to surface drains, by means of cross furrows and open ditches. Taken all together through South-western Ontario, crop prospects, despite discouraging weather conditions earlier, were last week exceedingly encouraging. Though pasture and meadow prospects were so bright, it could not escape the notice of the most casual observer how comparatively small and scattering were the herds of cattle upon the grass lands, a fact which, no doubt, has some definite relation to the high prices prevailing for various classes of good cattle.



Flowing Well, Plattsville, Ont.

Struck when drilling for gas in rock at a depth of 210 feet. Capacity 2,500,000 gallons per day.

COWS AND HEIFERS.

Beauty De Kol, born 1903; G. W. Clemons, St. George	\$130
Seven Spot De Kol, 1902, and bull calf; J. Shields, Smith's Falls	345
Sady's Aaltje De Kol, 1905; G. Death, Dixie	325
Countess Chase 2nd, 1907; P. J. Salley, Lachine Rapids, Que.	275
Car Born De Kol 2nd, 1901; P. J. Salley, Galatia Echo De Kol, 1901; A. C. Hardy, Brockville	230
Zenobia B., 1901; W. C. Stephens, Philipsville	225
Inka Sylvia 5th, 1904; R. J. Stuggin, Glen Buell	215
Speckle Abbekirk De Kol, 1903; G. E. Sherwood, Brockville	200
Retta De Kol Waldorf, 1905; John Stewart, Lyn	200
Rhoda 6th, 1904; John McKenzie, Willowdale	175
May Belle Pauline, 1907; P. J. Salley	160
Coral De Kol's Pet, 1899; J. Valentine, Violet	175
Empress Wayne, 1907; J. W. White, Brooke Quidee De Kol, 1902; T. Goodwin, Manhard	160
Phocis De Kol Posch, 1907; John McKenzie, Spring Valley	150
Dirkie Pel 3rd, 1907; James Truesdale, Deborah 3rd, 1907; G. Death	145
Leora Grace De Kol, 1906; W. C. Stephens, Cora Albert De Kol, 1905; A. C. Hardy, Jewel Princess Pet, 1904; John McKenzie, Ethel Blanche De Kol, 1906; G. Death	125
Aaggie Grace Corndyke, 1907; C. J. Gilroy, Lily Acme Abbekirk, 1905; John McKenzie Quidee 2nd, 1907; A. C. Hardy	110
De Kol Mantel, 1898; Ford Wiltsie, Athens Pearl Tidy Abbekirk; James Truesdale	100

BULLS.

Riverview Segis, 1908; J. W. White, Brooke Riverview Hengerveld, 1908; Wm. Thomson, Delta	\$190
Sir Albert Calamity De Kol, 1907; Howard Bissell, Brockville	65
Bull calf, 1908; N. Gifford, Green Bush	45
Count Paul of Evergreen, 1908; D. N. Glasier, Manhard	40
	25

Hallman's Holstein Sale.

The sale of A. C. Hallman's Springbrook Holsteins, at Breslau, on May 27th, resulted in 33 head averaging nearly \$150 each, which was regarded as very satisfactory, considering that several of them were quite young. The highest-priced female, Agusta Acme De Kol, went to R. H. Harding, Thorndale, at \$305. This is a grand cow, and Mr. Hallman offers \$150 for her next calf, should it be a heifer. The next highest-priced female, De Kol Pearl Hengerveld, went to Isaac Hewitt, Plattsville, at \$295; \$190 was paid by A. Ronald, Galt, for Mechthilde Pietertje De Kol, a yearling heifer. Prof. H. H. Dean secured Pauline Pietertje De Kol and Rosie Pietertje for an addition to his herd at Grimsby, Ont., at \$175 each. The herd bull, Count Posch Mechthilde, was sold to Mr. Brown, Bradford, at \$220. W. A. Rife, Hespeler, bought Pauline Gerben 2nd and Mutual Friend Inka Blackness De Kol, at \$180 and \$170, respectively, while T. W. McQueen, Tillsonburg, secured Teresa Sadie Vale at \$180. Other purchasers were: John Brown, Stamford; Jacob Moyk, Tavistock; A. H. Teeple, Currie's Crossing; David Striecher, Baden; Robert Bryden, Galt; A. Shantz, Heidelberg; Jacob Leuszler, Cassel; Jas. Motherall, Drumbo; Albert Ichiefly, Heidelberg; R. J. McQueen, Elora. The hammer was wielded by Col. Barney V. Kelly, Syracuse, N. Y., in a masterly and courteous manner.

King's Horse Wins Derby.

King Edward's three-year-old colt, Minoru, won the Derby stakes of 6,500 sovereigns, for entire colts or fillies foaled in 1906, distance 1 1/2 miles, on May 26th, at Epsom, England. The victory of His Majesty's horse was anticipated, and was exceedingly popular. Minoru is a bay colt, by Cylene, out of Mother Siegel, and is a high-class Thoroughbred. Cylene is sire of Cicero, winner of the 1905 Derby for Lord Rosebery.

The Rat Problem.

The rat is believed to be the worst mammalian pest known to man. Not only does it destroy property worth millions of dollars every year, but it is now known to be the principal agent in disseminating bubonic plague. This is not a contagious disease in the ordinary sense. The infection is spread from rat to rat and from rat to man solely by means of the rat flea.

The United States Department of Agriculture, through its Biological Survey, has recently given the rat problem serious attention. The results of that work have appeared in a bulletin on the Brown Rat. There are several species of rats, but the common house or barn rat, the so-called "Norway rat," is the most widespread and by far the most destructive. By means of ships it has been carried to almost every part of the world, and wherever landed it has proceeded to make itself at home.

The species has wonderful adaptability to climatic and other conditions. In North America it is found from Panama to the Yukon Valley, and to Greenland.

The rat's bill of fare includes almost everything eaten by man, and a considerable number of things not included in human dietaries; as, for instance, carrion, mice, kid gloves, ivory, and horses' hoofs.

Among the most common foods of rats are corn and other grain. If fed on grain alone, it is estimated that one rat will eat 60 cents' worth in a year, while of oatmeal, it will consume \$1.80 worth. If we suppose the number of rats in the United States to be equal to the number of horses, cattle, sheep, and hogs, it would cost more than \$100,000,000 a year to board them on grain.

But the damage done by rats is not to be measured by what they eat. Through pollution of food products they do as much damage as by eating them. Besides, they do great damage by digging under buildings and embankments, by gnawing woodwork, by cutting holes in sacks, and by cutting up goods and papers to make nests. They kill young poultry and squabs. They steal eggs. They frequently destroy the nests of wild birds. They have been known to gnaw holes in lead pipes, and they cause fires by gnawing the insulating covering from electric wires where they pass under the floors or inside partitions. They also cause fires by carrying and gnawing matches.

Though a serious pest on farms, rats commit their greatest depredations in cities. An attempt has been made to secure from the business men of Washington, D. C., estimates of the annual losses due to rats and mice. The data secured indicate losses exceeding \$200,000.

The rapidity with which rats multiply is the main reason why man appears to make so little headway in their destruction. The females give birth to large litters of young, and the intervals between the litters are short. More than 20 young rats have been found in a single nest, and it is safe to estimate the average litter at more than 10. It has been calculated that a single pair of rats and their progeny, breeding without interruption and suffering no losses, would, in three years, increase to more than 20,000,000.

The author of this bulletin says hawks and owls, especially the latter, destroy great numbers of rats—a good work, which man should encourage. Weasels, minks and skunks are also rat destroyers. He recommends the persistent use of traps and poisons. But he thinks the most promising lines of effort lie in (1) rat-proof construction of buildings, especially the use of concrete in foundations; and (2) reducing the food supply of rats by the disposal of garbage, and the protection of food supplies.

Breeders of Trotting Horses Organize.

A meeting of breeders and others interested in Standard-bred Trotting and Pacing horses was recently held in Toronto, for the purpose of organizing an association and establishing a pedigree register under the National Live-stock Association of Canada. A committee was appointed to draft a constitution and by-laws, which, at a subsequent meeting, were adopted. The standard will be the same as that of the American Trotting Register Co. Robert Davies, Toronto, was elected President, and John W. Brant, Ottawa, Secretary.

Backward Season in Niagara District.

Notwithstanding an exceedingly wet and backward spring, fruit prospects in the Niagara district are, on the whole, very satisfactory. Plums, pears and cherries have blossomed profusely; peaches promise a good yield, although certain varieties in some orchards may not be abundantly laden. Strawberries have been very late in blooming, and the yield will likely be curtailed unless extra favorable weather ensues from now on. Cane and bush fruits seem to have wintered well. Work on the land has been retarded three or four weeks beyond the usual date, a great many farmers in the fruit district having sown no grain un-

til May 24th. While tillage operations have been similarly delayed in the fruit plantations, the results of this are not particularly serious, beyond the congestion of work accumulated in consequence of the delay.

To Our Club-raisers.

There are thousands of farmers who do not know what they are losing every year through not being subscribers to "The Farmer's Advocate and Home Magazine." Therefore, we want all readers of "The Farmer's Advocate" to act as club-raisers this year, and send us large lists of NEW SUBSCRIBERS.

If you send us two new names and \$3.00 to cover same (each new subscriber paying \$1.50), we will mark date on your paper forward one year as remuneration to you; or, for each single NEW NAME, accompanied by \$1.50, we will advance the date of your address label six months. Cash commissions or premiums, as preferred, for larger lists of new names.

In clubs of FOUR RENEWALS OR OVER, we will accept \$1.25 each.

Premiums not included in club offers.

Start raising your club immediately. Get "The Farmer's Advocate and Home Magazine" into every household in your locality.

June Excursions to O. A. C.

Following is a list of the Farmers' Institute excursions to the Ontario Agricultural College, arranged for June, 1909:

Thursday, June 3, Lambton Teachers' Convention
 Friday, June 4, —
 Saturday, June 5—
 Monday, June 7—
 Tuesday, June 8—Galt Collegiate Institute; N. and S. Waterloo.
 Wednesday, June 9—S. Wentworth.
 Thursday, June 10—E. and W. Kent; W. Elgin.
 Friday, June 11—S. and W. Huron; Haldimand.
 Saturday, June 12—Lincoln; Welland.
 Monday, June 14—C. Simcoe; C. Wellington; N. Ontario.
 Tuesday, June 15—E. Elgin; N. Grey; N. and W. Bruce; N. York.
 Wednesday, June 16—Halton.
 Thursday, June 17—E. Huron; N. and S. Brant; W. York.
 Friday, June 18—E. Middlesex; N. Perth; S. Simcoe.
 Saturday, June 19—N. Wentworth.
 Monday, June 21—N. Oxford; S. and C. Bruce; S. Grey and E. Wellington.
 Tuesday, June 22—E. and W. Victoria; Dufferin and E. Wellington; W. Wellington.
 Wednesday, June 23—S. Ontario and W. Durham; Peel; C. Grey.
 Thursday, June 24—S. Oxford; E. and W. Lambton; Parry Sound.
 Friday, June 25—E. York; W. Simcoe.
 Saturday, June 26—
 Monday, June 28—
 Tuesday, June 29—S. Perth.

Huntingdon, Que., Notes.

Ere this reaches your readers, June will have reached us, with its gentle breezes, wafting the perfume of blossom and flower, of daisy and clover hither and thither, until the atmosphere is permeated with odors which are indeed invigorating, as well as delectable.

"There's no breeze like the June breeze,
 That has swept the rosy clover,
 That has blown across the meadows
 And the daisies' drifted snow."

During this month vegetation makes rapid growth; in fact, this is called the hay month, as July is the grain, August the corn, and September the root crop, months; yet these must all claim a good start in June, if a bumper crop is to be harvested. The moisture of May has retarded seeding operations, but has brought on the grass, until there was a full bite for stock by the 26th, and meadow lands give promise of a heavy yield. New seeding has not proved a good catch, and much has been reseeded with a light sowing of oats. On this date (May 28th) much seeding has been done, and many farmers would have finished this week had it not been for the heavy rain of this morning.

Plum trees are in full bloom, and apple trees are just commencing to come out; they give promise of having a profusion of bloom. In fact, all fruits are blossoming out with much profusion.

Cattle have gone out somewhat thin in flesh in many instances, there having been a shortage of fodder through this section. Hay has come in by the carload—something previously unheard of in this section.

The supply of milk at the creameries and cheese-eries was lighter than for many years, but is coming up as the grass improves. The make, therefore, of butter and cheese is lighter. This appears to have prevailed in all the dairying sections, as the delivery of cheese and butter in Montreal has been about 20 per cent. behind former years. Prices of cheese have remained high, but are now on the downward grade. Butter is ruling pretty even.

Pork products are scarce and high. The number of sows wintered was light, compared with former years. Therefore, young pigs are in good demand, and are selling at from \$2.50 to \$3.00 each.

Large numbers of horses of all kinds have been sold, and more will go out as soon as seeding is finished. Drafters have been picked up at from \$175 to \$225 each, while something special brought higher figures. Ordinary work horses have brought about \$150.

We regret that interest in the cow-testing association is not increasing. Our dairymen seem slow to adopt a method which will enable them to know definitely the value of the individuals in their herds. Especially is this to be regretted, when the Department of Agriculture is aiming to have the cost of feed calculated, as well as the amount of milk and fat given. Nothing our dairymen can do will give better returns than weighing and testing the milk of the individual cows and heifers of our herds.

Two of our municipalities are getting the stone-crushers to work, and anticipate macadamizing several miles of road during the summer. Our farmers are beginning to see and appreciate the value of good roads. W. F. S.

Ottawa's New Grand Stand, 1909 Exhibition.

The new grand-stand, and the attractions to be provided in front of it, will be the big feature at this year's Central Canada Fair, in Ottawa. Contracts have just been let, and the work is now under way, the contractors being the General Contracting Company, of Toronto. The cost will be about \$80,000, and a condition of the contract is that the structure will be completed in time for the fair. It will be one of the finest grand-stands in the Dominion, having a seating capacity for twelve thousand people. It will be absolutely fireproof. Steel and reinforced concrete will be alone employed in the construction, and the total length will be 170 feet, and the depth 103 feet. The Exhibition Association is this year reverting to the old and popular custom of a spectacular performance each night of the fair, and the Siege of Sebastopol will be put on, with all the realism of military display and pyrotechnical effects. In the afternoons, before the grand-stand, there will be horse-racing, and a long list of special attractions, introducing many of the best and most thrilling acts available. Howick Hall, which in the last three seasons has been utilized mainly as an auditorium for vaudeville performances, is being turned into a process building, where machinery will be installed, and many firms will exhibit products in the process of manufacture from the raw to the finished article. The new grand-stand replaces the large wooden structure barged a year and a half ago, and the temporary one used last fall has been removed.

Alfalfa in Manitoba.

Tests with alfalfa, started at Manitoba Agricultural College a year ago, furnish additional evidence that this valuable fodder crop can be grown successfully at least in the Valley of the Red River. This spring, the area sown is in fine condition. Seeding was done in June, 1908, without nurse crop, and the mower run over it twice before winter set in. Most of the seed was treated with nitro-culture obtained from the Ontario Agricultural College bacteriological laboratory.

V. W. Jackson, B. A., who left Canada three years ago to take up work in New Zealand, where he has occupied the position of Director of Agriculture and Nature Study, is returning to his native country, landing at Vancouver on June 2nd.

I beg to acknowledge, with many thanks, receipt of the very handsome and serviceable premium knife. Wishing you every success.

ALFRED A. FRASER.

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MARKETS.

Toronto.

LIVE STOCK.

At West Toronto, on Monday, May 31st, receipts numbered 46 carloads, consisting of 984 cattle, 31 sheep, 104 calves. Quality of cattle good; trade brisk for butchers' cattle. No export buyers, as they did not want them till Tuesday. Prime picked butchers', \$5.75; loads of good, \$5.40 to \$5.60; medium, \$5.15 to \$5.35; common, \$4.80 to \$5.15; cows, \$4 to \$5; milkers, none on sale. Veal calves, \$3 to \$5.50 per cwt.; sheep, \$4 to \$5 per cwt.; rams, \$3.50 to \$4 per cwt.; yearlings, \$6.50 to \$7; spring lambs, \$3.50 to \$5.50 each; hogs, \$8, fed and watered, and \$7.75, f. o. b. cars country.

REVIEW OF LAST WEEK'S MARKET.

Receipts at the City and Union Stockyards last week were moderately large. The total receipts of live stock for the week were 337 car loads, consisting of 6,358 cattle, 4,187 hogs, 927 sheep and lambs, 880 calves, and 127 horses.

The quality of the fat cattle last week was generally good. Prices were firm, and, if anything, higher than at any time this season; that is, there were more cattle sold at a higher average of prices.

Exporters.—Export steers sold at \$5.90 to \$6.50, the bulk selling from \$6 to \$6.25. Export bulls sold from \$4.75 to \$5.25; cows, \$5 to \$5.25.

Butchers.—Prime picked lots of steers and heifers sold from \$5.75 to \$6; loads of good, \$5.40 to \$5.65; medium, \$5 to \$5.30; common, \$4.50 to \$4.90; cows, \$4 to \$5 per cwt.

Feeders and Stockers.—There was little doing in the stocker and feeder classes. The principal demand was for feeders, 800 to 900 lbs., but prices for fat cattle being so high, all of these weights that had a fair amount of flesh were readily taken for killing purposes. Prices were quoted unchanged, as follows: Steers, 1,000 to 1,100 lbs., \$4.75 to \$5.50, and in one or two instances cattle for short-keep purposes sold at \$5.70; steers, 800 to 900 lbs., \$4.15 to \$4.60; stockers, 500 to 700 lbs., each, \$3 to \$3.75.

Milkers and Springers.—The number of milkers and springers on sale was not large, and there was a fair demand, at unchanged quotations, from \$35 to \$60, the bulk of the best selling around \$50 to \$55 each.

Veal Calves.—Receipts were large, with prices easy, at \$3 to \$5.50 per cwt.

Sheep and Lambs.—Receipts were larger, and prices were tending downwards from late high levels. Ewes, \$4.50 to \$5 per cwt.; rams, \$3.50 to \$4 per cwt.; yearlings, \$6.50 to \$7.50 per cwt.; spring lambs, \$3.50 to \$7 each. Too many spring lambs, of poor quality, with little weight, are being marketed.

Hogs.—Prices were firm, at \$8 per cwt. for selects, fed and watered at the market, and \$7.80, f. o. b. cars at country points.

Horses.—Receipts of horses were about 100 at the Union Horse Exchange. Owing to Monday being a holiday, business was not as large as usual, but nearly all of the horses offered were sold at about the same prices as were quoted in our last report. Drafters sold from \$175 to \$210, and \$220 for a few of the choice-quality horses; general-purpose, \$160 to \$200; expressers, \$160 to \$190; drivers, \$100 to \$190; serviceably sound, \$35 to \$70 each.

BREADSTUFFS.

All kinds of grain sold at higher prices, the week closing with the market very strong. Wheat—No. 2 red, white or mixed, \$1.30 to \$1.35; Manitoba, No. 1 northern, \$1.33; No. 2 northern, \$1.30; No. 3 northern, \$1.29, on track at lake ports. Rye—No. 2, 74c. to 75c., outside. Peas—No. 2, 95c. to 96c. Oats—No. 2 white, 51c. to 52c.; No. 3, 50c. to 51c. Barley—No. 2, nominal, at 61c. to 62c.; No. 3 extra, 61c. to 62c.; No. 3, 59c. to 60c. Buckwheat—No. 2, 64c. to 65c. Corn—American, No. 2 yellow, 82c. to 83c.; Canadian, 76c. to 77c., Toronto freights. Flour—Ontario 90 per cent. patents, \$5.50, in buyers' sacks; Manitoba first patents, \$6.20; second patents, \$5.70; strong bakers', \$5.50.

HAY AND MILLFEED.

Hay.—Baled, in car lots, on track, Toronto, \$12.50 to \$13.50. Straw—Baled, car lots, on track, Toronto, \$7 to \$7.75. Bran—Car lots, track, Toronto, \$23 to \$24. Shorts—Car lots, track, Toronto, \$24 to \$25. Manitoba meal, sold by C. Caldwell & Co., Front street, Toronto, \$30 per ton. Flax-seed meal, pure, \$3.75 per cwt.

FRUIT AND VEGETABLES.

The only apples left are in the hands of wholesale fruit dealers, in cold storage, and sell from \$5 to \$7 per bbl. Vegetables were quoted higher. Potatoes—Market firm and higher; car lots sold on track, Toronto, at 90c. to 95c. per bag; turnips, 40c. to 50c. per bag; parsnips, \$1 per bag; carrots, 40c. to 60c. per bag; beets, 40c. to 50c. per bag; Canadian onions are out of season, and Bermuda onions brought \$3.50 per sack; strawberries sell from 16c. to 20c. per quart basket.

HIDES AND WOOL.

E. T. Carter & Co., 85 Front street East, Toronto, have been paying for No. 1 inspected steers, 60 lbs. and up, 11c.; No. 2 inspected steers, 60 lbs. and up, 10c.; No. 1 inspected cows, 10½c.; No. 2 inspected cows, 9½c.; country hides, 9½c. to 10c.; calf skins, 12c. to 16c.; horse hides, No. 1, \$2.75; horse hair, per lb., 30c. to 31c.; tallow, 5½c. to 6½c.; sheep skins, each, \$1.30 to \$1.50; wool, unwashed, 10c. to 12c.; wool, washed, 17c. to 19c.; wool, rejects, 13c.

COUNTRY PRODUCE.

Butter.—The market for choice creamery was a little firmer. Creamery pound rolls, 24c. to 25c.; creamery solids, 22c.; separator dairy, 21c. to 22c.; store lots, 19c. to 20c.

Eggs.—Prices remained about steady, at 19c.

Cheese.—The market was firm for old cheese, at 14½c. for large, and 14c. to 14½c. for twins; new, large, 13c., twins at 13½c.

Honey.—There was little or nothing doing in honey, maple syrup having taken its place; prices were unchanged, at 10c. to 11½c. per lb.

Beans.—Supplies were reported scarce, with prices firmer, at \$2 to \$2.10 for primes, and \$2.15 to \$2.20 for hand-picked.

Poultry.—Receipts light. Turkeys, 17c. to 21c. per lb.; last year's chickens, 18c. to 20c. per lb.; old fowl, 12½c. per lb.

Spring chickens are being marketed more freely, selling at 40c. to 45c. per lb., on the St. Lawrence farmers' market; they brought 30c. to 35c. per lb. alive.

Montreal.

Live Stock.—Shipments of cattle from the port of Montreal, for the week ending May 22nd, amounted to 4,553 head, against 4,855 head the previous week. In the local market prices were generally easy last week. Offerings were not large, but demand was not particularly active. Some very choice steers sold at 6½c. per pound; choice brought 6c.; fine about 5½c. to 5½c.; good, 5c. to 5½c.; medium, 4c. to 4½c., and common, 3c. to 3½c. per lb.

There was an excellent demand for sheep and lambs, and the market was cleared of them. Prices held firm, being 6½c. to 7c. per lb. for yearling sheep, and 5½c. to 6c. for old sheep, while spring lambs ranged from \$4 to \$8 each. Calves were in moderately good demand, and prices ruled steady, at \$2 to \$4 each for poor quality, and \$5 to \$8 for good. There were some poor hogs offering on the market; prices for these ranging from 8c. to 8½c. per lb.; the select qualities selling up to 8½c. per lb., weighed off cars. The holiday broke into the market early in the week, the result being that trade was not quite as active as it might otherwise have been.

Horses.—Prices held firm. Heavy draft, weighing 1,500 to 1,700 lbs., each \$225 to \$300; light draft, 1,400 to 1,500 lbs., \$185 to \$240 each; small animals, 1,000 to 1,100 lbs., \$100 to \$150 each; inferior and broken-down horses, \$75 to \$100 each; and choice saddle and carriage animals, \$300 to \$500 each.

Dressed Hogs and Provisions.—Quite a demand for cured meats of all kinds. There was a good demand for all the dressed hogs offering, and prices were firm. Fresh-killed, abattoir-dressed hogs sold at 12c. to a fraction more; some of the best stock, it is said, bringing 12½c.

Potatoes.—Market held firm; changes seemed to be in an upward direction. Dealers sold here, in car lots, at from 90c. per 90 lbs. to \$1.10, according to quality; Green Mountains bringing the highest figure. These were purchased from shippers in New Brunswick, at about 5c. per 90 lbs. less than the above figures. Bag lots brought considerably more.

Eggs.—Dealers bought at 17½c. to 18c. per dozen, at country points, and sold here at about 20c. for straight-gathered stock; selects being 22c., and No. 1 stock 19c. to 19½c.

Butter.—Now that grass butter is again beginning to reach the market, prices have stiffened up somewhat. Dealers paid up to 22c. at country points in the Townships, there being an active demand for grass goods. Sales of the previous week's receipts were made at 22c. here, though some asked more; while for last week's receipts it will be necessary to get 22½c., wholesale, and 23c. for smaller lots. There was a little demand for export, although the first of the new grass goods is never considered extra choice.

Cheese.—There was a good demand over the cable for cheese, though very few orders were actually closed. Owing to this demand, prices stiffened up at country points and also here, so that Quebec cheese was quoted at 12½c. to probably 12½c. here; Townships at 12½c. to 12½c., and Ontarios, at 12½c. to 12½c. On Monday a weaker market in the country was reflected here, Quebecs dropping to 11½c. to 11½c.; Townships, 12c.; Ontarios, 12c. to 12½c.

Grain.—The manner in which the market for oats continues to advance is a marvel. Canada Western oats were 58½c. to 59c., car lots, ex-store, Montreal; extra No. 1 feed being 4c. less, and No. 1 feed being 58c. to 58½c. No. 3 Canadian Western were 57½c. to 58c., and No. 2 feed 4c. less. No. 2 barley was quoted at 72½c. to 74c.; Manitoba feed barley being 62½c. to 67c.; buckwheat, 69½c. to 70c.; peas, \$1.05 to \$1.06.

Flour.—Ontario winter wheat grades have completely outstripped Manitoba spring wheat flours, prices for patents

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being \$6.50 to \$6.60, and straight rollers, \$6.30 to \$6.35; while Manitoba spring wheat patents, firsts, are \$6.30 to \$6.50; seconds, \$5.80 to \$6.00, and strong bakers, \$5.60 to \$5.80 per bbl. in bags.

Hay.—The market advanced recently. Demand was very fair. Prices were \$13 to \$13.50 per ton for No. 1 hay; \$12 to \$12.50 for extra No. 2; \$10.50 to \$11 for No. 2; \$9 to \$9.50 for clover mixed, and \$8 to \$8.50 for clover.

Seeds.—The season is several weeks late, and it is expected that seeding will continue until the middle of June. Owing to the suspension of operations in many sections for a time, demand was very light, but favorable weather occasioned a renewal of activity and prices were firm, at \$13 to \$14 per 100 lbs. for red clover, in bag lots, Montreal; \$16 to \$18 for alsike, and \$5.25 to \$6.50 for timothy, in bag lots.

Hides.—The market showed very little change last week, previous advances being held, and demand continuing good. Dealers paid shippers 10c., 11c. and 12c. per lb. for Nos. 3, 2 and 1, respectively, for beef hides, and 13c. to 15c. for calf; 10c. each for lambs; \$1 each for sheep; \$1.50 to \$2 for horse. Rough tallow was 2½c. to 3c. per lb., and rendered, 5½c. to 6c.

Representative Cheese Board Prices.

Woodstock, Ont., 12c.; Madoc, Ont., 12c.; Tweed, Ont., 11½c. bid, no sales; Vankleek Hill, Ont., 11½c. to 12c.; Brockville, Ont., 12½c.; Belleville, Ont., 11½c. to 12c.; Kingston, Ont., 11½c. to 11 13-16c.; Winchester, Ont., 11½c. bid, no sales; Alexandria, Ont., 11½c.; Kemptville, Ont., 11 13-16c. bid, no sales; Huntingdon, Que., 11½c., salted butter 21½c.; Napanee, Ont., 11½c.; Perth, Ont., ruling price 11½c.; Picton, Ont., 11 3-16c.; Cowansville, Que., 11 11-16c. to 11½c.; butter 21½c.; Brantford, Ont., 11 11-16c., 11½c., and 11½c.; London, Ont., 11½c. to 11½c.; Chicago, Ill., creamery butter 22c. to 25½c., dairies 20c. to 24c., cheese 13½c. to 13½c., young Americans 14½c. to 14½c.

Chicago.

Cattle.—Market strong; beefs, \$5.20 to \$5.75; Texas steers, \$4.75 to \$6.30; Western steers, \$4.75 to \$6.35; stockers and feeders, \$3.60 to \$5.65; cows and heifers, \$2.60 to \$6.50; calves, \$5.25 to \$7.50.

Hogs.—Light, \$6.80 to \$7.30; mixed, \$6.95 to \$7.45; heavy, \$7 to \$7.45; roughs, \$7 to \$7.15; good to choice heavy, \$7.15 to \$7.45; pigs, \$5.85 to \$6.80; bulk of sales, \$7.20 to \$7.35.

Sheep and Lambs.—Native, \$4 to \$6.60; Western, \$4.25 to \$5.70; yearlings, \$6.25 to \$7.30; lambs, native, \$6.25 to \$8.60; Western, \$6.50 to \$7.50.

Buffalo.

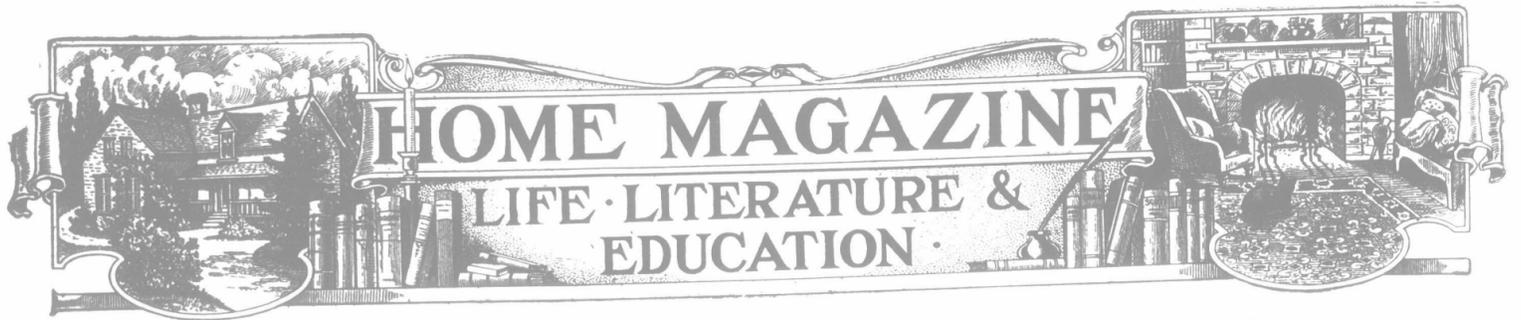
Cattle.—Prime steers, \$6.75 to \$7.15.

Hogs.—Heavy, \$7.75 to \$7.80; mixed, \$7.70 to \$7.80; Yorkers, \$7.35 to \$7.70; pigs, \$7.15 to \$7.25; roughs, \$6.50 to \$6.75; dairies, \$7.40 to \$7.60.

Sheep and Lambs.—Lambs, \$4.50 to \$8.50; yearlings, \$7 to \$7.25.

British Cattle Markets.

London cables 13½c. per lb. for Canadian steers, dressed weight; refrigerator beef, 10c. to 10½c. per lb.



The Vanguard.

A mastless battleship—England's latest Dreadnought type. The ships now under construction will be improved by 30 per cent. on this.

As time goes on, interest in the construction of the Panama Canal, the gigantic project which balled De Lesseps a score of years ago, increases. So far, the work progresses apace, and promises a brilliant triumph for twentieth-century enterprise. The plan is to lift the canal by a system of huge locks, capable of taking the largest ships to a height of 85 feet above sea-level for a considerable part of its course. In order to obviate digging for a part of the way, an immense dam, the Gatun, is being constructed to dam back the Chagres River, which flows into the Atlantic, and thereby form a lake, twenty-three miles in length, along the malarial flats of the Chagres. By doing this, two objects will be accomplished—the forming of a considerable waterway, and the stamping out of disease over a large extent of country. On the western side of this lake, a channel fed by it, on the same level, will extend for nine miles, the remainder of the total fifty miles being covered by locks, as on the eastern side of the waterway.

At present, sixty huge steam shovels are at work, and an army of 31,815 employees, made up of Spaniards, Italians, Americans, British and negroes. Most of these men would rather be "back in God's country," as they say, yet the wages, which average from 40 to 80 per cent. more than in the United States, hold them to the work. As may be imagined, a very complete system of government and of commissariat has been found necessary, and, for the protection of the workmen, an indefatigable war has been kept in progress against the species of mosquitoes which carry the germs of yellow fever and malaria. Thanks to the measures taken, especially the use of petroleum on stagnant pools and marshes, this danger has been greatly reduced.

If it prove possible to construct the Gatun dam in such a way that it will resist the pressure of the proposed lake, no fears are entertained that the waterway will not be ready for use, as planned, in 1915, a date which will mark an epoch in the commercial history of the world. The entire cost will be about \$300,000,000.

A hopeful sign of our time is the increasing interest that farmers everywhere are taking in education, general and otherwise. Indeed, it is

becoming very generally recognized that a University education, plus an agricultural college course, where such can be obtained, is none too good for any farmer.

At the same time, it is, no doubt, true that, with the raising of the standard for high-school and University examinations, fewer farmers will be able to take advantage of the higher education. In the old days, when it was possible to teach on a third-class certificate, many a boy was enabled to work his way up; under present conditions, financial difficulties often stand in the way. All the more reason, then, that our rural schools be brought to the very highest point of efficiency, and that special efforts be made to bring educative influences of every kind—lectures, reading clubs, rural libraries, etc.—into every country district. Whatever obstacles may stand in the way otherwise, the university afforded by books and magazines is always possible.

People, Books and Doings.

A combination of the phonograph and the siren, whose voice, speaking intelligible words, may be heard for miles, has been invented in Germany.

The battleships to be built this year in Great Britain will be superior by 30 per cent to their immediate predecessors of the Dreadnought type.

More than eighty orders for airships, to be used in the United States, are now in the hands of the Wright Brothers.

The German military authorities, for personal reasons, it is said, have refused to buy any more airships from Count Zeppelin, investing, instead, in vessels of the Gross and Parseval type. Moreover, all the airship stations now under construction in the German Empire are too small to shelter the Zeppelin ships.

The number of French battleships is to be brought up to 38. The addition will place France as fourth among the naval powers of the world.

The body of George Meredith was cremated, and the ashes, owing to some unorthodox opinions held and advanced by the author, were refused interment in Westminster Abbey.

A village in Massachusetts has an Improvement Society, whose object is to make the village a clean, healthy, pleasant place to live in. Such a society could find plenty of scope for activity in many of our rural districts in Canada.

In Ottawa, at a recent "Press Concert," Gertrude, the seven-year-old daughter of Amedee Tremblay, organist of the Basilica, exhibited singular talent. She played five of her own piano compositions, and also sang prettily to her own accompaniment. Her voice had the effect of an absolutely pitched flute. Tremblay's parents were not musical, but it is said of him that at three years of age he worked busily to produce tone from a corn-cob whistle. At five he first heard the organ of Notre Dame, Montreal, and shortly afterwards escaped from home, and was found absorbed in the study of a neighbor's piano. When thirteen he began teaching music, and at seventeen was appointed organist of the Ottawa Basilica. He has a cabinet

full of original compositions, but does not wish to publish them until he has accomplished something new.

"Remuneration Not Needed."

Editor "The Farmer's Advocate":

Having heard a good deal about the unfairness of taking away liquor licenses, without compensating the late holder, I wish to make a few remarks on that phase of the temperance question. In the first place, the liquor men tell us that they do a larger business than formerly, and have to pay no license fee, so surely they are being very substantially remunerated; so I don't see what else we could do for them. But then, they are "whole-hoggers." If not, they must belong to Nemo's gang of proficient liars.

Talk about taking away a man's business! It can't be termed a business; it is nothing but a traffic, and we might just as well talk about remunerating an African slave-dealer for the loss of his means of livelihood, or compensating the keeper of a disorderly house after it has been raided. Then, again, if it does not pay to keep hotel without the bar, what class of customers have been up-keeping the house? Why, surely the men that have been buying drink, and that means that those who don't drink, but use the hotel merely for accommodation, have been letting somebody else pay for it, and I think it is mean of any person who is able to pay his own way to let someone else do it for him; and that is what it amounts to, if there are no profits in the hotel business besides what are derived from the sale of liquor. No, they are not entitled to remuneration; they have had too much already, for, as the old saying is, "It is the cheapest stuff made, and the dearest stuff bought."

Then, again, how many lives, homes and businesses have been wrecked and means of livelihood taken away through drink? And yet, how much compensation has been paid in those cases? One of your correspondents, a few weeks ago, said: "Leave the doleful stories of the drunkard's wife and family to preachers and fanatics." A very nice way of disposing of the stories, but what about the wives and families?—because all the "doleful stories" are not fictitious. I think it is a dirty slur to call temperance workers fanatics, when they are engaged in fighting the greatest curse that ever beset mankind; because, go to any place of compulsory detention, or charitable institution, and you will find that 90 per cent. of the inmates are there directly or indirectly through drink. So, I repeat, it is the greatest curse on the earth. A man goes into a clothing store, and invests \$10 in a suit of clothes. The seller and buyer are both benefited by the transaction, because the one has something substantial for his money and is enabled to go about his business properly clad, and the other is able to provide for his family out of the profits derived from a necessary business. But the man that takes \$5 and spends it in drink, has nothing substantial for his money, unless it be a big load, and that is not prudent, as the saying is,

body else, so there was only one benefited by that deal. Then there is the time that is wasted by lounging about the bar-room, and impaired energy, both of which might have been put to some useful purpose; so it is impossible to estimate the amount of loss and waste caused yearly by drink. I think it is a piece of impudence to talk about remuneration for the loss of licenses.

Then, again, some say we have a right to take a drink if we want to, and it is nobody's business. Now, I pride myself on being a free citizen, and don't like the idea of enforcing anybody; but when the interests of the few have to be sacrificed for the benefit of the many, I don't think there is any encroachment on citizens' rights. There are laws passed to protect the public against itself, such as the vaccination law, and the law for regulating the sale of firearms, and poisons, and explosives. Why should not a citizen of a free country be allowed to purchase a revolver, or poison, or some high explosive, and have no questions asked, and be allowed to use them when and wherever he chooses? We would not hear of many more accidents or deaths from the free use of these articles than we do from drink, for there is hardly a day passes without one or more accounts of accidents or deaths being recorded in the newspapers, caused directly or indirectly through drink. We pride ourselves on being members of the mightiest empire that ever existed, an empire that has done more to educate, to elevate, to emancipate, to civilize, and spread the gospel, more than any other empire or people has ever done, and yet we allow such a parasite to exist in our midst. I think it is a burning shame and disgrace to the nation calling itself the most highly-civilized, Christianized and enlightened nation on earth to allow a traffic to exist whereby so much can be made and wasted, and causing so much crime and destitution as the drink traffic. I think the cross of St. George would be a very appropriate emblem and device for the temperance associations to adopt, as they are certainly engaged in a fight with a mighty dragon.

Thanking you for the space allowed me previously in your valuable paper, and thinking you cannot be engaged in a nobler work than publishing temperance views and news.

T. W. BALLARD.

Grey Co., Ont.

Another Question.

Editor "The Farmer's Advocate":

In a recent issue, May 13th, I read an account of "The Married Manner," signed H. A. B. It struck me very forcibly, for we see so much of it at the present time. Young men will ask young ladies to be their wives, and in their courting days they think there is nothing like their company; but when they are married, the man will go up street, and leave his wife to spend the evening alone, while he is with his chums. I think, if her company was so sweet at first, it should get better and better as time goes on, as true love never dies. It has been my experience that, if you treat a woman kindly, she will return it fourfold. I say we only have to live through this life once, and we may as well try and make those happy around us.

S. A. J.

The Woman on the Farm.

Editor "The Farmer's Advocate":

In your issue of May 20th I read the letter from "Chips" with a great deal of interest, and thought I would like to write a few words on the subject.

If a farmer and his wife are to one another as they should be, there is no question as to who should do this or that. My opinion is, if a woman is strong and healthy, it is her duty to help milk, or even to do it all in haying and harvest; to tend the poultry, and help with the garden. Of course, no woman can do more than she is able, but if she is in ill-health, or has a family of little ones, I do not think her husband will expect her to do any such work.

"Chips" says, when a farmer's wife earns money it is not hers; but why is it not? Does not the farm belong to the wife, as well as the husband? If a woman tends the poultry, milks, and makes butter, she is entitled to the profit therefrom. Men do not usually care enough about poultry to make it a paying business; at least, my husband does not, and he is like a good many more—he would rather fix some ribbon or bit of brass on the horses. Everybody to their own way of thinking, but the poultry and butter ought to provide all eatables that do not grow on the farm, and clothe the wife and children under the age of twelve, providing there are not too many. Every boy and girl, on arriving at the age of twelve, should be provided a way to earn a small income, and buy the little articles belonging to their own wardrobes.

One-half or even a whole hour's hoeing in the cool of the day, does the most of women more good than harm. It would be far better if more would try it, instead of dosing down so much patent medicine. There is nothing like nature and fresh air. As to the sufferings and cares of motherhood, were they weighed in the balance, I think the joys would equal them every time. There is no child, if brought up as a child should be, but will repay doublefold all the care and anxiety. Moreover, no girl or woman should marry with a direct thought of avoiding motherhood.

I have read the discussion on local option with a very great deal of interest, especially the editor's reply to "A Moderate Man," and which, I think, ought to convince any man. Wishing "The Farmer's Advocate" every success, I bid adieu.

A FARMER'S WIFE.

Lincoln Co., Ont.

Hope's Quiet Hour.

Power with God.

By his strength he had power with God; yea, he had power over the angel, and prevailed; he wept, and made supplication unto him. . . . Therefore turn thou to thy God; keep mercy and judgment, and wait on thy God continually.—Hosea xii., 3-6.

In the text, the prophet is referring to that mysterious scene in the life of Jacob when, in loneliness, there wrestled a Divine Visitant with him. And Jacob said, "I will not let thee go, except thou bless me"; so he won the blessing and called the name of the place Peniel, saying, "I have seen God face to face." His own name was changed on that occasion, to Israel—for he was told that as a prince he exercised prevailing power with God and with men.

People sometimes wonder why their prayers are not answered. Do they pray like that? Do they refuse to let go until they secure the desired blessing? The great secret of success in any enterprise is determination to win. As the prophet Isaiah says, "Ye that make mention of the LORD, keep not silence, and give Him no rest, till He establish, and till He make Jerusalem a praise in the earth."

But why should God demand impor-

tunity in prayer, when He is more anxious to hear than we to speak, and more desirous to bestow a blessing than we to receive it? Well, it is very evident that He keeps us waiting for our sakes, because He knows how injurious to us prayer would be if it were a magic charm that would instantly give us everything we asked. It is possible to make the school-work of a child so easy and pleasant that he misses his chance of growing strong in mind and soul, and even his body is not braced by such enervating training. A good and wise

many years ago. A poor woman pleaded with Him in agony, pleaded for her child, in unselfish love, and He at first seemed deaf to her appeal, and then spoke words which sounded terribly cold and harsh. The disciples joined their appeal to hers. Surely they were not more eager to hear and to help than He was. It certainly looked like it, as it often seems to-day that men are more ready to relieve suffering than God is. And yet our Lord not only answered that passionate prayer—when He saw that she would take no refusal—but He also spoke

secure a prize, it soon loses its freshness and beauty. The only things that remain for us in absolute perfection, are the things God is holding for us. He loves us so well that He will not allow us to handle them too soon—lest we spoil them.

Take another instance. You are, perhaps, forced to fight continually against some besetting sin. It may be some hereditary taint in your blood, which makes you almost feel that God has treated you hardly. But the very struggle is a help in your upward climb, you can rise higher because of your burden—if you are fighting with the determination of one who has power with God. In the "Ballad of the Angel" a man sees an armed vision cloaked in light, the angel who had led him as he climbed near to God and had helped him all the way. This "angel of his strength" proved to be the "sin he would not sin," the sin he had driven back to hell, and with great blows he had broken his heart "lest it might follow, too."

"With trembling hands he threw the door,
Then fell upon his knee.
'Ah, armed vision cloaked in light,
Why do you honor me?'"

"The angel of your strength am I
Who was your sin," quoth she,
'For that you slew me long ago,
My hands have raised you high;
For that you closed my eyes—my eyes
Are lights to lead you by,
And 'tis my touch shall swing the gates
Of Heaven when you die!'"

Just before I began to write to-day, I picked up "The Survey" for May 15th, and found in the opening editorial the statement that true philanthropists of the present day have "a very strong desire to achieve real benefits . . . to conserve not only life, but health and vigor, to make men stronger rather than more comfortable." If up-to-date social workers condemn the short-sighted salving over of deep-rooted sores (which relieves present distress only to make the trouble worse in the future) as sentimental and unscientific "charity"—so-called—why should we expect God to work in surface fashion?

Difficulties, failures, even sins are capable of giving us more and more power—if they are fought and conquered. As for the darkness of "Religious Doubt," we can gather strength and peace if we do not submit to its misery, but struggle through it to the light. If you have never known the darkness of doubt, then your faith has not yet proved its power. Even the Son of God passed through the blackness of great darkness, feeling Himself forsaken on the Cross, yet He still cried "My God, My God!" Pray on, as He did, and you will surely have power with God, finding that He always—yes, ALWAYS—answers the true and earnest prayers of His loving and obedient children in the way that is wisest and best for them.

"Noble souls, through dust and heat,
Rise from disaster and defeat
The stronger;
And conscious still of the divine
Within them, lie on earth supine
No longer."

DORA FARNCOMB.

For "An Anxious Mother"

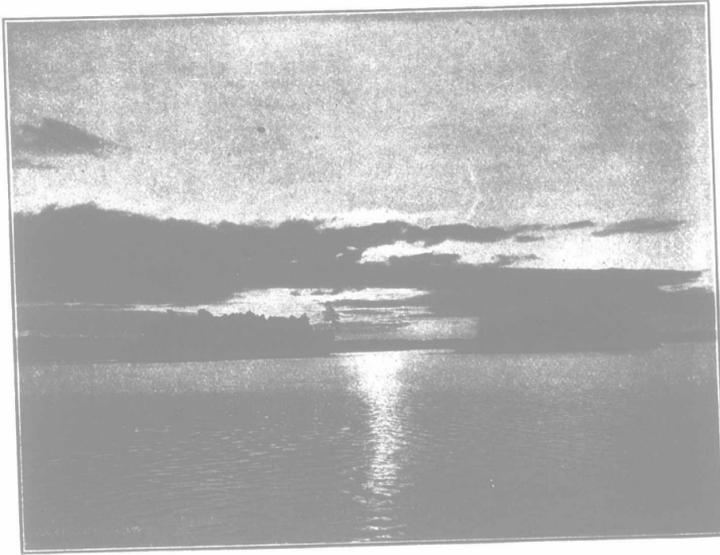
A correspondent writes:

"The letter from 'An Anxious Mother' seemed so much like my own thoughts and desires, I almost imagined I had written it myself. In reading the 'Presbyterian Record' I came across a piece called 'Rest' and enclose it, thinking it may help to cheer someone else."

L. F. R."

Rest.

Rest! How sweet the sound! It is melody to my ears. It lies as a reviving cordial at my heart, and from thence sends lively spirits which beat through all the pulses of my soul. Rest, not as the stone rests on the earth, nor as this flesh shall rest in the grave, nor such a rest as the carnal world desires. . . . O, blessed day! when I shall rest with God; when my perfect soul and body shall together perfectly enjoy the most perfect God; when God, Who is Love itself, shall perfectly love me, and rest in



A Sunset Sky.

father gives his son hard lessons to learn, and rewards him for his diligence by sending him to a school where the lessons are harder still. "If ye, then, being evil, know how to give good gifts unto your children, how much more shall your Father, which is in Heaven, give good things to them that ask Him." Trust Him, and pray on, though He may seem to disregard your prayer. His apparent silence may be a proof of confidence in you—He sees that you are strong, and treats you accordingly, in order to make you stronger. He is silent in His love, and because of His love.

words of wonderful praise: "O woman, great is thy faith: be it unto thee even as thou wilt." We may be very sure that the gain of that torturing delay was very great to her, and it has cheered millions of hearts since.

Perhaps we prayed for years for something much desired, and did our best all the time to win the coveted blessing which was held just out of reach. What did we gain? Courage, patience, trust, a certainty that God knew best, and many other things. Have you never been surprised to discover that you were thanking God that He had not given you



When the Cows Come Home.

"God answers prayer: sometimes, when hearts are weak,
He gives the very gifts believers seek."

If He is less easy with you, surely that is no reason for discouragement—because He is wrestling with you in order to strengthen faith by exercise. Can He strengthen you in any other way? If you wish to have power—prevailing power—with God and with men, then you must be willing to wrestle "until the breaking of the day." We belong to the Church "Militant"—so fighting is our business.

There is one strange story told of Him who "went about doing good" on this earth

your desire? Yes, even though you may still desire it. The prayer has led you onward and upward, it has kept you from straying from the straight path, it has poured sweetness into your heart and made you strong with a secret strength. Perhaps God has really been giving what you asked, all the time—spiritually—and you can wait for the full gift until after death, when there will be no danger of your spoiling it by handling. Perhaps others have apparently obtained their desires swiftly and easily. Would you change places with them? Your ideal is still an untarnished and glorious vision—just because it is still in God's hands, being kept by Him for you. When we

this love to me, as I shall rest in my love to Him, and rejoice over me with joy, and joy over me with singing as I shall rejoice in Him.

—From Baxter's "Saints' Rest."

The Roundabout Club

We trust the writers of the following will pardon the long delay in publishing, which has been of necessity.

Whither Are We Going?

Editor "Roundabout Club":

The wise mariner will examine his chart and note whereto he is drifting. If he spies the rocks ahead, he will shorten sail or reverse his engine. Are we going forward or receding? Are we improving morally and physically? If the newspaper reports are true, we must admit that we are losing ground. Do we have that high regard for honesty that was characteristic of the people of Canada in the last century? Do we find our young men striving to get through the world by honest labor? Have some of them not got the get-rich-quick plan on the brain? Offer them work and you offend them. They are not satisfied to tread the straight and narrow way, but will switch on the other track and extract their neighbor's goods. Their ambition is to become a bank manager, and, perhaps, run off with the funds. The poor are sorely tempted, and should not be too harshly judged, but we can find crookedness in high places. Some directors of stock companies and banks misappropriate the funds. What is the cause? We live in a world of fashions and gaiety, no wonder we are broken-down, nervous creatures, and shortening the allotted span of life by burning the candle at both ends.

God gives us each but one short day, the time that we call life, to waste or cherish as we will, to spend in peace or strife. If we would learn from nature, we would find that she provides for all our physical wants. We admire the ponderous shoulders and muscular arm of the country blacksmith; nature has prepared him for the work he has to do. We sometimes smile at grandfather introducing the bucksaw as a cure for dyspepsia, but it does the trick all right. Science has done wonderful work in supplying labor-saving machinery on the farm and in the shop the world over, but has that improved our physical condition? Are we stronger men than our forefathers were? Take, for instance, the Shrub and Longboat race in the Madison Square Garden, New York. That was a test between science and nature. Shrub, apparently, knew all the tricks of the trade. On the other hand, we had an untutored Indian, nature's son of the forest. Now, according to all rule, Shrub should have gained the victory, and I believe he would have won the race if the Indian had not been camping on his trail.

But what lesson can we learn from this race? I think it is this: When we want anything good, we must get down near to Nature's heart for the material. When we call to mind such lustrous names as those of Washington, Lincoln, Edison, Marconi, men who have climbed the ladder of fame from the ground up—boys be slow about leaving the old farm. Take a walk out through the old orchard in the morning, and inhale the invigorating air, laden with the scent of the blossom. No sign to keep off the grass here. You may roll on the greensward to your heart's content, and listen to the hum of the busy bees as they go to and fro gathering their winter's store of delicious honey. No strike here. Nature is working full time for the joy and peace of mankind. You are king of your own little territory, and your master is yourself. Compare this scene to the bustle and worry of the city. The writer has friends in the city who left the old farm, and they are looking to the day when they can return. This is what they say:

"Some day I'll wander back again
To where the old home stands,
Beneath the old tree down the lane,
Afair in other lands.
Its humble cot will shelter me
From every care and pain,
And life be sweet, as sweet can be
When I am home again."
Wellington Co., Ont. G. B.

On Reading.

Whether novels should be a part of our literary diet, or whether they are demoralizing, as some people think, is a question that is ever before us, and doubtless will always be.

The right reading of good fiction—the books that great and good men and women have written—may teach the very best lessons in life. They are instructive and educational, as well as enjoyable. One is stimulated and inspired to a higher and nobler endeavor by reading them; one's sympathies are deepened, and one is led to a fuller and broader life. Such books quicken thought; the imagination is trained and enriched; one gets an insight into human nature and human life, and one becomes a better and more useful person.

But fiction should not be read out of proportion to other kinds of literature, and people should use discrimination and judgment in selecting the books they read. There should be time and care and skill in choosing. There are some novels which should never be read by any person, and some that should only be in the hands of those of more mature years. Hamilton W. Mabie says, "Adam Bede" and "The Scarlet Letter," while they belong in the front rank of stories of original insight and power, yet are books for the reading of mature people. It is well for the young or inexperienced to seek the advice of those of experience, or to choose from the lists of those who make books their life work.

We ought, at the same time, to read books of biography; from them we learn that character is given first place, that industry, patience and perseverance are the means of success. Essays, because the essayist studies men and affairs, and wisely comments upon them. Poetry, because it teaches us the beauty of the common things around us. Books of nature and science, which teach us the beauty of nature, and that everything is in order and perfect harmony; the seasons come and go, the sun, moon and stars move at their appointed time and place, the flowers, the birds, and the insects, all have their own special place to fill. History, as it deals with events of national importance. Books of travel, for one can learn of the different countries, the people, their customs, and habits. It is well if one has created a taste for classic literature. I may add books on practical sociology. Readers of "Hope" will remember her interesting account of Riis's "Children of the Poor," which she gave some time ago, which would interest every person along that line.

We should read books intelligently and accurately, and read them till we extract all the honey from them. Someone has said: "Read a book till you get all the good out of it; read it, not once or twice, but five times." Reading means more than getting information and acquiring knowledge. It means, also, increased mental force, increased thinking power. Emerson and Carlyle both possess the power to make their readers think. Books are also character-builders.

Reading the right books, in the right way, is like unlocking the doors of a vast treasure-house. The imagination has full play; ideas which have lain dormant take visible shape, and find self-expression, new ideas are created; the reasoning faculties are quickened; the perceptions made keener; the horizon widened, and the vision of what life means enlarged.

Different books appeal to different people, according to capacity, understanding, education, experience and inclination, but as one grows richer in experience, and understanding becomes greater, and capacity becomes larger, the way has been prepared for the appreciation of the greater authors, and books of higher and loftier themes appeal.

It is well to instil in the youth a love of reading, so that if they are invalidated, or when old age comes on, or lonely days, they may fall back on the rich resources of their own minds, and enjoy the full companionship of the many bright minds they had known in books, or enjoy reading new books. If people have neglected books all their lives, they are not going to sit down and suddenly enjoy them.

As the whole literary world was a short time ago celebrating the tercentenary of the birth of John Milton, it brought to mind how he, "on poverty,

blindness, disgrace, danger, and old age, composed a poem which stands without a peer in the history of the ages." Read it only for ten minutes a day, and accumulate treasure for your old age.

B. E. NIXON.

No Hard-and-fast Rule.

It is impossible to lay down any hard-and-fast rule to guide young men, or old, in the selection of a wife. If the conventions had so arranged matters that a man could have seven or eight wives, to fit into his varying moods, it would be different.

I think the most happiness will be derived from a marriage where the man and woman were of nearly the same tastes and ideas, but of different dispositions.

I do not think there would be harmony in a home when one was trying to improve the other's faults or habits. There would not be the companionship there ought to be if the couple were of different likes and dislikes.

It would not be pleasant for a man who liked to travel if he had a wife to whom one place was as attractive as another, nor for a woman, who was interested in literature and fine arts, to marry a man who was an ignorant boor.

Huron Co., Ont. MINERVA.

Query About Birds.

Editor "Roundabout Club":

We have had visits the last two or three years from new birds, i. e., new to this part of the country. One of them made its appearance this morning (written May 11th). It is about the size of a sparrow, dark gray above and light below, with small, weak beak, but it has three white bands on its head, one over the crown and one under each eye. There have been flocks of small birds on the roadsides, mostly in spring and fall. At first I took them for sparrows, until I noticed their peculiar movements. They are gray in color, light below and dark above, with a black band each side of the head; in some it goes straight back from beak, in others it curves up in front of eye, but the peculiar thing is that it walks instead of hopping, though its legs are very short. Its wings are long, and it flies in curves.

A small gray bird, with a white feather on each side of tail, is becoming quite common. A flock of what must, from the description, have been Scarlet Tanager, was seen near here this spring. I have never seen one myself as they are quite rare. I have mislaid my "Canadian Naturalist," and so cannot consult it.

Grenville Co., Ont.

Editor "The Farmer's Advocate":

Replying to the queries by Mr. C. W. Beaven, Prescott.

1. The small bird, size of a sparrow, dark gray above and light below, with three white streaks on its head, will be the White-crowned Sparrow. The center streak is much wider than the others, and the color below is uniform, ashy white. It has a pretty song, somewhat resembling that of the Meadow Lark, but given in a very weak voice. It does not nest much south of the 48th parallel of latitude, and is a late migrant. The date given for its arrival at Prescott, May 11th, would be about the average date at which it would reach that locality.

2. The roadside birds are the Prairie Horned Lark. The male has a black crescent on the throat, and also has ear tufts, which are erectile. They are most noticeable on the roads in February and March, but as soon as the fields clear, they scatter to their breeding haunts.

3. The small gray bird, with a white feather on each side of the tail, should be the Vesper Sparrow, which is a common resident of the open fields from the Atlantic to the Pacific. If, however, the bird, instead of being gray, is slate color, and has two or three white feathers on each side of the tail, then it is the Junco, another sparrow which nests commonly from about the 44th parallel north.

4. I think Mr. Beaven's informant was wrong in speaking of a "flock" of Scarlet Tanagers, as these birds do not migrate or live in that way. Three or four individuals, moderately near together, is the probable limit of numbers. The kind should, however, be regularly seen at

Prescott, but is much more readily found by its song, which resembles that of the Rose-breasted Grosbeak and the Robin, but is a little more disconnected than either. If Mr. Beaven would look for these in beech and oak woods, he would be able to find them.

London, Ont. W. E. SAUNDERS.

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4 to 10 years.

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The Ingle Nook

Curtains.

Dear Dame Durden,—I beg to submit some curtain queries. In hanging the fashionable short curtains, is a brass extension rod just inserted in the hem of the curtain? If a valance is used does it require a separate rod?

Is a valance suitable for the ordinary high four-pane windows?

Should the curtains be hung so as to show the window-frame at the top and sides?

Is it permissible to trim, say, Madras or art-muslin curtains at inside edge and across bottom, with narrow ball curtain fringe?

Last year someone asked about a stain for straw hats. They can be dyed very satisfactorily in the same way as cloth. Press into shape before quite dry.

Victoria Co., Ont. LILAC.

Very small brass rods may be used for both curtains and valance, a separate rod for each, or a rod may be used for the curtains and the valance simply hung from an ordinary curtain-pole, with rings. If convenient, both may be hung from one rod; much depends on the shape of the window-casing. It is important, of course, to keep valance and curtains as close together as possible, as a wide gap would look awkward.

A valance is a great improvement to a high, narrow window, as it tends to shorten it, and give the broad appearance now so much liked in windows. Draw the curtains well back over the wall, and have the valance wide enough to go quite across the top as far as the curtains extend.

Madras and art-muslin curtains require no trimming, a wide hem at bottom and top being sufficient. Plain scrim or muslin curtains should be hemmed across the bottom, and up the inside edge; a stencilled border or strip of insertion being placed behind the hem. Dotted or coin-spot muslin curtains for bedrooms, may be finished by a ruffle. Have you seen the new printed scrim for curtains? Some of it is very pretty. When using figured curtains in color, have the walls of the room plain, if possible, although a frieze in flower or landscape, or conventional design may be added. The leading color in the curtain design should be of the same tone as the walls.

Our Scrap Bag.

When sewing on buttons, try putting the knot of the thread on the right side of the article, under the button, then, after the button is sewed on securely, wind the thread around under the button three or four times. The buttons will stay on much longer. A good plan, also, is to sew the button on over a pin, if a small button, or a match, if a large button. This allows the necessary "give," and makes the work of buttoning much easier, while providing against strain.

When making house dresses, finish the waist with a neat band, put buttonholes in the band and flat buttons on the skirt. This is a saving, both in material and laundry, as one skirt will usually outwear two waists. Besides, the dress is much more easily handled in the tub, than when sewn together.

A writer in Harper's Bazaar gives the following "easy" method of washing blankets: "Take 1 lb. white soap, shaved; 4 or 5 large spoonfuls powdered borax; boil in 2 gals. soft water until dissolved. Pour into a large tub, fill two-thirds full of cold rain water, put in three single blankets, and let soak over-

night. Be sure and have blankets well covered with water. Next morning, lift up and down, pressing and working them, but do not rub, as rubbing and wringing hardens woollens. Shake them through four or five tepid rinsing waters, or enough to remove all traces of soap. Squeeze out water necessary to pass them from one tub to the other; then, without wringing, lift carefully from last water, hang on line, throw over them a liberal supply of soft water, and let them drip dry. Dress skirts and trousers may be washed successfully the same way, hung by waistbands to line. Blankets that have been hardened by poor washing, can be softened and made whiter if washed this way. If it is absolutely necessary to use hard water, more borax will be required."

"American 'cheesemaker' gives the following method of making 'Buttermilk Cream,' which is said to be equal to Devonshire Cream as a delicacy for the table. Heat buttermilk to a temperature of about 120 degrees for about 15 minutes, or until it begins to whey off, then stir the curd thoroughly. After stirring, let the mixture stand about 2 minutes to settle. Drain off the whey through a linen strainer bag, and leave hanging until whey has thoroughly drained out. Finally take out the curd and stir into whole milk, not using too much milk. The mixture, when ready for use, should resemble whipped cream."

Parasols to match the dress will be much worn with cotton dresses this year. The entire parasol may be the same as the dress, or it may be white, with border matching. Old frames may be covered to suit, as described in a recent number of "The Farmer's Advocate."

Cotton dresses promise to be more popular than ever. They may be made of zephyr gingham, chambray, print, foulardine, or seersucker, which has reappeared in white and in colors, and is worthy of a warm welcome, on account of the ease with which it may be laundered. It requires no starching whatever.

The Golden Dog (Le Chien D'Or.)

A Canadian Historical Romance.

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CHAPTER XVIII.—Continued.

"No, Angelique has not gone to Belmont," replied he, quite piqued. "She very properly declined to mingle with the Messieurs and Mesdames Jourdain who consort with the Bourgeois Philibert! She was preparing for a ride, and the city really seems all the gayer by the absence of so many commonplace people as have gone out to Belmont."

Louise de Brouague's eyes gave a few flashes of indignation. "Fie,



Old Ursuline Convent.

Chevalier! That was naughtily said of you about the good Bourgeois and his friends," exclaimed she, impetuously. "Why, the Governor, the Lady de Tilly and her niece, the Chevalier La Corne St. Luc, Hortense, and Claude de Beauharnais, and I know not how many more of the very elite of society have

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COMMENCE USING
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early. A few house flies killed in June represent a horde in August.

Tan, Freckles,



Mothpaches, and all discolorations dissolved, and a clear complexion will be yours if you will accept our advice and use

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For seventeen years it has been the ideal remedy for complexional disorders. Get booklet "F." it describes our work fully. Superfluous Hair, Moles, etc. permanently eradicated by our reliable method of Electrolysis. Satisfaction assured.

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gone to do honor to Colonel Philibert! And, as for the girls in the Convent, who you will allow are the most important and most select portion of the community, there is not one of us but would willingly jump out of the window, and do penance on dry bread and salt fish for a month, just for one hour's pleasure at the ball this evening, would we not, Louise?"

Not a Louise present but assented with an emphasis that brought sympathetic smiles upon the faces of the two young chevaliers who had watched all this pretty play.

The Chevalier des Meloises bowed very low. "I regret so much, ladies, to have to leave you! but affairs of State, you know—affairs of State! The Intendant will not proceed without a full board; I must attend the meeting to-day at the Palace."

"Oh, assuredly, Chevalier," replied Louise Roy. "What would become of the Nation, what would become of the world, nay, what would become of the internes of the Ursulines, if statesmen and warriors and philosophers like you and the Sieurs Drouillon and La Force here (this in a parenthesis, not to scratch the Chevalier too deep), did not take wise counsel for our safety and happiness, and also for the welfare of the nation?"

The Chevalier des Meloises took his departure under this shower of arrows.

The young La Force was as yet only an idle dangler about the city; but in the course of time became a man of wit and energy, worthy of his name. He replied, gaily:

"Thanks, Mademoiselle Roy! It is just for the sake of the fair internes of the Convent that Drouillon and I have taken up the vocation of statesmen, warriors, philosophers, and friends. We are quite ready to guide your innocent footsteps through the streets of this perilous city, if you are ready to go."

formed of the pleasant meeting of the class Louises and the gentlemen who escorted them round the city on the present occasion.

CHAPTER XIX.

Put Money in Thy Purse.

The Chevalier des Meloises, quite out of humor with the merry Louises, picked his way with quick, dainty steps down the Rue du Palais. The gay Louises, before returning to the Convent, resolved to make a hasty promenade to the walls to see the people at work upon them. They received with great contentment the military salutes of the officers of their acquaintance, which they acknowledged with the courtesy of well-trained internes, slightly exaggerated by provoking smiles and mischievous glances which had formed no part of the lessons in politeness taught them by the nuns.

In justice, he it said, however, the girls were actuated by a nobler feeling than the mere spirit of amusement—a sentiment of loyalty to France, a warm enthusiasm for their country, drew them to the walls; they wanted to see the defenders of Quebec, to show their sympathy, and smile approval upon them.

"Would to heaven I were a man," exclaimed Louise de Brouague, "that I might wield a sword, a spade, anything of use, to serve my country! I shame to do nothing but talk, pray, and suffer for it, while everyone else is working or fighting!"

Poor girl! she did not foresee the day when the women of New France would undergo trials compared with which the sword-stroke that kills the strong man is as the touch of mercy—when the batteries of Wolfe would for sixty-five days shower shot and shell upon Quebec, and the south shore for a hundred miles together be blazing with the fires of devastation. Such things were mercifully withheld from their foresight, and



View from Parliament Buildings, Quebec, 1908, showing the walls and Kent Gate.

"We had better hasten, too!" ejaculated Louise Roy, looking archly through her eye-glass. "I can see Bonhomme Michel peeping round the corner of the Cote de Lery! He is looking after us stray lambs of the flock, Sieur Drouillon!"

Bonhomme Michel was the old watchman and factotum of the monastery. He had a general commission to keep a sharp eye upon the young ladies who were allowed to go out into the city. A pair of horn spectacles usually helped his vision—sometimes marred it, however, when the knowing gallants slipped a crown into his hand to put in the place of his magnifiers! Bonhomme Michel placed all his propitiation money—he liked a pious word—in his old leathern sack, which contained the redemption of many a gadding promise made through the streets of Quebec. Whether he reported what he saw this time is not recorded in the Vieux Recit, the old annals of the Convent. But, as Louise Roy called him her dear old Cupid, and knew so well how to bandage his eyes, it is probable the good nuns were not in-

formed of the works as gaily as they would have tripped in a ballroom.

The Chevalier des Meloises, passing through the Porte du Palais, was hailed by two or three young officers of the Regiment of Bearn, who invited him into the Guard House to take a glass of wine before descending the steep hill. The Chevalier stopped willingly, and entered the well-furnished quarters of the officers of the guard, where a cool flask of Burgundy presently restored him to good-humor with himself, and consequently with the world.

"What is up to-day at the Palace?" asked Captain Monroin, a vivacious Navarrais. "All the Gros Bonnets of the Grand Company have gone down this afternoon. I suppose you are going, too, Des Meloises?" "Yes! They have sent for me, you see, on affairs of State—what Pemsault calls 'business.' Not a drop of wine on the board! Nothing but books and papers, bills and shipments, money paid, money received! Doit et avoir and all the grand lingo of the Friponne!"

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200 PAGE MEDICAL BOOK ON CONSUMPTION

This valuable medical book tells in plain, simple language how Consumption can be cured in your own home. If you know of any one suffering from Consumption, Catarrh, Bronchitis, Asthma, or any throat or lung trouble, or are yourself afflicted, this book will help you to a cure. Even if you are in the advanced stage of the disease and feel there is no hope, this book will show you how others have cured themselves after all remedies they had tried failed, and they believed their case hopeless.

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We passed, in the course of an hour, two dead cows and more than fifty dead chickens. A strong smell of petrol pervaded the atmosphere, and there were wheel tracks in the dust.

"Sherlock Holmes became greatly interested."

"Watson," exclaimed he, after deep thought, "there has been a motor along here."

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delightedly exclaimed a gentleman when he heard the Victor Gram-o-phone reproduce Harry Lauder's "Wearing Kilts."

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- X 52314—Rising Early In The Morning
- X 52315—A Trip To Inverary
- X 52316—Wedding Of Lauchie McGraw

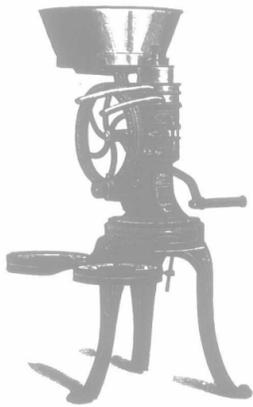
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Will Sell BY AUCTION, on

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AT SITTITON GROVE FARM, THE WHOLE OF HIS

SHORTHORN HERD

There are **30 FEMALES**, besides numerous calves at foot.

There are **6 BULLS** old enough for service.

The herd has lately been founded, and the best judgment of a noted breeder has been displayed in making the collection. The cows include some of remarkable scale and quality. All are good breeders and money-makers. The bulls are of a very high order, bred and made to be reliable as sires and show bulls too.

The whole of the cattle are of the best Scotch breeding. They were bought to breed from and not to be sold. Owing to the continued ill health of the proprietor, buyers will get the benefit of this at their own price.

The cattle are in good condition, but have no special preparation. Many of the young things have been prizewinners, and the calves being prepared for showing now are very strong

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ponne, but bless her money! It pays, Monredin! It pays better than fur-trading at a lonely outpost in the north-west." The Chevalier jingled a handful of coin in his pocket. The sound was a sedative to his disgust at the idea of trade, and quite reconciled him to the Friponne.

"You are a lucky dog, nevertheless, to be able to make it jingle!" said Monredin, "not one of us Bearnois can play an accompaniment to your air of money in both pockets. Here is our famous Regiment of Bearn, second to none in the King's service, a whole year in arrears without pay! Gad! I wish I could go into 'business,' as you call it, and woo that jolly dame, La Friponne!"

"For six months we have lived on trust. Those leeches of Jews, who call themselves Christians, down in the Sault au Matelot, won't cash the best orders in the regiment for less than forty per cent. discount!"

"That is true!" broke in another officer, whose rather rubicund face told of credit somewhere, and the product of credit—good wine and good dinners, generally. "That is true, Monredin! The old curmudgeon of a broker at the corner of the Cul de Sac had the impudence to ask me fifty per cent. discount upon my drafts on Bordeaux! I agree with Des Meloises there: business may be a good thing for those who handle it, but devil touch their dirty fingers for me."

"Don't condemn all of them, Emeric," said Captain Poulariez, a quiet, resolute-looking officer. "There is one merchant in the city who carries the principles of a gentleman into the usages of commerce. The Bourgeois Philibert gives cent. per cent. for good orders of the King's officers, just to show his sympathy with the army and his love for France."

"Well, I wish he were paymaster of the forces, that is all, and then I could go to him if I wanted to," replied Monredin.

"Why do you not go to him?" asked Poulariez.

"Why, for the same reason, I suppose, so many others of us do not," replied Monredin. "Colonel Dalquier endorses my orders, and he hates the Bourgeois cordially, as a hot friend of the Intendant ought to do. So you see I have to submit to be plucked by my best pen-feathers by that old fesse-mathieu Penisault, at the Friponne!"

"How many of yours have gone out to the great spread at Belmont?" asked Des Meloises, quite weary of commercial topics.

"Par Dieu!" replied Monredin, "except the Colonel and adjutant, who stayed away on principle, I think every officer in the regiment, present company excepted—who being on duty could not go, much to their chagrin. Such a glorious crush of handsome girls has not been seen, they say, since our regiment came to Quebec."

"And not likely to have been seen before your distinguished arrival—eh, Monredin?" ejaculated Des Meloises, holding his glass to be refilled. "That is delicious Burgundy," added he, "I did not think anyone beside the Intendant had wine like that."

"That is some of La Martiniere's cargo," replied Poulariez. "It was kind of him, was it not, to remember us poor Bearnois here on the wrong side of the Atlantic?"

"And how earnestly we were praying for that same Burgundy," ejaculated Monredin, "when it came, as if dropped upon us by Providence! Health and wealth to Captain La Martiniere and the good frigate l'leur-de-Lis!"

Another round followed.

"They talk about those Jansenist convulsionnaires at the tomb of Master Paris, which are setting all France by the ears," exclaimed Monredin, "but I say there is nothing so contagious as the drinking of a glass of wine like that."

"And the glass gives us convul-

sions, too, Monredin, if we try it too often, and no miracle about it, either," remarked Poulariez.

Monredin looked up, red and puffy, as if needing a bride to check his fast gait.

"But they say we are to have peace soon. Is that true, Des Meloises?" asked Poulariez. "You ought to know what is under the cards before they are played."

"No, I don't know; and I hope the report is not true. Who wants peace yet? It would ruin the King's friends in the Colony." Des Meloises looked as statesmanlike as he could when delivering this dictum.

"Ruin the King's friends! Who are they, Des Meloises?" asked Poulariez, with a look of well-assumed surprise.

"Why, the associates of the Grand Company, to be sure! What other friends has the King got in New France?"

"Really! I thought he had the Regiment of Bearn for a number of them—to say nothing of the honest people of the Colony," replied Poulariez, impatiently.

"The Honnetes Gens, you mean!" exclaimed Des Meloises. "Well, Poulariez, all I have to say is that if this colony is to be kept up for the sake of a lot of shopkeepers, wood-choppers, cobblers, and farmers, the sooner the King hands it over to the devil or the English, the better!"

Poulariez looked indignant enough; but from the others a loud laugh followed this sally.

The Chevalier des Meloises pulled out his watch. "I must be gone to the Palace," said he. "I dare say Cadet, Varin and Penisault will have balanced the ledgers by this time, and the Intendant, who is the devil for business on such occasions, will have settled the dividends for the quarter—the only part of the business I care about."

"But don't you help them with the work a little?" asked Poulariez.

"Not I; I leave business to them that have a vocation for it. Besides, I think Cadet, Varin and Penisault like to keep the inner ring of the company to themselves." He turned to Emeric: "I hope there will be a good dividend to-night, Emeric," said he. "I owe you some revenge at piquet, do I not?"

"You capoted me last night at the Taverne de Menut, and I had three aces and three kings."

"But I had a quatorze, and took the fishes," replied Des Meloises.

"Well, Chevalier, I shall win them back to-night. I hope the dividend will be good; in that way I, too, may share in the 'business' of the Grand Company."

"Good-bye, Chevalier; remember me to St. Blague!" (This was a familiar sobriquet of Bigot.) 'Tis the best name going. If I had an heir for the old chateau on the Adour I would christen him Bigot for luck."

The Chevalier des Meloises left the officers, and proceeded down the steep road that led to the Palace. The gardens were quiet to-day—a few loungers might be seen in the magnificent alleys, pleached walks and terraces; beyond these gardens, however, stretched the King's wharves and the magazines of the Friponne. These fairly swarmed with men loading and unloading ships and bateaux, and piling and unpling goods.

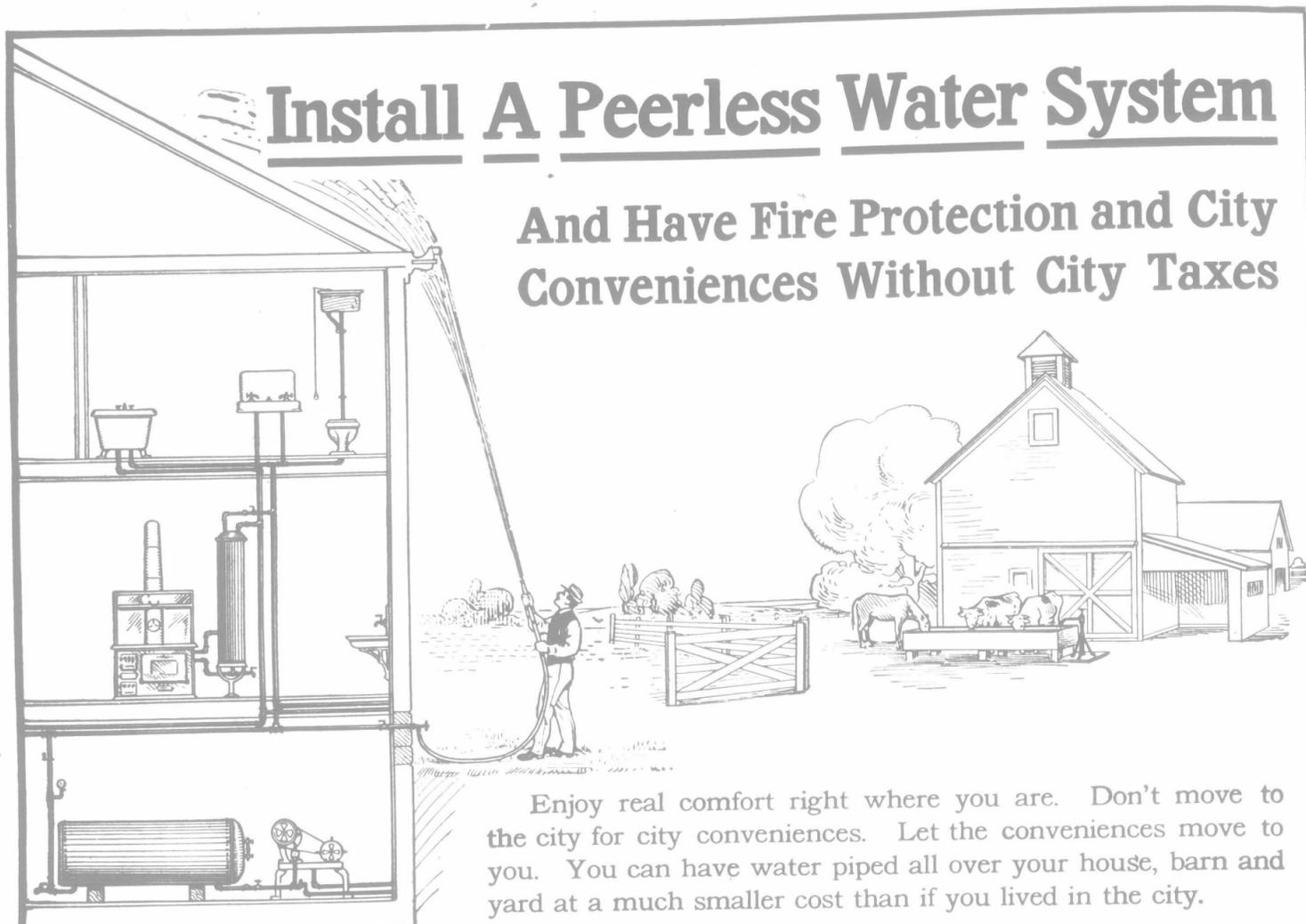
The Chevalier glanced with disdain at the magazines, and, flourishing his cane, mounted leisurely the broad steps of the Palace, and was at once admitted to the council-room.

"Better late than never, Chevalier des Meloises!" exclaimed Bigot, carelessly glancing at him as he took a seat at the board, where sat Cadet, Varin, Penisault, and the leading spirits of the Grand Company. "You are in double luck to-day. The business is over, and Dame Friponne has laid a golden egg worth a Jew's tooth for each partner of the Company."

(To be continued.)

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The Peerless System consists of a pneumatic tank set in your cellar or buried in the ground and a pump to bring the water to the tank. The water is delivered under strong pressure from the tank to your kitchen, bathroom, yard and barn—in fact, wherever you want it. And there's always a ready supply on hand.

In addition to the conveniences which the Peerless System affords, it gives you fire protection and reduces insurance rates. This latter saving alone has in some cases paid for the entire system within two years.

Easy to Install and Easy to Operate

You don't have to be experienced in order to install our Peerless System. There's nothing complicated about it, and our instructions are so simple and thorough that you can't make a mistake. Our whole engineering department is at your service, and you'll not have to pay a cent for any help that we give you.

A little ten-year-old boy or girl can operate a Peerless System when it's once installed. It only requires about five minutes' attention each day. Think how much more time you put on your cistern pump and how much less satisfaction you get from it.

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You can't lose on the purchase of a Peerless Water Supply System. We will refund every cent you have paid on it if, after installing it and trying it out, you are not entirely satisfied.

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FAL 52

QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.
2nd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.
3rd.—In Veterinary questions the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.
4th.—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Miscellaneous.

LOSS OF WEIGHT BY DRIVING CATTLE.

1. How much should fat cattle lose in weight by being driven two or three miles, if fed as usual and handled carefully?
2. Would the weight of private scales stand law, if the scales had been tested and the weighing done by a reliable person?
W.
Ans.—1. Fat cattle fed a normal amount and driven three miles at a quiet walk would probably lose 2 per cent. in weight. This percentage would, of course, increase the longer the cattle were allowed to stand around before being weighed. Driving rapidly or exciting the cattle in any way will cause a rapid and considerable loss in weight, sometimes up to 5 or 6 per cent. in a couple of hours.
2. Too many qualifications necessary or possible in connection with weighing on a private scale to make it possible to express an opinion of any value.
J. H. G.

Veterinary.

CHOREA.

Year-old dog has for two months had a constant twitching of his muscles, more particularly on his left hind leg, the haunch of which seems to have atrophied, and the leg is weak. When working with cattle he appears all right, but when at rest, either standing or lying, the twitching at once commences.
B. S.

Ans.—This is a nervous disease called chorea. It occurs as a sequel to distemper, which disease may have been very slight. Recovery is doubtful. Give him 10 grains bromide of potassium three times daily, and give ½ ounce castor oil once weekly, to keep his bowels moving freely.
V.

INVERSION OF THE VAGINA.

Three weeks before calving, my heifer, which was very fat, exposed her uterus and strained as though about to calve. I had to be always forcing the uterus back, and at last had to put on a retainer. What was the cause, and would you advise breeding her again?
R. G. McL.

Ans.—It was the vagina, not the womb, that she inverted. The womb cannot become inverted until after delivery. The cause of inversion of the vagina is irritation, a laxity of the part, or lying with hind quarters much lower than the fore. The condition is very liable to recur and give you further trouble. In fact, it usually becomes worse year after year, hence I do not think it would be wise to breed her again.
V.

FATALITY IN PIG.

1. Sow had 17 pigs, but could nurse only 9. One of these died. It was a puny little fellow, and had a growth of some sort in its mouth, and it commenced to fill one of the nostrils. It was a soft-looking, dark growth, and made respiration difficult. The other eight pigs are doing splendidly.
2. How soon after weaning will she show oestrus?
Ans.—1. This was, doubtless, some form of tumor. It is not possible to say what causes such growths, but they can be removed surgically, but when they continue to grow, as in this case, they must cause death.
2. Usually from one to three days.
V.

Owing to the unusual lateness of seeding operations, the auction sale of Dalgely Bros.' imported Clydesdale mares



No "Flying Start" Needed with FROST & WOOD No. 8

Why, think you, do you have to back up some Mowers a few feet and get a "flying start" before the knives will cut?
It is because the gear wheels on external gear mowers do not mesh fully enough and lost motion results.
When selecting a mower, see if the small gear wheel is inside the large (the internal gear, note illustration) or outside of it (the external gear.)
If it is the external gear you'll find only one cog in mesh. To start this kind of a machine in heavy hay without first "getting up speed" is impossible. There is so much "slack" to be

taken up in the gears between the Main Drive Wheels and the Pitman, that the horses have to travel quite a distance before the knives commence cutting.

Now, look at our top illustration (better still, see our No. 8 Mower), and what do you find? Why, that two cogs are always in full mesh and at least one other in touch. You'll readily understand by this that the Internal Gear is just about three times as fully in mesh as the External. The gears mesh so completely that they simply must turn smoothly and precisely together, with never a slip. You can take our No. 8 into the heaviest part of your hay field and the knives will commence cutting the instant the horses step up.

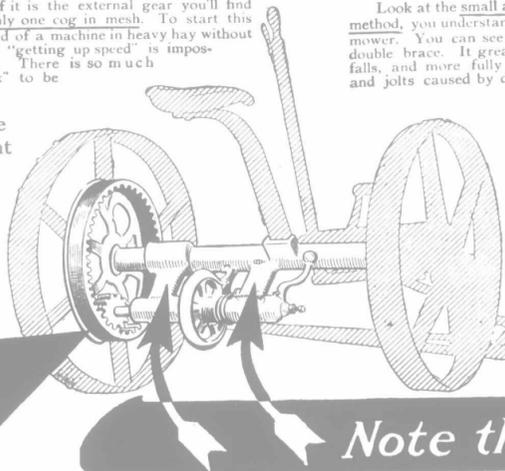
Furthermore, in the external arrangement, the wheels turn away from each other, out of harmony, and the cogs wear down.

By the internal method (see top illustration) the wheels move in the same direction, in harmony, which reduces friction (wear) to the minimum. The result is a smooth and easy-running machine—the pride of the owner.

Look at the small arrows pointing to our double brace. The other method, you understand, is to have but one brace at this part of the mower. You can see for yourself how much wiser it is to have the double brace. It greatly strengthens the machine where a big strain falls, and more fully protects the working parts against the jars and jolts caused by driving over rough ground.

Then, too, the No. 8, thanks to the use of generous sized Roller Bearings, delights the horses by running so "easy," instead of making them work so "hard," as some mowers do.

Just see our agent in your locality. But first drop us a post card for catalogue F4



THE FROST & WOOD COMPANY, Ltd. Smith's Falls, Canada

Note the Double Brace

POULTRY AND EGGS

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

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BUY 95% FERTILE EGGS—That will produce winter layers. Ancona eggs, \$6 for 100; fifteen for \$1. Single-comb White Leghorn eggs, \$4 for 100; fifteen for \$1. Special price on larger quantities. Free circulars. Edward C. Apps, Box 224, Brantford, Ont.

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GREAT reduction. Reds. Eggs from our grand exhibition and great egg-producing strain of R. C. Rhode Island Reds, only 75 cents. Bert Smith, Coltonville, Ont.

SINGLE-COMB Brown Leghorns, free range. Prompt shipment; twenty eggs, one dollar; fifty eggs, two dollars; one hundred eggs, three dollars. Isaac Reed, Ardrea, Ontario.

S-C. WHITE LEGHORNS of prizewinning strains. Eggs priced for remainder of season, 75c for 15, hatch guaranteed. Geo. D. Fletcher, Binkham, Ont., Erin Station.

and fillies at London, on May 25th, was not largely attended. The offering, for the most part, was of an excellent class, though not looking their best, having landed only a few days previously, and the bidding for some of the best was not up to their value, so that little more than half the number were sold, while buyers got good bargains in those that were disposed of.

A great sale of Shorthorns was that from the herd of Carpenter & Ross, at Mansfield, Ohio, on May 25th, when 46 head sold for \$21,435, an average of \$466. Four females sold for \$1,000 each. Maxwalton Sultan, a son of Whitehall Sultan, sold for \$2,200, to Rosenberger & Edwards, Tiffin, Ohio. The average is a record one in the United States for the past two years.

GOSSIP.

The latest figures on the number of pedigree live stock in the United States show that a shade over one per cent. of the horses, dairy cattle and beef cattle are registered, and about one-half of one per cent. of the sheep and pigs. The total number of cattle that have been registered, and the number living, of each breed, at the end of 1907, are given as follows in a report just to hand from the Bureau of Animal Industry:

Breed.	Registered No.	Living No.
Shorthorn	715,063	279,000
Jersey	284,270	125,900
Hereford	268,383	115,000
Holstein-Friesian	155,718	65,100
Aberdeen-Angus	105,392	72,176
Red Polled	43,514	20,000
Guernsey	34,852	22,000
Ayrshire	32,405	8,306
Devon	22,572	14,600
Galloway	20,700	17,100
Polled Shorthorns	14,572	10,186
Brown-Swiss	5,996	2,500
Dutch Belted	2,034	675
Sussex	273	176

Official records of 150 Holstein-Friesian cows were accepted by the American Holstein Association from May 6th to May 13th, 1909. This herd of 150 animals, of which over one half were heifers with first or second calves, produced in seven consecutive days 59,998.3 lbs. of milk, containing 2,140,265 lbs. of butter-fat; thus showing an average of 3.57 per cent. fat. The average production for each animal was 400 lbs. of milk containing 14,268 lbs. of butter-fat; equivalent to 57 lbs. or 27 quarts of milk per day, and 16.65 lbs. of the best commercial butter per week.

IMPORTANT SHORTHORN SALE.

On July 1st, as announced in the advertisement in this issue, the entire Shorthorn herd belonging to James I. Davidson, Balsam, Ont., will, owing to continued ill health of the owner, be sold by auction at the Sittytown Grove Farm, near Claremont (C.P.R.), 25 miles east of Toronto. The farm has long been a noted one, and since the dispersion of the herd owned by the late James I. Davidson, his son has been quietly but persistently collecting a herd of the highest class, both in breeding and form. His health having completely broken (it is feared), the cattle must be sold. Fuller particulars will be given in following issues.



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

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

FRUIT FARM FOR SALE—Desirable, well-kept, twenty-acre homestead in famous Niagara fruit district. Good clay loam. Five acres under tender fruits, chiefly grapes. Charming and very conveniently situated one mile south of Beamsville, midway between Hamilton and Niagara Falls. Grand Trunk and electric line depots within easy reach. Neat, serviceable buildings. Spring water. Telephone. Owner dividing his farm. Will sell smaller lots to suit purchaser. A good investment and an ideal home. Address: Box A, Farmer's Advocate, London, Ont.

FOR SALE—The Spilsbury farm, 274 acres, three miles east of Colborne. Two good dwelling houses, new bank barn, old and new orchards, forty acres timber. For particulars apply to G. E. R. Wilson, Colborne, Ont.

HERDSMAN DISENGAGED—Late of Inaleigh Grange Farm, Danville. Expert fitter for show or sale. Life experience in feeding and breeding. Address: Donald Livingston, Brunswick Hotel, Richmond, P. Q.

LAND FOR SALE—Veterans' Script entitles holder to three hundred and twenty acres of unlocated Dominion lands in either Manitoba, Saskatchewan or Alberta, at less than three dollars per acre. This is your opportunity. Write us for full particulars. National Realty Co., 47-49 Richmond Street, West, Toronto.

TRACTION Engine for Sale—One New Ross 18-horse-power, cheap. Has not been in use yet; also 30-horse-power firebox boiler, tested 200 lbs. C. W. P. repairers, R. J. Black. Apply H. E. Jolliffe, St. Catharines, Ont.

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

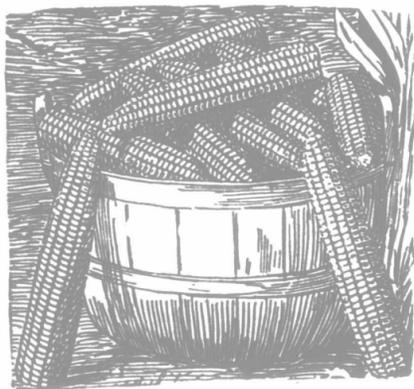
Green Grove Shorthorns and Yorkshires A few young bulls and sows, ready for service, to offer. Geo. D. Fletcher, Binkham P. O., Ont., Frin Shipping Station, C. P. R.

Wanted

Competent herdsman for large pure-bred dairy stock farm. Address reply to:

B., Farmer's Advocate, London, Ont.

HAY HARVESTING—Grass is growing rapidly, and the prospect is that haying operations will commence before the end of June. R. Dillon & Son, of the Oshawa Hay Carrier Works, in their advertisement in this issue call attention to the strength and efficiency of their up-to-date hay carriers, an indispensable labor-saving device in haying operations.



BRUCE'S RELIABLE SEED CORN, ETC.

	Bush.		Bush.
Beans, Soja or Soy	\$ 3 00	Peas, Blue Prussian	1 50
Buckwheat, Silverhull	1 00	" Grass	1 50
Corn, Angel of Midnight, 8 Rowed	1 60	" Golden Vine	1 35
" White Flint Dakota, 8 Rowed	1 60	" Brittany	1 45
" King Philip, 8 Rowed	1 60	" Potter	1 50
" Smut Nose, 8 Rowed	1 60	" Canadian Beauty	1 60
" Australian, New, 8 Rowed	1 75	" Marrowfats, White Eye	1 60
" King of Earlies	1 25	" Marrowfats, Black Eye	1 10
" Legal Tender	1 25	" Pride of Savoy	1 10
" Improved Leaming, Bruce's	1 25	" Sir Walter Raleigh	1 10
" Excelsior Dent	1 25	" Gold Coin	1 10
" Cloud's Dent	1 25	" Early Pink Eye	1 10
" Mortgage Litter	1 25	" The Planet	5 25
" Cuban Grant	1 25	Vetch, Hairy	1 70
" Mastodon	1 25	Millet, German	1 40
" Reid's Dent	1 25	" Common	2 88
" Wisconsin White Dent	1 25	" Japanese	3 60
" Leaming	1 15	" Pearl or Pencillaria	6 00
" White Cap Dent	1 25	Crimson Clover, Fancy	12 00
" Selected Grant Red Cob	1 10	Lucerne, Regal, No. 1 Standard	11 00
" Selected Mammoth White	1 10	" Choice, No. 2 Standard	13 00
" Evergreen Ensilage, 40 lbs	2 00	" Regal, Turkestan	
Cow Peas, Whippoorwill	3 50		

Remit 25 Cents Each for Two-Bushel Cotton Bags.
JOHN A. BRUCE & CO., HAMILTON, ONTARIO.

GOSSIP.

At the annual sale of Jerseys from the herd of A. O. Auten, Jerseyville, Ill., on May 19th, 74 head were sold for an average of \$159. Omitting half a dozen blemished or defective animals, the average was \$163. The highest price for a female was \$800, for the cow Stockwell's Wonder, and the highest for a bull \$725, for Loretta D's Champion. On the day previous G. G. Council, of Vandalia, Ill., sold 85 head of Jerseys at an average of \$285, including five bulls over a year old, which brought an average of \$599. The top price was \$1,200 for the four-year-old bull, G. F. Grouville Lad, and the highest price for a cow was \$800 for the six-year-old Jolly Lady of Beechwood.

A man who called at a restaurant for refreshment, ordered, among other things on the menu card, honey, and finding a hair in the dish he asked the waiter to take it away, and bring him some ice cream. Discovering a hair also in this, he asked the waiter to remove it and bring him some apple sauce. Finding, to his horror, the same offence in this, he called the attention of the proprietor to this singular series of coincidences, and asked the gentleman how he could account for the occurrence. Well, said he, the only way I can account for the hair in the honey is that it must have come out of the comb, as for its being in the ice-cream, it must have come from the shaving of the ice; but for the hair in the apple sauce I cannot account, for all the apples we have bought or used were Baldwins.

The horse is coming to his own. In every portion of the United States, the fine carriage and park horse, the roadster, and the saddle animal, are all in increased demand. One has only to look over the Sunday editions of the leading Eastern dailies to know that the horse is becoming more popular than ever. The pictures of society in automobiles that filled the illustrated sections last year have given way to pictures of the same people sitting behind their fancy high-steppers, or mounted on their prize-winning saddle horses. The automobile has become too common for those who like to make a display of owning the best, consequently the wealthy have returned to the horse, and are already saying that the National Horse Show of 1909 at Madison Square Garden will eclipse all previous shows ever held in the United States.—The Breeder and Sportsman.

CLYDESDALE JUDGE FOR TORONTO

At a meeting of the executive committee of the Clydesdale Horse Association of Canada, held at the King Edward Hotel last week, it was announced by Robert Miller, of Stouffville, of the Board of Directors of the Canadian National Exhibition, that he had been asked by the management of the Exhibition to cable Robert Copland, of Milton, Ardlethen, Ellon, Aberdeen, Scotland, inviting him to act as judge of the Clydesdale classes at the Canadian National Exhibition for 1909. Mr. Miller also stated that he had received a reply from Mr. Copland accepting the invitation. "I know Mr. Copland very well," remarked Mr. Miller, "and he is a breeder of some prominence, a good judge of Shorthorn cattle and I think of Clydesdales also."

AUCTION SALE!

Imported Clydesdale Mares and Fillies

Alex. F. McNiven will sell at the farm, 2 miles west of St. Thomas, on Talbot Rd.

Friday, June 11th, 1909,

1.30 p. m. Bus from Iroquois Hotel. An extra lot of good-colored, big Clydesdale mares and fillies, newly imported.

ALEX. F. McNIVEN, ST. THOMAS, ONT.



Sportsmen

HEADQUARTERS FOR SPORTING GOODS.

WARREN ELLIS,
302 YONGE STREET, TORONTO, ONT.

Send for Our Catalogue FREE.

Nelson Morris, of Chicago, has sent to England his great team of six Clydesdale geldings, winners of the championship at the 1908 International Exposition. They are to tour the leading shows in Great Britain this summer. They are partly British, partly American and partly Canadian bred. This team beat Armour's famous Percheron six at Chicago last December. Armour's team is touring the Northwestern States this summer, and will probably be a feature of the Seattle Exposition.

TORONTO EXHIBITION.

Canada's great educational, industrial and agricultural exhibition, held at Toronto, opens its gates for the 31st successive time on August 28, and closes September 13. Premiums and prizes open to the world, total \$50,000. Live-stock entries close August 10, and in other departments August 5 to 14. In the agricultural products department, handsome prizes are offered for grains in sheaf. The entire programme and the prize list shows that attention is given to everything Canadians make, grow or mine. A fitting title for the prize list would be "Canada Condensed." In addition to the \$50,000 in premiums, specimens are added in every department. No effort or expense has been spared to secure special attractions in keeping with the greatest exhibition on the continent. To hit the million mark in the matter of attendance is the avowed intention of the managers, and this year

IMPORTED CLYDES AT AUCTION.

On July 11th, at his farm, two miles from the City of St. Thomas, Ontario, as advertised in this issue, Mr. A. F. McNiven will sell at auction eight newly-imported mares and fillies of high-class breeding and quality, with size, action and type of the best sort. Included are two by Refiner, a son of Baron's Pride, and whose dam was by Macgregor, by Barnley. One coming three years old is by Luthriska Baron, by Baron's Pride, will make a 1,800-lb. mare. Two are by Dumure Blend, by Montraive Mac, by McGregor; dam by Prince of Wales (673). One is by Clan Stewart, by Prince Alexander, by Prince of Wales (673); and two are by Keir Democrat, by Royal Garty's Heir. The farm is only two miles from the city, and a bus will run from the Iroquois hotel.

QUESTIONS AND ANSWERS. Miscellaneous.

SORE SHOULDERS.

I have two horses that are in splendid thriving condition, and their collars fit well. They have very sore shoulders this last few days. Have been all right all through soading. Could you advise how to treat them? T. M. F.

Ans.—Perhaps the article in our issue of May 13, on page 809, will help you. It must not be forgotten that scab collars are as essential as properly fitting

collars. Horses may do considerable work in cool weather, but if a few hot days set in, and they perspire freely, the shoulders frequently are scalded, if care is not taken to air the shoulders frequently and to keep the collars smooth and clean. It is well also to wash or bathe with salt-and-water solution occasionally—at least morning, noon and night—when the horses are at heavy work in hot weather. Treat as recommended in our issue of May 13.

WOOD-LOT TAX EXEMPTION.

Kindly publish, in your valuable paper, the Act, as amended, granting township councils power to pass a by-law to exempt woodland from taxation. Our council think it is only one acre in ten of woodland. W. S.

Ans.—The opinion held by your township council, no doubt, is due to the Act being incorrectly worded when first printed in the Statutes in 1906, when it said that "one acre in ten of such woodlands" should be exempt. The intention was that one acre of woodlands to ten acres of the farm should be exempt up to a specified limit. In 1907, it was amended to give the intended reading as outlined in our issue of May 9, 1907.

Statute 1906, page No. 378, reads: "The council of any township may, by by-law, exempt in whole or in part from municipal taxation, including school rates, lands in the township being woodlands within the meaning of this Act, provided that such by-law shall not exempt more than one acre in ten of such woodlands, and not more than twenty-five acres held under a single ownership."

It can be seen that this reading exempts only one-tenth of the woodlands. At the 1907 session the section was amended to read: "Provided that such by-law shall not exempt more than one acre in ten FOR (instead of OF) such woodlands, and not more than twenty-five acres held under a single ownership."

Conditions under which such exemption may be granted are specified in the Act. Exempted lands must not be pastured, and must be of a certain reasonable character and thickness of growth. The conditions are such as anyone desirous of maintaining a woodland should observe. For particulars we must refer you to the Act.

Two new scholars came to a school the other day. "Are you brothers?" asked the teacher. "Yes," answered one of the boys, and as their ages were both the same, the teacher remarked: "Then you must be twins?" "No," said the boy. The teacher, after a minute's thought, said: "Well, if you are brothers, and both the same age, I'll admit you are more clever than I am if you can prove that you are not twins." "No," said the boy, "we're no' twins. We're triplets, but the ither yin deed."

A little boy was given underdone apple pie for his supper. The little boy ate heartily of the pie, it disagreed with him and in great pain he roared lustily.

A visitor said with a frown to his mother:

"He's got no business to yell like that. If he were my child he'd get a good, sound spanking."

"He deserves it," the mother admitted. "I don't believe, though, in spanking him on a full stomach."

"Neither do I," said the visitor, "but you can turn him over."

A New York produce commission house, which prides itself on filling all orders correctly, received a letter from a New Jersey customer recently, saying:

"Gentlemen, this is the first time we ever knew you to make a mistake in our order. You are well aware that we buy the very best country eggs. The last you sent are too poor for our trade. What shall we do with them?"

The fair fame of the house for never making an error seemed to be at stake, but the bright mind of the junior partner found a way out of it. He wrote:

"Gentlemen, We are sorry to hear that our last shipment did not suit you. There was, however, no mistake on our part. We have looked up your original order and find that it reads as follows: "Flush tidy crate eggs. We want them bad."

Quality in Winter Wheat.

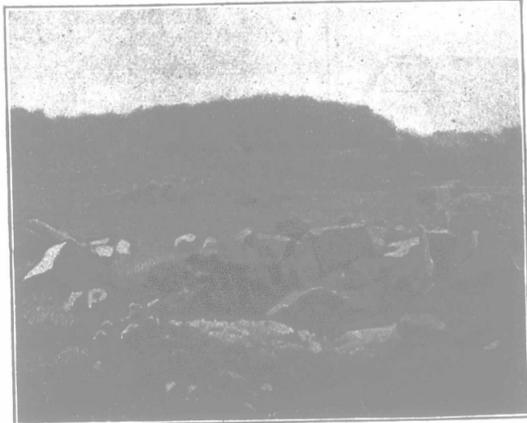
In Eastern Canada comparatively little attention is paid to the hardness of the wheat sown. The average farmer seems to be content with seed that will give a high yield per acre, whether the kernels are hard and flinty or soft and starchy. Experiments conducted by H. F. Roberts and G. F. Freeman, of the Kansas Experiment Station, and published in Bulletin 156, show the value of selecting seed with the object of producing wheat of better grade. Discussing the yellow-berry problem in Kansas hard winter wheats, it is pointed out that the bulletin reviews the results obtained by other investigators of the yellow-berry problem and reports experiments conducted by the authors to determine the causes of this difficulty and means for their removal.

By the term "yellow berry" is meant the appearance of grains of a light yellow color, opaque, soft and starchy in hard winter wheats which normally produce a hard, flinty, translucent grain of medium size, and of a clear, dark reddish amber color. Sometimes only a part of the kernel will show the yellow-berry characteristics. It is pointed out that the data at hand indicate that the ordinary soft and starchy wheats of the Pacific Coast and the Middle and Southern States average somewhat higher in weight per bushel than the hard winter and spring wheats, and that the yellow berry in this respect does not resemble the soft wheats, the weight, as well as the specific gravity, falling below the flinty kernels of the same variety. This is considered as reducing the question to what extent the production of yellow berries is inherent in the variety and to what extent it is due to seasonal influences. In 21 varieties examined, the average weight of the yellow berries per 100 was 2.596 gm., and that of the hard, flinty grains 2.740 gm. The average specific gravity of the yellow berries was 1.304, and of the normal grains 1.336. It is known that the yellow berry contains less protein than the flinty kernel, and it is believed that the reduction in specific gravity is probably due to air cavities within the kernel, and possibly to a reduced starch content.

To determine the relation between the amount of yellow berry produced under the climatic conditions of the particular season, 128 varieties of wheat were grown during 1905-6 and 1906-7. The heads were harvested when considered fully ripe, and dried under cover, so that the existence of yellow berry could not be attributed to overripeness or exposure to the weather after cutting, but could only be ascribed to the influence of the weather before harvesting the heads or to inherent hereditary tendencies in the varieties themselves, or to both. Only clear kernels with a reddish amber color throughout were considered as normal grains, while those either wholly or in part yellowish, opaque and starchy were classified as yellow berries.

The mean temperature during the wheat vegetative season, September to June, inclusive, in 1905-6 was 51.33 degrees F., and in 1906-7, 49.10 degrees, while the total precipitation for the corresponding periods was 25.72 and 21.11 in., respectively. The average total vegetative season made up of the fall vegetative period, or the number of days from planting to January 1, and the spring vegetative period, or the number of days from March 1 to maturity, was 267 days in 1906, and 279 days in 1907. The average percentage of yellow berry was 33 in 1906, and 39 in 1907. To interpret the results with regard to the relation of temperature, light, air movements, and precipitation to the growth of the wheat plant, and the possible share of each factor in the production of yellow berry, was found to be extremely complex and intricate.

Among the many cultures of wheats examined, which were planted side by side at the same time, and which ripened on the same date, the percentages of yellow berry were found to vary widely. So-called commercial varieties, which were really mixtures of wheats, were grown under identically the same conditions in connection with this investigation. Among them strains of different type were found, which showed distinct physiological differences so far as the production of yellow berry was concerned. The varieties grown in 1906 were grouped into those wheats producing from 1 to 25 per cent., from 26 to 50 per cent., from 51 to 75 per cent., and from 76 to 100 per cent.



This cut shows how boulders are removed by using our new explosive.

Spring Clearing by Using STUMPING POWDER

Manufactured by Hamilton Powder Co.

You will find it to be the best, cheapest and quickest way of clearing your farm lands of STUMPS and BOULDERS. STUMPING POWDER is indispensable to farmers who have these pests on their lands.

Write **Hamilton Powder Co.'s office** (nearest to where you reside)

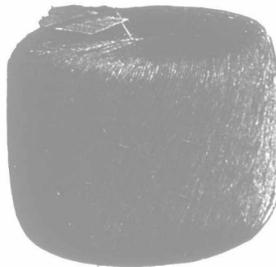
Toronto, Ont. Montreal, P. Q. Victoria, B. C.

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If you want the fullest measure of value obtainable for the money you spend on Twine for the harvest of 1909, be sure to inquire for one of

THE FOUR (4) MAPLE LEAF BRANDS:



GILT EDGE, 650 ft. Pure Manila; and those who prefer this class of Twine will find it all that its name signifies, and thousands of farmers already recognize its superiority.

GOLD LEAF, 600 ft. Manila. The best Twine of this length on the market. Smooth, clean, even, long and strong.

SILVER LEAF, 500 ft. Standard Manila. Unsurpassed as a satisfactory general-purpose Twine. Succeeds where others fail; saves labor, time and money.

MAPLE LEAF, 500 ft. Standard. There is none better for old binders, for corn binders, for all kinds of binders. Maple Leaf gives a full measure of satisfaction.

You take no chances whatever with any of the above brands. Our guarantee stands back of every ball, and we invite a comparison of our High-grade Twines with ordinary Twines. Note the bright, clean, smooth appearance, the unusual length and strength, and the extra value in our Twine bales. Each a good strong sack containing no paper or other ballast, and tied with a good rope laid lashing.

If there is no agency for our Twines in your locality, advise us promptly, and we will arrange to see that you are supplied.

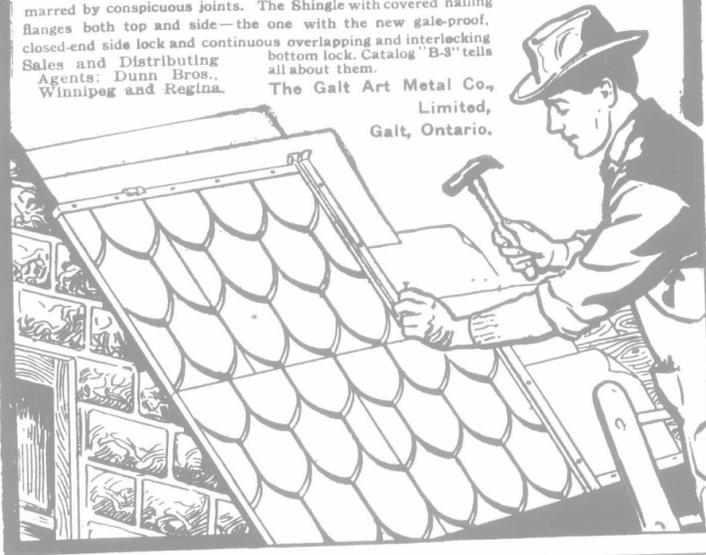
The Brantford Cordage Co., Limited, Brantford, Can.

"Galt" Shingles

Simplest and Quickest to apply yet invented. Perfectly Square. True and Easy-fitting. The bold Gothic Tile pattern presents a handsome and architectural appearance—unmarred by conspicuous joints. The Shingle with covered nailing flanges both top and side—the one with the new gale-proof, closed-end side lock and continuous overlapping and interlocking bottom lock. Catalog "B-3" tells all about them.

Sales and Distributing Agents: Dunn Bros., Winnipeg and Regina.

The Galt Art Metal Co., Limited, Galt, Ontario.



For Drain Tile, Red and White Building Brick AND CEMENT CHIMNEYS, WRITE: R. J. DOYLE, OWEN SOUND, ONTARIO.

Subscribe for The Farmer's Advocate

of yellow berry. The crop of 1907 from these groups showed in general that the averages of the amount of yellow berry for each had the same relative position that they occupied in 1906. The minimum range of yellow berry in the varieties lay in those groups of 1907 that came from the minimum groups of 1906. Although the varieties low in yellow berry had progeny in 1907 which averaged 12.25 per cent. higher than the average of the corresponding parental groups for 1906, on the other hand the varieties high in yellow berry had progeny which averaged 27.41 per cent. lower than the average of the corresponding parental groups for 1906. It was further found that the progeny from selected hard kernels from eight apparently pure varieties planted in 1906 were much heavier than those from soft grains, and that as a rule the yields from the heavy, hard grains, were greater than those from the softer kernels.

The degree of inheritance of yellow berry in pure-bred or pedigree wheats is discussed, and the results secured in work along that line are reported. In the first progeny group of the pedigree wheats in 1907, a little over one-third produced no yellow berry at all, and the average of all was but 3.9 per cent., whereas in the selections of spikes from the common commercial varieties, as well as in the selections of hard and soft grains from these varieties, there were no cases whatever where the offspring were free from yellow berry. The averages for the lowest groups in the case of the common commercial varieties and of the selected hard and soft grains from the commercial varieties were 36.95 and 15.40 per cent., respectively.

It appears in general from the results that with the percentage increase of yellow berry in the parents, a mean percentage increase of yellow berry in the offspring was observed, and it is considered as very evident that the pedigree culture method, so far as the elimination of the yellow berry is concerned, is superior to the other methods tried. The common commercial variety lots of parents all contained yellow berry, but there were 61 cases (46 per cent.) in which the percentage ranged from 1 to 25. The progeny of these in 1907 showed a mean percentage of yellow berry of nearly 37, but among the pedigree cultures there were 38, or 36 per cent., which as parents fell into the 1 to 25 per cent. class, but which in 1907 showed a mean percentage of yellow berry of only 7.9. The minimum or zero class of parents gave rise also to the minimum class of the offspring in the case of the pedigree wheats.

A. Kennedy & Son, Vernon, Ont., state that they have had an unusually good demand for Ayrshire cattle this year, the best trade they have had in twenty years. Among their recent sales was nine head of cows and heifers to J. G. Clark, of Calgary; two cows to Captain Minkie, Winnipeg; one bull to Kenneth McRae, Vankleek Hill, Ont.; one bull to A. B. Baird, Perth, Ont.; one bull to Gordon Raymond, Newington, Ont.; one heifer to J. D. Fadie, Russell, Ont.; one heifer to J. L. Cains, Montreal, Que. They report the cattle doing unusually well, having come through the winter nicely, and they have the best lot of breeding females on hand they have ever had.

How Weather Changes Bring Death to Roofing

The life of Roofing is Saturation and Coating. Yet this vital part is sorely neglected by nearly every Roofing maker. The Basis of most Roofing, except Brantford, is wood pulp, jute or cotton-cloth—all short fibred. When it passes through "Saturatory Process," it does not become actually saturated—merely coated. This "Coating" is of refuse and quickly evaporates—wears off—exposing foundation to savage weather. It absorbs water and moisture, and becomes brittle, cracks, rots and finally crumbles. Even when new it softens under heat, sagging and dripping. But the Foundation of Brantford Crystal Roofing is a heavy, evenly condensed sheet of long-fibred pure Wool, saturated with Asphalt, which is forced into every fibre—not merely dipped. It is heavily coated with time-defying, fire-resisting Rock Crystals, which require no painting. This special Coating cannot evaporate and protects insides. Brantford is indestructible, pliable, tight, water, weather, spark, acid, alkali, smoke, fire-proof.

Brantford Roofing

cannot absorb moisture, freeze and crack in cold weather, or become sticky and lifeless in hot weather. Brantford Crystal Roofing is not the kind all manufacturers care to make, because it costs extra money, yet it costs you no more than short-life Roofing. Roofing Book and Brantford Samples are free from dealer or us. Brantford Asphalt Roofing, Nos. 1, 2, 3. Brantford Rubber Roofing, Nos. 1, 2, 3. Brantford Crystal Roofing, one grade (heavy) Mohawk Roofing one grade only

BRANTFORD ROOFING COMPANY, LTD., BRANTFORD, CAN.

Cream Separators

Certainly Study Them All, and Then Come Back to the MAGNET.



We like to see a man study the construction of the Cream Separator well before deciding. It shows he is a thinking man, a careful buyer and capable of appreciating merits when he finds them, and of giving credit where it belongs. To such a man the MAGNET makes strong appeal. The light of honest comparison discloses the many features wherein the MAGNET differs, and is better than others:

- The heavy solid frame of the MAGNET.
- Strong square gear (not light worm).
- Large steel bowl "with double support" (MAGNET patent).
- Strong one-piece skimmer.
- MAGNET Brake circles the bowl (MAGNET patent).
- Heavy spouts and tank.

All parts covered, no friction, easy to turn, easy to clean, skims perfectly. The machine being so constructed and balanced that every part runs in perfect harmony with the whole. Will not wear out in fifty years. Pretty big claim, but true.

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Simple in construction.
Strong in every point.
Superior and up-to-date.



R. DILLON & SON,
Oshawa Hay Carrier Works,
SOUTH OSHAWA, ONTARIO.

QUESTIONS AND ANSWERS. Miscellaneous.

REGISTERING CROSS-BREDS.

I would like to know if the produce of registered Clydesdale mares by a registered Shire stallion can be registered?

FARMER.

Ans.—There is no register in Canada or elsewhere that we know of, in which the produce of the cross mentioned is now accepted for registry.

DISINFECTANT FOR HOGPEN.

What is a good disinfectant for use in a pigpen?

E. C. C.

Ans.—Thorough whitewashing at least once a year, and preferably spring and fall, is advisable. In addition, the feeding floors and pens should be sprayed occasionally with some standard disinfectant, such as a five-per-cent. solution of crude carbolic acid. There are also some reliable patent disinfectants on the market. Thorough ventilation, and plenty of sunlight, also, are essential in giving sanitary quarters.

CEMENT CELLAR FLOOR.

What is the proper way to lay a cement floor in cellar?

W. S.

Ans.—In laying a cement floor in a cellar, it is not necessary to make a bottom of six or eight inches of coarse gravel or broken stone, if the foundation wall has been properly built, with good drainage. All that is wanted is a well-packed bottom. The thickness and proportion of the concrete will depend on the use to which the cellar is to be put. For general use, the common practice is to put in a three-inch layer composed of one of cement to four of sharp, coarse sand, make the mixture slightly wetter than for general work, and pack, trowel, or float it thoroughly, leaving a smooth surface.

Veterinary.

LARYNGITIS.

Mare has something wrong with her throat. She snorts and coughs and tries to blow something out of her nose. When drinking, the water gets into her nose and bothers her. There is a discharge from her nostrils.

E. T.

Ans.—Get a liniment made of three parts each of raw linseed oil and one part liquor ammonia fortier. Rub the throat twice daily with this for three days. In the meantime keep throat wrapped with flannel. Take six ounces chlorate of potassium and 1½ ounces quinine sulphate. Mix and make into 24 powders and give her one every night and morning. In the meantime, do not work her hard, and be careful not to allow her to get wet or cold.

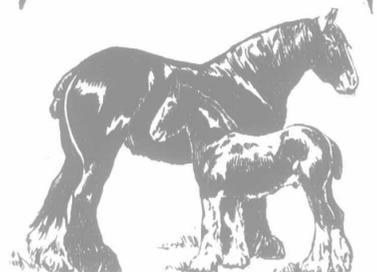
V.

GOSSIP.

William Tsché, Selkirkville, Ont., near Stratford, who advertises Aberdeen-Angus cattle in this paper, writes that his advertisement of young bulls brought him over fifty enquiries, and he has sold all of serviceable age, but has a lot of promising youngsters coming on. Also cows, in calf, or with calf at foot, heifers bred, and coming near of breeding age; also bull and heifer calves, which he is prepared to price at figures that should tempt any farmer or breeder looking for good stock of this popular breed, which has made such a splendid record at fat stock shows in the last few years, both in Britain and America. Long distance phone.

Stockmen will be pleased to learn that W. D. Wisdom, who so ably and efficiently superintended the livestock department of the Lewis & Clark Exposition at Portland, Oregon, has received the appointment of superintendent of the Alaska-Yukon-Pacific Exposition to be held at Seattle, Wash., this summer. From official information received, we learn that already over 200 breeders have anticipated their intention to show. Canada will be strongly represented in this stock, farm products, manufactures, and equipment, and will supply a large contingent of visitors, taking advantage of the railway excursion rates.

INSURE



YOUR

IN FOAL MARES

Why risk the loss of a valuable Mare or Foal or both of them when a payment of a few dollars would indemnify you for such loss should it happen.

The General issues policies for 30 days, 6 months or 12 months covering the mare with or without the foal.

**Farm Horses, Stallions,
Castration, Cattle
Insurance**

Prospectuses sent Free on demand.

THE GENERAL

Animals Insurance Co. of Canada.
R. Ness, Pres. J. d'Halewyn, Sec.
New York Life Building, Dept. C.
Montreal, P. Q.

Burnett, Ormsby, Clapp, Ltd., General Agents for
Western Ontario, Wellington St., Toronto.

Fistula and Poll Evil

Any person, however inexperienced, can readily cure either disease with Fleming's

Fleming's
Fistula and Poll Evil Cure
—even bad old 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 veterinary subjects. Durably bound, indexed and illustrated.
FLEMING BROS., Chemists
75 Church St., Toronto, Ontario



Seldom See

a big knee like this, but your horse may have a lurch or bruise on his Aukie, Hock, Stifle, Knee or Throat.

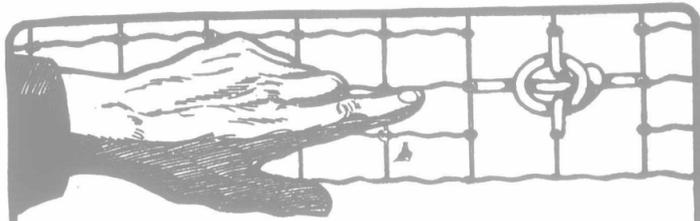
ABSORBINE

will clean them off without laying the horse up. No blister, no hair gone. \$2.00 per bottle deliv'd. Book 8 D free. **ABSORBINE, J.R.**, for mankind, \$1. Removes Painful Swellings, Enlarged Glands, Gout, Wens, Bruises, Varicose Veins, Varicocelae, Old Sores, Allays Pain. Book free. **W. F. YOUNG, P.D.F.**, 258 Temple St., Springfield, Mass. LYBANS Ltd., Montreal, Canadian Agents.

BOYS! Baseball FREE Outfit

This has done 'em all, exactly as illustrated above, given free for a dollar and 25¢ worth of our easy-selling **Picture Post Cards**, (English and Canadian Views), or **Collar Buttons**. Send us your name and address and we will mail you the Post Cards or Collar Buttons, whichever you wish to sell. Post Cards sell for 10c. Collar Buttons, set of 4, for 10c. Write at once—a post card will do. **THE RELIABLE PREMIUM CO.** Dept. X, Waterloo, Ont. 19

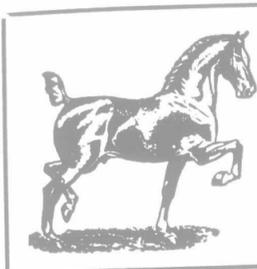
BEST RESULTS OBTAINED FROM
"ADVOCATE" ADVERTISEMENTS.



STANDARD WIRE FENCE

Look at it yourself. See how "The Tie That Binds" is driven farther around, so that it has a hook on the line wire that can't slip off. Being driven at an angle, it can't injure the running or upright wires. Study the wire fence question in our book. Sent free on request. Also sample lock.

THE STANDARD WIRE FENCE CO. OF WOODSTOCK LIMITED. WOODSTOCK, ONT.



UNION Horse Exchange
STOCK - YARDS WEST TORONTO, CANADA.

The Greatest Wholesale and Retail Horse Commission Market.

Auction sales of Horses, Carriages, Harness, etc., every Monday and Wednesday. Horses and harness on hand for private sale every day.

The largest, best equipped and most sanitary stables in Canada. Half-mile of railway loading chutes at stable door. Quarter-mile open track for showing horses. Northwest trade a specialty. **HERBERT SMITH, Manager.** (Late Grand's Repository).

CLYDESDALES AND FRENCH COACHERS

We have still on hand a few choice Clydesdale stallions—all young—that for size, style and quality will stand inspection. We have also a few Clyde fillies—imported and Canadian-bred, and two French Coach stallions. Correspondence and inspection invited. Our prices are easy and terms to suit. Phone connection.



R. NESS & SON, HOWICK, QUEBEC.

NEW CLYDESDALE IMPORTATION.

My new importation of 24 Clydesdale stallions is now in my stables. I invite inspection and comparison. I think I have the best lot for size, style, character, quality and action ever imported. 27 Clyde stallions and 8 Hackney stallions to select from. Prices right, and terms to suit.



T. H. HASSARD, MARKHAM, ONT.
POST OFFICE, PHONE AND STATION.

CLYDESDALES AND SHORTHORNS.—Both imported and Canadian-bred, at Columbus, Ont., the home of the winners. Our last importation landed in August. They include the pick of Scotland, from such renowned sires as Baron's Pride, Everlasting, Baron o' Bucklyvie, Hiawatha, Marsella, Sir Everest, and Prince Thomas. We have on hand over 30 head to choose from, from the above noted sires, from 1 to 6 years old, and including stallions and mares. Correspondence solicited. Call and see them at our barns, Columbus, Ont., before purchasing elsewhere. Our prices are right. Long-distance phone in houses. Phone office, Myrtle station, C.P.R.; Brooklin station, G.T.R.; **Smith & Richardson & Sons, Columbus, Ont.** Oshawa station, G.T.R.



IMPORTED SHIRES At their St. Thomas stables, the John Chambers & Sons, of England, have for sale stallions and fillies from their noted Shire stud, high-class representatives of the breed. Correspondence solicited. Address **DR. C. K. GEARY, St. Thomas, Ont.**



Clydesdales and Hackneys We have for sale a few choice Clydesdale mares, imported and Canadian-bred; also some Canadian-bred Clydesdale stallions. Hackney stallions and mares for sale always. **HODGKINSON & TISDALE, BEAVERTON, ONTARIO.** G. T. R. and C. N. R. Long-distance phone.



I HAVE STILL LEFT THREE CLYDESDALE STALLIONS two of them 3 years old, the other a 4-year-old; big flashy fellows, full of quality and character, and right royally bred. I will sell them cheap and on terms to suit, as I want the room for a new importation. **T. D. ELLIOTT, BOLTON, ONT.**



IMPORTED CLYDESDALES My new importation of Clydesdale stallions and fillies, land- ed a short time ago, are an exceptionally choice lot, full of flashy quality, style and character, and right royally bred. I will sell them at very close prices, and on terms to suit. **C. W. BARBER, Gattineau Point, Quebec.** "Close to Ottawa."



IMPORTED CLYDESDALES My new importation has now arrived—stallions and fillies—personally selected. Richest in breeding; highest in quality; with abundance of size and character. Sold on terms to suit. **GEO. G. STEWART, HOWICK, QUE.**



For a prize-winning Clydesdale, Hackney or French Coach Stallion write me. I have generally something choice on hand. **HENRY M. DOUGLAS, STAYNER, ONTARIO, LATE OF MEAFORD.**



Clydesdales and Hackneys I still have on hand a few right good Clydesdales from 2 to 6 years old. Any one of them fit for show horses. Prices moderate. Terms to suit. Full particulars will be cheerfully given to anyone asking for same. **T. L. MERCER, MARKDALE, ONT., P. O. and Station.** Long-distance phone 17.



HAVE YOU SECURED ONE OF "THE FARMER'S ADVOCATE" KNIVES?

QUESTIONS AND ANSWERS.
Miscellaneous.

CORN FOR SHEAF FEEDING.
What kind of corn would you advise to grow for fodder, to be cut in the fall, and fed in the sheaf during the winter. One that will produce a considerable amount of ears preferred. **J. L. W.**

Ans.—Almost any of the standard varieties will suit. For Eastern Ontario, perhaps you would find satisfaction with Improved Leaming. It has not a coarse stock, and gives a high percentage of cob. Reid's Yellow Dent and Compton's Early, too, are good. However, for satisfactory results with corn, it is well to have a silo. Sheaf-corn feeding is not considered good practice. As a rule, there is considerable waste.

A DITCHING AWARD.
I bought a farm with a small ditch through it, which gave me a good outlet for all the water. A neighbor bought a swamp farm beside me, and brought on the township engineers to give him a drain for this land. He never looked for a suitable outlet, but ran his drain down my old ditch. He has spoiled my drain, as there is such a bank of clay on each side I cannot get water into it.

1. Who should pay for digging the drain?
2. If I have to pay for digging the drain, who should spread the clay along the sides?
3. Can I compel the township council to put tile in drain, as it is so deep I cannot cross without a bridge, and it is not safe for cattle?
4. Do we have to abide by the engineer's assessment? He had me dig ten hundred feet, and the man who applied for the drain and got the benefit, only dug three hundred.

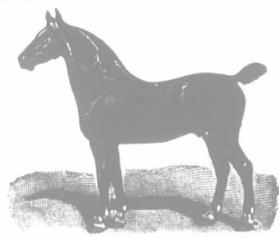
A SUBSCRIBER.
Ontario.
Ans.—1, 2, 3 and 4. Judging from your statement of facts, alone, it would seem that a serious injustice has been done. If the engineer's award is allowed to stand, it will govern the matter. But we think you ought to see a solicitor, personally, and at once, with a view to an appeal against it.

CHICKS DYING.
We have lost nearly 100 chickens this spring. They die from three days to seven or eight days old. They had some lice on their heads, and we greased them with lard and sulphur. They would soon get stupid and die. Even in beside the stove they would die. We fed, 36 hours after hatching, oatmeal and breadcrumbs. The chickens seem as smart as any for a couple of days and die off. I will send in a parcel a dead chicken. **W. F. V.**

Ans.—Unfortunately, when it arrived, the body of the chicken, sent for examination, was too far gone to permit of a satisfactory post-mortem being made. A very small particle of grease, without the sulphur, would have been sufficient to put on the heads of the chickens. I am inclined to think, at times, that the treatment extended to young chicks is worse than the disease. I fancy, in this case, the death of the chicks was due to inherent weakness. The mortality among chicks this season throughout the country has been very great, to judge from the number of complaints I have received. The best remedy is to set no eggs for hatching in the colder districts of the Dominion—until the hens have had a run out in springtime and thoroughly recovered their vitality. This, we have found, usually about 12th of April. After this date, eggs usually hatch well. I speak, of course, of the ordinary farmer, or other poultry-keepers who have no incubator room or brooder house. Even with such facilities, but where the laying stock has not been properly managed during the winter season, unsatisfactory results have followed. Your correspondent is to be thanked for the trouble taken in sending the dead chicken and describing the symptoms of death. **A. G. G.**

"I hear that your husband is critically ill, Mrs. Tiff," said Mr. Gummey.
"Yes, he is. He criticises the doctor, and he criticises the nurse, and he criticises me. Oh, he's critically ill all right."

Warranted to Give Satisfaction.
Gombault's Caustic Balsam



Has Imitators But No Competitors.
A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for use. Send for descriptive circulars, testimonials, etc. Address **The Lawrence-Williams Co., Toronto, Ont.**

Dr. Page's English Spavin Cure

For the cure of Spavins, Ringbone, Curbs, Splints, Windgalls, Capped Hock, Strains or Bruises, Thick Neck from Distemper, Ringworm on Cattle and to remove all unnatural enlargements. This preparation (unlike others) acts by absorbing rather than blister. This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin or money refunded, and will not kill the hair. Manufactured by **Dr. Frederick A. Page & Son, 7 and 9 Yorkshire Road, London, E. C.** Mailed to any address upon receipt of price, \$1.00. Canadian agents: **J. A. JOHNSTON & CO., Druggists, 171 King St. E., TORONTO, ONT.**



ANCHYLOS
THE MODERN CURE FOR **Bone Spavin and Ringbone.**

I believe there is not a case of bone spavin in Canada that Anchylos won't cure. I want hard cases that look to be incurable. Surely the horse is worth a dollar trial, when I agree to give you back the dollar if I fail to cure. Read what Mr. Knich says:

Mr. J. A. McLarty, Thessalon, Ont.
Dear Sir—I wish to thank you for curing my mare of a large bone spavin. She was so lame I had made up my mind to shoot her. I saw your advertisement in The Globe, also The Farmer's Advocate, the beginning of April, and sent to you for one bottle. I used it, and it has made a remarkable cure. The parts are all healed, and the hair is coming in again. I tried four of the different advertised cures without results. Anchylos is certainly the horse-man's friend. **HENRY KNICH, Livingston's Creek.** Address, sending \$1.00:

J. A. McLarty, Thessalon, Ont.
Ormsby Grange Stock Farm, ORMSTOWN, P. Q.
DUNCAN McEACHRAN, F. R. C. V. S., D. V. S., Proprietor.

Importer and breeder of **CLYDESDALES.** high-class pure-bred. Farmers or ranchmen starting breeding Clydes, pure or grade, specially invited to correspond.

Shetland, Welsh and Iceland Ponies
I have on hand a number of single ponies and matched pairs; all ages; thoroughly broken to harness and reliable in every way.

E. DYMENT, Copetown P.O. and Sta.
THE "MAPLES" HEREFORDS
Canada's Greatest Show Herd.
For Sale: 25 bulls from 6 to 18 months of age, bred from imported and show stock; also about the same number of heifers, none better. Prices right.
W. H. HUNTER, Orangeville P.O. and Sta.
HEREFORD BULLS!
Three high-class young pure-bred Hereford bulls for sale at reasonable figures. Address: **J. LINDSAY, LIMEHOUSE, ONTARIO.**





"I wish that I had bought Amatite Roofing It needs no Painting."

WHY should you buy a roofing that needs to be painted every little while to keep it tight, when, for the same money or less, you can buy Amatite which needs no painting?

Amatite is waterproofed with Coal Tar Pitch, — the greatest waterproofing material known. Water can't get through it. It gives the kind of protection that only the ideal roof can give.

The outer surface is composed of real mineral matter, which makes painting unnecessary.

THE PATERSON MFG. CO., LIMITED

Toronto, Montreal, Winnipeg, Vancouver, St. John, N. B., Halifax, N. S.

Can you imagine a better combination for a good, serviceable, economical roofing than coal tar pitch and a real mineral wearing surface?

With an Amatite Roof on your buildings you end your roofing troubles. When you buy a roofing that requires frequent painting you begin them.

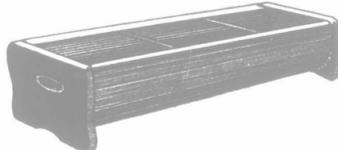
Smooth surfaced roofings that require painting are a nuisance and an expense. When you buy them, you buy trouble—not protection.

FREE SAMPLE.

We should like to send you a sample of Amatite, so that you can look it over. We know that anyone who will examine the proposition will buy Amatite ten times out of ten. We should be glad to send you this sample and booklet immediately. Write to nearest office.



GALVANIZED STEEL WATER TROUGHS



Galvanized so they won't rust. Pat. Apr. '03; Sept. '04.

It is ideal—galvanized—won't rust—thoroughly riveted and soldered—can't leak. Frost-proof—the easiest trough in the world to get ice out of. An hour's sun will loosen it so you can dump it out. Special pipe connections or faucet put in when required.

It is the finished product of years of experiments and testing. Absolutely guaranteed. We are willing to send any trough you may select to your station for inspection; if not as represented, a first-class article, fire it back. Sold direct to the user, all expenses and middlemen's profit cut out. The advantage is yours in low price. Our special cash offer delivered free to your station will interest you. Write us. Ask for our new catalogue. We make any size or length. These are two popular sellers:

No. 23 — 23 in. wide, 12 in. deep, 8 ft. long. / No Leak
No. 27 — 27 in. wide, 14 in. deep, 8 ft. long. / No Rust.

THE STEEL TROUGH & MACHINE CO., LTD., TWEED, ONT., CANADA.

SHORTHORN BULLS

farmers' prices. Females for sale. Write, or come and see. Herd-heading quality and breeding. Also good ones at farm adjoins town.

H. SMITH, EXETER, ONTARIO.

SHORTHORNS

Calves for sale by our grand quartette of breeding and show bulls: Nonpareil Archer, Imp., Proud Gift, Imp., Marigold Sailor, Nonpareil Eclipse. Females, imported and from imported stock, in calf to these bulls. An unsurpassed lot of yearling heifers.

Belmar Parc.

John Douglas, Manager. **PETER WHITE, Pembroke, Ont.**

SALEM SHORTHORNS

A few young bulls and choice, at tempting prices.

J. A. WATT, SALEM, ONT. ELORA STATION, G. T. R. AND C. P. R.

Bell telephone.

Rowan Hill Shorthorns

The 1908 Toronto grand champion, Royal Chief 65495, heads my herd. For sale are: 3 spring bulls and a few heifers, sired by him, and out of show cows. These are choice young things that are sure to please. **R. F. DUNCAN, Carlisle P. O., Ont. Caledonia Station, G. T. R., or station 13 Hamilton and Brantford Electric Road.**

Choice Scotch Shorthorns

We are offering several very choice heifers. Duchess of Glosters, Mayflowers, Lancasters, Miss Ramsdens, Stanfords and Broadhooks. High-class show heifers among them. Also a few extra good young bulls.

S. F. Johnston & Son, Ashburn P. O., Myrtle Station.

HAVE YOU EVER REALIZED THE RESULTS OF "ADVOCATE" ADS. ?

QUESTIONS AND ANSWERS.
Miscellaneous.

TILE MANUFACTURERS.

Can you give me the names and addresses of firms—preferably in Eastern Ontario—who manufacture land tile for drainage purposes? So far as I know, none are manufactured in Quebec. Why do not the makers advertise in "The Farmer's Advocate"? C. S. M., Quebec.

Ans.—We agree with our correspondent that the tile manufacturers could profit by using these columns for advertising purposes.

REMOVAL OF STONES.

A has a lot of stones on his side of line fence between A and B. B also has a lot of stones on his side of fence. The fence is an old patent, straight-rail fence, five rails high, with one stake driven in straight, and two across, and is sunken down past repair. A wishes to put up a wire fence in its place, as this part is A's share of fence, A wishes the stones removed from the fence bottom. Can A compel B to remove the stones from B's side of fence? There are a lot of large stones that will be necessary to be removed before the wire fence can be put up. SUBSCRIBER.

Ans.—We do not see that he can.

CALF WITH COUGH.

Calf, three months of age, suffers from cough and shortness of breath, especially after feeding. He is fed milk, diluted with water, containing a porridge of shorts and oil cake, which he drinks very greedily. He is also given hay, dry bran, and oat chop and water. He has been in this condition for six weeks, and, although somewhat dry in the hair, appears bright and active. Is there any danger of his lungs being affected? If it is advisable to try to raise him, what treatment would you recommend? J. L. M.

Ans.—It would require examination by a competent veterinarian, and probably tuberculin test, to ascertain whether or not the calf's lungs are affected. The cough might be due to something having become lodged in the throat. Again, the fact that your calf drinks greedily may have something to do with the cough and shortness of breath. Give him the milk in a wide, shallow vessel, so that he can't drink it so greedily. Cases are known where a constriction of the gullet resulted in such symptoms. He is now being provided with suitable food. Keep him in a well-ventilated place. Perhaps when he goes on grass he will be all right.

PAYING FOR BRIDGE.

Last summer the Government built a bridge across the river in this township. A civil engineer had selected the site a few years previous. No by-law has been passed by the council in this matter, nor has there been any meeting of the ratepayers called to approve of the selection. The location of the bridge is very suitable for the party who had sent the petition asking for this bridge, but not at all to the majority of the ratepayers of this township, who sent another petition to have the bridge built at a more convenient place. The bridge being finished, there remained at one side an approach to be built, also a short piece of road on the other side. The party in favor of the bridge have completed the work, and send a bill to the council to get paid. As the majority of the ratepayers are against the bridge, the council does not want to have anything to do with it. According to Act 751, Mun. Code, a bridge built by the Provincial Government in a municipality, is at the charge of the local municipality, in the same manner as all other roads and bridges.

1. Will the council have to pay this bill?
2. Can the corporation be forced to take this bridge on their charge in this case, and keep it in repair?

Quebec.
Ans.—According to the foregoing statement of case, we think that the first question should be answered in the negative and the second in the affirmative, but we would recommend that the matter be submitted to a lawyer of the locality in question for consideration and opinion.

CONSTIPATION

IRREGULARITY OF THE BOWELS

Any irregularity of the bowels is always dangerous, and should be at once attended to and corrected.

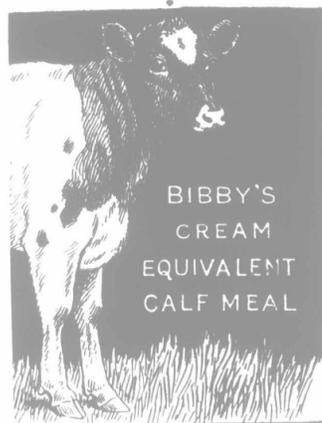
MILBURN'S

LAXA-LIVER PILLS

work on the bowels gently and naturally without weakening the body, but, on the contrary, toning it, and they will if persevered in relieve and cure the worst cases of constipation.

Mrs. James King, Cornwall, Ont., writes: "I was troubled with sick headaches, constipation and catarrh of the stomach. I could get nothing to do me any good until I got a vial of Milburn's Laxa-Liver Pills. They did me more good than anything else I ever tried. I have no headaches or constipation, and the catarrh of the stomach is entirely gone. I feel like a new woman, thanks to Milburn's Laxa-Liver Pills. I used in all about half a dozen vials."

Price 25 cents a vial, 5 for \$1.00, at all dealers or mailed direct by The T. Milburn Co., Limited, Toronto, Ont.



CALVES

FEED CREAM EQUIVALENT PROPERLY PREPARED.

Guaranteed to keep calves in first-class condition. Prevents scouring and other ailments. Recommended by highest authorities. Sold by all dealers.

WM. RENNIE CO., Limited, TORONTO.

HOMESTEAD ABERDEEN-ANGUS

Young cows at \$60 and up. Calves at \$25 and up. Come and see them, or write: **WM. ISCHE, Sebringville, Ont.** Long-distance phone.

At Dominion Exhibitions, Halifax, Nova Scotia, in 1906; Sherbrooke, Que., 1907; Calgary, Alta., 1908; our Aberdeen-Angus herd won all the champion and grand champion prizes. Out of a possible of 42 first-prizes our herd won 40. We have a good graded show herd for sale. Also single animals, bulls and females. **JAMES BOWMAN, Elm Park, Guelph.**

Aberdeen-Angus Cattle

For Sale: Cows, Heifers, Bulls.

Good strains at reasonable prices. Apply to: **Andrew Dinsmore, Manager, "Grape Grange" Farm, Clarksburg, Ont.**

Aberdeen-Angus

Present offering: Two choice bulls ready for service, and anything in the female line. A choice lot and sold right. **GEO. DAVIS & SONS, ALTON, ONT. Station, C. P. R.**

HAWTHORN HERD OF DEEP-MILKING Shorthorns

For Sale: 2 young bulls and 10 heifers, sired by Aberdeen Hero (imp.) = 28840 =. Some bred to the Lavender bull, Lavender Lorne = 68706 =. **WM. GRAINGER & SON, Londesboro, Ontario**

Ring-Bone



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 45-minute applications cure. Works just as well on Sidebone 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. Durably bound, indexed and illustrated. Make a right beginning by sending for this book.

FLEMING BROS., Chemists,
75 Church St., Toronto, Ontario

THE IDEAL Green Feed Silo



will more than double the returns from your dairy. Not an experiment, but a time-proven fact; many of them have been in constant use for years. Built in all sizes, and shipped complete. Write for special Silo Catalogue "C."

CANADIAN DAIRY SUPPLY CO., LTD.
MONTREAL. QUEBEC.

Willow Bank Stock Farm

SHORTHORNS AND LEICESTERS.

Herd established 1855; flock 1848. Am offering a special good lot of young females, bred to the great Duthie bull, Imp. Joy of Morning = 32070 =. Also young bulls and Leicester sheep fitted for showing. Write for prices.

JAMES DOUGLAS, CALEDONIA, ONTARIO.

SHORTHORNS

Several good yearling heifers for sale at very reasonable prices. Also one red eleven-months-old bull. Barred Plymouth Rock eggs for hatching.

JOHN RACEY, Lennoxville, Que.

1854-Maple Lodge Stock Farm-1909

Shorthorn bulls and heifers of extra quality and breeding, and from best milking strains.

Leicesters of first quality for sale. Can furnish show flocks.

A. W. SMITH, Maple Lodge P.O., Ontario.
Lucan Crossing Sta., G. T. R., one mile.

Scotch Shorthorns

Twelve choice red bulls, 10 to 18 months, by Imp. Protector; some out of imported dams. Also Hackney fillies. M. C. and P. M. Rys.

McFarlane & Ford, Box 41, Dutton, Ont.

DANGERS OF HUNTING.

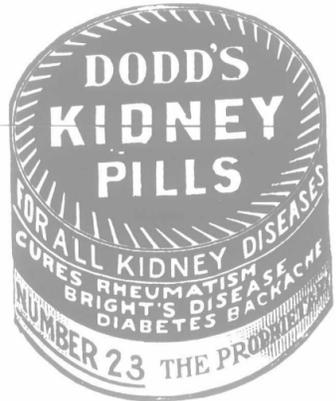
An Englishman was recently invited by a New Yorker to accompany him on a hunting trip to Long Island.

"Large or small game?" laconically asked the Briton, who has hunted in every quarter of the globe.

"You don't expect to find lions and tigers on Long Island, do you?" queried the New Yorker.

"Hardly," responded the Briton with a laugh, "but I like a speck of danger in my hunting."

"If that's the case," answered the other with a grin, "I'm your man, all right. The last time I went out I shot my brother-in-law in the leg!"



DODD'S KIDNEY PILLS

CURES RHEUMATISM BRIGHT'S DISEASE DIABETES BACKACHE

NUMBER 23 THE PROPHET

Facts About New South Wales.

Interesting facts regarding agriculture in New South Wales are given by Trade Commissioner J. S. Larke, of Sydney, N. S. W., in a recent Trade and Commerce Report. The population in 1897 was estimated at 1,301,780, and in 1908 at 1,605,032. The area under all crops in 1898 was 1,821,829 acres, and in 1908 it was 2,570,137 acres. During the last four years there has scarcely been any increase in the acreage cultivated. The average value of the production per acre was in 1898, £3 8s. 7d., and in 1908 it was £2 11s. 3d. In 1902, during the drought year, the average value per acre was only £1 16s. 10d. The principal crop was hay, largely composed of wheat, barley and oats, cut in the green state, and lucerne. Nearly one-fourth of the acreage sown to wheat was cut for hay, and two-thirds of the acreage sown to oats was utilized for the same purpose. Next in order are wheat, maize, and sugar cane. The production of oats and barley was comparatively small. The average yield per acre for ten years was: Wheat, 9.8 bushels; maize, 27.4 bushels; barley, 14.1 bushels; oats, 18.2 bushels; potatoes, 2.2 tons. An improvement in agricultural practices is noticeable, chiefly in the provision made for keeping stock in good condition. Silos have been built on 312 farms, and about 12,856 tons of silage preserved. One agricultural college and thirteen State experimental farms have been established. Live stock in 1907 included 578,326 horses, 2,751,193 cattle, 44,461,839 sheep, and 216,145 swine. There is a slow but steady increase in the number of comparatively small pastoralists. In 1897, four hundred and six persons had from 20,000 to 50,000 sheep. In 1902 the number had been reduced to three hundred and twenty persons; in that year, one hundred and four had from 50,000 to 100,000 sheep, and in 1907 there were only sixty-six persons. In 1897, twenty-one had 100,000 sheep or over; in 1907 the number had fallen to seven, while those having under 20,000 sheep had increased from 14,623 persons in 1897 to 22,780 in 1907. In 1907 the wool production totalled 367,446,000 pounds, valued at £17,185,126. Frozen-meat trade also shows rapid development. In 1907 the output of butter was 60,041,449 pounds, and of cheese 4,586,857 pounds. The 1898 figures were 31,483,601 pounds of butter, and 3,245,312 pounds of cheese.

GOSSIP.

Mrs. Adam Beck's far-famed Standard-bred mare, Sparkle, gave birth on May 19th to a beautiful filly foal, and as the sire is Sharprow (imp.) (6557), it is safe to predict that this royally-bred little princess will carry the honors of her father and mother to the show-ring. As she can be registered in Canada and the United States as a full-blooded Hackney, we hope that Miss Sharp Sparkle will show the world that, through the union of two natural trotters we produce natural trotters. "Like begets like." Sparkle is to be bred back to Sharprow.

To get a foal to suck the teat for the first time is by no means an easy task if the youngster is at all disposed to be awkward, and many of them are, especially with young mares having very short teats, and occasionally a foal dies of starvation before he acquires the art. As a general rule, and with a healthy, vigorous foal, it is better to let them try to find the milk on their own account first, as they often resent interference and become more stupid in consequence, but with the first foal it is often necessary to hold the mare's head to prevent her turning about after the colt. If the youngster cannot succeed after repeated attempts, assistance must be rendered before it gets too weak to stand steadily on its legs, and it may take three people—one at the mare's head, another to steady the colt, and the third to coax his head in the right direction. This may sometimes be done by standing on the opposite side of the mare and give the foal a finger underneath, on which some milk has been drawn. If he sucks this, he may be gently drawn towards the teat, and when once he has had a good taste, the trouble is over. Patience and perseverance are the qualities needed for making an awkward foal to take to the teat.

7 Imported Scotch Shorthorn Bulls 7

Six imported bull calves from 9 to 14 months old, 3 reds and 3 roans. They are of such noted families as Clara, Jilt, Roan Lady, Butterfly, Claret and Broadhocks. One imp. bull 2 years old, red; a most valuable sire. One bull 11 months old, roan, from imp. sire and dam; promising for a show bull. Two bulls 12 months old, from imp. sire and dam; suitable for pure-bred or grade herd. Also females all ages. Write for catalogue. Prices reasonable. Farm ¼ mile from Burlington Junction station, G. T. R.

FRED. BARNETT, MANAGER. J. F. MITCHELL, BURLINGTON, ONT.

Shorthorns and Shropshires SHORTHORN BULLS PRICED

Herd headed by Imp. Queen's Counsellor = 64218 = (96594). For sale: Three young bulls; also cows and heifers bred to Queen's Counsellor. The Shropshires are yearling rams and ewes, bred from imported Buttar ram.

H. L. STEAD, Wilton Grove, Ont.
London, G. T. R., 6 miles; Westminster, P. M. R., 1 mile. Long-distance phone.

Red, two years old, from a good imported cow, price \$100.
Roan, thirteen months old, extra good, short-legged calf from one of my best cows, \$100.
Red and White, thirteen months, out of Lady Madge, by Langford Eclipse, price \$75.

JOHN MILLER, BROUGHAM, ONTARIO.
CLAREMONT STATION, C. P. R.



SOME SHOW PROPOSITIONS IN BOTH MALE AND FEMALE

SHORTHORNS

as well as a number of the useful sort of both sexes. Prices right. Large lot to select from. Up-to-date in breeding, etc. Catalogue.

JOHN CLANCY, Manager. H. Cargill & Son, Cargill, Ont.

Shorthorn Cattle AND LINCOLN SHEEP. A. Edward Meyer,

P. O. Box 378, Guelph, Ontario, Breeds SCOTCH SHORTHORNS Exclusively

Twelve of the most noted Scotch tribes have representatives in my herd. Herd bulls: Scottish Hero (imp.) = 55042 = (90065) 295765 A. H. B.; Gloster King = 68708 = 285804 A. H. B. Young stock for sale. Long-distance phone in house.

J. T. GIBSON, DENFIELD, ONT.

During the Busy Season If you need a Shorthorn bull we will ship one on approval, and if you are not suited you may ship him back. Write us for terms and conditions. Just two ready for service. Both Cruickshank Lavenders.

MAPLE SHADE FARM.

STATIONS: } MYRTLE, C. P. R.
BROOKLIN, G. T. R.

Long-distance telephone. **JOHN DRYDEN & SON, BROOKLIN, ONT.**

Scotch Shorthorns

Canada's greatest living sire, Milledred's Royal, heads my herd. For sale are young bulls and heifers, show stuff and Toronto winners, out of Stamford, Lady Ythan, Claret, Emeline, Matchless and Belona dams. A visit will be appreciated. **GEO. GIER, Grand Valley P. O., Ont. Waldomer Sta., C. P. R.**

JOHN GARDHOUSE & SONS

Always have for sale a number of first-class Shorthorns, Shires and Lincolns, of both sexes. Drop us a line, or better, come and see for yourself.

HIGHFIELD P.O., ONTARIO.
Weston Sta., G. T. R. & C. P. R. Long-distance phone in house.

We are 5 Good Young Bulls at very reasonable prices in order to clear, also 2 VERY CHOICE JUNIOR YEARLINGS in SHOW CONDITION. We can sell some extra well bred cows and heifers (bred or with calves at foot) at prices which should interest intending purchasers. Our farms are quite close to Burlington Jct., G. T. R. Long-distance telephone.

W. G. Pettit & Sons, Freeman, Ontario.

Imported Bull!

To save inbreeding I will sell the Cruickshank (Duthie bred) imp. bull, Sittyton Victor = 50093 = (87397), a proven sire of merit, gentle and active. Also some young bulls by him, out of imp. dams. Address:

John Brydone, Milverton, Ont.

SHORTHORNS

Nine bulls from 8 to 20 months old, reds and roans; 10 yearling heifers and a few cows. Will sell very cheap to make room in stables.

CLYDESDALES

One pair of bay mares and one dark brown, heavy draft and two spring colts.

JAMES McARTHUR, Gobles, Ontario.

WHY NOT BUY A HIGH-CLASS SCOTCH SHORTHORN COW, Or a Heifer, Or a Bull, Or a Few Shropshire Ewes, Or a Few Cotswold Ewes, NOW, While You Can Buy Them Low?

I can offer you something in any of them that will make a start second to none. Write for what you want.

ROBERT MILLER, STOUFFVILLE, ONT.

SPRING VALLEY SHORTHORNS

One 14 months' old imported bull, bred by A. M. Gordon. Good enough to head any herd. Five Canadian-bred bulls from 12 to 16 months. Will be priced very reasonable, as we do not want to run them over.

KYLE BROS., AYR, ONT.

Greengill Shorthorns!

Our present offering consists of 10 young bulls, from 8 to 20 months. All nice reds and roans. A number of them from imp. sire and dam. Prices right.

R. Mitchell & Sons, Nelson P. O., Ont.
Burlington Jct. Sta.

VALLEY HOME SHORTHORNS AND BERKSHIRES

For sale: 6 grand young bulls from ten to eighteen months old, young cows with calves at foot, and ten one and two-year-old heifers. All our own breeding. Some are very choice show animals. Also young sows, and a fine boar 12 months old.

S. J. PEARSON, SON & CO., MEADOWVALE P. O. AND STATION, C.P.R.

ARE YOU IN WANT OF A CHOICE BULL YOUR HERD?

We are offering choice bull calves sired by Fountain's Boyle, who won first prize at Toronto, London and Ottawa, who also headed first-prize herd at Toronto and Ottawa. Also offering some choice heifers.

D. DUNCAN, DON, ONT.
DUNCAN STATION, C. N. O.

Shorthorn Bulls Ready for service. One will make a show bull. Also young things from Matchless, Crimson Flower, Miss Ramsden, Rosemary, Diamond and Lady Fanny dams, the get of Chancellor's Model. Prices to suit times. Come and see. **Israel Groff, Elmira, Ont.**

Pine Ridge Jerseys—For Sale: (Earl Denton head of the herd.) Females, all ages. Yearling bull and a bull calf, 5 months, from a 10,000-lb. cow. Can spare also a few young cows and heifers due to calve soon.

WM. WILLIS, Pine Ridge Farm, Newmarket, Ont.

Brampton Jerseys

Canada's premier herd. Dairy quality. Bulls all ages for sale, from best dairy and show cows in Canada, and by best sires. Our herd is 175 strong.

B. H. BULL & SON, BRAMPTON, ONT.

MANY DON'T KNOW HEART AFFECTED.

More People Than are Aware of It Have Heart Disease.

"If examinations were made of everyone, people would be surprised at the number of persons walking about suffering from heart disease."

This startling statement was made by a doctor at a recent inquest. "I should not like to say that heart disease is as common as this would imply," said the expert, "but I am sure that the number of persons going about with weak hearts must be very large."

"Hundreds of people go about their daily work on the verge of death, and yet do not know it. It is only when the shock comes that kills them that the unsuspected weakness of the heart is made apparent."

"But undoubtedly heart weakness, not disease, is more prevalent nowadays. I should think that the stress of living, the wear and rush of modern business life, have a lot to do with heart trouble."

There is no doubt but that this is correct, and we would strongly advise any one suffering in any way from heart trouble to try a course of **MILBURN'S HEART AND NERVE PILLS**

Price 50 cts. per box or 3 boxes for \$1.25, at all dealers or will be mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

MAPLE LEAF BERKSHIRES

For sale: Young sows bred to farrow in May and June; bears fit for service; also young pigs farrowed in March and April. Imp. sires and dams. Pairs not akin. C.P.R. and G.T.R. Joshua Lawrence, Oxford Centre, Ontario.



NEWCASTLE TAMWORTHS, SHORTHORNS AND CLYDESDALES. Present offering: 3 Shorthorn cows with heifer calf at foot; 3, 4 and 5 months old respectively, and bred again; a choice lot of Tamworth boars and sows from 6 weeks to 5 months old, also a few really good sows bred during April and May. A. A. COLWILL, NEWCASTLE, ONT.

The demand that the Sultan of Turkey dispense with his harem recalls the story of the cannibal chief who became converted and asked the missionary to admit him to the church.

"But you have more than one wife," objected the missionary. "My church does not allow that."

The chief departed in dejection, but returned again in a few days and announced, with evident satisfaction, that he now only had one wife, and was ready for baptism.

"But," objected the clergyman, doubtfully, "where are your other wives?"

"Oh," replied the convert, "I have eaten them!"

ARE A FRIEND TO THE FISHERMAN

Dodd's Kidney Pills Cured Mr. C. Williams' Rheumatism.

He took the terrible disease in time and a single box made him a well man.

South Ingonish, Cape Breton, May 31. (Special).—How easily and quickly Dodd's Kidney Pills banish rheumatism and other symptoms of kidney disease is well known in the case of Michael C. Williams, a fisherman living in this place.

"My kidney disease started from a strain," Mr. Williams says, "and I suffered from it for about three months. I had backache, stiffness in the joints and rheumatism. When I got up in the morning I had a bad taste in my mouth, I perspired freely with the least exertion, and I was always tired and nervous."

"One box of Dodd's Kidney Pills cured me, and I believe they will cure others who are suffering from kidney disease."

If you have any two of the symptoms mentioned by Mr. Williams, you may be sure of two things: One is that your kidneys are sick, and the other that Dodd's Kidney Pills will cure you.

Dodd's Kidney Pills have proved in thousands of cases all over Canada that they never fail to cure kidney disease of any kind or stage.

QUESTIONS AND ANSWERS. Miscellaneous.

FEEDING PIGS, COWS AND POULTRY.

My father died this spring, and I am only ten years old, and am trying to fill my father's place as best I can, and if I am not too much bother to your valuable paper I would like you to answer me the following questions:

1. How and what will I feed young pigs, just weaned, to give them a good start, and what is the best feed for pigs at any time, and what breed is the best to purchase to fatten quickly for market, and which sex is the most profitable? How much should young pigs, five weeks old, be fed at once?

2. How and what will I feed milking cows to produce the best flow of milk? Should they be fed as heavy as cattle preparing for the exhibition?

3. What is the best feed for Plymouth Rock hens? How much should be fed to forty hens, and should they be fed as much now as in the winter? My hens are not doing a bit well at present.

4. How can I keep corn in a silo all summer, have been feeding it all winter and have about five feet left in a large silo yet? Can it be kept successfully till next winter; if so, how can it be done? If there are not too many questions, I would be glad to have them answered, and I will do my best to follow your advice. W. G.

Ans.—This shows good grit, good judgment, and commendable enterprise, and we trust our young friend will succeed as he deserves. Answering the questions we would say:

1. For weaning pigs nothing can beat shorts or middlings and skim milk. If skim milk is not to be had, whey makes a good substitute. If one has neither skim milk, buttermilk, nor whey, oil-cake meal may be added to the shorts in proportion of one part oil cake to four of shorts or middlings, then mix with water to a moderately-thick slop. Feed young pigs four or five times a day, as much as they will eat up clean. Never feed pigs so much that they will leave feed over in their trough from time to time. After two or three months of age, feeding three times a day will be sufficient. As the pigs get older, some crushed barley may be added, and to finish off a mixture of shorts, barley, pea meal and corn meal will be found satisfactory, with a little oil cake added. Any of the common breeds in Canada, or their crosses, are satisfactory. A cross of Yorkshire and Berkshire cannot well be improved upon. Either barrow or sow pigs are satisfactory. If anything, thrifty barrows are to be preferred.

2. Good cows, fed as though being prepared for exhibition, should respond with a liberal mess of milk. Some cows will use a great deal more feed to advantage than others. Some will merely lay it on their backs, if fed well, and gradually dry up. With the pasture season coming on, nothing need be fed for a while but grass, although some dairymen make a practice of feeding a pound or two of grain to each cow all the year round, but only persistent milkers will stand it without heaving up. If the pasture fails, silage may be fed during the summer, along with a quart of bran and half a pound of oil cake, to each cow per day, or clover, alfalfa, or grain, may be cut and fed green.

3. Mixed grains, including wheat, or wheat screenings, the run of a grass lot or farmyard, oyster-shell to supply lime, and sharp sand or fine gravel for grit, and clean water, as well as meat scrap, should supply their immediate needs. The chances are the hens are lousy. Clean out the house, and follow instructions in our Poultry Department, notably in the article, "Spring Suggestions in the Poultry Yard," issue April 8th. Dust the hens with insect powder. As to quantity of feed, this will depend upon how much they can pick up on the range. Do not feed all they want in the morning, but let the evening feed be sufficient to send them to roost with full crops.

4. Leave the silage as it is. Five or six inches on top will spoil; the rest will keep good.

SEA GREEN & PURPLE SLATE ROOFS NEVER WEAR OUT

SEA GREEN AND PURPLE SLATE is nature's own product—not man made. Quarried from solid rock—split into convenient form for laying, and then in its natural state ready for the roof. **SOLID ROCK CAN NOT WEAR OUT.** It can't burn, rust, warp, crack, tear, or decay. That's why Sea Green or Purple Slate Roofs never wear out and never require painting and repairing like all other roofing. Sea Green & Purple Slate Roofs are suitable for any building, new or old. Give perfect protection. Reduce insurance rates because spark and fire-proof. Afford clean easterly water. Not affected by heat or cold. First cost only a trifle more than short lived roofing. Settle your roof question for all time. Don't spend more money for poor roofing. Write to us for our free book "ROOFS"—it will save you money. Give name of your local roofer. Write today. **AMERICAN SEA GREEN SLATE CO., Box '3 Granville, N. Y.**

Large White Yorkshires



An offering during this month a good lot of young boars ready for service, young sows of breeding age, and a choice lot of spring pigs. Pairs supplied not akin. All bred from large imported stock. Write

H. J. DAVIS, Woodstock, Ont.

Morrison Tamworths, Shorthorns and Clydesdales. Tamworths from Toronto winners. Either sex. Any age. Sows bred and ready to breed. Pairs not akin. **CHAS. CURRIE, Morrison, Ont.** Schaw Sta., C. P. R.



Maplehurst Herd of Tamworth Swine, Bronze Turkeys, Toulouse Geese, Pekin Ducks, S.-C. W. Leghorns.

Tamworths of excellent breeding and ideal bacon type. Herd won sweepstakes at Toronto and London, 1905-6-7-8; winnings at World's Fair, St Louis, 1904.—sweepstakes aged and junior herd, and two grand championships. Apply to:

D. DOUGLAS & SONS, MITCHELL, ONTARIO. Bell 'phone in residence.

For Sale: CHESTER WHITES

of the right type. Apply to:

DANIEL DE COURCY, BORNHOLM, ONTARIO.

Shannonbank Clydesdales, Ayrshires, Yorkshires. One stallion rising three years, by imp. Hopewell. Two young bulls ten months, and some heifers from six months to two years. Yorkshires of both sexes. **W. H. TRAN, Cedar Grove, Ont. Locust Hill Sta., C. P. R.**



MONKLAND YORKSHIRES

are the easily-fed, quick-maturing kind. The sort the farmers want. All ages for sale. 100 sows bred now.

JAMES WILSON & SONS,

FERGUS, ONTARIO.

Willowdale Berkshires!

Won the leading honors at Toronto this fall. For sale are both sexes and all ages, from imp. stock on both sides. Show them a specialty. Everything guaranteed as represented. **J. J. WILSON, MILTON, ONT., P. O. AND STATION. C. P. R. AND G. T. R.**



SUNNYMOUNT BERKSHIRES

Highest standard of type and quality. For sale: Sows of all ages, and 4 yearling boars. A grand good lot. Also younger ones. Pairs not akin. **JOHN MCLEOD, C.P.R. & G.T.R. Milton P.O., Ont.**



OHIO IMPROVED CHESTER WHITES.—Largest strains. Oldest-established registered herd in Canada. Young sows in farrow. Choice pigs 4 weeks to 6 months old. Pairs furnished not akin Express charges prepaid. Pedigrees and safe delivery guaranteed. **E. D. GEORGE Putnam, Ont.**

DUROC-JERSEY SWINE

Imported and home-bred. Sows ready to breed. Boars fit for service, and younger ones either sex. Also Embden geese. **MAC CAMPBELL & SONS, HARWICH, ONT.**

WEAK MEN, LOOK!

Take This Belt for What it is Worth. Wear it Until You Are Cured—Then Pay Me My Price.



THE SPARK OF LIFE

Nature is the greatest doctor on earth. When she can't cure it is because she needs aid. Now, most people have an idea that this aid is drugs, and when they get sick and suffer from pain of any kind they proceed to dope their stomach with the stuff that is sold for medicine. That doesn't help any; in fact, it does a great deal of harm. The dope that you put into your stomach is poison, and poison weakens the organs and nerves of your body. What Nature needs is electricity.

When your stomach, kidneys, liver or digestive organs get out of order, it is because they lack the necessary electricity to make them perform their regular functions. The breaking down of one of these organs nearly always causes other trouble. Nature can't cure them, because your body hasn't enough electricity to do the work, so you must assist Nature by restoring this electricity where it is needed.

My Electric Belt does this while you sleep. It saturates the nerves with its glowing power, and these conduct the force to every organ and tissue of your body, restoring health and giving strength to every part that is weak. Electricity is a relief from the old system of drugging, which does by natural means what you expect drugs to do by unnatural means. It removes the cause of disease, and after the cause has been removed Nature will do the rest.

MR. THOS. JOHNSTON, Box No. 233, Deseronto, Ont., says: "It is some five or six years since I got your Belt. I am well satisfied with it. It cured me, and I have not been bothered since, and have not used it since then."

If you are skeptical, all I ask is reasonable security for the price of the Belt, and you can

PAY WHEN CURED.

FREE TO YOU.—Get my 80-page book describing my Electric Belt, with illustrations of fully-developed men and women, showing how it is applied. If you can't call, I'll send this book, prepaid, free, if you will enclose this coupon. Consultation free. Office hours—9 a.m. to 6 p.m. Wednesday and Saturday till 8.30 p.m.

DR. M. S. McLAUGHLIN,
112 Yonge St., Toronto, Can.
Please send me your book, free.
NAME
ADDRESS

Send Now For Free Book and Sample

"For more than five years I have been experimenting with our experts to find the BEST culvert for all-round uses.



We sought the markets of the world for one that was just right; and we didn't find it. If we had, we'd have bought the patent rights for Canada. Finally, last spring we struck the idea. Then we put in some expensive months in making that idea better, —and NOW we've got a culvert that is so far ahead of any other there's no comparison."

"You'll read something about it here; but to KNOW how 'way-ahead it really is, you'll want to see the sample (sent free) and read the booklet (free, ditto). With that before you, you will soon see why every Reeve, or Warden, or Town Councillor, or anybody who has any use for culverts at all,—will find it pays to get in touch with me right NOW. I am asking you to lay aside your notions of what makes a good culvert, and a cheap culvert, and find out about this NEW culvert. I don't expect you to buy a foot of it until it PROVES to you that Pedlar Culverts are in a class by themselves, and that you can't afford to overlook them. Let us start that proof toward you soon—address nearest Pedlar place."

G. A. Pedlar

Frost-Proof, Rust-Proof, and Wear-Proof

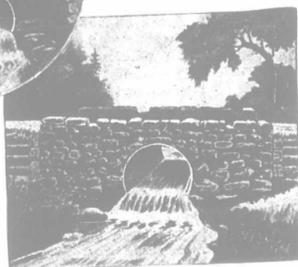
This triple-rib flange-lock principle, found only in Pedlar Culverts, not only adds greatly to the strength of the piping and makes a perfect joint—practically as good as if welded—but it also allows for expansion and contraction under cold or heat. Though a Pedlar Culvert, of any length, be frozen solid full of ice, it will not split nor spring a leak.

Send for Free Sample and Booklet 20—Address

State your probable needs and we will quote prices and discounts —



A structure like this, with PedlarCulvert, won't wash out nor need repairs.



Made of Special Billet Iron, Extra Heavy

In every size of Pedlar Culvert, which comes in all standard diameters from 8 inches to 6 feet, we use nothing but the best grade of Billet Iron, specially made for us, of extra-heavy gauge (14 to 20 gauge, according to the diameter). This Billet Iron is curved into semi-cylinders—curved COLD, so there will never be any variation from exact dimensions; and it is then deeply and smoothly corrugated on a special press that puts a pressure of SIXTY TONS on every square inch of the metal. The corrugations, therefore, are uniform and very deep.

Galvanized After Being Pressed Up

When the corrugating process is done, the sections are galvanized by our exclusive process that covers the entire surface with a thick coating of zinc spelter. Every edge, every crevice, is heavily coated with this rust-proof, corrosion-proof galvanizing, not a spot is left unprotected. This is the only culvert galvanized after being shaped. Is absolutely Rust-proof.

Will Stand Incredible Strains

The heavy-gauge Pedlar Billet Iron sections, deeply corrugated and locked together without bolts or rivets by our compression triple-rib (this rib is flat—not corrugated), make a culvert that will stand enormous crushing strains and neither give nor spring. A thin cushion of soil on top is all the protection such a culvert needs against traffic; and no special precautions need be observed in laying it,—it will stand what no other culvert can.



Learn about the strongest, most practical, most durable and easiest-laid culvert ever made—that's

PEDLAR Perfect Corrugated Galvanized CULVERT

A few hours' work and a few dollars will put a modern and permanent culvert in place of a ramshackle bridge. Easily laid by anybody.

Compact—Portable Easily Laid

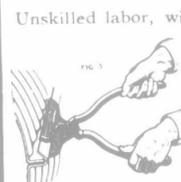


Half-sections nested for shipment

Note that the ribs are flat, and the curved part of the cylinder deeply corrugated. These ribs add vastly to the culverts' strength.



Sections in course of assembling



Clinching the flange lock—no bolts, no rivets, no makeshifts

Unskilled labor, with a single tool, quickly clamps the flanges together, making a triple-fold joint that is tighter and better than any riveted or bolted joint can be.

BRANCH WAREHOUSES

MONTREAL, 321-3 Craig St. W.
OTTAWA - - - 423 Sussex St.
TORONTO - - - 11 Colborne St.
LONDON - - - 86 King St.
GHATHAM - 200 King St. W.

GOSSIP.

RESIDUE FROM ACETYLENE PLANTS

In the Natal Agricultural Journal, A. Pardy, dealing with the residue from acetylene plants, says that an analysis of the lime residue from the generation of acetylene gas is reported, and its value as a fertilizer briefly discussed. The material was found to contain 60.1 per cent. of calcium carbonate, 29.5 per cent. of calcium hydroxid, and 7.8 per cent. of moisture, besides small amounts of magnesia, silica, iron, alumina, etc. The material is considered a valuable line fertilizer, but should be thoroughly saturated with water and aerated before crops are planted on land to which it is applied. This is best done by spreading on bare land in winter a considerable time before planting the crop.

Disk-harrowing Alfalfa.

For destroying weeds and renewing alfalfa growth, the disk harrow is used extensively. United States Department of Agriculture Farmers' Bulletin 342 says:

The disking of alfalfa is a common practice, and seems to be an especially effective means of destroying weeds and breaking up the silt blanket deposited in cases where muddy water is used for irrigation. The ordinary disk harrow is widely used for this purpose, but R. H. Forbes, in a bulletin of the Arizona Station, states that a special machine "for the cultivation of alfalfa has been devised on the principle of the disk harrow, but with rows of strong spikes, or digging teeth, in place of the continuous edges of disks. These machines are stated to be in successful operation in Australia and South Africa, and one form * * * was introduced into Arizona in 1907. * * *

"One man with an 8-foot machine and four horses will get over eight to ten acres of alfalfa in a day. This work may be done in winter, when teams are more at leisure; but it is probable that in summer also, after cutting and before irrigating, an occasional disking, to break up the sediment blanket, may be well worth while, especially on the upper ends of alfalfa fields."

In South Africa, the necessity of disk cultivation is recognized to the extent of having contests in which prizes are given for the machine most closely meeting the requirements.

A. M. Ten Eyck, of the Kansas Station, considers the cultivation of alfalfa desirable, and recommends disking in the early spring. He found "that less injury was done the alfalfa and the best work accomplished by setting the harrow so as to make it cut two or three inches deep"; then cross-disking the field and harrowing it with the common straight-tooth harrow. He states that "the common disk harrow is more generally used than any other implement to cultivate alfalfa, and when properly adjusted, does good work. The spike-tooth disk, known as the 'alfalfa harrow,' was used on the alfalfa fields at the experiment station farm during the seasons of 1907 and 1908. This harrow does good work when properly adjusted, and is perhaps a better implement for this purpose than the common disk harrow."

The ends attained by disking alfalfa are thus concisely stated by Professor Forbes:

At a trifling cost, varying according to individual circumstances, the disk harrow splits and spreads the crowns of alfalfa plants, causing them to develop additional tops; it destroys the egg deposits and larvae of certain injurious insects; it destroys weeds; it breaks up the silt blanket resulting from the use of muddy irrigating water, allowing better penetration of water and air to the roots of the crop; it loosens up certain dense soils; and to some extent it incorporates beneficial sediments and fallen alfalfa leaves with the soil.

As one of the most serious obstacles to the successful culture of alfalfa, particularly in the Eastern United States, is the crowding out of the plants in the earlier stages of growth by weeds, the introduction of implements and methods which will destroy or control the weeds is of great importance. The use of the disk harrow as described above seems to offer an efficient and practical means of securing this result.

GOSSIP.

CLAYFIELD COTSWOLDS.

J. C. Ross, of Jarvis, Ont., is recognized as one of Canada's leading Cotswold sheep importers, and his renowned Clayfield flock as one of America's best. The great success of representatives of this grand flock at Canada's leading exhibitions, as well as at the Chicago International, for many years, has proven their superiority, and established their

character of excellence. The flock is now about 125 strong, all either imported or from imported sires and dams, the shearings being got by the Toronto champion, Imp. Activity, and this spring's lambs by the Royal first-prize winners of 1908. Parties wanting something above the average in Cotswolds should communicate with Mr. Ross, as he has a large number for sale of both sexes. He is also offering a limited number of Hampshires, bred from imported stock. Mr. Ross is also engaged in the breeding of Clydesdales,

having on his farm just now seven head, registered. There are few better breeding Clydesdale mares in Canada than those on this farm, and all but one are sold of their progeny that can be spared. He is a bay stallion, rising 3, Prince of Clayfield 6626, by Imp. Alexander's Heir, dam by Imp. Sir Richard. He has four registered dams, and is bred on prize-winning lines from away back. He is of grand quality, smooth and even, well put-up all round, and will be priced right.



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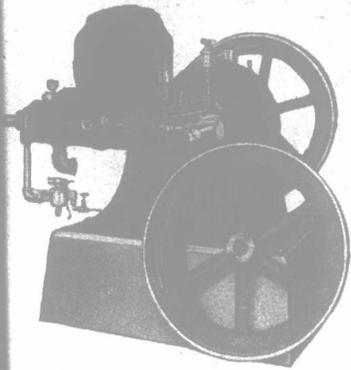
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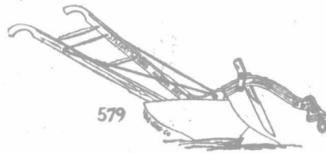
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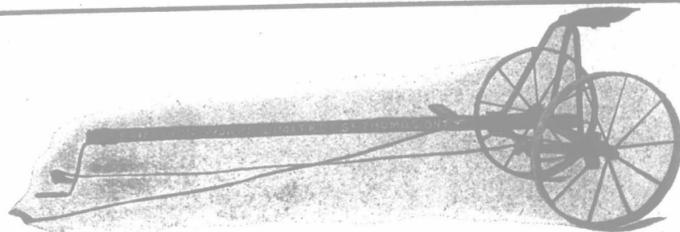
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