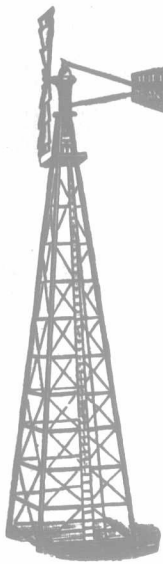


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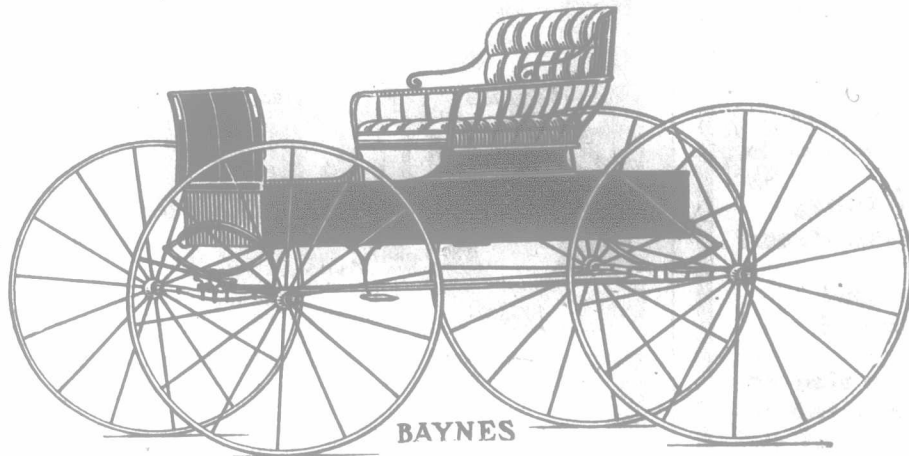
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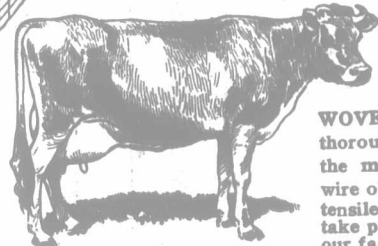
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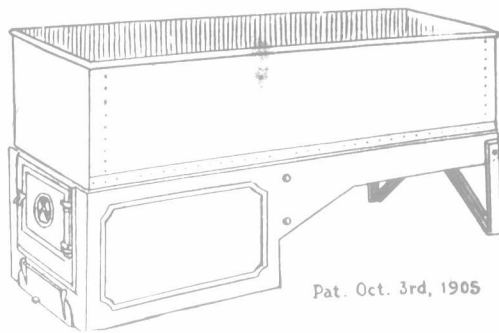
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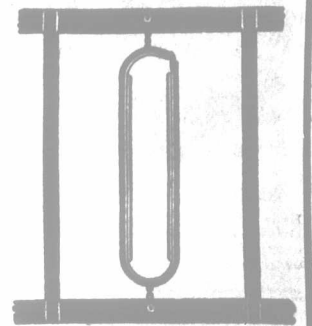
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LONDON, ONTARIO, FEBRUARY 20, 1908.

No. 804.

EDITORIAL.

THE VALUE OF ENSILAGE.

Those who have a supply of corn ensilage to feed to their stock this winter will have a higher appreciation than ever of its value. The partial failure last year of both the hay and oat crops, on which most dependence is placed by the majority of farmers, has served to emphasize the importance and the wisdom of providing against such a contingency, which may recur in any year. The prospect for an average hay crop the coming season is by no means bright, owing to the failure of the clover catch in many districts last spring and the close cropping of the meadows in the late fall, stock having been left out longer than usual on account of the light supply of fodder in the barns. And, though the blight, which so heavily discounted the oat crop, may have been and probably was owing to weather conditions which may not recur this year, yet this point has not been satisfactorily settled, the best authorities being far from certain as to the cause, it is quite possible we may have a repetition of the shortage in that valuable standard crop, which has been relied upon as one of the surest and safest of the cereals. Under these circumstances, it would seem to be the part of wisdom to make provision for a more diversified supply of winter feed, and we know of no other crop so safe and suitable, wherever it can be sufficiently matured, as corn for grain or for silage. There are few crops that are surer or safer, in the average of years, and especially in a season of drouth, since it revels in a hot temperature, and will flourish when grass and grain crops wilt and wither. It produces a heavier and bulkier yield of palatable and nutritious food than any other crop, and can usually be stored in better condition than other farm crops, since rain has no injurious effect upon it, and even frost has lost its terror to the mind of the man who has had experience with ensilage, frost, in many instances, seeming often to improve rather than injure its keeping qualities and its feeding value, as about the only danger with ensilage lies in storing it in too green a condition. The culture of the corn crop, if well managed, need not be costly, and its harvesting comes after the grain is secured and threshing and the fall seeding are well over. And when the silo is filled, the farmer has a bank from which he can comfortably draw supplies in any kind of weather, and of a quality which is wholesome, and suitable for either milk or beef production, at a moderate cost, as compared with any other food. And if one has more in store than is needed for winter feeding, it will keep indefinitely, and may prove a boon in supplementing the food supply in a time of drouth in summer, when, without some such provision, the milk supply is sure to shrink, and the financial returns be seriously shortened.

While the richest soil and the best preparation is none too good for a corn crop, and, on heavy land, a fall-plowed field, top-dressed with manure in winter, is, as a rule, preferable, a good crop may be secured, especially on the loamier soils, with spring plowing and manuring, or by plowing a sod field in spring and giving thorough surface tillage, which need not be undertaken until the grain seeding is finished, so that the corn crop does not seriously interfere, in any stage of its handling, with the other farm crops, and, in this respect peculiarly commends itself to the consideration of every farmer so situated that he can adopt its cultivation with a reasonable prospect of success. The question of securing sound seed of a suitable variety for the section should receive early attention, and testing the seed for

vitality, which is so easily done, is a wise provision. And the building of a silo, if one is not already provided, need not be costly, as a satisfactory stave silo of medium capacity, which will last for many years, may be erected for less than one hundred dollars, while a cement-concrete silo which will last indefinitely may be built for less than twice as much. The work of preparing for either may be commenced this winter, while sleighing is good and farm work slack, as gravel or lumber, either of which will keep, may be secured now, or may be had where wanted after the corn crop is assured. Much information as to the building of silos has appeared in "The Farmer's Advocate" in the last year, and more may be looked for in the coming months, and we counsel our readers to keep an ear to the ground, as we are assured that corn-growing and silo-building will bulk more largely in the plans of farmers this year than has ever been the case in the past.

MANITOBA FEEDING OF RANGE-BRED CATTLE.

Before long Manitoba farmers will be buying cattle from the ranches, winter-feeding, and selling them in June. If some stall-feeding were done on the wheat plains, and the cattle shipped early in the summer onto a good market, there would be a third to a half more made out of the cattle. Nature has given the prairie farmer any amount of feed. This spring, enough straw will be burned in the West to have fed three-quarters of a million cattle. The human being takes as long as he can the line of least resistance, but the Province of Manitoba is ripe and ready for a change. The question is, Can they stall-feed at a profit? Might not the Dominion Government take hold of 300 or 400 head of well-bred cattle, feed them as an experiment, charge everything up, make two, three or four shipments to Liverpool and Glasgow, and publish the results? These thoughts were thrown out by Duncan Anderson at the National Live-stock Convention, in his splendid survey of the conditions and needs of the stock-raising industry in the various Provinces.

Following Mr. Anderson, Dr. Rutherford again took occasion to deplore the tendency, on the part of Westerners, to neglect everything else for grain-raising. Moderate progress along agricultural lines would eventually prove of much greater benefit to that country than bumper crops of wheat. Exclusive grain-raising inevitably depletes the soil. On the famous Portage Plains, 18 bushels of wheat per acre is a good crop, yet, in some of the old countries of the world 32 to 40 bushels are secured. As for experimental feeding of range-bred cattle, he had corresponded considerably with Mr. G. H. Greig, of Winnipeg, and they decided that, to a few men who would undertake to feed these, the Government would, by way of experiment, offer, as a special inducement, to give a bonus of 2 cents per pound of gain, in addition to whatever the feeders might make out of the enterprise. But no, they preferred to curl. The waste of feed going on up there is a tempting of Providence.

Andrew Graham, of Pomeroy, Man., said that around Carman they were going in for rotation and mixed farming. Manure spreaders were being used, and very little summer-fallowing done. Clover was succeeding well with them. Two years ago he seeded 60 acres of clover, and last year 80 acres. He has now a three-year-old stand of clover in fine condition. Mr. Anderson remarked that in the West one value of manuring was that on stubble land it hastened maturity five to eight days, and in some cases would have been the salvation of the crop last fall. A dissenting voice was raised by John Graham, of Carberry, who

argued that cattle-feeding in Manitoba would never pay; the labor of feeding was too much, and was awkward in April and May. The cattle-feeding business had been tried in Manitoba time and again, but he never yet knew a man to stay at it and make money out of it. He would like to see the embargo lifted and the British market opened to Western stockers.

G. H. Greig emphatically contended that cattle could be fed profitably in Manitoba, and told of one man he knew well who went into Northern Manitoba some years ago and started to feed cattle in the old Ontario way, tying the steers in stalls in a basement barn, "evidently modelled after the one he had left in Ontario, as it had only one window." For several years he fed 50 to 100 head, but finally determined to change his method. He bought some hay-fed, semi-domestic cattle, turned them out on some rolling scrub land, with a spring-water ravine on the north side. He fed them outdoors on grain-straw and chop, and finds the method perfectly satisfactory. One objection is that the season is long, as he has to hold his cattle over till the frozen meat is out of the way. In 1906 he fed 90 head, bought in at an average of 1,250 pounds, price \$3.25 per cwt., making the cattle cost \$40.60 per head. They were fed on a light meal ration at first, of about 4 pounds, increased to 10 or 12 pounds towards the close of the season. During the fore part of the season the ration consisted of about half bran. Allowing interest, the wages of 1½ men drawing straw, etc., and allowing each steer 1,700 pounds chop, at 80 cents per cwt., equal to \$13.60 per head, his steers cost him to buy and feed \$57.60. These he sold at an average weight of 1,400 pounds, at \$5.25 per cwt., making proceeds \$73.50, which left a profit of about \$16 per head.

Mr. John Graham objected that this estimate was of an exceptional case, where there was scrub shelter, spring water, and a favorable season. Others testified, however, that they had fed cattle and made money out of them, taking one year with another, and that there was no better country than Manitoba for cattle-feeding. One trouble was that there was not enough cattle out there to make it a profitable field for buyers.

H. C. McMullen, Live-stock Agent of the C. P. R., at Calgary, Alta., referred to a couple of men who had fed cattle for Pat Burns at a given price for May delivery. He happened to be with Mr. Burns when these cattle were being inspected in the spring. On the one place there were 62 steers, sleek, fat and smooth, and when they were killed they weighed out well. Within half-an-hour's ride was another farm, with 68 steers fed on the same terms, but rakey and poor. The owner asserted that they had had plenty of good hay and plenty of grain. Enquiry revealed, however, that they had been watered in a couple of half-barrels with about a foot of ice in them, and a capacity of about two pails of water apiece. There is an inference to be drawn, he significantly added.

Wm. English reported that, in his district, in Manitoba, dozens of carloads of good cattle are fed. He mentioned a lot of two-year-old steers which averaged 1,300 pounds. In reply to a question, Mr. English rather nonplussed his interrogator, Dr. Rutherford, by attributing the development of the cattle industry in that district to the fact that it had been settled by Ontario farmers. Afterwards he added that until recently they had been a long distance from a railroad, and were therefore induced to market more of their grain on foot. Subsequently, the Convention placed itself on record as favoring the plan suggested by the Live-stock Commissioner for the experimental feeding of cattle in Western Canada.

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IS THE COWBOY TO BECOME EXTINCT?

Though not of very great personal consequence to Eastern readers, no one in the least familiar with the romance of the ranching industry in the Canadian West can fail to be interested in the discussion of this subject which took place in Ottawa at the recent National Live-stock Convention. It was opened with a couple of excellent addresses by Messrs. R. G. Matthews, Secretary of the Western Stock-growers' Association, Macleod, Alta., and Robert Sinton, President of the Live-stock Association, Regina, Sask. Mr. Matthews lives in the western portion of the ranching district, and represents the large rancher. Mr. Sinton hails from the eastern extremity, where the range area meets the wheat fields, and represents the small rancher or mixed farmer. The opinions of both tallied quite closely in their general sizing-up of the situation. From the speeches of both it was plainly gathered that the picturesque cowboy is hastily passing from the scene.

Over thirty years ago, the advent of the Northwest Mounted Police into Fort Macleod drove the edge of the wedge of civilization into that wilderness. Soon after, some cattlemen from the neighboring State of Montana drove in the first cattle, and that was the start of the first and, for many years, the only industry in the West, except fur-gathering. For a considerable time the industry was confined to Southern Alberta, the land of the Chinook wind, where stock ranged out the year round, and over which Nature had spread a bountiful supply of water and feed. Gradually it was found that the range of the Chinook was wider than supposed, and a vast area came under control of the cow-puncher. The grand natural advantages of the country became known like magic, and the ranching industry fairly leapt into being. As affording an idea of its extent, it may be noted that in 1906 there were 115,060 head of beef cattle shipped from the range in a territory of

little more than 300 miles long by 200 wide, and, of these, 75,000 were for export.

* * *

Notwithstanding the great advantages of the country, however, the ranching industry never reached the proportions, nor did those engaged in it achieve the full measure of success, that might have been expected. The causes of this partial failure were partly preventable and partly unavoidable. First, Nature did so much that man, thinking he had struck a snap, became reckless and prodigal. Cattle were bought, branded, turned loose, and scattered to the four winds of heaven. The cattle naturally selected the best feeding districts, where open water and shelter existed, and grazed them down in summer, whereas they should have been kept for winter. Secondly, the system was fatal to individual progress, as the enterprising rancher's good bulls served his neighbor's cows, and the neighbor's scrub bull left his impress, indiscriminate of ownership.

* * *

In 1880 or 1881 the Government introduced a system of leasing, and large tracts of land were secured by the big ranchers in Southern Alberta. Little or no advantage was taken of the opportunity to fence them, the prime object being that it enabled the lessee to purchase cattle in the United States and bring them in duty-free. This system had the effect of enabling the large companies to practically monopolize the country. Gradually the ranchers discovered that the calf crop was relatively too low. Notwithstanding the mildness of the climate, it began to be realized that it was not sufficiently mild to enable a range cow to suckle her calf all spring and summer, provide for another in embryonic form, and accumulate sufficient fat to withstand the vagaries of winter. The losses that occurred were found to fall almost entirely on the she stuff, and, instead of increasing, the herds actually diminished. Had the methods been changed and the leases fenced, so as to give control of the cattle, enabling the calves to be weaned in due season, and the weak cows taken up and fed during winter storms, very different results would undoubtedly have been obtained.

* * *

Finding that breeding under the system in vogue was not a success, the rancher began importing young steers ("dogies") from Manitoba and Ontario, but here, again, results were disappointing. Lost on the ranges, they scattered in all directions beyond the pale of hay-stacks and cattle sheds, and, unused to the robust requirements of Nature in that country—descended, as they were, from ancestors accustomed to having things done for them—they paid the penalty Nature exacted for their ignorance. Then the importation of Mexican cattle began, and, while these proved hardy, even the wonderfully nutritive grass of their new range could not transform their lean racks of frames and bony backs, resulting from many years of inbreeding, into the great beef-producing animal that the native-bred steer usually grew into, although they greatly improved and attained much greater weights than in their own country. One rancher asserts that, for every 500 miles a Mexican is taken north from his native habitat, he attains an extra 75 pounds in weight. Still, they rarely made exporters, and there was no good market in Canada for the kind of beef they produced. As it costs \$30 to \$32 to lay a steer from the foothills down on the British market, only the best steers will pay to ship. With a dead-meat trade, profits could have been made handling Mexican steers.

* * *

There is no known range where beef cattle attain such a degree of fatness as on the Canadian range. If the product could be marketed as easily as it is raised, the cattleman would have little to wish for; but there is no disguising the fact that they have been sent forward to a market for which they are particularly ill-adapted. Wild and nervous, as they must be, they are swept from the range with a rush and a whirl, jammed into a shipping corral, banged up the chute into cattle cars, and then for thousands of miles they amuse themselves getting rid of the accumulated fat of the previous summer. An aver-

age shrink of about 9 per cent. of their carcass weight is the final result of their little jaunt to Liverpool, plus innumerable bumps and bruises, and it is no wonder they do not present a very enticing appearance when butchered. "There is one sure way that a wild steer will make a good traveller, and only one way that I know of," said Mr. Matthews, "and that is as dressed beef."

* * *

No one at all familiar with the ranching industry will hesitate to say that it is in a condition of rapid decline, dying as quickly and decently as financial obligations will permit. Fighting for its very existence in the teeth of the steady encroachment of fences, still staggering from the almost mortal blow of the winter of 1906-07, when it is estimated that 50 per cent. of the cattle on the Western ranges, representing a capital of 9 to 11 million dollars, were completely wiped out of existence; depressed by the miserable market conditions of the past season, this is the moment seized upon by the Provincial Governments of Saskatchewan and Alberta to launch a new educational tax, aimed at the rancher, on all lands not in organized school districts, which, according to Mr. Matthews, will simply have the effect of closing them out.

A few years ago, when it began to be realized that the farmers' invasion was not temporary, but permanent, the ranchers commenced preparations to go out of business. First they began spaying their heifers, then killing off their fat cows, and finally castrating their bulls, and it now looks as though the Western Provinces are liable, ere long, to be importing beef, unless the range industry can be saved. It was suggested that districts inspected and pronounced unsuitable for agriculture should be set aside, and for these nothing but grazing leases granted. The present system of leases cover a period of twenty-one years, terminable, however, on two years' notice at the will of the Minister of the Interior. The result is that lands unsuited for agriculture are often spoiled for grazing by the arrival of a few foreign-born settlers, and the rancher's business outlook is jeopardized by uncertainty. What is needed is irrevocable leases for definite periods on lands not yet invaded by the settler, such as the Porcupine Hills, and down along the Red Deer River, and portions of south-eastern Alberta and south-western Saskatchewan. On much of these lands the average precipitation is barely sufficient for wheat, and inadequate for forage crops, such as timothy and bromus. The native bunch-grass is the only one that will thrive and cure well in the stalk, and when this is plowed up it is forever destroyed.

It is argued, with reason, that the maintenance of the ranching industry on such land would redound to the advantage of settlers in arable districts, who would have a ready market for the young stuff they could raise, and later be able to procure range-bred cattle to feed, thus utilizing their straw, fodder and coarse grains. The rancher would cease breeding—always his weakest point—and would simply grow the young cattle, to be finished on the farms in the grain districts. While grain-farming is the backbone of the Western country, the ranching industry is an important one for non-arable lands, and, if put on a secure basis, the rancher would so fence and manage his range as to make it a permanent and valuable contribution to the nation's wealth.

* * *

Dry-farming, irrigation, favorable homestead regulations, and aggressive immigration policy, were among the factors to which Mr. Sinton attributed the passing of the range. The fencing of the railways had also had a baneful effect on the ranching industry. Cattle drifting before the storm are driven up against these wire fences and perish in a few hours, when, but for the fence, they would have drifted to the shelter of some coulee or river-bottom, and probably have survived. Municipal ranges were suggested for districts where feasible. If the grazing land could be set aside by the Government, and arrangements made whereby a municipality in the exclusively agricultural country could lease a block of grazing land of about the same area, the municipality could then fence, fire-guard it, and engage a rider in summer to take charge of the stock, keep the fences up and the gates closed.

The farmers' cattle and young horses could be collected early in the spring and sent out to this range, where they could be cared for all summer at an expense of say a dollar or a dollar and a half a head for the season. This stock could then be wintered on the farm at slight expense on straw, with the addition of a small quantity of grain. For the last two or three winters he had wintered a herd of something like one hundred pure-bred cattle, and brought them out in prime condition, having won prizes with some of them at the fat-stock shows. They were fed on oat and wheat straw, supplemented with about six pounds of chop per day, the grain being bought for about \$10.00 a ton.

Mr. Cross, of Calgary, emphasized the complaint that the ranchers were pretty nearly taxed out of business. The Alberta Legislature had brought in an education tax of 1½ cents per acre, in addition to a local-improvement tax of 1½ cents. Then, on land leased from the C. P. R. they paid a rental of 4 cents per acre, and on Government land 2 cents, making a total charge of 6½ or 4½ cents per acre, as the case might be. As it takes 30 to 40 acres to keep a cow a year, a township of 23,000 acres would support only about 500 head, and, of these, about 80 would go to market each year, worth about \$3,000. On this output, the educational tax, saying nothing about other taxes or rentals, would be \$287.50. The ranchers think that, considering the value of their product, they are taxed relatively too high. They would like it to be adjusted on a basis of output; i. e., tax them so much every year for each steer sold. On this basis they evidently expect they would get off much more easily, and would not be so hard-hit in lean years. They also claim it would make taxation more equitable. At present, a man may homestead in the middle of a range, probably fencing in a valuable watering place. Then the rancher makes a deal with him, offering to let his cattle graze in the rancher's leased area in return for water privileges. In this way the other fellow gets a large number of cattle pastured, leaving the rancher to pay practically all the taxes and rent. Reservation of grazing lands from settlement, and renting by irrevocable leases for a reasonable length of time, say 10 years, would cope with this objection, thought it would still admit of some injustice by cattle on the free range poaching on the rancher's land, unless he went to the expense of fencing it off, which undoubtedly he should do, and probably would if assured of holding the land for a definite period.

That the ranchers are a game class of men, was evident from their chirky assurances that they were able to pay their way and afford three meals a day, etc., though hardly in line were the succeeding plaints which fell from their lips, that, unless conditions were improved, their industry was doomed. To outsiders, it would appear as though a business that could not afford a tax of 2½ cents per acre was hardly worth retaining, but when it is pointed out that there are thousands of acres entirely unfit for agriculture, the preservation of the ranching industry on these lands assumes a different aspect. The element of doubt is as to whether the lands now pronounced unfitted for agriculture may not yet prove arable. At one time that whole vast country was, by self-interest, declared useless for agriculture. As yet, however, there is plenty of room for settlement, and, until the West becomes crowded, it would seem the part of wisdom to reserve for ranching lands where agriculture is so precarious, as it undoubtedly is in some of the unirrigated portions of Southern Alberta.

ALREADY HAS THE WORTH OF HIS MONEY.

I received the premium knife to-night, and am highly-pleased with the same. I think one gets well paid for what little they do for "The Farmer's Advocate." Will try to get you more subscribers for your valuable paper. I was well pleased with the way you used the new subscriber. I think he has got the worth of his money already, having sent him so many back numbers. I will close wishing you every success with your valuable paper. A. G. GOLDSMITH.

OUR MARITIME LETTER.

OUR SHIPPING AN ESSENTIAL TO AGRICULTURAL PROSPERITY.

There has been a great agitation stirred up in these Provinces within recent dates by a single individual, A. J. Baillie, a strong-minded and clear-headed Scot, over conditions of the Canadian Atlantic coastwise trade, which are anything but creditable to us as an intelligent governing power. We well remember the cry of the eighties in these Maritime Provinces, "The National Policy has stripped our harbors of our shipping. Where is the forests of masts of other days?" And still, there has never been such a wholesale reduction of shipping as has occurred since 1896. At one time Canada was right up amongst the foremost shipping countries of the world; she has seen her numerous fleets dwindle and dwindle, until only a sad remnant reminds her of past prowess on the wave, and a commercial activity such as nothing else could bring to the Maritime divisions of her territory. Just how the matter came about, was not fully understood. The political ranter scored it against inefficient government and a restrictive trade policy. Only change things, and the old prosperity would, as if by magic, steal in upon us. Well, the change came, as has been said, and still things went from bad to worse. Then the excuse was made that the timber of the country was exhausted; shipbuilding was impossible in wood, and, anyway, steam had superseded sails, and steel hulls wooden ones. At all events, the sea towns of the Atlantic have felt the change immensely; their very life eozed out imperceptibly, and in many cases the well-to-do classes, whose wealth was acquired out of the profits of shipping, were transferred, after a few years of inactivity, to the category of the most hard-strapped of citi-

many years yet to come—very largely through a declining merchant-marine power in our ports. The irritating part of it all has been, too, that, whilst we gave to this Great West our people, whilst we fell in with the governing power in their policy—"All else depends on the West"—we were by other features of this very policy squeezed and hampered in everything that tended to home development. It seems passing strange that the statesmen and patriots of Maritime Canada—and they measure well up to the national standard—could have shut their eyes so long to conditions altogether adverse to the country's progress, while their concern was so great for the other sections in which they could not so immediately be interested. Or, did they discern the disease, without being able to prescribe the remedy?

In any case, the attention which it assuredly merited was not given to the shipping concerns of the land. Local shipping all but died out, and that of foreign countries invaded the waters formerly gay with Canada's flag. Amongst these adventurous states, none seem to have acquired to such an extent this great element of our trade as Norway. Insidiously, the ships of this maritime power entered into our carrying trade; gradually they acquired the mastery of it, until they drove the last, or almost the last, square-rigger from our ports. Then, as it was with sailing craft, so with steam; they were our competitors in this field, bringing over their great, unsightly steamers in the spring, manned with cheap labor, and supplied with the necessaries of life of a meaner kind than any Canadian sailor would tolerate. Their skilled labor, too, far outbid ours; engineers willingly ship on them for a fourth of what our own men exact. Then, their system of surveying and certificating is much less stringent, and enables them to class and reclass, and obtain insurance at a rate so cheap as to beggar any attempt here at competition. Norway, as a nation, profited in this, that everything earned was brought back to the kingdom. So favorable to them, indeed, were our marine laws that all this defective regulation was permitted by special Order-in-Council, whilst the strictest regulation was required of domestic shipping. A pretty state of affairs, and one favored very largely by the exploiting corporations and fostered monopolies!

Well, unconsciously, almost, did this unhappy change take place, and unconsciously would we still be tolerating it, and asking ourselves how it is that this country has become so little progressive when every place else flourished, unless the bold and subtle spirit of Alex. Baillie were aroused, and thereby a flood of light let in upon the iniquity at a stroke; so much light, indeed, that the Government immediately rescinded its Order, giving the foreigner just one year to vacate our waters. This action has given us all new courage. It is easy to see what a new merchant-marine of our own may mean to us. The coastwise trade will be restricted now to British shipping. This calls for the services of Canadian captains, engineers and seamen, who, under the present regulations, have had to seek positions abroad. The supplying of these armies of sailors will quicken to the point of prosperity our agricultural and other markets. Then, we must acquire the shipping tonnage; it must be built in wood or steel within our borders. This may be the last argument towards bonusing the steel shipbuilding industry here, and its inauguration and development in the national well-being. At all events, we are hopeful that another, and that a most potent remedy, too, has been found against the stagnation which has attained these Maritime Provinces in the last forty years. And activity of any sort, commercially, is bound to help agriculture.

A. E. BURKE.



Hiawatha (10067).

Clydesdale stallion; bay; foaled 1892. Sire Prince Robert (7185), by Prince of Wales (673). Second in list of Scottish sires of prizewinning progeny in 1907.

zens. We could name towns in the Maritime Provinces, which in the fifties were real beehives of thrift and business, and which are now as dead as graveyards; and many others which were so paralyzed by the change as not to shake off its torpor, until some far-seeing leader introduced a line of manufacturing industries and set agoing again the wheel of commercial progress, without which community life is vain and meaningless. It is the saddest thing in life to see a once prosperous and opulent class of citizen reduced to inanition and poverty by a commercial change, scarcely understood by them in its banefulness; we have seen many such in these Maritime towns. A stranded ship itself does hardly give one the same complete idea of absolute helplessness.

The reduction of the class of people we have been speaking of, and the removal of the army of longshore laborers, whose living depended on the coastwise trade, to other centers of activity—who will doubt?—has greatly affected the agricultural interests of these Provinces. The wealthy classes and the poor classes, alike, are, of necessity, great consumers of farm products—the former unrestricted by the changing conditions of markets; the other as far as the earning capacity, for the most part, may permit them. We are firmly convinced that the United States first, and, later, Western Canada, have drained us of our population—a population which might well have found ground for the exercise of its energies in the development and maintenance of the agricultural, mining and shipping interests of the country for

aroused, and thereby a flood of light let in upon the iniquity at a stroke; so much light, indeed, that the Government immediately rescinded its Order, giving the foreigner just one year to vacate our waters. This action has given us all new courage. It is easy to see what a new merchant-marine of our own may mean to us. The coastwise trade will be restricted now to British shipping. This calls for the services of Canadian captains, engineers and seamen, who, under the present regulations, have had to seek positions abroad. The supplying of these armies of sailors will quicken to the point of prosperity our agricultural and other markets. Then, we must acquire the shipping tonnage; it must be built in wood or steel within our borders. This may be the last argument towards bonusing the steel shipbuilding industry here, and its inauguration and development in the national well-being. At all events, we are hopeful that another, and that a most potent remedy, too, has been found against the stagnation which has attained these Maritime Provinces in the last forty years. And activity of any sort, commercially, is bound to help agriculture.

MUCH PLEASED WITH THE HAND-BAG.

I am very much pleased with the hand-bag. It is a beautiful premium. My father has taken "The Farmer's Advocate" for quite a number of years, and we all think it is a splendid magazine. GLADYS GLOVER.

HORSES.

DESPATCHING OLD HORSES.

Editor "The Farmer's Advocate":

I noticed, in your issue of January 23rd last, paragraph on "Killing a Horse," by Dr. M. Horace Hays, in which he gives the theoretical way of killing a horse. According to his view, one would think that shooting was the most effective and merciful way of doing away with a horse. For my part, I do not see why an axe would not do just as well, providing you don't torture him. A person needs something a little heavier than a 22 or 32-calibre gun, and such would be an expensive article, especially if you wanted it purposely to do away with old horses.

I will give you an instance of the killing of a horse on our farm, where I was an eye-witness. My father had an old horse, which had served him faithfully for over twenty years. The horse was almost useless, so he thought he would put him out of the way by a most merciful process. A neighbor of ours had a rifle, and, according to his stories about shooting horses and other wild beasts, my father invited him to do the job. In due course the man and gun turned up, and, judging by the manner in which he handled the gun, I thought he had a most dangerous weapon—something akin to dynamite—which might go off at any time. We took great care not to be in line with the muzzle-end of it.

The horse was stood up in place, and, after much gesticulation and discussion, the exact killing spot was at last located. The horse was eating grass; the man took his stand in front of the horse, and we all stepped back like gunners on a battlefield when firing the forty-pounders. We waited in dreadful suspense, holding our breath, while the man took aim, and at last bang went the gun. Naturally, we looked to see old Bill drop, but, imagine our surprise on seeing the beast look, apparently concerned only, to see what made the noise. Quick as he could, my father seized the axe that he had, and dealt him a blow on the head, when the horse dropped dead. I wonder if Dr. Hays would have thought shooting the most effective way of killing him.

If anyone has an old horse to kill, I would advise him to take him down with the axe, and save the foregoing nerve-racking proceedings. It is just as effective, less expensive, and easier on one's nervous system.

The doctor's theory is no doubt correct enough, but when it comes to practice it, it is often a failure. The point I wish to make is this, that a man with an axe would not torture a horse as much, even if he did not kill him the first blow, as a gun shot, because he could deal him half a dozen blows before a man with a gun could hit him, unless he had a repeating rifle or revolver, and was an expert at the job.

Waterloo Co., Ont.

L. B.

THE SCOTTISH PREMIUM SYSTEM OF HIRING STALLIONS.

(Synopsis of an address by John Graham, of Carberry, Man., before the National Live-stock Convention, Ottawa, 1908.)

The work of horse-improvement was started in Scotland about the middle of the 18th century. About that time stallions began to be kept on a commercial basis as a sort of business. The movement started in the south-eastern counties, the Lothians and Berwickshire, where, the land being very hard to work, they wanted heavy horses. The landlords introduced the premium system, the Duke of Buccleugh, one of the largest land-holders in Britain, being the first to institute it. The object was to introduce the best horses, as nearly as they could be got, to the people at the cheapest possible rate. The plan first adopted was to hold a show, at which the stallions would be assembled, and here a deputation representing the society would inspect the horses, select one or two stallions, which were then engaged to travel on the route laid out by the society for an amount of premium money agreed upon. The Glasgow Society was practically the founder of the system, and a condition made was that its society should have the pick of all the stallions exhibited, these to travel as premium stallions in its territory. This eventually resulted in other societies sending out delegations in advance to secure the best horses before the date of the show. While these horses might still be exhibited at Glasgow, they were debarred from competing for the Glasgow premium, and consequently it came to pass that the Glasgow premium horse was seldom able to win first place in the open classes at the show. Gradually the Glasgow Society began to decline, and to-day does not occupy nearly the place it once did. In 1907 there were 112 societies in Scotland, and 102 premium horses. Many good horses are unable to command premiums. Baron's Pride failed to do so when a young horse.

There are several plans on which these premium horses may be hired. First is the plan by which

some of the best stallions are secured for pure-bred mares. Rosshire, for instance, pays a premium of £350 per annum for the use of a horse. The society takes all risks (except the risk of the horse dying), collects all fees, and pays all expenses. Other societies pay from £300 to £350.

Then there are the stallions used chiefly for the breeding of commercial horses. For these, the society pays a premium of £50 to £150, the owner sending a groom into the district with the horse, paying all expenses, and collecting from non-members a fee of £2 at service, and £3 when the mare is in foal; for members the total fee is £3.

There is a third system, called the King's premium horses. These are Thoroughbreds, selected by a Board of Commissioners, under the direct supervision of veterinarians, and on each of them the King pays a premium of £150 to the owner of the horse, and the breeders have to pay a service fee of £3. In all cases the groom commonly receives a fee of half a crown, or two and six.

Mr. Graham believed it would be an excellent thing if the premium system could be introduced into Canada, an opinion in which Robt. Ness, who followed, concurred. Mr. Ness suggested clubbing together, subscribing the necessary amount of money, engaging the horse, and securing him so many mares.

Bryce Wright, of Alberta, informed the audience that the premium system had been adopted in that Province in 1905. The syndicate system had been tried and found wanting. The Scotch plan was adopted, with a few modifications, and very favorably received. One advantage is in getting the members together to discuss breeding matters, and encourage them to breed along one line. The system was not confined to Clydesdales, but has been adopted in Alberta by those interested in various breeds, and something of the kind is in vogue in Ireland.

A YOUNG MAN'S EXPERIENCE WITH THE HORSE BUSINESS.

(W. Ormiston, Ontario Co., Ont., 4th place, commended in Horsemens' Experience Competition.)

Although a very young farmer, I have had considerable experience with Clydesdale horses, and, having been very successful in my transactions, will give a detailed account of the experience I have had, which covers a period of about nine years.

I was one of those farmers' sons who could not be contented to brood over a book in a dull school-room, and, after spending a couple of years at a high school, decided to stay at home and take the place of the hired man. At the end of the first year of my practical experience as a farmer, father gave me one hundred dollars, and advised me to buy a couple of colts. He went with me to see several animals that were for sale, and we finally found a pair that suited us.

This was in November, one was a spring foal, and the other a year older. The younger one was a mare, and the other a gelding. They were running rough, but were in fair condition, and showed considerable quality, with good feet and limbs, or, to be more definite, their feet were of circular form, and were of good size, and their hind legs were not meaty, but possessed of hard, flat bone, and they stood well on their feet, not too upright. They were both out of the same dam, and sired by the same horse; nicely marked, and showed good action, and were eligible for registration. I got the pair for one hundred and fifty dollars, and gave the one hundred dollars cash, and my note for eight months for the balance; my father, of course, giving security.

That winter I fed them pretty well, giving them cut straw and ensilage, mixed in the proportion of two to one, on which I fed one-half gallon of oat chop night and morning. At noon I fed clover hay, one quart of oats, and a turnip to each colt. I kept them tied in single stalls, and let them run in the barn-yard about three hours daily. The next summer, they ran on grass, and, when the flies got bad, I kept them in during the day, and fed them one quart of oats each three times a day, and a little green clover, and turned them out at night. By fall, they were in splendid condition, and I brushed them off occasionally, and took a little extra care of them, for I had decided to show them at the county fairs. I also trained them to trot up beside me and stand up in good form. This was only pastime in the evenings, or at noon hour, and it gave me a great deal of pleasure as well. I had them both docked, and got them shod in front feet to keep their feet from breaking up in travelling on the hard road, and it also improved their appearance. At the first fair to which I took them, I was repaid for all my extra care, as I took first place in each class, and was indeed greatly encouraged, for they were in better condition than most of their rivals. I showed them at two other fairs that fall, and got first and second at each, the filly being beaten at one, and the gelding at the next; but in each case it was a hard contest.

After the fairs were over, I put the gelding with another two-year-old we had, which was marked just like him, and broke them to the harness, and, after working them a little on the harrows, I put them on the plow, and they soon developed muscle, and being of the blocky, low set kind they did a pretty good

day's work. Of course, I took good care of them, and, after it froze up, they gained up, and by Christmas were in good condition, so I showed them in the agricultural class. Here, again, I was fortunate, getting second place at one village fair; at another, a first prize, and at a third, which was a larger fair, third place, out of a class of nine teams. At this place, also, I won a ten-dollar prize for best two-year-old filly or gelding. The next summer I worked this pair together at all kinds of work, and it surprised me to see the amount of work a pair of three-year-old colts would do when well cared for. That fall my brother wanted to show a Shorthorn cow at the county fair, so I consented to take her in the wagon, and thought I might as well enter my team for show as well. That night we were a happy pair of boys, having each won first prize on our animals, which was twenty-two dollars.

My filly was now old enough to do a little work, so I worked her a little with the gelding, but not more than a half day at a time. When the cold weather came on, and the stock had to be stabled, I put her in a box stall, and fitted her up, for there was quite a demand for registered fillies. I fed her oat chop, with a little wheat ground with it, on cut straw and ensilage, and at night about two quarts of boiled barley mixed with her other feed. At noons, she got clover hay, and one gallon of chop. I always kept salt in front of all the horses, and kept their blood in a healthy condition by giving a little saltpetre, sulphur or saltpetre, whenever I thought they required it. By the first of March, the filly was in good condition, with a fine, glossy coat, and as she had had plenty of exercise, and had been kept shod in front, she was in good shape for sale, and I sold her on the fourteenth of March for two hundred and forty dollars. The next fall I sold the gelding for one hundred and eighty-five dollars, which made four hundred and twenty-five dollars received for the pair of colts, for which I paid one hundred and fifty.

This was very encouraging, and, as this pair had done so well, I went back to the same farmer from whom I had bought them and got another pair; one a yearling, and the other a two-year-old, both fillies. For this pair I paid two hundred and seventy-five dollars.

I fed this pair moderately that winter. In the spring, the younger mare, which was now two years old, went out to grass, the other, being now three, worked nearly all the time, and proved to be a noble beast. In the fall, the other I also put to work, and they were now both earning their board. The next spring I bred both to what was considered to be the best Clydesdale stallion in our vicinity, and they both got with foal. The next winter I fed them oat straw and ensilage, with a half gallon of oats twice daily. With the oats was mixed quite a lot of Goose wheat, which I believe is a good thing for a mare in foal, as it seems to develop a strong colt. I also fed a couple of turnips at noon, and a little clover hay. The mares were made to run out in the yard every day, unless it was stormy weather. In the spring, when we started to work on the land, I fed them the same as the other horses, and they worked right along until they foaled. Two weeks before they were due to foal, I put each in a separate box stall at night. Before doing so, however, I cleaned them thoroughly, and whitewashed the walls and ceilings, and kept it cleaned out daily both before and after they foaled, occasionally sprinkling a little lime around on the floors before putting in fresh straw.

This not only disinfected the stalls, but made them look so bright and smell so sweet that I could lie in the stall on a stretcher and rest well, and I never missed a night until the mares foaled. Of course, I never stayed with them until their time was reached for foaling. When I was in the stall, I kept the mares tied up; at other times they were loose. When the colts arrived, in each case they were remarkably strong, and were a good size and in good condition. Before letting them have a suck, I gave a cup of melted fresh butter, and I had no trouble with their bowels not moving. I tied one navel string when the colt was born; the other I let go, and the day after, I came into the stall and found it bleeding. I then tied it, and it never bothered any more. I used a disinfectant on the navel, which I put on at the time of birth, and three times a day until healed. I had bother with one navel leaking, and I went to a veterinary and got a preparation which I injected into the opening with a small glass syringe. I only did it once and it stopped the trouble immediately; it seems to be a much better way than the external application.

I kept the mares in at night until the weather got warm, and then they stayed out all the time, except when stormy. I returned one mare to the same horse on the eleventh day, and she got in foal. The other mare's colt did not just suit me, so I took her to another horse. She was a little inclined to be lazy, and I bred her to the most active and the best stepping horse I could find. She, also, got in foal, and the next spring, which brings me into 1907, I repeated my preparations for the foaling season. I again had success and raised another pair. Now I have my two brood mares in foal again; I have a yearling filly running rough this winter, and, as she is a big mare, I think I will breed her next spring. I have a yearling stallion which I have in a box stall and am feeding well, and I also have the pair that I raised this year, for one of which I refused \$125 at the age of three months, so that in a few years I have a nice little bunch of horses, the original outlay having been \$150.

[Note.—We think it would have been wise for the

breeder to have kept his first good filly for breeding purposes. It would also be wise for him to forget to give the cupful of melted butter to the foal, but rather depend upon injections and the use of the finger per rectum to remove the meconium (the contents of the bowels at birth).—Editor.]

LIVE STOCK.

WINTER FEEDING OF STEERS.

Editor "The Farmer's Advocate":
 In your issue of January 30th, J. M. asks questions re feeding steers in winter for finishing on grass. We are feeding ten, which have made very satisfactory gains. These steers were stabled at nights from Nov. 20th to Dec. 5th, and given a light feed of ensilage; then, the weather getting severe, they were tied up for good, not let out at all, water being before them. The steers were first given 30 pounds ensilage, same bulk of cut straw, 10 pounds turnips, and 1 pound meal, with all the straw (oat and barley mixed) they would eat. By December 15th, they were getting 3 pounds meal (oats 20 per cent., and barley 80 per cent.), and this ration has been continued to the present. The steers Nos. 9 and 10 were given, during the latter 35 days before last weighing, 100 pounds oil cake, in addition to the above. You will see their gains were scarcely an average. On Nov. 20th steers averaged 941.8 pounds. The steers cost, to feed (valuing feed at following prices: Ensilage, \$2 per ton; turnips, 6 cents per bush; meal, \$1.25 per cwt.; no value put on straw) 7½ cents daily. Cost to put on 100 pounds gain, from December 27th to February 11th, \$5.93, oil cake not reckoned.

WEIGHTS.

No.	Dec. 27, 1907.	Feb. 8, 1908.
1.....	1015	1100
2.....	1048	1134
3.....	1019	1103
4.....	947	1024
5.....	935	1003
6.....	981	1052
7.....	1012	1052
8.....	960	991
9.....	985	1060
10.....	945	1005
Total	9847	10524
Average	984.7	1052.4
Average gain from Nov. 20th to Dec. 27th, 42.9.		
Gain in last 43 days, 67.8 lbs.		
Total gain average, 110.6.		

Ontario Co., Ont. F. H. W.

U. S. LIVE-STOCK STATISTICS.

The Crop-reporting Board of the Bureau of Statistics of the U. S. Department of Agriculture finds, from the reports of the correspondents and agents of the Bureau, that the numbers and values of farm animals on farms and ranges in the United States, on January 1, 1908, were as follows:

	Per cent. compared with Jan. 1, 1907.	Numbers.	Average price per head.	Total value.
Horses	101.2	19,992,000	\$93.41	\$1,867,530,000
Mules	101.4	3,869,000	107.76	416,939,000
Milch cows	101.1	21,194,000	30.67	650,057,000
Other cattle	97.1	50,073,000	16.89	845,938,000
Sheep	102.6	54,681,000	3.88	211,736,000
Swine	102.4	56,084,000	6.05	339,030,000

Compared with January 1st, 1907, the following changes are indicated: In numbers, horses have increased 245,000; mules increased 52,000; milch cows increased 226,000; other cattle decreased 1,493,000; sheep increased 1,391,000; swine increased 1,290,000.

In average value per head, horses decreased \$0.10; mules decreased \$4.40; milch cows decreased \$0.33; other cattle decreased \$0.21; sheep increased \$0.04; swine decreased \$1.57.

In total value, horses increased \$20,952,000; mules decreased \$11,125,600; milch cows increased \$4,560,000; other cattle decreased \$35,619,000; sheep increased \$7,526,000; swine decreased \$78,761,000.

The total value of all animals enumerated above, on January 1st, 1908, was \$4,331,230,000, as compared with \$4,423,698,000 on January 1st, 1907, a decrease of \$92,468,000, or 2.1 per cent.

The numbers of farm animals, as stated in the above table, represented, as nearly as ascertainable without an enumeration, the actual number of each specified class on farms and ranges on January 1st. The figures are the results of a very careful investigation by the agents and correspondents of the Bureau, who used all available means to secure accurate information.

C. C. CLARK,
 Acting Chief of Bureau, Chairman.

CARE FOR THE EWES AND LAMBS.

As the time is drawing near when the young lambs are expected to arrive, the ewes, unless they have been well kept, and are already in good condition, should have a little extra feed, in the form of oats and bran, or roots, to give them strength and vigor for the demands of maternity, and to provide milk for the lambs when they come. If a record of dates of service has been kept, and it is known which are to lamb early, it is a good plan, if the house will admit of it, to divide the ewe flock and feed the forward ones a little extra, as the later ones may not require it, and may become too fat for best results if fed as liberally as those due to lamb early. It is especially desirable, when the lambs begin to come, that the nursing ewes be given a separate compartment, where they may receive extra feed without hustling for it in competition with the stronger ones which have not lambed. It is a good plan to have a few low, short hurdles provided for use in the pen when the lambs begin to come, so that a small pen may be improvised to enclose a ewe, in the case of a weak lamb or twins coming, or the ewe disowning one of her lambs. Two of these short hurdles in a corner of the house, tied to the rack on one side, and to staples in the wall or to stakes driven in the ground, will make a convenient enclosure, where the ewe may be fed separately and receive a bran-mash or a nourishing drink, if need be. It is not well, however, to enclose a ewe in such small quarters more than two or three days, as there is danger of overfeeding her, and thus bringing on udder trouble or indigestion from lack of exercise. A ewe will generally do better for a little competition at the feed trough with others, and both ewe and lambs are better for moving about for exercise. As a rule, ewes that have been judiciously fed, and have had considerable exercise, will produce strong lambs which will be able to help themselves to nourishment when they

DAIRY SHORTHORNS IN AMERICA AND ENGLAND.

Editor "The Farmer's Advocate":

Your editorial in the issue of January 9th, re the above, interested me greatly. The same situation has arisen in the United States. We have also had the same experience here in the Old Country, but it is now a thing of the past. Not so very long ago, practical farmers over here would try to purchase Shorthorn bulls or cows, as might be required, but, if the vendor happened to mention that the stock could claim a pedigree, the deal was off immediately, and the stock was shunned like the plague. During the last few years many breeders have studied the milking capabilities of their herds to a greater extent, and they have reaped their reward. During the past season we have seen herds of about equal celebrity, one noted for its dairy properties, the other for its beefing traits, when sold by auction, realize practically the same average price. Personally, my experience goes to show that the Scotch-bred Shorthorn is a much overrated animal for the purpose of beef-making; it is, if anything, inferior to the beef breeds, Herefords, Devons, Aberdeen-Angus, or Sussex, whilst it certainly is not superior to them in dairy characteristics, and it admits of no doubt that a large percentage of Shorthorn calves are reared on nurse cows of other breeds than the calves of any of the other breeds named. As I mentioned above, the situation you describe has also arisen in the United States. Attention has been drawn to it by the leading stock papers, and it has surprised me, at any rate, to find what a large number of really good dairy herds of Shorthorns have been brought to light in that country through the awakened demand for cattle possessing those characteristics. Last summer, Joseph E. Wing came over to Europe to study the agricultural conditions on this side, and with the special purpose of

learning all he could of our dairy type of Shorthorns. I had several chats with him while over here, and he led me to believe that a very big demand would soon arise for this type in his country—a view which I can readily believe. It came to my knowledge lately that one American came over last summer expressly to buy Shorthorn cows, but found he could not obtain what he required under about 50 gs. each, so considered the price prohibitive, and returned without any. During a stay of a week's duration, it was impossible for him to come in contact with the ordinary exhibiting breeder, whose show records warrant them asking an enhanced price for their stock, and it is a pity that he did not employ someone to supply him who knew all the ins and outs of the trade, and could have fitted him out at a reasonable figure, whereas he returned to his native land, after a fruitless journey, disseminating a false impression amongst his countrymen.
 A. I. HICKMAN.
 Kent Co., England.



Imported Cotswold Shearling Ewes.

One the champion ewe at Canadian National Exhibition, Toronto, 1907. Imported and exhibited by J. C. Ross, Jarvis, Ont.

arrive; but the careful shepherd, during the lambing season, will visit the fold before retiring for the night to see if there are signs of an increase, and, in such case, will not mind missing a few hours' sleep, but will return again and again, if need be, to see that the newcomer gets a fair start in the world. In a case of unduly prolonged labor, it is well to make an examination to ascertain if the presentation is correct, and if so, to give further time for Nature to work out a deliverance; while, if all is not right with the presentation, it should be made so by introducing the oiled hand, after dipping it in warm water, then further time given, and, if necessary, a little assistance, by drawing gently on the leg of the lamb when the ewe forces. In a case of very difficult parturition, it is a good plan, after the lamb is born, to pour into the vagina of the ewe, from a quart bottle, a weak solution of carbolic acid, say one part of the acid to one hundred of warm water, to allay possible inflammation and prevent inversion of the uterus, which is liable to occur in such a case. If such should occur, the part should be washed clean with warm water, with the carbolic solution added, and returned to its place by means of the hand; and, if pain and forcing follows, an open-meshed truss secured across the vulva to prevent a recurrence. In the case of long-wooled sheep, this may be effected by simply tying strands of wool across the opening. The lambs should be docked at two to three weeks old, and, if not to be kept for breeding purposes, the ram lambs castrated at the same time. Then, for best results, a separate compartment should be made in the pen, where the lambs may be fed a little good clover hay, some oats and bran and sliced roots, an opening being made for them to pass in, through which the ewes cannot pass.

breeder; he could only become acquainted with the well-known exhibiting breeder, whose show records warrant them asking an enhanced price for their stock, and it is a pity that he did not employ someone to supply him who knew all the ins and outs of the trade, and could have fitted him out at a reasonable figure, whereas he returned to his native land, after a fruitless journey, disseminating a false impression amongst his countrymen.
 A. I. HICKMAN.
 Kent Co., England.

DUAL-PURPOSE IDEA NO LAUGHING-STOCK.

Editor "The Farmer's Advocate":

I was quite interested in those letters from "Homecroft," and Mr. Miller, and Mr. Drury, on the dual-purpose cow. There is good advice in all three articles, and there may be more in Mr. Miller's idea regarding the quality of the Shorthorn cow's milk than has been hitherto considered. Mr. Drury has conveyed the idea that there is a class of special beef Shorthorns that will produce an extra quality of beef, which I think, is a mistake. I have been breeding Shorthorns for forty years, and I have found that some of my best milking cows produced the very highest type of beef calves. The heifer that took second prize at the Winter Fair in 1901 was out of a cow that would give over 7,000 pounds of milk in a year. I never weighed her milk, but when fresh, for more than two months she would give twenty quarts a day, and also give half that much at the end of nine months. I have in mind a number of cows, descended from the Margaret, by Snowball (8602), family, and, although they

had two or three crosses of imported Scotch bulls, they were grand milkers. I think no better-fleshed Shorthorns could be found than that family, though a trifle undersized. What I intended saying, when I started to write, was that I admit that a Shorthorn heifer that is forced from birth with concentrated food, for show, may be spoiled as a milker, but I have proved that a heifer thus spoiled will throw a heifer that will make a good milker, if properly raised.

I had a "Gwynne" cow, got by an imported Campbell bull, that was a very fine milker. We took nearly half her milk, or about 15 to 20 lbs. per day, for over two months, and she made her heifer calf weigh 900 pounds at eleven months. This calf did not make as good a milker as her dam, but she threw heifers that did. I am pleased to see the interest Mr. Drury has taken in the dual-purpose cow, for I spoke at an Institute meeting in a dairy section once, and they laughed at the idea. EDWARD JEFFS, York Co., Ont.

NATIONAL LIVE-STOCK REGISTRATION IN 1907

In the interests of convenience, comprehensiveness and conciseness, we present herewith a synopsis of the third annual report of the Record Committee to the National Record Board and the Record Associations. While the report has been printed for distribution in admirably clear and compact form, we feel that this summary of its salient points is warranted for the information of the general public, who will not receive the report in pamphlet form. A comparative statement of the years 1906 and 1907 shows that the amount of fees for registration received in 1907 was almost \$9,000 more than in 1906, an increase of 31 per cent. Special attention is called to the increase in Clydesdale and sheep registrations. The Clydesdale increase was caused partly by the change in the Rules of Entry of the Canadian Clydesdale Association; but only in part, as a comparison with the statement of 1906 shows a decided monthly increase before the new rule came into effect.

A comparative statement for the years 1906 and 1907 showing pedigrees recorded and amount of fees received:

Name of Association.	1907.		1906.	
	Pedigrees Recorded.	Money Received.	Pedigrees Recorded.	Money Received.
Shorthorn	10,253	\$14,508.40	9,653	\$11,859.95
Ayrshire	2,144	2,797.90	2,075	2,225.92
Hereford	888	828.45	1,066	836.65
Swine	6,277	4,562.93	6,837	4,447.10
Clydesdale	6,117	7,296.40	2,418	3,281.20
Hackney	132	395.40	103	262.90
Shire	100	165.00	53	102.50
Thoroughbred	6	24.00	52	59.00
Sheep	3,628	1,284.95	1,281	450.25
P. Angus	1,106	841.60	1,274	268.75
Galloway	108	56.25	81	68.25
Jerseys	326	334.85	134	135.25
Red Polled	36	28.00	358	17.75
Guernsey	38	47.50	33	25.25
Canadian Cattle	576	185.50	667	184.55
Canadian Horses	474	228.50	84	101.00
Total	31,999	\$32,985.63	25,962	\$24,276.27

The following volumes of records, containing pedigrees recorded up to Dec. 31st, 1907, have been issued: Shorthorn Herdbook, Volume 24; Swine-breeders' Record, Volume 18; Ayrshire Herdbook, Volume 17; Clydesdale Studbook, Volume 15; Aberdeen-Angus Herdbook, Volume 1.

New records have been established during 1907 for horses, as follows: Canadian Percheron Record, and Canadian Belgian Draft Record; but, owing to difficulties in securing the American and Old Country Studbooks for these breeds, no pedigrees have been recorded.

From the time the French-Canadian Studbook was transferred to the National Records, until May last, registrations were made in the Record, as conducted by the General Breeders' Association of the Province of Quebec. It was then closed, and a new book opened by an arrangement made by the Minister of Agriculture with the Quebec breeders of French-Canadian horses, whereby a reinspection was provided for, all living animals formerly recorded in the Quebec Book, on passing reinspection, to be recorded free of charge. The expense is borne by the Department of Agriculture, and the

present arrangement is to accept, on inspection, foundation stock until the end of 1908. The Department of Agriculture purchased the various records of the General Breeders' Association of the Province of Quebec, and handed them over to the Record Committee. These books were closed to further registrations, and such pedigrees as were eligible were re-recorded in Nationalized Books of Record.

An inspection of Quebec sheep has taken place during the year, the expense of which has also been paid by the Department of Agriculture. In addition to the breeding having to conform to the Rules of Entry, as laid down by the Dominion Sheep-breeders' Association, only such animals were accepted as were worthy. Competent men to do the work were selected by the Record Committee and approved by the Government.

A table is given, showing what assistance has been given to the various associations, from a money grant given the Record Committee by the Department of Agriculture to assist the work of recording.

The recording work for the following breeds has been wholly paid for out of this grant: Horses—Thoroughbred and French-Canadian; Sheep; Cattle—Angus, Galloway, Jersey, Red Polled, French-Canadian. The total amount of fees collected were deposited to the credit of Associations of these breeds, and no levy made thereon.

In April, 1907, A. P. Westervelt, who was secretary-treasurer from the inception of the National Records, retired, and John W. Brant was appointed.

Following are statements, by Provinces, of the registration for each particular breed association:

DOMINION SWINE-BREEDERS' ASSOCIATION.

Statement by Provinces.

	Registra-tions.	Trans-fers.	Member-ship.
Ontario	3,685	302	189
Manitoba	833	91	73
Saskatchewan	276	54	28
Alberta	194	14	22
British Columbia	102	11	10
Quebec	1,008	109	74
New Brunswick	99	1	7
Nova Scotia	22		2
Prince Edward Island	40	8	9
United States	18	4	3
Total	6,277	594	417

The Auditor's statement shows cash received and deposited on Swine account, to December 31st, 1907, \$4,562.93.

DOMINION SHEEP-BREEDERS' ASSOCIATION.

Statement by Provinces.

	Registra-tions.	Trans-fers.	Member-ship.
Ontario	944	65	75
Manitoba	11	7	3
Saskatchewan	9	2	3
Alberta	121	47	2
British Columbia	21	2	3
Quebec	645	115	69
New Brunswick	16		2
United States	3	2	
Total	1,770	240	157

Auditor's statement shows cash received and deposited on Sheep account, to December 31st, 1907, \$1,234.95.

DOMINION SHORTHORN BREEDERS' ASSOCIATION.

Statement by Provinces.

	Registra-tions.	Trans-fers.	Member-ship.
Ontario	6,775	1,699	1,437
Manitoba	1,710	471	329
Saskatchewan	517	193	93
Alberta	658	248	90
British Columbia	74	23	17
Quebec	249	90	45
New Brunswick	58	30	5
Nova Scotia	143	45	28
Prince Edward Island	31	4	5
United States	38	1	3
Total	10,253	2,804	2,052

Auditor's statement shows cash received and deposited on Shorthorn account, to December 31st, 1907, \$14,508.40.

CANADIAN AYRSHIRE BREEDERS' ASSOCIATION.

Statement by Provinces.

	Registra-tions.	Trans-fers.	Member-ship.
Ontario	718	373	67
Manitoba	47	17	8
Saskatchewan	23	24	3
Alberta	8	5	62
British Columbia	44	13	6
Quebec	1,125	410	119
New Brunswick	107	49	10
Nova Scotia	23	9	5
Prince Edward Island	46	1	2
United States	3	13	
Total	2,144	914	222

Auditor's statement shows cash received and deposited on Ayrshire account, to December 31st, 1907, \$2,797.90.

CANADIAN HEREFORD BREEDERS' ASSOCIATION.

Statement by Provinces.

	Registra-tions.	Trans-fers.	Member-ship.
Ontario	334	79	28
Manitoba	117	44	18
Saskatchewan	66	2	6
Alberta	121	8	12
Quebec	4	3	1
New Brunswick	2		2
Nova Scotia	11	2	
United States	28	3	4
Total	683	141	71

Auditor's statement shows cash received and deposited on Hereford account, to December 31st, 1907, \$828.45.

CANADIAN JERSEY CATTLE CLUB.

Statement by Provinces.

	Registra-tions.	Trans-fers.	Member-ship.
Ontario	224	21	27
Manitoba	13		3
Saskatchewan	1		2
Alberta	4		1
Quebec	16	2	6
New Brunswick	17	2	4
Nova Scotia	9	2	1
Total	284	27	44

Auditor's statement shows cash received and deposited on Jersey account, to December 31st, 1907, \$334.85.

NORTH AMERICAN GALLOWAY ASSOCIATION.

Statement by Provinces.

	Registra-tions.	Trans-fers.	Member-ship.
Ontario	40	3	5
Manitoba	22	1	10
Saskatchewan	8		1
Alberta	6		1
United States	1		
Total	77	4	17

Auditor's Statement shows cash received and deposited on Galloway account, to December 31st, 1907, \$56.25.

CANADIAN ABERDEEN-ANGUS ASSOCIATION.

Statement by Provinces.

	Registra-tions.	Trans-fers.	Member-ship.
Ontario	101	21	15
Manitoba	44	15	9
Saskatchewan	28	16	5
Alberta	39	28	6
Quebec	9	4	3
New Brunswick			
Prince Edward Island	3		1
United States	3		1
Total	227	84	40

Auditor's statement shows cash received and deposited on Aberdeen-Angus account, to December 31st, 1907, \$341.60.

CANADIAN GUERNSEY BREEDERS' ASSOCIATION.

Statement by Provinces.

	Registra-tions.	Trans-fers.	Member-ship.
Ontario	6		1
Quebec	12		1
New Brunswick	10	2	
Nova Scotia	9	2	
Prince Edward Island	1		
Total	38	4	2

Auditor's statement shows cash received and deposited on Guernsey account, to December 31st, 1907, \$47.50.

FRENCH-CANADIAN CATTLE-BREEDERS' ASSOCIATION.

Statement by Provinces.

	Registra-tions.	Trans-fers.	Member-ship.
Ontario	23		
Manitoba			1
Quebec	163	42	10
New Brunswick	8		1
Total	194	42	12

Auditor's statement shows cash received and deposited on French-Canadian Cattle account, to December 31st, 1907, \$135.50.

CANADIAN RED POLLED ASSOCIATION.

Statement by Provinces.

	Registra-tions.	Trans-fers.	Member-ship.
Ontario	3	2	
Manitoba	8		
Saskatchewan			
Alberta			
British Columbia	8		2
Total	19	2	2

Auditor's statement shows cash received and deposited on Red Polled account, to December 31st, 1907, \$28.00.

CLYDESDALE HORSE ASSOCIATION.

Statement by Provinces.

	Registra- tions.	Trans- fers.	Member- ship.
Ontario	2,142	257	597
Manitoba	297	80	98
Saskatchewan	211	75	48
Alberta	152	39	27
British Columbia	85	23	12
Quebec	129	18	28
New Brunswick	5	1	1
Nova Scotia	19	8	4
Prince Edward Island	6	2	2
United States	27	8	5
	3,073	511	822

Auditor's statement shows cash received and deposited on Clydesdale account, to December 31st, 1907, \$7,296.40.

CANADIAN HACKNEY HORSE SOCIETY.

Statement by Provinces.

	Registra- tions.	Trans- fers.	Member- ship.
Ontario	34	7	6
Manitoba	5		2
Saskatchewan	2		
Alberta	77	46	2
Quebec	9	1	1
Nova Scotia	1		
United States	4	1	1
	132	55	12

Auditor's statement shows cash received and deposited on Hackney account, to December 31st, 1907, \$395.40.

CANADIAN SHIRE HORSE ASSOCIATION.

Statement by Provinces.

	Registra- tions.	Trans- fers.	Member- ship.
Ontario	76	5	17
Manitoba	18		3
Saskatchewan	4		1
Alberta	1		
British Columbia			
Quebec		2	1
United States	1	1	2
	100	8	24

Auditor's statement shows cash received and deposited on Shire account, to December 31st, 1907, \$165.00.

FRENCH-CANADIAN HORSE-BREEDERS' ASSOCIATION.

Statement by Provinces.

	Registra- tions.	Trans- fers.	Member- ship.
Quebec	216	258	
	216	258	

Auditor's statement shows cash received and deposited on French-Canadian Horse account, to December 31st, 1907, \$228.50.

CANADIAN THOROUGHBRED HORSE SOCIETY.

Statement by Provinces.

	Registra- tions.	Trans- fers.	Member- ship.
Ontario	6		5
	6		5

Auditor's statement shows cash received and deposited on Thoroughbred account, to December 31st, 1907, \$24.00.

THE FARM.

OUT IN AN AUTOMOBILE.

Editor "The Farmer's Advocate":

I have been a reader of "The Farmer's Advocate" for years, and have been reading with interest, lately, the views of some people about the automobile, or "horse scarer," as it should be called. I am right in line with the views of "Bruce Co. Farmer," for, what is the use of farmers scraping the roads up nicely, to be run off them by automobiles? If the machines are to be allowed to run all over the country roads, the sooner the farmer makes a side track the better, or else compel the rich bloods who have automobiles to make roads for themselves.

Under the heading, "A Liberal View on the Auto Question," W. H. Smith says that there is not a man who owns an automobile but would be willing to pay ten dollars a year of a road tax. I, as a farmer, would far sooner pay my share of it than to take the ten dollars, because they would think then that they really owned the roads.

Is it not too bad that the old farmers, who have helped to chop out, log and ditch the roads, and brought them up to the shape they are in to-day, dare not go out in the summer time for a drive to town, on account of the automobile, or

the farmers' wives or daughters dare not drive alone to town, as they used to do, with their butter and eggs?

I saw one woman, myself, who had to drive into three different streets and lanes inside of half a mile, her horse was so scared of an auto. Mr. Smith says that a horse is very easily controlled by putting something over his eyes. It would be nice, would it not, to have to get out and put something over the horse's eyes every time you meet an auto? But even that will not work, for I know where there is a mare, blind, that will run away if she hears one half a block away. It is a blessing that we have a winter in this country, so we can drive out with ease with our noble animal, the horse.

Mr. Smith says the time is not far distant when the auto will be a necessity to every up-to-date farmer. I hope the time is so far distant that it will never catch up. To my mind, the farmer who can afford a carriage, drawn by a nice pair of horses, or even one nice carriage horse, is far more up-to-date and stylish than one of these snorting, ill-smelling machines. It was horses first, and it will be horses last; and I think the sooner the farmer gets in a petition to the Government to prohibit the running of autos on the highways, except in towns or villages, the better. If I am not intruding too much in your valuable paper, here is a few verses on the auto:

Isn't it nice when a motor breaks down
 Out in an automobile;
 Leaving you stranded ten miles out of town
 Out in an automobile?
 You crawl underneath to repair it, of course;
 The auto explodes with a great deal of force.
 You land in the road full of mud and remorse
 Out in an automobile.
 Out in an automobile—out twenty dollars a day;
 There isn't a doubt when you're in it you're out,
 You're out for the fine that you pay;
 Then you'll be out for repairs again, that will put you
 Out a great deal.
 So, if not too green, do not buy a machine,
 But be out of that automobile.
 Out in an automobile, out in a green country lane,
 There's a snag, and you stop with a crash, and
 Find you've run into a chain.
 Off with the constable then; they'll not hear your ap-
 peal:
 They will hold your machine, and
 You will pay your long green,
 You will be out an automobile.
 Lambton Co., Ont. SUBSCRIBER.



The Dairy Herd in Elysium.

DETAILS OF PLANK-FRAME BARN CONSTRUCTION.

Editor "The Farmer's Advocate":

In your issue of January 23rd you ask a number of questions about plank-frame barns, which I will endeavor to answer in so far as I am able. As I have had no practical experience in timber-frame barn construction, I will be unable to give any figures as to the comparative cost of the two kinds of frames.

In 1904 we built a plank-frame barn, 40 x 68 feet, with 18-foot posts, on an 8-foot solid-concrete foundation; also root cellar, 10 x 26 feet, under the approach to the drive floor.

The foundation is 40 ft. 4 in. by 68 ft. 4 in., as it is necessary, in building a foundation for a plank-frame barn, to build 4 inches longer and 4 inches wider than the size of the frame, for the following reason: The girts are all spiked on the outside of the posts; when on, the face of the girts will be flush with the face of the wall. The siding can then be carried down below the top of the wall, and prevent snow and rain from drifting in.

The wall is 12 in. thick, with 16-in. footings, and is built of moderately coarse gravel and Portland cement, mixed one to eight, and filled with field stone from bottom to top. I consider the wall strong enough to carry any ordinary barn. The wall required about 54 barrels of cement and about 55 days' labor to build. It is also necessary to build buttresses in the side walls, to carry the foot of the purline post (see Fig. 4).

The mows are carried on two trim beams, 10 x 12 in., running the full length of the building; placed 6-ft. centers, thereby dividing the stable into two parts, each 16 feet wide, with alleyway 6 feet wide between. Cattle and horses face the alley on both sides.

The frame is of soft-elm plank, sawn 2 in. thick, nothing being used but good sound timber, free from knots and shakes. The end bents are built with five posts, viz., two corner posts, two purline posts, and one center post. The corner posts are made of two pieces, each 2 x 10 in., spiked together, as shown in Fig. 5. The purline post runs from the foundation straight up to the plate, and is made from two pieces, one 2 x 8 in., the other 2 x 6 in., spiked together as shown in Fig. 5. The center post extends from the foundation to the peak, and is made from three pieces. The lower 26 feet is made from two pieces 2 x 8 in., placed and kept 2 inches apart by blocks and spiked together. The upper part is made from one piece, 2 x 8 in., placed between the sections of the lower part and bolted (see Fig. 1). The girts are 2 x 8 in., and are spiked on the outside of the posts, as shown in Fig. 1. Braces are 2 x 6 in., and are placed as shown in Fig. 1.

Each middle bent is made of two wall posts, two long and two short purline posts, two jack-rafters, two truss braces, one pair of clamps, six short girts, and one tie girt.

The wall posts are made of two pieces, each 2 x 10 in., placed one on each side of the bent girts (see Fig. 2). The long purline post is carried on the wall at the foot of the wall post, and is

made of two pieces 2 x 8 in., and is placed as shown in Fig. 2. The jack-rafter is made of one piece, 2 x 8 in., and is placed with its lower end between the two sections, and near the top of the wall post, then passes between the two sections of the purline post near its top, and joins its mate from the opposite side of the bent at the peak. The truss brace is of one piece, 2 x 8 in., and has its lower end placed between the sections of the long purline post and on top of the top girt in the bent, then passes between the sections of the short purline post, and meets the brace from the opposite side of the bent at the peak, immediately below the jack-rafter. The short purline post is made of two pieces, 2 x 8 in., which are placed one on each side of jack-rafter and truss brace, and at upper end of purline post, as shown in Fig. 2, each section having a shoulder at upper end to carry purline plates. Clamp of two pieces, 2 x 8 in., placed one on each side of the upper ends of the jack-rafter and truss brace, and prevents the bent from spreading at the top.

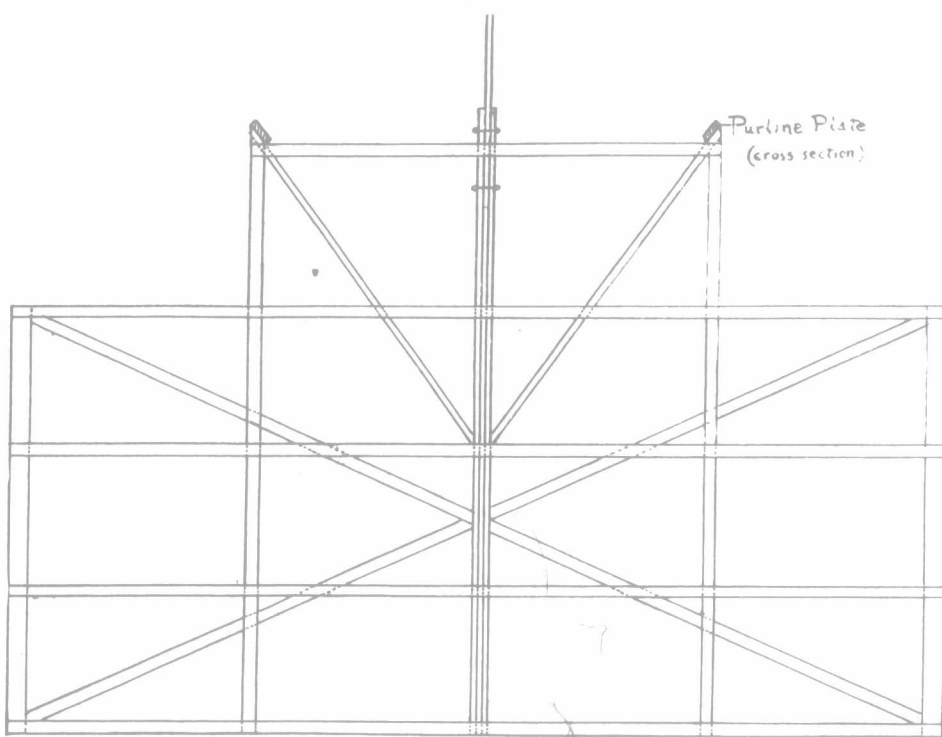


Fig. 1
End Bent.

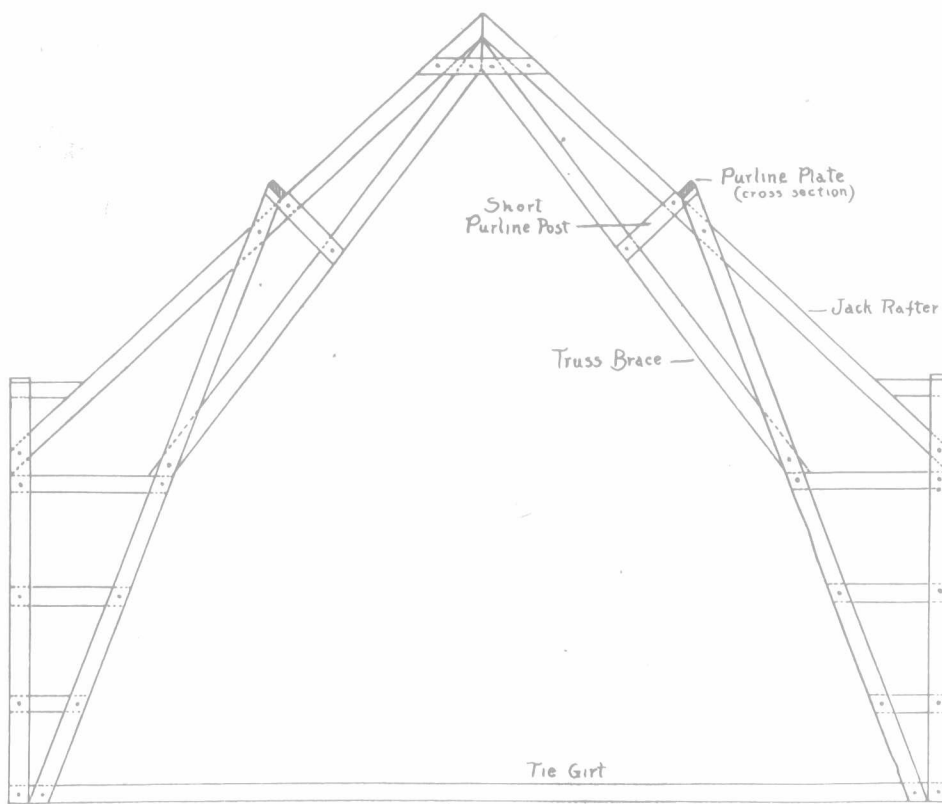


Fig. 2
One of the Middle Bents.

Tie girt is 2 x 8 in., and runs across the barn from side to side, and is bolted to the foot of wall and purline posts, and prevents bent from spreading at the bottom. The timbers in middle bents are all bolted together with $\frac{3}{4}$ -inch bolts on every bearing (see Fig. 2). The side girts are 2 x 8 in., braces 2 x 6 in., and are placed as shown in Fig. 3. The single post, placed midway between the bents, is made of two pieces 2 x 10 in., spiked together as shown in Fig. 5.

The wall plate is made from two pieces, the plate proper 2 x 12 in., and the top girt 2 x 8 in. The top girt is placed flush with the top of the wall posts; the plate is placed on top of the posts with its outer edge flush with the girt, and

spiked; or both sections may be spiked together on the ground, and raised together.

The purline plate is 3 x 10 in., and is placed on the shoulders of the short purline posts in the middle bents, and on the end of the long purline posts in the end bent. Both wall and purline plates are in sections, reaching from one bent to the other.

The purline braces are placed with their lower ends butting against the truss brace, immediately above the foot of the short purline post, the upper end being spiked to the upper face of the purline plate.

We will now suppose that the foundation wall is built, the timber framed and ready to put together. The sills, 3 x 12 in., being heavy enough, are placed on the wall, the joists or overlays, as the case may be, being placed in position, and flooring placed in both mows and drive floors, as building is all raised from the floor. This style of frame should always be put together by the framer before the day of raising, and is raised bent by bent, all the bents but the last end bent being raised in one direction; the last bent is raised from the inside in the opposite direction. By raising in this manner, it saves building staggering over the end of the wall to carry the bent, as was necessary with the old-style timber frame.

The last bent to be raised is the first to be put together, and is placed with its foot towards the end of the wall, put together as shown in Fig. 1, and left flat on the floor face up. The middle bents are placed with the foot in the opposite direction, and put together as shown in Fig. 2. The other end bent is now put together, and the frame is ready to raise. About 30 or 35 men will be sufficient to do the work. When the first and second bents are raised, the single posts, girts and braces are placed as shown in Fig. 3. Continue in the same manner until the bents are all up, put on wall plate and purlines, and the frame is up.

The frame required about 5,500 feet B. M., made up as follows: End bents, 680 feet each; three middle bents, 630 feet each; side girts, braces, door-caps, 470 feet; purline plates, 340 feet; wall plates, 272 feet; tie girts, 160 feet; center posts, 180 feet; purline braces, about 180 feet, and sills, 648 feet. Rafters are of soft elm, 2 x 5 in., sawn full length, and placed. The flooring and sheathing is all soft elm, and requires about 7,060 feet. Siding 4,408 feet pine; roof about 31,000 cedar shingles.

The cost of the material would, of course, be governed by local conditions. I am, therefore, unable to give any satisfactory figures. As for labor required, I should judge that three men would have frame ready to raise in about six days, or possibly less.

There are, at the present time, three other plank-frame barns in Brooke Township, and their owners are all well satisfied. I, for one, have no hesitation in advising anyone intending to build a barn to build a plank-frame. If elm timber is not available, pine, hemlock, black ash or basswood will do very well. Two of the other plank-frame barns in this neighborhood are built mostly of black ash, and the third is altogether of pine. D. A. McINTYRE.

Lambton Co., Ont.

BUILDING A PLANK-FRAME BARN.

Editor "The Farmer's Advocate":

During the past season I introduced this style of frame in this section, but for several years some of our American neighbors have been using this system. They had the frames shipped to them, all complete, ready to raise, by the inventor. For some time I have been advocating the use of the plank in place of the timber-frame, but not until the past season did I succeed in inducing any of our farmers to make use of this system. And now I will do what I can to show the readers of "The Farmer's Advocate" why they should use this style of frame in any structure they may think of building. To those desirous of learning more about the plank-frame, I would say that any questions asked through "The Farmer's Advocate" will receive my careful attention.

The first question, "When built?" I would answer in this way: During the past summer I built two modern dairy barns, one 36 x 80 feet, and one 36 x 84 feet, both basement stables, with 16-foot superstructures and high, gambrel roofs; but, as I stated before, our American neighbors have used the system for several years, and in no case have any of them given out in any part from heavy snow loads or high winds.

How framed? The main, or side, posts are composed of two planks 2 x 8 in., kept 2 in. apart, and bolted in five places, one in each end, and at each point where the side girts are to be spiked on the outside of the frame. At each of these points I place a block 8 to 10 inches long, between the planks, through which the bolts go. These posts stand with their flat side across the barn.

The purline posts are made of two planks 2 x 8 inches, and of a length to reach from the side

sill to the purline plate, if such planks can be procured; if not, these posts may be made of short sections; but this is not so neat-looking or so easily framed. This post rises from the foot of the main post and inclines inward, and rises upward to the plate, and is tied to the main post about 2 feet from the top by a horizontal tie 2 x 8 inches, which fits between the planks, and is securely bolted and spiked. Next, a long plank, 2 x 8 in., or 2 x 10 in., fits between the planks of the main post, right at the top, and, inclining inward, rises upward between the two planks that compose the purline post, and continues to the center of the barn. Here a plumb cut is made, the same as a plumb cut on a common rafter. In fact, this plank is almost identical with a rafter running, as it does, from the top of the main post to the ridge of the barn. As the point where it passes through the purline post is some three feet below the top, we fit a piece of 2 x 6-in. (sub-support) between the planks of the purline post, and run it upward till it comes against the roof support, as the long, rafter-like member is called. This joint is formed by cutting the sub-support with a long bevel and fitting it to the back of the roof support, where it is most securely spiked.

On the extreme top end of the roof support, a collar tie of 2 x 10-in. material is spiked and bolted, to secure the other half of the bent to the half we have just completed.

This construction, as may be seen, besides being simple to frame, gives ample strength, with minimum amount of material. Correctly speaking, this is a cantilever structure, for the bottom of the main posts are anchored by joists 2 x 8 in., one on each side, which extend clear across, and are attached to the post on the other half of the bent, thus securely tying both posts at the bottom. Then, we have the main post as an upright anchor, and the inclined purline post as a rigid support, both securely tied together at two points (bottom, and at horizontal tie), and springing from the top of the main post and balancing over the purline post is the great cantilever arm—the main timber in the structure, known as the roof support, the extremity of which is securely tied by the collar tie to the corresponding arm of the opposite truss.

Anyone will at once see how strong a bent of this construction must be.

Next, we will deal with the side-bracing, girthing and plates. The plates are formed of two planks, 2 x 8 in., spiked together at right angles to form a trough or V, which is inverted over the top of the posts, one plank resting flat on the top, and the other lapping down on the outside of the posts, forming a girth, on which the siding is nailed at the top. These plates go on in sections, from bent to bent, and in long spaces should be doubled on the top of the posts. Next, the girths, composed of 2 x 6-in. material, are spiked flat on the outside of the posts, at distances apart not greater than 4 feet. The side-bracing is composed of 2 x 6-in. material, in the following manner: First, a perpendicular is set up from sill to plate, in the center of the distance between the bents. This piece must be set edgewise, to resist pressure from within and wind from outside, with the outside edge against the girths. The girths must be most securely spiked to the perpendicular center piece. The braces commence at the foot of the main posts, and rise diagonally, meeting the plate, one on either side of the upright. They, too, are set edgewise, and have the girths spiked into them. This gives a strong system of bracing, together with a method of girthing that cannot be improved. The purline plates are made of two planks 2 x 8 in., in sections, from bent to bent, with a 2 x 8-in. piece spiked between them, and four feet long to splice them, at each joint. They are placed in a cut, prepared in the top of the posts, as follows: From the back top end of the planks we cut down about 8 inches deep, at right-angles to the pitch of the top roof, and again at right-angles to the first cut. The top edge of the sub-support comes flush, and parallel with the bottom of this last cut. The plates lie with one side resting against the first cut, and the bottom rests on the last cut, and on the top edge of the sub-support, the top being on the same slant as the top rafters. The braces fit between the two planks that form the plate, and extend down, and are spiked to the sides of the purline posts. These braces are usually about 2 x 6-in. material.

The end bents are almost the same in construction as the interior bents, except we design a sort of beam, composed of two planks, one on the outside and one on the inside, across the building, at the same height as the main plate. At regular distances, 8, 10 or 12 feet, across the end we set uprights, and brace and girth in same manner as sides, except the uprights are usually made of two or three thicknesses of planks. Above the beam, up to the gable on the top roof, we make girths of two pieces of 2 x 6-in. material, spiked together at right-angles, resembling angle-bars in steel construction, and spike them across the end, from purline post to purline post. In order to strengthen the ends, we spike a 14 to

16-foot 2 x 8-in. plank across the angle, from the top of the main plate to the top of the beam. This makes everything secure, and overcomes, in a very simple and cheap manner, the greatest objection that has ever existed to the use of the plank-frame, namely, weak, bulging ends.

The rafters on the lower roof, at the bottom cut, are the same as any balloon-frame rafter, but, at the top they extend on up above the purline plate, and are cut off at a slant with the back of the top rafter, while this lower end of the top rafter extends down past and lies against the top end of the lower, the two being most securely spiked together.

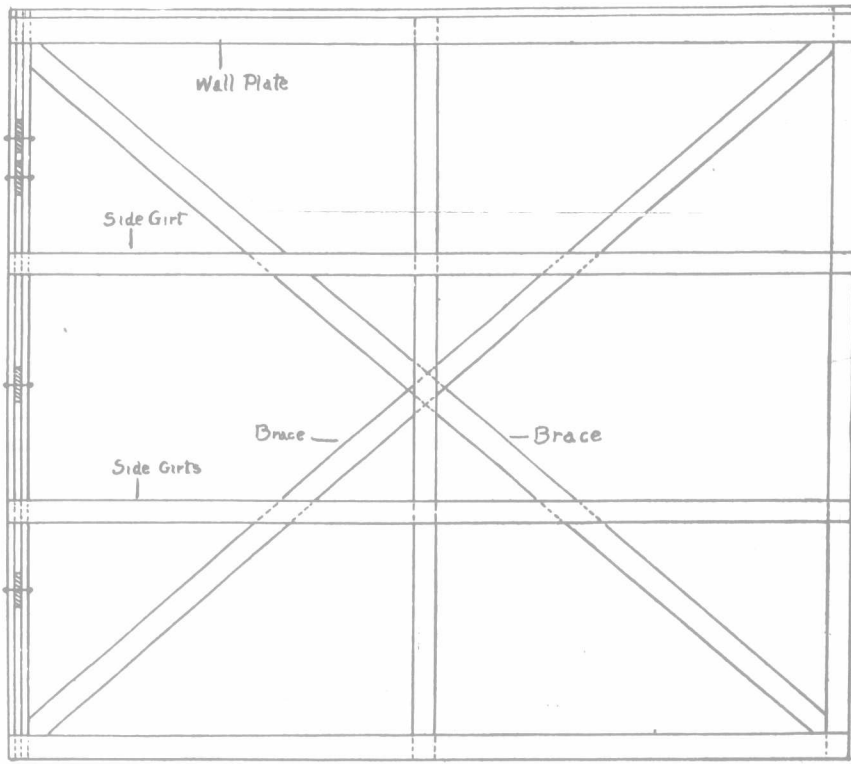


Fig. 3 Side Elevation.

Now, when raising day arrives, we very carefully slide these two pitches of rafters up over the plates until they lie in position, when the bottom of the lower one is spiked to the main plate, and one of the most active of the boys goes up the roof support and spikes the centers of the rafters together, of the first pairs on each side of him; then, by nailing stay-laths to these two pairs, and extending the laths to the next unnailed pair, he is able to go clear along the peak and secure all the points, while another spikes them securely to the purline.

This completes the framing of a plank barn, and the raising is done with the aid of 20 to 25 men, or can be done by the framers themselves with two sets of tackle-blocks.

In regard to the quantity of material used in one of these frames, let me make a little illustration which will make clear the amount of mate-

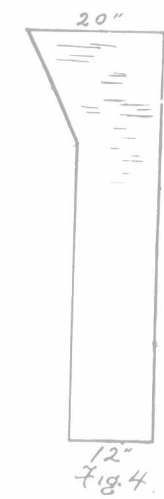


Fig. 4 Cross Section of Wall.

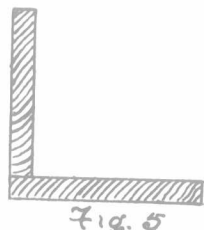


Fig. 5 Plank Spiked Together for Corner and other posts.

rial that can be saved. Take, for instance, a piece of timber large enough to make a stick 8 x 8 in., to be used as a post in a timber frame. Now, by referring to the material used in a plank-frame post, we find it is composed of two pieces, 2 x 8 in., and we could cut these two, and two more like them, from the timber we must use in an 8 x 8-in. post.

This may appear to be rather weak, when thought of in connection with our large 8 x 8-in. post, but do not lose sight of the fact that, before we can consider our 8 x 8-in. timber a post, we must dig large mortises and put two to three draw-bore holes through the cheeks of these mor-

tises—all of which goes to weaken the stick—until finally we find that just at the mortise our post is no stronger than the one built of two solid planks. This brings to mind the fact that "nothing is any stronger than it is at its weakest point."

The bill of material for enclosing a barn of plank-frame construction is the same as for a timber frame.

The time required for framing such a barn as I have outlined would be about five days' work for six men and framer, and would cost from \$60 to \$80; and a great deal smaller board bill for the farmer, and shorter time of work and worry

for the housewife; for, if the same barn was to be built of timber-frame construction, 12 to 15 days would be required to frame it, and wages in proportion to the time. These figures may appear rather small for framing a barn 36 x 80 feet, but, let me say that I have kept close account of the cost of the different frames which I have built, and can be certain of my figures.

One more advantage to which I wish to call attention is the large amount of room in the barn, the whole center of the space being available for storage, setting of machines, etc. This brings another point to mind, which is, that all the weight of the frame is carried to the foundation walls, by the purline posts rising from the sides, instead of depending for support on joists or timbers that sooner or later will settle.

Hoping that I have made the design clear, and also that I have not taken up too much space.

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

SOME IDEAS ON BARN BUILDING.

Editor "The Farmer's Advocate":

Having had some experience in building barns, and the use, convenience and inconvenience of them, I will give a plan that may suit some, say for a 100-acre farm. I would, if possible, choose a side-hill facing south, and have the driveway going east and west, so as to drive through the stables opening to the south, we will say 60 x 36 feet, but any width will do on the same plan. Have the foundation well drained; build walls of cement-concrete, 1 foot thick, to level of floor, then 6 inches from that up 10 feet, with buttresses outside to make it 1 foot where posts and sills rest (some will say this wall is too thin and weak; if so, reinforce it with two rows of hog-fence, one inch from sides, with wires across every yard or so). Windows 2 ft. 4 in. by 4 ft., 8 lights 10 x 12 in.; four on each side and two at each end, in half, to slide past. Put two mud sills in lengthwise of building, to correspond with passage between rows of stalls; this will leave the sleepers shorter, which may be sized to 6 in., and rest on mud sill and wall. In flooring, put chutes where needed for feed and bedding at edge of mow. The granary can be put in one corner, near where grain comes from machine. As the floor is where the whole crop rests, the mud sills should have posts every twelve feet, with corbel under sill. These posts may be cement. I think we are all agreed that the less cross-beams and timber we have on the inside of a barn, the better, so long as there is strength for what is needed. This barn has four bents, one at each end, and one on each side of driveway. Divide the barn into three spaces; this will leave center posts ten feet from side posts in each bent; put girths to suit lumber, and brace well. Our wall posts should be 30 feet high—36 is better—and center posts one foot higher; plates to correspond. This will give three tracks, and six mows for different kinds of stuff. In center bents put beam 12 or 14 feet down from top of side post to center post, but none between center posts. This roof looks flat—one inch to the foot, but is steep enough for the different kinds of felt and steel roofing. I think 8-inch hardwood or 9-inch softwood is heavy enough for posts; girths, 5 or 6 in.; rafters, 3 x 6 or 4 x 6. All the center posts should have pins on each side, 2 feet apart, for climbers, and a foot-board across, 4 feet under the tracks, at each end, to stand on while changing car from one track to another. In our old barns, the timber is cut up with mortises. Instead, girths are cut in 1/2 inch or 1 inch, or inch board spiked under beam or girth, without tenon, and 1/2 x 1 1/2-inch iron band around post, with eye driven into beam or girth on each side, and draw up with nut. Box for braces, and spike each

end. Gangways should be made, with not more rise than one foot in the first twenty feet from the barn. Advantages are: Deep mows, hold more, less mowing, grain easier put to thresher, one mow empty leaves room for straw, and you can put woven-wire fence across front of mows to hold cut straw, hay, etc.
Grey Co., Ont. WM. WHITELEW.

SOLVING THE LABOR PROBLEM.

Editor "The Farmer's Advocate":

As this is the time of year when farmers usually try to secure the farm help they need for the coming season's work, and plan how to get along with as little help as possible, and at the same time work the farm successfully, I thought a little of my experience along that line might be of benefit to someone, so I will give it. About 12 years ago I started on a farm alone. I hired a boy the first two summers, but, on looking back over our summer's work in the fall, it seemed that I was paying out a lot of money for the help I got out of the boy, for when it came to haying and harvest I had to hire a man to help, and when I wanted to draw out manure with two wagons I had to hire a man again, and I concluded that it did not suit me to keep a boy to do chores, as it seemed too much like keeping the boy for company sake, so I decided on another plan, with a fair amount of success.

First, I bought a double-furrow plow and put on three horses, and so plowed as much alone as with two single-furrow plows, and made a better job of it than the boy would have made with one of the plows. Then I bought a potato-digger, so I could dig my potatoes more quickly and get at my fall plowing. Then I bought a manure spreader, which enables me to handle my manure almost entirely alone. I also bought a hay loader, which enables me, with the aid of a boy, or someone that can drive the team, to handle my hay. I also have a hay fork and sling in the barn. When harvest comes, I try to hire a man and boy, if I can get them, and let them draw in, and I stay in the barn and help to unload, which takes about 4 or 5 minutes, and then I level while they get another load. I also have a sheaf carrier on my binder, which saves a lot of work in stooking the grain; besides, I have bought a two-horse cultivator for cultivating my corn and root crops, which finishes two rows at each time across the field, and is all in the driver's control, and enables me to give my corn and root crop the best of care. I hire my turnip and beet cleaning done, but my corn and potatoes I can keep clean with the cultivator and harrow. I also have a potato planter, which enables me to plant quite as many alone as a man and boy would plant with a hoe. I also have an auto-spray for spraying my potatoes, which saves much time and work. Besides, I have a three-horse evener on my general cultivator, and four-section harrows. I also have a power windmill on the barn, with which I grind my grain, cut my corn and straw, saw my wood, and pump water for all my stock.

With the above outfit, I feel satisfied I can do more work, and do it better than a man and boy would do with a common farming outfit. And, besides, if I don't count the cost of power mill, this extra outfit does not cost me \$225.00, and I have no boy to board or to give me any sauce if things don't just go to suit him, and I think that is very often worth quite a bit.

ALONE ON A 100-ACRE FARM.

Oxford Co., Ont.

STATUTE LABOR UNDER A SHADE TREE.

Editor "The Farmer's Advocate":

I received the knife all right, and am well pleased with it. Thanks to you for your promptness.

Keep the road-drag agitation up. The drag is so simple and cheap, everyone should have it. I have one, and ask my friends to make one, and quite a number are going to make and use them. Two half-round cedar posts, two hardwood sticks 2 x 3 in., an old board, two bolts driven in to draw by, and your logging chain; get on and ride, and you won't want to do statute labor under a shade tree.
F. L.

Brant Co., Ont.

ASKS FOR EXPERIENCE WITH SHREDDED CORN FODDER.

Editor "The Farmer's Advocate":

As I have had no experience in shredded corn, I thought I would write and get the opinions of a few older men than myself, for, if it is a success to shred it, I would like to put in a lot of it this year; and if not, will only put in about four acres.

1. Are shredded cornstalks any better feed than the whole stalks?
2. Is there any danger of shredded stalks being blown into a mow setting fire to the barn?
3. Are shredded stalks fit to feed colts or horses that are not working?

AN INTERESTED FARMER.

TOWNSHIP ENTERPRISE IN ROADMAKING.

Editor "The Farmer's Advocate":

Since the February 6th issue of "The Farmer's Advocate," we have received further testimony as to the influence of the good-roads campaign. During the spring of 1907, the County Council of Lincoln refused to extend the good-roads system in that County. The townships in favor of good roads at once turned their attention to what could be accomplished by the township councils. Grantham Township Council called one or two public meetings, and, after consultation with their electors, decided to submit a by-law to raise, by debentures, \$20,000, payable in ten years, to drain and improve some ten miles of the roads leading to the City of St. Catharines. The by-law carried by a large majority. The work of drainage was commenced in the fall, and some three miles were tiled, using 5-inch and 6-inch tile, and putting a tile on each side of the driven road. Opposition arose from some of the ratepayers because of the increase of two mills on the dollar in the tax rate, or \$2 on every \$1,000 assessment, some claiming that the present roads had answered for them all their days, and the younger men should be contented to still plod through the mud. The advocates of good roads rallied to the support of the old council, and succeeded in re-electing them by a majority of almost two to one. The work will be finished, and some 12 or 15 road divisions are procuring split-log drags, or similar drags made from 4-inch planks, and have agreed to go over their divisions after every rain and keep the roadbed in proper shape. Another effect of the campaign on road-drainage is that it has awakened several of the farmers to the benefits of underdrainage, and more tiles were laid last fall than in any previous year.

Two adjoining townships are taking up the work in another form. Does this not raise the question that, in counties where the majority are opposed to good roads, the townships in favor should be allowed to come under the system of Provincial aid?
TAXPAYER.

Lincoln Co., Ont.

ERADICATING SOW THISTLE.

Editor "The Farmer's Advocate":

In "The Farmer's Advocate" of Jan 23rd, M. V. M. asks about eradicating sow thistle. Buckwheat will not smother it altogether, but will check it; summer-fallowing will do the same. This has been our experience. We find sowing buckwheat one year and roots the next to give best results, as buckwheat will check and weaken it, and a root crop will clean what remains. Buckwheat, sown from 20th to 25th of June, gives a good crop, and, at prices of the past few years, gives very good returns, besides helping clean land. We have had 30 to 35 bushels per acre. It is not an ideal crop to handle, as it is late ripening, and straw is of little value.

Ontario Co., Ont.

H. BURTON.

GARDEN ORCHARD.

TEN FORMS OF WINTER INJURY.

[Condensed from an address by W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa, before the Quebec Pomological and Fruit-growing Society, December, 1907.]

If one could make an accurate estimate of the number of fruit trees which have been winter-killed in the Province of Quebec during the past three hundred years, we believe it would be found that there have been many millions thus destroyed, representing millions of dollars. Much of this loss could have been avoided if the hardiest trees only had been planted, but how few there are who know the details connected with the establishment and maintenance of an orchard, and who know there is almost or quite as much difference in the hardness of varieties of fruits as there is between the hardness of a potato and a cabbage. All farmers have learned, by observation that, with a very slight frost, potato-tops will be killed, but that it will take a much lower temperature to kill a cabbage.

Unfortunately, this lack of knowledge on the part of the farmer has been taken advantage of by unscrupulous men, and they have been urged to buy the varieties of fruits which appeal to them most strongly in the colored plate, or from the glowing description given by the agent. Of late years our best nurserymen seem to be impressing upon their agents the importance of offering only those varieties suited to the district in which they are sold, and we have been very pleased to have these agents call upon us at the Central Experimental Farm, and get what information we could give them on the fruits most suited for the districts they were working in.

The title of this paper is, "Ten Forms of Winter Injury, and What we Know About Them." But, surely, you will say, there cannot be ten forms of winter injury! We believe there are at

least that number, and probably more. Those we propose to deal with here are: Root-killing, bark-splitting, trunk-splitting, sunscald, trunk or body injury, crotch injury, killing-back, black-heart, killing of dormant buds, killing of swollen buds.

ROOT-KILLING.

Root-killing is caused by the exposure of roots to severe frost, and by the alternate thawing and freezing of the roots. It is most prevalent in winters when the soil is dry, and when there is little or no snow. Roots are, in many cases, tenderer than the tops, and are killed, when the tops remain uninjured. Some valuable experiments were conducted by the Nebraska Agr. Exp. Station to determine the conditions under which root-killing occurred. Trees were planted in boxes two feet square and eighteen inches deep, each box having 25 young apple trees. Six boxes were left outside about the middle of December, with soil having different percentages of moisture. One box was covered with a mulch of straw about four inches deep. One was kept covered with about four inches of snow, whenever snow fell. The remaining boxes were left without any covering, any snow which fell being swept off. The trees were examined in February, when, out of 25 apple trees set in the unprotected boxes containing 10.4 per cent. of moisture, the roots of 20 trees were dead, and the remaining 5 uninjured. In the unprotected box containing 15.2 per cent. of moisture, 19 trees were dead, and 6 injured. In the box with a moisture content of 19.8 per cent, 3 were dead, 10 injured, and 12 uninjured. In a box with 25.6 per cent. moisture, 8 trees were dead, 4 injured, and 13 uninjured. The box covered with the straw mulch contained 16 per cent. of soil moisture, and none of the trees were dead in this box, and but 7 injured. In the box covered occasionally with snow, and containing 15.8 per cent. moisture, 7 were dead, and 8 injured. Not a root was injured in a box stored in a cool, dry cave, though it contained but 10 per cent. soil moisture. These figures are very striking. The fact that the trees kept in a cool, dry cave were uninjured, was believed by the experimenters to prove that cold, as well as dryness, was necessary to cause the death of the roots, which is borne out by experience elsewhere. The fact that the injury was found to be so great in the dry soil would appear to show that the dry, cold air entering the soil killed the roots by dry-freezing, and that in the soils which were moist, even thawing and freezing would not destroy them. As the soil in the Province of Quebec is usually moist in autumn, and further drying out is usually prevented by a covering of snow, root-killing does not often occur, there having only been three times during the past twelve years when there has been much injury. This infrequency of root-killing is, however, liable to make fruit-growers careless, and a time comes, when an orchard is just in its prime, when the trees are swept out by root-killing, to the owners' great disappointment and discouragement. What, then, are the preventives of root-killing?

At the Central Experimental Farm, Ottawa, many trees were root-killed in the winter of 1895-6, a winter when there was little snow. At that time cover crops were not used to any extent, and the soil at the Farm was bare. Since that time great care has been taken to have a cover crop in the Orchard before winter sets in. This cover crop, in itself, protects the roots of the trees from drying out, and helps to hold the snow for further protection. While the roots of trees in sod are protected by this sod, and may not be killed when those under cultivation are, it may happen that in some cases the soil is so dry under the sod that if there is no snow the roots may yet be killed. The mulching of the ground about trees with straw or manure will also protect the roots from injury. Another reason why we have not been troubled with root-killing during the past twelve years at Ottawa is that practically all our trees have been, since that time, grafted on crab-apple roots, not on *Pyrus baccata*, although some are on this stock, but on the seedlings of Martha, Transcendent, and other cultivated varieties. The apple seedlings used by nurserymen for stock vary much in hardness. Every tree probably differs more or less, and some are undoubtedly quite tender. The result is that varieties, otherwise hardy, when grafted on these roots, fail. Seedlings of the crab apples are much more likely to be hardy, and we believe that if some nurseryman would make a specialty of growing the apples suitable for the Province of Quebec on crab-apple stocks, he would in time sell a large number of these trees.

BARK-SPLITTING.

This is an injury which usually occurs on young trees. It is due to the expansion caused by frost when trees are in a very succulent condition. It occurs when trees have grown late in the fall, and there is a sudden low drop in temperature. It will occur when trees have grown late and there is a heavy fall of snow before the ground freezes. The soft snow appears to soften the bark of the tree, and when the temperature

drops suddenly, the moisture under or in the bark expands, and loosens the bark from the trunk or kills the cambium. In Nova Scotia, the Gravenstein and other apples are affected with what is known there as "crown rot," which apparently destroys the bark about the tree near the ground. From what we can learn of this injury, which occurs mostly in well-cultivated orchards, and in moist ground, we believe that the cause is that the Gravenstein grows too late, and is subjected to the conditions just referred to, namely, of being too full of sap. Traces of disease have been found at these injured parts, but we believe that the disease is secondary, rather than the principal cause, though we have not had an opportunity to study the injury there. Bark-splitting can be prevented to a large extent by having the wood of the trees well ripened when winter sets in; and this can be brought about, usually, by stopping cultivation in good time. When young trees are injured by bark-splitting, they may be saved, if not too badly hurt, by covering the injured parts with grafting wax.

TRUNK-SPLITTING.

Trunk-splitting, while not a common injury in Quebec orchards, is not rare. It was long thought to be due to the expansion of trees which have been "hide-bound." We do not believe that there is such a thing as a "hide-bound" tree. While, so far as is known, no experiments have been tried to determine the cause of trunk-splitting, yet several theories have been advanced, the best one being that the splitting is due to a sudden lowering of temperature, which cools the outside layers of wood in the trunk, making a considerable difference in temperature between the outer and inner layers, causing the former to contract. A clearer example is the cracking of ice when there is a sudden fall of temperature, due to the contraction caused by the upper layers of ice coming in contact with the cold air. It is trees which have made late growth and are well charged with sap that are usually affected; hence, thorough ripening of the wood is necessary for the prevention of this injury also.

SUNSCALD.

The injury to apple trees known as sunscald is one of the most serious hindrances to successful apple culture, particularly in the northern and eastern parts of Ontario, and in the Province of Quebec. Newly-planted or young trees are, as a rule, more seriously affected by it than older ones. The unhealthy appearance of the bark on the south and south-western sides of the trunk of the tree, and on the larger branches, is the first indication of this injury. Afterwards, the bark and wood dry up and fall away. Trees are often so badly affected that they die. Sunscald occurs during the latter part of winter or very early in spring, when there are warm days and cold nights. The results are apparently the same as what happens when many plants are thawed out suddenly—they die. The hardiest varieties are the least affected. The injury may be prevented, to a large extent, by only planting trees which are headed low, thus exposing but a short trunk to the rays of the sun; also, by inclining the young trees somewhat to the south-west when planting, thus preventing the sun's rays from striking the trunk, except for a short time. When trees have been planted, and are liable to become sunscalded, the trunks may be protected by using a veneer of wood which encircles the trees, thus preventing the rays of the sun from striking the trunk. The protector is better loose, so that there will be an air-space between it and the tree. White building paper, tied around the tree, is also useful. Boards, sacking, and many other things, may be used to protect the tree from sunscald. Nothing, however, that will be likely to harbor mice should be used.

CROTCH INJURY.

The effects of crotch injury have been very serious in the Province of Quebec and in some parts of Ontario in recent years. On examination, it is found that in the center of the crotch and on the branches diverging from it, but close to it, the bark is dead. As a result of this killing in the crotch, the tree loses its strength there, rot sets in, and eventually the tree is destroyed by the loss of one limb after another at the crotch. This crotch injury is evidently due to ice lodging in the crotch. There are several theories as to why the ice should cause the bark to die. One is that it acts as a lens and concentrates the rays of the sun, causing a scalding of the bark. The position of the injured limbs alone would seem to be sufficient to show that this theory is not a good one. It seems more likely that the injury is caused by the softening of the bark by the melted snow or water before freezing, and that, after freezing, the bark, which is, even before this, probably tenderer than at any other part, owing to its being most shaded there in summer, is subjected to severe frost, and it and the cambium are both destroyed. One of the best means of preventing crotch injury is to grow trees with as little crotch as possible, training with a central leader.

KILLING-BACK.

This is the indication of inherent tenderness of the variety, or of immaturity of wood. Plants which need a long season in which to mature their wood will go on growing so late when cultivated in a climate having a shorter season that their wood is not matured, and the young wood or the whole tree may be killed. When the wood of a tree which would otherwise prove tender is well ripened, it will often survive, but there are fruits and varieties that will stand only certain minimum temperatures. It sometimes happens that varieties of fruits which are apparently hardy will survive until after a heavy crop, followed by a severe winter, when, owing to lowered vitality, they will be destroyed. The Ben Davis apple is an example of this. When winter-killing is due to immaturity of wood, it may be prevented to a large extent by methods of cultivation. From experiments conducted at Ottawa by the Chemist, Mr. Frank T. Shutt, it was found that varieties of apples which were known to be tender had usually more moisture in their twigs in winter than those which were hardier, partly owing, no doubt, to the fact that they were more immature than those of trees which were hardier. When the trees of certain varieties are killed after heavy bearing, thinning of the fruit should be practiced in order to prevent lowering of vitality.

BLACK HEART.

Black heart is a condition found in trees grown in cold climates. It is caused by the death of the alburnum or young wood in winter. The bark and cambium remaining uninjured, growth continues in the spring much as usual, but the injury remains, and may eventually cause the death of the tree. If, for instance, rot gains an entrance through the crotch or a dead branch, the whole interior of the tree may rot, and some day the tree will blow over, and it will be found merely a shell, which has been held together by the trunk and a few outside layers of wood. Black Heart in its incipient stage may be prevented by careful attention to northern-grown nursery stock. During the winter, after the first season's growth of the young grafted trees, most varieties are likely to be killed back, and when the tree begins to grow in the spring it will be found that the alburnum is blackened below the point where growth begins. This is Black Heart. Careful nurserymen now cut back the young trees almost or quite to the ground the first year, in order that the tree may start growth from healthy wood. The same thing may occur the second season, and the trees are again cut back, but it is usually not necessary to cut so far. Even after trees are three and four years of age, and have been planted in the orchard, they may get black heart by winter injury, but it is much rarer than when they are neglected in the nursery. The tender varieties are more susceptible to black heart than the hardy ones.

TRUNK INJURY—BODY INJURY.

The fact that trees lose moisture in winter has been proved by careful experiments. In the Northwest, where the weather is very cold in winter, and there are often no woods to check the force of the wind, trees lose so much moisture that it is a common occurrence for them to die simply from drying out. The same trees, if protected by a good wind-break, would in many cases not be injured. It has been written, although we are not sure that the figures are correct, that the same surface which would in calm weather exhale 100 parts of water, would exhale 150 parts in a high wind. These proportions would probably be considerably less in the case of fruit trees protected by bark, but it shows what a drying effect wind has. Last winter was a very cold one in Eastern Ontario and the Province of Quebec, and there was considerable injury from body-killing. This, for the most part, took the form of trunk-killing, the upper part of the trunk, unprotected by snow, being apparently dried out. The result was that the bark and cambium all around the trunk were killed. At Ottawa, quite a number of trees were lost in this way. The reason, in our judgment, why the trunk was killed and the top uninjured was that the top had more moisture, and was not dried out sufficiently to be killed. In past experience, it has been noticed at Ottawa that sometimes the younger growth of apple trees will come through the winter uninjured, while the older parts of the branches will be killed. Trees in sod orchards will sometimes die from body-killing, when those which are cultivated do not, the latter having more moisture. In a letter received from Mr. A. P. Stevenson, Nelson, Man., he writes: "Outside of sunscald, our chief winter injury is killing-back. This is serious when the following winter conditions prevail: Light snowfall, high winds, and extremely low temperature continuing for some time. Some varieties are killed to the snow-line. Two years ago we had a winter like that, and another seven years previous to that. The trees were simply frozen dry."

Two means of prevention of body-killing may be mentioned. One, to see that the trees have made vigorous growth the previous summer, not

forgetting, however, to have the wood well ripened. The second is to plant wind-breaks to check the force of the wind. In the Northwest, the trunks are sometimes protected by sacking or veneer.

KILLING OF DORMANT BUDS.

While the killing of dormant buds evidently comes about partly from the same cause as body-killing, namely, a drying out in cold weather, it is evident that buds are more tender than wood, and their life is destroyed at certain minimum temperatures. Not only are fruit buds destroyed when the twig is not injured, but leaf buds as well. In the Province of Quebec and the colder parts of Ontario, the buds of the European and Japanese plums and cherries are nearly always injured more or less in winter. This seems undoubtedly to be due to the drying out of the twigs, for when these fruits are grown near bodies of open water in winter they do well. The marked success of Mr. Aug. Dupuis and others in growing the European plums along the Lower St. Lawrence is well known. But what are the conditions there? It is only within a comparatively short distance of the river that these fruits succeed. When we get further back from the river the buds are killed, as in other parts of the Province. It will be remembered that it required dryness with cold to kill the roots of trees. When the roots were moist they were little injured, even if exposed to the same temperature. Cherry, plum and peach buds are not so well protected from cold, and hence are killed from dry freezing more readily than apples and pears. There is, as yet, no very practicable way to prevent this drying out of fruit buds. The fact that the parts of the trees which are under the snow produce fruit, when the parts which are exposed do not, suggests the plan of bending over the trees so that they will be covered, which has been done successfully by some growers. Another plan which we think deserves further experiment is the low-training of plums and cherries, growing them with horizontal arms, for instance, which would be under the snow. A third plan is the breeding of varieties having hardier fruit buds. This, we believe, should, and is being done. The Montreal seedling plums, such as the Mount Royal and Raynes, are examples of varieties with hardier buds.

WINTER-KILLING OF SWOLLEN BUDS.

During the latter part of winter, when the sun is beginning to get strong, there is often a premature swelling of buds, especially of the cherry, plum and peach. This warm spell may be followed by cold weather, and there may be several such changes before spring. The buds being swollen, and more or less active, are more subject to injury from frost and changes than the dormant buds, and the result is that they are killed. Great injury is often caused in the peach districts by the killing of swollen buds, and in the Province of Quebec injury to the buds of plums and cherry is no doubt done when they are in this condition. It was long thought that if the ground could be kept frozen about the trees it would prevent the buds from swelling, as the roots would thus be kept in an inactive condition, but it has been proved over and over again that this has no effect whatever in delaying the swelling of the buds. The expanding of the willow buds in our swamps before ice is gone is a good example of how buds will develop while the roots may yet be in a frozen condition. There is sufficient sap in the tree to supply the buds, and even the leaves, when they first expand; and when the temperature about the top of the tree is high enough, growth begins. Swelling of buds can be prevented by bending over the trees, as suggested, to prevent killing of dormant buds, but this could not very well be done on a large scale. A few years ago, experiments were conducted at the Missouri Station to determine if whitewashing the trees would retard the buds, the principle being used that white surfaces do not absorb heat as readily as darker ones. It was found that the whitewashing did retard the buds, and, in the case of peaches, would sometimes prevent injury from frost. An experiment was tried at Ottawa in whitewashing plums and cherries, and it was found that it retarded the swelling of the buds. This means of prevention is not, however, a very practicable one, as it is difficult to get the whitewash to cover the branches well for a long period. After further investigations at the Missouri Station, it was found that buds of varieties of peaches having the lightest-colored twigs required higher temperatures to cause them to swell than those with darker-colored twigs, and the former suffered less from killing than the latter. Not having in these lighter-tinged varieties the kinds of peaches required for commercial purposes, the Missouri Station is now at work breeding good varieties with light-colored twigs.

**PUT NOT ALL FAITH IN ONE CROP.
1907 EXPERIENCE WITH THE POTATO CROP
IN ST. JOHN RIVER VALLEY.**

Editor "The Farmer's Advocate":

In bidding farewell to the old year, it would be an easy matter to say many hard things about it, and to give but little thought to the troubles we might have had to share with others, or to the blessings it has left with us. We are but too prone to brood over disappointments and failures, and to quickly forget our successes.

It is proverbial that the farmer is a grumbler. But when it is considered how much of his success depends on favorable weather, it would be strange if he were not a close observer of it, and ever ready to praise or criticise what so nearly affected his well-being. The farmer who does not grumble at bad weather is either too easy, or is more than human; and, with all his virtues (and grumbling, within limits, I consider one of them), he doesn't usually lay claim to anything higher.

In New Brunswick we have had a succession of cold, backward springs, that of 1907 being the sixth, and in some ways the worst. Growth was about a month behind time. The summer was not cold, but was wet and cloudy. Grain crops became rank, and were extremely slow to mature. Killing frosts came about the end of September, and late grain was light. Hay was a heavy crop, but late, as everything else was, and much was hurt with the wet weather, and some entirely destroyed. The turnip crop was not up to the average. In our own case, we had the first failure in 34 years. The land was heavy clay. The best crop of turnips I have seen this season was on shaley land, with hardly any soil in it. But the most disappointing crop of the season was the potato, especially in Victoria and Carleton Counties—just where the potatoes have, in the opinion of many, reached the greatest excellence, compared with those of other countries.

There has been a growing demand for our potatoes, during the last few years, from the towns in Ontario and Quebec, and during last winter it was impossible to satisfy this demand. Many of our farmers—in fact, most of them—became intoxicated over the great demand and high price of the potatoes, and, when the potato merchants came around towards spring, asking them to plant a certain number of acres, the merchants supplying commercial fertilizers and a complete potato-growing equipment, to be paid for with potatoes when they grew, many readily agreed to plant and cultivate large quantities of potatoes after the manner of the Aroostook potato-growers.

Aroostook County, the great potato county of the State of Maine, lies right alongside of Victoria and Carleton Counties, with only an imaginary line between them; with soil, climate and people in every way alike, differing only in those on the one side being called Americans, having the freedom of the great United States markets; the others Canadians, who, although their markets are not yet so great, would rather have it so than share with them, at the expense of forswearing the land of their forefathers. A farmer on this side of the line, some time ago, sized up the feeling on this matter very well. Being asked how he liked his farm, he said: "The farm is all right. What I want is a chance to sell my potatoes on the other side of the line, or to move the darned thing a thousand miles west. As it is, I have to compete with them in the labor market; they pay \$2.00 per day for our young men in the busy seasons; I have to do the same, or go without help. They get from \$1.50 to \$2.00 a barrel of 2½ bushels of potatoes at any railway station at any time of the year, while we can only, once in a while, get from 70c. to \$1.00 for a barrel of 3 bushels. Besides, their starch factories—to be found in every district—use all their small and rotten potatoes."

It looked now as if we were about to have as good a potato market as our neighbors—and right at home, too—and we hurried up to make the best of it. With the spring of 1907 came the potato merchants, with hundreds of tons of fertilizers and thousands of dollars' worth of potato-planters, potato-diggers, cultivators, spraying outfits, etc., etc., of various brands and patents. The fertilizers were all taken, and more sent for; the "outfits" were taken, some by single individuals, but more by two or more forming a joint-stock company, so far as the potato equipment was concerned. Some were paid for, but the greater part were to be paid for when the potatoes were marketed.

From the second week of July, the potato fields presented the most luxuriant appearance that could have been wished. Everyone was in expectation of the largest return ever obtained. The anxiety was how such a crop was to be marketed, and it could be marketed. Potato merchants at their wits' end as to what was to be done with so many potatoes. Our Commissioner of Agriculture was applied to for help. He

gave advice as to building potato-houses, and helped to impress upon the railway officials the necessity there would be for a large supply of the proper kind of car at every station.

The harvest being late, few could commence digging until well into October. It was found that a good half were diseased. Still there were lots of good potatoes left, which were rushed up and temporarily stored in barns and other out-houses. But it looked as if some envious spirit was after those potatoes, and a three-days' frost, seemingly borrowed from about the end of December, snapped up all that the disease had left, including those stored in barns and out-houses.

Thus was an end made of the greatest and most costly crop of potatoes ever attempted to be raised on St. John River. Only a few saved sufficient for home use and for seed, in many sections. As an instance, neither the best nor the worst, a young man of my acquaintance planted 75 bushels; he put into his cellar just 60 bushels; all the rest were lost. His fertilizer bill is \$300.

It was noticeable that those who carried a full stock on their farms went into this potato experiment with considerable caution. Few, if any, of such came under liability for fertilizer or implements. As a rule, it was the farmer whose chief source of income has been hay and oats who went headlong into this business. Still, in most cases the oats will pay for the fertilizer, and, the price of hay being high, they may push through somehow until they get another try. I do not advise giving up growing potatoes for the market on account of this failure, bad though it be. We may have partial failures now and again, but are not likely to have another such as this in a lifetime. But I do think it foolish to go at it as they do in Aroostook, depending almost entirely upon the potato crop. We have not so sure a market as they have, and even their market is sometimes disappointing, competition making a large crop of small value. Live stock is less likely to fail the farmer at a pinch than anything else he has to depend on. For the product of the dairy, for beef, mutton, pork, poultry and eggs, there is a never-failing demand, and ever will be so long as man is what he is. In our settlement, on the first of last August, every twenty lambs, just as they came, big and little, brought \$100, at the barnyard. They would not cost one-fifth the labor a hundred dollars' worth of potatoes would cost. And, in place of fertilizer bills, they would leave the fields where they were fed the richer for their presence.

W. L. McPHAIL.
Victoria County, N. B.

APIARY.

FOR PROSPECTIVE BEEKEEPERS.

There are, no doubt, many readers of "The Farmer's Advocate" who are thinking seriously of buying some bees in the spring, either for the purpose of supplying their homes with the most delicious of all nature's delicacies, or with the intention of increasing the number of bees kept until a large apiary has been built up. No matter how few or how many bees it is proposed to keep, the person who has never kept bees before, and knows nothing of their nature or management, should secure a good book on the subject of beekeeping, and read and study it up thoroughly before spring opens, when the busy season with the bees and farm work generally commences.

It is also advisable for the beginner to keep close tab on reliable bee literature in the apicultural and agricultural press, which will keep him posted on the new things which turn up in the business. The most important thing for the prospective beekeeper to remember is to start small. No greater mistake can be made by the beginner than to buy a large number of bees to begin with, for only actual practice will make a person fit to control bees, and bees have to be controlled right from the commencement of the season for good results; that is, the beekeeper has to be able to tell, by looking in the hive, when everything in it is exactly as it should be; he must be able to know when anything is wrong, what it is that is wrong, and how to put it right. He can learn a great deal from his bee book and from visiting and talking with neighboring beekeepers, but he requires actual, first-hand contact with the bees to teach him confidence and familiarity with them. A man who does not know what is what in a beehive, and is afraid of bees, has no business with more bees than he can afford to lose, or, at least, to run without profit. When the confidence and familiarity have been acquired by the handling of one or two hives, and the bees in them can be controlled absolutely, under all circumstances, it is time enough to think of increasing the number kept.

E. G. H.

POULTRY.

EXPERIENCE IN WINTER EGG PRODUCTION.

Editor "The Farmer's Advocate":

It is always with much interest I read the articles on poultry-raising in your valuable paper, and I have received a great amount of help from them. Nevertheless, I find it is impracticable to carry out everything we read. For instance, some years ago able men advised us to feed a warm mash the first thing in the morning, to warm the hens up on coming off the roost. Lately, the poultry authorities have been telling us that it is not a good plan to stuff them up with a mash in the morning. Then, the question arises, What are we practical farmers to do, seeing that, every few years, poultry writers discover that they have been advocating the wrong method of feeding?

Well, my answer is, get as much experience as possible, and then stick to experience. Don't give up a good method because someone else claims to have a better one. Of course, it is not advisable to be too conservative, but "prove all things."

Any ordinary hen lays in the summer. Then, it is reasonable to suppose that the same hen will lay in the winter if we supply summer conditions. But many have erred in thinking that, to supply summer conditions means to keep the hens warm, whereas this is the least important. It is not so much in temperature as in food and exercise.

It is necessary for us to think for a little and see what a hen's diet consists of when ranging over the fields in summer. She will now and then pick up some grain, gravel, green food, grass, bugs, worms, etc., and frequently go to the water dish for a drink. And it must be remembered that a hen in summer gets water in many other ways.

The first thing to do is to provide means for exercise. This can be done by keeping the floor well covered with dry litter and scattering the grain in it; then the hens have to work for what they get. Besides, this way of feeding grain prevents overeating, as they can get only a grain at a time. This is Nature's method.

Then, in feeding hens in winter, it is not enough to scatter grain in the litter. We must supply grit in some form to enable them to digest their food. Gravel is very good, but there must be fresh supplied frequently, because the hens soon pick out all the rough pebbles, and the smooth ones are very little good for grit. Then, too, hens must have something to make shell. This can be given in the form of lime and crushed oyster-shells. Oyster-shells are cheap, and it does not pay to do without them. Keep some before the fowls all the time. Green food can be easily and cheaply supplied in the form of beets, mangels and cabbage heads. The mangels should be cut through once, because chickens do not like to pick through the outside rind. Animal food can be supplied by feeding liver, beef heads or cut bone.

Fresh water should be kept before the hens all the time. It is just as essential as food. It is a good plan to have the water dish sitting on a block six or eight inches above the floor, then the hens will not get so much dirt in it.

Skim milk, as a poultry food, is not appreciated by many farmers. It is good just to put it before the fowls to drink, but the best way to feed it is to scald it until it becomes a cheese. Take the thick milk and put it on the back of the stove, so that it will heat gradually. When the cheese has formed, pour off most of the whey and feed the balance—cheese and whey. This is a splendid food for laying hens. I feed cut bone about three times a week, and this cheese, with table scraps, on the other days. It makes a splendid noonday meal. If desired, a little meal, bran or shorts, can be mixed with it, making a good mash.

My plan of feeding (and it gives satisfactory results, a very important thing), is to give a small quantity of grain, scattered in the litter, the first thing in the morning. I prefer this to a hot mash, because it warms the hens up (the object of the mash) by exercise, and also prevents them from overeating. Several times during the day I throw in some more grain. At noon I give table scraps, and cut bone three days in the week. About three handfuls of cut bone to 15 or 20 fowls is sufficient. On the other days I give the cheese. About four o'clock in the afternoon they get their last meal, grain, wheat or oats, and, on cold nights, corn on the cob, which has been heated in the oven. Corn is a splendid food for poultry, but it is very fattening, and, if fed much, especially in warm weather, the hens will become too fat to lay. Of course, the Mediterranean breeds can be fed more of it than the heavier breeds. In the evening meal I give all they want, and usually a little more. What they leave will be ready for them as soon as they come off the roost next morning.

It is advisable to feed a variety of grains—

wheat, oats, buckwheat, corn, etc. I also keep a pan of coal ashes in the henhouse. It makes a good dusting place, and it is surprising what a large quantity they will eat.
Haldimand Co., Ont. FARMER'S SON.

ANOTHER GOOD EGG RECORD.

Editor "The Farmer's Advocate":
Following is the monthly egg-record, for ten months, of our flock of 50 hens: April, 74 dozen and 8; May, 82 dozen and 8; June, 67 dozen and 3; July, 62 dozen and 4; August, 60 dozen; September, 61 dozen and 7; October, 19 dozen and 8; November, 7 dozen and 3; December, 9 dozen; January, 26 dozen and 5; total, 470 dozen and 10, making an average of 113 eggs per hen. I will try and send in the production of the next two months. I feed three times daily in winter months, and in summer months twice daily, and I feed regularly.

In the morning I feed mixed grain, of oats, wheat, peas and barley, and a warm drink of milk; at noon a mash of boiled potatoes, chop, ground egg-shells, apple peelings and pulped mangels; and at night, mixed grain again, and I give fine gravel for grit once daily.

I have Barred Plymouth Rocks, pretty well-bred, but not pure. I never keep but one cockerel, and I've had the best results. I raise from 60 to 100 chicks every year, and never keep them any longer than two years. I put blue bands around their legs, so I know them apart one year, and the next year I put red ones on.

In winter months I have them in stone basement, about 34 feet long and 8 feet wide, and I let them out fine days.
Grey Co., Ont. MRS. GEO. DREWERY.

THE DAIRY.

THE NEW TEST FOR CASEIN.

Bulletin No. 156, from the Wisconsin Experiment Station, describes "A Simple Test for Casein in Milk, and Its Relation to the Dairy Industry." At the outset, we should like to say, once for all, that it seems to be another case of "I told you so." The conclusions reached by the author of the bulletin are similar to those we put forward about fifteen years ago. This seems quite a long time to wait before one's views on an important question are accepted by others, but it is at least some satisfaction to know that the truth will out in some cases before a man shuffles off this mortal coil. If we could see a few men repenting because of the stand they took in this controversy of fifteen years ago, we should

be ready to exclaim, like one of old, "Now let thy servant depart in peace, for mine eyes have seen," etc. The following extracts from the introduction in the bulletin have a more or less familiar look:

"But the proposition that the percentage of fat is also a measure of the value of nearly all milks for cheese production, has not been generally accepted.

"This clearly shows that, for cheese production, the amounts of casein and fat should be known to both producer—the man who owns the cow—and the man who buys the milk.

"In the milk of individual cows there is certainly no definite and constant relation between the amounts of fat and casein.

"On the basis of cost of production, it is a fair assumption that it has cost the feeder as much to produce a pound of casein as a pound of fat. The proteins to which casein belong are nitrogen-containing bodies, and are the farmer's most expensive nutrients. When the farmer sells casein, he is selling nitrogen; but when he sells fat, he sells his cheapest source of nutrients, the air and water. It appears that there is something irrational and unbalanced in the relative commercial values of these two products. From the farm point of view, the sale of casein represents a greater agricultural drain than when the fat is sold, and from this viewpoint alone it would appear that these two milk constituents should at least have a closer commercial value."

With all of which we heartily agree, yet we find persons talking and writing as if the value of milk for all purposes depends upon the fat contained. We trust that the management of our farms will not concede any more points to those who are continually clamoring for more value to be placed on milk fat. For butter production, fat is undoubtedly the constituent of milk which determines its value, and, for buttermaking, fat is all that we need consider. But the making of butter is a comparatively small industry in the Province of Ontario. The great bulk of the milk is used directly as a food, or is manufactured into cheese. All public tests, based on production, should take into consideration the fact that the bulk of the milk produced in Ontario is used for the manufacture of cheese. To place too much importance on the fat alone is more or less an injustice. This is not written in a controversial spirit, nor with the object of "hitting" anyone, but with the hope that those responsible will see the justice of the foregoing, and not cater any further to the "fat" cry.

The writer goes on to say: "One animal may yield a milk containing 2.7 per cent. casein, and 6 per cent. fat, while another produces a milk

of 2.7 per cent. casein and 4 per cent. fat; and still another a milk carrying 3.5 per cent. casein and 8 per cent. fat. Expressed in another way, we have milks where, for every 100 pounds of fat, there may be anywhere from 40 to 73 pounds of casein. Surely it is clear that, for cheese production, a milk carrying, for every 100 pounds of fat, 73 pounds of casein, would yield more cheese than one containing but 46 pounds casein."

One more quotation: "Another matter of considerable importance in the discussion of the relative amounts of casein and fat in cows' milk presents itself, and that is the relative commercial values of these two constituents. Both casein and fat are important foods, casein belonging to that generally more expensive class of nutrients, the proteids, and popularly called the flesh-builders. Yet, at prevailing prices at our creamery, a pound of fat is worth 25 cents, while a pound of casein, as allowed for skim milk, at 30 cents a hundred, is worth 12 cents. If we allow the same value for fat in cheese as it commands in butter, then the casein per pound in cheese is worth 18 cents. On the theory that the feeding or nutritive value of these two constituents depends on the amount of heat they can produce, the fat could have about double the value of casein, but nutritive value and heat-producing capacity are not, with certainty, to be so closely correlated."

We should like to emphasize the latter part of the preceding sentence. In our humble opinion, the method of valuing goods according to the heat produced is far from satisfactory. As anyone knows, the proteids or muscle-formers are the most expensive form of foods. The workingman in Great Britain has found Canadian cheese, at "sixpence" a pound, the very cheapest muscle-former he can buy. He may not know much about the chemistry of food, but he knows that cheese "keeps up his muscle" better than any other food, considering cost, hence he buys and eats cheese in large quantities. If he could not get it at sixpence, he would be willing to pay more, but none can blame him for getting it as cheaply as possible. We look for the time when farmers will be ready to pay as much for cheese as for prime cuts of beef. It would pay to have the food value of Canadian dairy products demonstrated weekly in such a place as the Exchange Building in Manchester, Eng., and at other points.

The remainder of the bulletin deals with the description of the casein test, which was published in "The Farmer's Advocate" of January 23rd, 1908. We have ordered a casein test, and hope to have it in practical operation at the College soon.
H. H. D.

Safeguarding the Interests of Cheese-factory Patrons.

Fortunately, or unfortunately, the past season has, by example, impressed a needed lesson of business prudence upon salesmen and patrons of cheese factories in Ontario and Quebec. Every once in a while some suffer through a failure in the trade, but during the past season there were two, one in the East, and another in the West. The circumstances attending the latter seem to have been somewhat involved, in that the firm causing the embarrassment secured at least some of the cheese indirectly through another firm. The essential fact is that a number of factories in Western Ontario and in Eastern Ontario and Quebec have had difficulty in obtaining payment for cheese delivered by them, and, while we understand that, in the case of the Western factories, settlement has been effected by notes of hand, and it would, therefore, be premature to assert that actual loss has been incurred, yet it would be indiscreet to allow the lesson to pass unheeded, and the liveliest interest is evinced at the annual factory meetings now being held. The question is how to guard against losses through fraud or financial embarrassment of firms engaged in the cheese business. With a view to eliciting some workable suggestions, looking to the proper and systematic safeguarding of patrons' interests, without imposing too onerous conditions upon the buyers, we recently sent out to a selected list of cheese merchants and dairymen a letter asking the following questions:

"By what means can the interests of patrons be safeguarded? At some of the annual meetings the salesmen are being instructed to insist upon receiving marked cheques for the cheese when delivered into the car. Are there any practical objections to this plan, either from the standpoint of the buyer or the seller?

"Would it be feasible to protect the shipper by having the cheese billed, as from the salesman to the merchant, instead of from the buyer to the merchant?" With regard to this latter question, it should be noted that in the West it is at present customary for the buyer to bill the cheese, and the salesman has no legal control over them after the car door is locked.

A good many replies have been received, some for publication, others for our own private in-

formation. In the case of the latter we are taking the liberty of quoting extracts, without using the writers' names.

PREVAILING CONDITIONS EAST AND WEST.

In discussing the subject, it must be borne in mind that conditions east of Kingston are essentially different from those west of that point. In the East there are a great many small factories, making it very expensive for the merchants to send men around to the factories to inspect the cheese. Hence, the prevailing custom is to ship them in to Montreal, where they are weighed by an official weigher, and inspected by the cheese firms, an official referee being provided by the Government to decide disputes as to grade which may occur between the salesman and the merchant.

Owing to the large number of small factories in this territory, a system of factory inspection and weighing at the point of shipment would be very expensive to the buyers, who would eventually recoup themselves by taking the expense out of the factories in the price paid for the cheese. Having regard for these circumstances, it is a question in some minds whether the agitation now going on in the East for factory inspection and weighing and payment before shipment, is well-advised or not. At any rate, it is not yet accomplished, and, until it is, the question of systematic safeguarding of patrons' interests in that section is a rather knotty one.

In the West, where factory inspection and weighing at the point of shipment is in vogue, the problem is more easily solved.

SUGGESTIONS TO PATRONS AND SALESMEN.

Four points worthy of consideration are brought out in the correspondence:

1. Deal only with reliable firms. Secure from the local banker or some other business man the financial rating of the cheese firms, and refuse to do business except on a strictly cash basis, with anyone of questionable standing. In the natural and justifiable desire to make all they can out of the factory, patrons often virtually compel their salesmen to take unwise risks for the sake of an extra sixteenth of a cent per pound, for fear of being outdone by a rival factory. The conse-

quence is that, while it may turn out all right in the majority of cases, there is always a danger of loss.

2. Sell only on the Board. There is too much buttonhole work going on in connection with the selling of cheese. It has come to a pass where the cheese are often boarded as a mere formality, the buyers bid up to within an eighth or a sixteenth of a cent of what they are really willing to pay, and then afterwards get hold of the salesman on the curb and offer him, confidentially, an extra fraction of a cent over what was bid; so with the next man, and so on. Bargains concluded in this way are not properly witnessed or safeguarded. Sales effected on the Board are made under the rules of the Board, and subject to such protection as the rules afford.

3. At points of reasonably large shipment, and, if possible, at others, also, insist on receiving marked cheques at the car door. Practically all other farm produce, except fruit (and the fruit trade is no exemplar), is paid for when it leaves the salesman's hands, and it is very desirable that cheese should be sold in this way wherever practicable. It is already done in some cases, and undoubtedly would be almost everywhere, if insisted upon. Various objections are urged by the merchants. One of our correspondents cites a case where, through default of their local representative, they were called on to make good \$4,000 with which he had made away, instead of paying for cheese purchased. Naturally, this firm feel inclined to protect their own interests, and would not care to trust their buyers with blank cheques. Again, it is pointed out that there are no banking facilities at some shipping points.

To meet these difficulties, an experienced banker has suggested to us this plan: Let the cheese merchant who is expecting his buyers to send him shipments of cheese from certain places on certain dates, go to the bank from which he receives his accommodation and write out cheques made payable to the order of the factories from which he expects to receive the cheese. Let him have such cheques marked by the bank, "good, not to exceed" a specified amount, the amount being ample to cover the expected value of the shipment. Let the merchant send these to his buyers, who could

fill in the amount at the car door, after the weighing has been done and the value calculated. These certified cheques could be readily cashed at the cheese factory's bank, without charge.

To this plan the buyers might raise several minor objections, but we fail to see that any of these would be serious enough to warrant patrons in declining to insist upon their manifest right of pay at the car door. One objection would be that, in the haste of weighing and loading, seconds might be mixed with firsts, and the buyer, in his rush, might overlook the error, and make out a cheque without deducting the cut on the seconds. This, however, is a detail that should not prove insurmountable. Let the buyer mark each cheese that is not finest when making his factory inspection, and let the salesman or his agent at the car door sign a receipt for the amount, specifying the number of firsts and the number of seconds, as per the buyers' grading. Then, any discrepancy would constitute ground for rebate, or, in case of culpability, for action at law. If any better suggestion can be offered, well and good, but the present system of selling is loose and unbusinesslike, and the factories run unnecessary risks.

4. Another idea offered by our correspondents, which may prove helpful where the third suggestion is not easy of adoption, is that the salesman consign the cheese to himself, in care of the merchant to whom he is selling, but delivery of the goods shall not take place, nor shall the buyer have the right to dispose of the goods, until he has paid to the seller the price of the same in cash, or until he has mailed to the seller, by registered letter, an accepted cheque for the full price of sale, any removal, sale or pledge of such butter or cheese by the buyer before the conditions have been fulfilled being considered a breach of trust and a fraudulent transaction. Just how such a rule would afford adequate protection in case the buyer were fraudulently disposed and not expecting to engage further in the business, is not precisely explained. Possibly additional correspondence will shed further light on the details of its working out.

An alternative plan, tentatively advanced, is that a bill of lading be attached to a draft on the purchaser, this bill of lading to be given up only on payment of draft, but the goods to be subject to inspection. These two latter suggestions we leave for consideration, without editorial sanction or criticism.

Suggestions bearing on the cheese-marketing problem are invited from any and all quarters. Following are some opinions expressed by our correspondents:

A Middlesex County salesman writes: The report that a number of cheese factories in Middlesex County had difficulty in getting pay for cheese is correct. I understand that one factory has already been paid, and two others have received satisfactory notes. When the factories first started, most of them insisted on marked cheques on delivery, and had no trouble in getting it, and if every salesman insisted on having the same there would be no trouble of this kind. Everything else sold from the farm is always paid at delivery, and cheese should be no exception.

Another salesman replies, in part, as follows: I have been a salesman for about eighteen years, and I have always considered that we do business in a very loose way. In fact, there are some buyers with whom I have had no dealings for years, because of their slack way of doing business. A few years ago a resolution was introduced on the London Dairymen's Exchange to this effect, "That no salesman be expected to allow his cheese to be removed from the shipping-point until he receive a marked cheque to the value of the shipment." The buyers laughed at it, and the most of the salesmen were afraid to vote for it for fear they would incur the displeasure of the buyers. Marked cheques should be given at the place of shipment, and no injustice will be done to any person. If the merchants or firms are afraid to trust the men they employ to ship the cheese, why should the salesmen be expected to allow the cheese to be removed, and then have to wait for days, and, in some cases, for weeks, before receiving their cheques?

I do not know that it would be any advantage to have the cheese billed from the salesman to the merchant. I do not think it would bring the money any more quickly.

It is my humble opinion that, if all the salesmen would stand firm, we could have our cheques at the time of shipment. But that has been the trouble in the past; some salesmen would run all kinds of risks if they could get a sixteenth or eighth of a cent more per pound for their cheese than a neighboring factory was getting. Our plan has been the opposite. We have taken less from a buyer who was prompt in paying, rather than spend sleepless nights in worry.

An Eastern Ontario Dairymen: There is no doubt that many factories in Eastern Ontario suf-

fered considerable loss the past season in consequence of the failure of a Montreal firm. I cannot see how factory inspection can be made practicable. For instance, at the cheese Board, a buyer with a large order and good limit may get that week's cheese from a dozen or more factories, which may be from ten to forty miles apart and on different lines of railway. Now, unless he keeps an army of inspectors to go here and there to the different stations where cheese is received, how is it possible to have them inspected, for you must bear in mind that those cheese are all shipped the one day, in order to catch the outgoing steamer of that week? We must not forget that the expense of keeping this army of expert inspectors, and paying their travelling expenses, would in the end come out of the producer. I am also of the same opinion as Mr. Barr (see the report of the Convention lately held in Ottawa), that the inspection would be far closer if made at the factory than it now is in Montreal. I feel confident that the buyers in Montreal take far more cheese that should be rejected than they reject which should not be rejected.

So far as the inspection of cheese is concerned, the present system of having a referee at Montreal, like Mr. Barr, is the best; but some way should, and I have no doubt can, be devised whereby the cheese will remain the property of the shipper until paid for. It would be far more profit to the dairymen of this Province if more interest were taken in producing a larger and better quality of milk, and seeing that it is made in better kept and equipped factories by

been much more careful in advancing money to people. They used to advance money on cheese which were in the buyer's warehouse, but latterly, the banks will only advance money on cheese that has been put on the cars.

At the annual meetings of several factories, the salesman, when appointed, has been instructed to see that he gets the money when the cheese is shipped. The salesman ought to get a marked cheque for the value of the cheese whenever it is put on the car or into the warehouse; but the cheese-buyers are a very independent sort of people, and it is very hard to regulate them, unless the salesmen would unite in demanding that this method of doing business be strictly adhered to. The buyers object to this system by saying that they generally send a man to see the cheese loaded, and that they would not like to trust him with the cheque; but this is only an excuse, because the cheque would be drawn payable to the salesman's order, and could only be cashed by him. The cheese buyers ought to employ men that they could trust with a cheque made payable to the order of the salesman. It has been suggested that, where cheese is being shipped at outside points, away from the buyer's office, that the salesman should take a receipt for the cheese from the agent at the railway station, on the understanding that the cheese remain the property of the salesman until they are paid for. It is quite evident that some plan ought to be adopted that would safeguard the interests of the factorymen. It has been suggested that the factorymen get in correspondence with some reliable

commission men in Liverpool or Glasgow, and ship their make to these men regularly. But there is this objection to that method: Supposing these commission men are perfectly honorable, there might be difficulties arise in the settlement of any deductions they might make for any cheese they might claim were off-flavor, as it is nearly impossible to have every cheese perfect. Many of the cheese buyers, when they find a few cheese scarcely up to the mark, sell them to grocery men for local consumption, and ship only cheese that are all right to the British market. In hot weather, for instance, where Saturday night's milk is delivered to the factory, it is not always easy to make that milk up into perfect cheese.

I think that you would do a good work if you would urge upon the salesmen to be united in demanding pay for the cheese whenever they are put

on the car or into the warehouse. The cheese buyers are allowed to have too much of their own way. They have banded themselves together and have demanded a 1/4-pound-up beam; and, when they go to inspect a lot of cheese, if the first one weighed should be the least bit light of the weight marked, they take one pound off every box, and won't weigh any more, whereas it might be that the box weighed was the only one in the lot that was short. The salesmen have not been united in the past, and have allowed the buyers to dictate their own terms. If the salesmen will unitedly stand for their rights, they may have difficulties to contend with, but I should think they ought to be able to gain their reasonable points. And it is reasonable that the salesmen should get pay for the cheese before it goes out of their control. If a farmer sells a horse, he has to get the pay for the animal before he lets it out of his possession. If he sells a load of hay or a load of grain, he gets pay the moment it is delivered, and I don't think any impartial man could show any good reason why the salesmen should not get pay for their cheese the moment it is delivered.

Dairymen.—This is a question which will no doubt come up for discussion at the first meeting of the several cheese boards at the beginning of the season, and by-laws could be passed regulating the manner of settlement; then, sales made on the board would be governed by the by-law. In case of sales made on the curb, the conditions are not usually made public, as it is a personal matter between buyer and seller. The salesman should sell to firms only of well-known, respon-



Edith of Lessnessock (imp.) (9166).

Ayrshire cow. Winner of first and championship, London and Ottawa, 1900. Member of first-prize herd, Pan-American, 1901, and Toronto, 1902, and winner of third, National Dairy Show, Chicago, 1907. Property of Robert Hunter & Son, Maxville, Ont.

better-qualified and better-paid makers, shipped in refrigerator cars, and delivered in Montreal in perfect shape, than in insisting on factory inspection.

A Prince Edward County Salesman.—Cheese that are sold on Picton cheese board are about all shipped by boat to Montreal, and are all paid for before the boat leaves Picton. No factories lost anything on the Picton cheese board. At Belleville, cheese are shipped both by rail and boat. I know of only one factory that lost on the Belleville board. Its loss is believed to be over \$900. I don't see any reason why a buyer should not pay for the cheese when delivered. I think the salesmen have been too easy with them. I have always given a buyer any reasonable time, providing the bank would agree to pay for the cheese.

Oxford County Dairymen.—The cheese buyers who operate in the Ingersoll district have generally been very honorable. Quite a number of years ago a young man who was buying cheese skipped out and left some factories unpaid, and I believe these factories never got their pay. But for quite a long time there has been no trouble, and the salesmen of the cheese factories had got into the habit of implicitly trusting the buyers, and were in the habit of waiting for a week or ten days, or even two weeks, after the cheese were shipped before they received their money. I understand that it is a fact that there are several factories which have not got their money for cheese that have been shipped the past season. As you are no doubt aware, the banks have lately

sible financial standing; if he does otherwise, he should insist on settlement on delivery.

A salesman does not show very good business judgment who peddles his goods on the curb to scalpers for perhaps one-sixteenth of a cent above current market prices, just to get that much ahead of a neighboring factory.

A. A. Ayer & Co., Ltd.—It is, unfortunately, true that a number of factories in Eastern Ontario and Quebec this year have not received the money for all the cheese they have sold, but this has frequently occurred in former years. Farmers are largely responsible themselves for this loss, as, in their anxiety to obtain the last sixteenth, they sell to anyone who attends and bids on the markets. It is not difficult for the salesman to find out who the responsible firms are, and so make their sales absolutely safe. As a rule, the salesman are willing to sell to anyone who will give one-eighth of a cent more, or, indeed, a sixteenth more, than responsible buyers will pay. This is the root of the whole trouble.

Why should not the salesman inform themselves, as business men do, and sell only to men whose positions are beyond question?

We do not know of any trade where the purchaser is expected to pay for his goods before he receives them. Many of the large firms in Montreal receive two to three hundred factories a week, and you can see how utterly impossible it would be for them to be present personally, or be properly represented, to pay for these at the time and point of the cheese being loaded.

There is no possible objection to the cheese being shipped in the name of the salesman; in fact, this is the general system in the East.

R. M. Ballantyne, of Lovell & Christmas, writes, in part, as follows: Farmers usually take risks in selling their goods such as no business firm could be tempted to take. All of them keep accounts at banks, where a request made to the manager for information relating to the financial standing of the different firms could be had for the asking; but, whether they have the information or not, they seem willing to take the risk for the sake of the promise of a very small fraction of a cent per pound. I do not believe that any system of marked cheques at the car at the time of delivery would be workable, as the buyer does not usually keep his account in the bank at the point at which shipment is being made. The buyer does not know the amount for which payment will be required until the cheese are delivered to him. The difficulty of complying with such a request as this would be so great that buyers are likely to refuse to make any effort to comply, and eventually the old system will again prevail.

At some points, where large shipments are made, it would be possible, no doubt, to carry out some plan of payment on the day of delivery, but, generally speaking, and at points where only small shipments are made, the plan is not likely to be successful.

I do not believe that any plan can ever be successfully carried out, except the one that is now generally in use, of making remittances to the treasurer of the factory, or to the bank in which the factory account is kept, as soon as possible after shipment, when the amount is known, and when a cheque can be made out in the office of the buyer. This means, of course, that the factory people must take the risk until they can get payment a day or two after shipment, but they can easily obtain information as to the financial standing of the people to whom they are selling. If they wish to take great risks for the sake of small profits, of course that is their business; and if they do not wish to take these great risks, there is no necessity of taking them.

From the letter of another firm we extract the following: So far as we know, there has never been a failure in this trade when factorymen did not have ample warning to be careful, in some cases as far back as two years before the failures have taken place; but, as a rule, they will not listen to any such warning, particularly if the suspected parties offer them one-sixteenth of a cent per pound more for their cheese than the most reliable houses will pay.

As you are aware, in Eastern Ontario and Quebec the majority of the factories are small, and the shipping stations so numerous that it is impossible to get quantities at any one shipping point, thus making it impossible to have competent men at all points, even at stations where cheese are shipped in carloads or more; there may be half a dozen buyers owning cheese in the same car. You can, therefore, see the enormous expense that would be attached to country buying; besides, it would be impossible to have accepted cheques at any other than stations where banks are located, as buyers would not know the

amount of the factorymen's invoices until they receive them at the shipping station. Salesmen, at the present time, in nearly all cases, are the shippers, and not the country buyer.

In many cases factorymen prefer Montreal inspection, weights and quality to country inspection, for the reason, no doubt, that the country buyer must protect himself against claims for loss in weight or poor quality, and in doing so he might make deductions that would be overlooked here. Besides, the factoryman is protected in every possible way here; his cheese are weighed by the public weighers, and a certificate supplied to him, and, in addition, if there is any dispute as to quality, he has the privilege of having the Government Official Referee to decide as to whether his cheese or butter is of the finest quality or not; and if not the finest, the referee's certificate will state what grade it is, 1, 2 or 3.

Our opinion is that factorymen must do exactly as other business heads have to do, viz., discriminate who is worthy of credit and who is not; of course, the credit, in any case, is short, at most three or four days, and never more than a week. But if farmers want education at all, it should be along the lines of not looking at everything that glitters as being gold. We have known cases where they would trust a perfect stranger for the smallest possible difference in price, rather than a firm that they may have been trading with for years, and that they must have had implicit confidence in.

Messrs. Hodgson Bros. & Rowson.—We are of opinion that, if the salesmen of the cheese factories would only exercise ordinary care and select the firms to whom they sell, instead of selling to the highest bidder, no matter whether said bidder represents a responsible house or not, there would be fewer bad debts made by the farmers of this country. The leading firms here have always felt it a hardship that they should be expected to pay the same price as any other firm may bid, even when it is known publicly that the firms making such ridiculous offers are not very strong financially.

As regards our being willing to give marked cheques at the factory door or car door, we are not willing to enter into any arrangement which will increase our expenses, as the expense incurred in buying cheese is already heavy enough, if not too heavy, for the small margin of profit which the merchants are making. In fact, we think competition in future will compel the merchants to lessen their expenses in the country, rather than increase them, as would be necessary if every factory expected to be paid at the car door.

Until the factories are registered, and thus become incorporated companies, we do not see that the merchant can get any protection, whether the cheese are billed by the salesman or anyone else. We have all along agitated that it should be compulsory for all cheese factories to be registered or incorporated, so that the merchants would have some protection.

The only suggestion we can make is that, if the factories would exercise only a fair amount of diligence in making enquiries as to the standing of the firms to whom they sell, instead of selling indiscriminately to any firm, whether such firms are financially strong or otherwise, there would be less trouble arising from failures. The exporters of Canada practically give two months' credit to English firms on every box of cheese they export; but, by exercising due care, and refusing to sell to houses which they know to be financially weak in England, losses arising from bad debts are very much minimized. We have no hesitation in saying that if every factory in this country were to insist upon payment at the car door, it would be a moral impossibility for any exporter of this country to comply with their wishes, as the expense of providing the necessary additional help and time needed, causing serious delays, would completely offset any margin of profit.

One firm in Montreal refers us to an article in the by-laws of the Cowansville (Que.) Dairy Exchange, which they think is workable. This article reads as follows:

"Each salesman, acting for the factory he represents, shall ship his butter or cheese addressed to himself, in care of the firm or buyer he has sold to, and the sale is complete, as between the buyer and seller, by the acceptance of the buyer's bid at a meeting of the Exchange; but delivery of the goods shall not take place, nor shall the buyer have the right to dispose of the goods until he has paid to the seller the price of the same in cash, or until he has mailed to the seller, by registered letter, an accepted cheque for the full price of sale. Any removal, sale or pledge of such butter or cheese by the buyer before the conditions have been fulfilled shall be considered a breach of trust and a fraudulent transaction."

QUALITY OF SHORTHORN MILK.

Editor "The Farmer's Advocate":

Though I have been a constant reader of your paper for some years, I have never written a letter to the paper before, but I beg space for a few lines regarding the quality and quantity of Shorthorn milk, so highly eulogized by Mr. Robert Miller, of Stouffville, in your issue of January 30th, claiming that it will make the calves thrifty; produce a bright, pink skin; soft, silky hair; plumpness, beauty, etc. As I was for some years a breeder of Shorthorns, and failed to find those good qualities, I was led to change to another breed, the Holstein, of which, from experience, I am proud, as the Holsteins are now the champion dairy cows in the world. Some years ago I purchased a big, fat Shorthorn cow, at a fancy price, more for ornament than use. When she came in, she would not give enough milk to feed a healthy baby, let alone her calf. And, in nearly every case, when I fitted a calf for the butcher or for show purposes, it had to be nursed by another cow.

On the other hand, one of my neighbors has a Holstein cow, which had a calf a few months ago, sired by my bull, which he sold to the butcher for \$10 when it was 18 days old, and in the following seven days she made thirteen pounds of butter on ordinary farm care. Now, I would like to ask Mr. Miller if this milk would not be nourishing for either man or beast? I suppose it is all right for Mr. Miller to uphold the Shorthorn, as he is a breeder, and interested in trying to make the public believe those statements in order to sell his cattle for fancy prices, but the Shorthorn is not the poor man's cow. R. E. York Co., Ont.

THE FARM BULLETIN.

APPROVES THE JUDGING COURSE.

Editor "The Farmer's Advocate":

Having attended the live-stock judging course at the Ontario Agricultural College last month, was, to say the least, quite agreeably surprised by the goodly number of young and old men present. But what pleased me most was the earnest attention paid by those attending to the excellent lectures given by Professors G. E. Day and Dr. J. Hugo Reed and their assistants.

It was the first time I had been present, and I can say I was fully repaid by the information gained for one thing, and, to keep pace with the times, I must say I really think it behooves all engaged in the noble work of agriculture to strive to take advantage of these short courses, and thereby gain much valuable information free of all cost, board excepted. I cannot speak too highly of the pains taken by the professors in answering all questions put to them, and the splendid order maintained throughout. One might have heard the proverbial pin drop when, as the lecturer commenced speaking, all interest seemed to be centered in all that was said. The young fellows behaved well. I do strongly recommend every Ontario lad, who can, to try and take the next short course. Wellington Co., Ont. D. MESSENGER.

NIAGARA DISTRICT FRUIT-GROWERS ELECT OFFICERS.

The final meeting, completing the amalgamation of the two united fruit-growers' associations in the Niagara District, Ont., was held in St. Catharines, Tuesday, Feb. 11th. The following officers were elected: W. H. Bunting, St. Catharines, President; C. E. Fisher, St. Catharines, Secretary; E. D. Smith, Vice-President for Wentworth County; Robert Thompson, Vice-President for Lincoln County; W. N. Henderson, Thorold, Vice-President for Welland County. Two-day meetings will be held at Grimsby and St. Catharines the first week in March, at which some of the principal fruit-growers of the adjoining Republic will be present and some of our own public men. A committee was named to test a certain new spraying mixture being placed on the market by an English firm, which, it is claimed, will kill all scale and aphid eggs, and is also a fungicide. T.

RE VALVE IN WATER TANK.

Editor "The Farmer's Advocate":

Mr. A. C. Morris criticizes my answer regarding water tanks on the ground that it "suggests a valve in the tank itself." It does nothing of the kind, but suggests a valve in the pipe—the check valve that Mr. Morris says is usually located near the pump. It is unfortunate that Mr. Morris should have misread the answer. WM. H. DAY.

HAS KEPT ALL BACK NUMBERS.

Editor "The Farmer's Advocate":

I enclose my subscription for 1908. I notice, in the last "Farmer's Advocate," an article on "Back Numbers." We have taken "The Farmer's Advocate" ever since it was published, and have all the back numbers up to the present. We have never destroyed even a single paper. Richmond Co., Que. A. E. MAIN.

ONTARIO HORSE-BREEDERS' EXHIBITION.

Following is the judging programme of the postponed Ontario Horse-breeders' Exhibition, to be held in St. Lawrence Arena, Toronto, Feb. 26th, 27th and 28th, 1908. Intending visitors, who cannot conveniently remain throughout, should study the programme, and time their visits accordingly:

WEDNESDAY AFTERNOON, FEB. 26TH.

Official opening, 2 p. m.

	Time.	Class.	Sec.
Hackney stallions foaled previous to Jan. 1st, 1905; 15.2 and over	2.10 p. m.	4	1
Shire stallions foaled previous to Jan. 1st, 1905	2.45 p. m.	3	1
Clydesdale stallions foaled previous to Jan. 1st, 1904	3.00 p. m.	1	1
Thoroughbred stallions foaled previous to Jan. 1st, 1905	3.30 p. m.	6	2
Heavy-draft, single horses, geldings or mares	3.45 p. m.	9	2
Pony stallions, any age, any breed other than Shetland; 14.1 and under	4.15 p. m.	7	3
Standard-bred stallions foaled previous to Jan. 1st, 1905	4.30 p. m.	5	1
Shire mares foaled previous to Jan. 1st, 1905	4.50 p. m.	3	4

THURSDAY AFTERNOON, FEB. 27TH.

Thoroughbred stallions foaled previous to Jan. 1st, 1905	1.45 p. m.	6	1
Standard-bred mares foaled on or subsequent to Jan. 1st, 1905	1.45 p. m.	5	3
Shire stallions foaled in 1906	1.45 p. m.	3	3
Shetland stallions, any age	2.00 p. m.	7	1
Standard-bred stallions foaled on or subsequent to Jan. 1st, 1905	2.15 p. m.	5	2
Champion Standard-bred stallion	2.15 p. m.	8	6
Champion pony stallion	2.20 p. m.	8	8
Shire stallions foaled in 1905	2.20 p. m.	3	2
Champion Shire stallion	2.35 p. m.	8	3
Clydesdale stallions foaled in 1904	2.40 p. m.	1	2
Canadian-bred Clydesdale and Shire mares foaled previous to Jan. 1st, 1905	3.15 p. m.	2	4
Hackney mares foaled on or subsequent to Jan. 1st, 1905	3.30 p. m.	4	4
Clydesdale mares foaled previous to Jan. 1st, 1905	3.30 p. m.	1	5
Hackney stallions foaled in 1905	3.45 p. m.	4	3
Clydesdale stallions foaled in 1906	3.45 p. m.	1	4
Canadian-bred Clydesdale and Shire stallions foaled			

previous to Jan. 1st, 1905	4.15 p. m.	2	1
Heavy-draft geldings or mares, shown in single harness, three years old and over	4.45 p. m.	9	1
Clydesdale mares foaled in 1905	5.15 p. m.	1	6

FRIDAY AFTERNOON, FEB. 28TH.

Thoroughbred stallions foaled on or subsequent to Jan. 1st, 1905	1.30 p. m.	6	3
Champion Thoroughbred stallion	1.45 p. m.	8	7
Shetland mares, any age	1.50 p. m.	7	2
Clydesdale mares foaled on or subsequent to Jan. 1st, 1906		1	7
Pony mares, any age, any breed other than Shetland; 14.1 and under	2.05 p. m.	7	4
Shire mares foaled on or subsequent to Jan. 1st, 1905		3	5
Champion Shire mare	2.25 p. m.	8	4
Champion pony mare		8	9
Hackney stallions foaled previous to Jan. 1st, 1905; 15.2 and over	2.30 p. m.	4	2
Champion Hackney stallion	2.50 p. m.	8	5
Heavy-draft team in harness, geldings or mares	3.00 p. m.	9	3
Clydesdale stallions foaled in 1905	3.20 p. m.	1	3
Canadian-bred Clydesdale and Shire stallions foaled in 1905	3.50 p. m.	2	2
Canadian-bred Clydesdale and Shire stallions foaled on or subsequent to Jan. 1st, 1906	4.10 p. m.	2	3
Champion Clydesdale stallion	4.35 p. m.	8	1
Canadian-bred Clydesdale and Shire mares foaled in 1905	4.50 p. m.	2	5
Canadian-bred Clydesdale and Shire mares foaled on or subsequent to Jan. 1st, 1906	5.10 p. m.	2	6
Champion Clydesdale mare	5.30 p. m.	8	2

solid train over 28 miles long, or if ranged in single file would make a solid procession of animals over 200 miles long, and require ten days to pass a given point marching constantly at the rate of 20 miles per day.

J. E. DISNEY & SON'S SALE.

The auction sale of Shorthorn cattle and Clydesdale horses belonging to John E. Disney & Son, of Greenwood, Ont., on Feb. 12th, was fairly well attended, considering that important meetings of stockmen were being held in Toronto on the same day. Prices for Shorthorns were not high, though, as usual, the best brought fair prices. The Clydesdales were more in demand, and sold for good prices. Following is the list of cattle selling for \$70 and over:

Lady Anne 8th (imp.); Middleton Bros., Claremont	\$275
Crimson Oster; William Ward, Balsam	100
Luella; Charles Stevenson, Kinsale	100
Bertha; Charles A. Barclay, Brougham	70
Nevada; A. W. Sutton, Ospringle	72
Hillview Duchess; Frank Humphrey, Alberta	75
Hillview Daisy; Alexander Moore, Greenwood	70

BULLS.

Royal Scott (imp.); Pardon Bros., Dudley	\$125
Hillview Bruce; William Ward, Spry	85
Grand Chief; A. W. Sutton, Ospringle	75

THE CLYDESDALES.

Viola (imp.), by Boy 'n Blue; J. E. Holtby, Manchester	\$225
Lady Hillview (foal); R. McIntyre, Ashburn	160
Balsam Bess; Luther Sonley, Utica	175
Bay mare; Sam Disney	200
Brookview Maid; Sam Disney	170

\$50,000,000 INCREASE IN TRADE.

During the twelve months of 1907, Canada's total trade amounted to \$635,840,681, an increase of \$45,895,877, as compared with 1906.

The total exports were \$273,325,414, an increase of \$42,048,067, or about 12 per cent.

The total imports were \$362,515,267, an increase of \$3,847,810, or less than 2 per cent.

Of the total increase in imports, \$17,448,914 was in imports from Great Britain, \$19,121,983 from the United States, \$1,281,508 from France, and \$984,886 from Germany.

Exports to Great Britain decreased \$8,713,849; exports to the United States increased \$10,149,547; exports to France decreased \$43,920, and exports to Germany increased \$375,556.

Canada's total imports during the year from Great Britain were \$95,094,488, and the exports to Great Britain were \$126,347,931; imports from the United States were \$215,245,100, and exports, \$117,536,998; imports from France were \$9,501,052, and exports, \$1,872,424; imports from Germany were \$8,049,884, and exports, \$1,872,659.

RECORD LIVE-STOCK RECEIPTS AT CHICAGO.

On Monday, Feb. 10th, 1908, the Chicago Union Stock-yards received 33,501 cattle, 1,303 calves, 87,716 hogs, 26,999 sheep, and 838 horses, or a total of 150,357 animals in 2,933 cars, breaking the previous record of hog receipts and total number of animals received.

Of the receipts, there were sold and shipped alive, mainly to Eastern slaughtering points and for export, 10,063 cattle, 28 calves, 21,138 hogs, 6,469 sheep, and 109 horses, or a total of 37,807 animals in 787 cars, breaking all previous records of hog shipments, total number of carloads shipped and total number of animals shipped.

The grand total handled by the railroads and the Union Stock-yards and Transit Co. on the day was 188,164 animals and 3,720 cars, which is equal to a



A Western Pleasure Resort.

One of the many lakes in the Moose Mountains.

CANADIAN AYRSHIRE BREEDERS' ANNUAL MEETING.

The thirty-seventh annual meeting of the Canadian Ayrshire Breeders' Association was held in Toronto, on Feb. 12th. A goodly number of members were present.

President Robert Hunter, of Maxville, Ont., in his opening remarks, referred to the great field of operations for the breeders of Ayrshire cattle, as not only from all points in Canada and the United States, but from far-off Japan came purchasers of Canadian Ayrshires. He said: "In the possible development of our country, there is room for all the dairy breeds; but especially do we find a growing demand for our favorites, the Ayrshires, because of their hardiness, their adaptability to surrounding conditions, whether adverse or favorable, their economy of production, giving large returns for the amount of feed consumed, and being free and easy milkers." He advised the breeders to perpetuate only those families of good type and conformation, coupled with profitable production. He also referred to the growing demand for Ayrshires in Western Canada, to the value of the Record of Performance test as now conducted in Canada, to the establishing of a similar system of recording the production of milk and butter-fat by the Ayrshire Association in Scotland.

The Secretary, W. F. Stephen, Huntingdon, Que., in his report, referred to the increased demand for the Ayrshire, as her capabilities as a profitable producer of milk and butter-fat was becoming better known. As a milk-producer for city trade, she has no equal, it being well balanced in total solids and fat, which is considered to characterize the most wholesome and healthful milk. There had been an increase in membership of 82 over last year, the present membership being 340. Grants to exhibitions and dairy tests amounted to \$654 in 1907. At all the leading fall exhibitions and dairy tests, Ayrshires made a good showing, except at the Eastern Winter Fair, lately held at Ottawa, where, on account of the change of date of the fair, from March to January, the Ayrshires made no exhibit, as most of the cows that would have been entered at this show were bred to freshen about March 1st. Twenty-six cows had already qualified in the Record of Performance test, and quite a number were now running in the test. The two-year-old heifers all made good records. The cow qualifying with the largest amount of milk was Daisy of Carlheim, with 12,276 lbs. A number of cows gave over the required amount of milk, but did not quite come up to the standard of fat, and some gave over the required standard for fat, but not quite enough milk; while, again, a few gave the required amount of milk and fat, but did not freshen within the fifteen months from the commencement of the test, as required by the rules governing the test.

Reference was made to the successful winnings of Canadian Ayrshires at the National Dairy Show, in Chicago, last October, and the high standing of the Ayrshires at this Show.

All literature issued by the Secretary is printed in both English and French. Many enquiries had come in for the "Annual" and "Booklet." So far, 1,800 copies of the former and 12,000 copies of the latter, as well as over 4,000 circulars, had been sent out during the year.

Importations from Scotland in 1907 had far exceeded any previous year.

The financial statement showed receipts to have been \$3,402.20; expenditures, \$3,603.43. There is still a balance on hand of \$644.91.

The Registrar, J. W. Nimmo, Ottawa, reported 2,144 pedigrees and 914 transfers recorded, an increase over 1907 of 321 pedigrees and 246 transfers. According to our records, 246 more Ayrshires were sold in 1907 than 1906. The Canadian Ayrshire herd record is now recording more pedigrees than any other herd record of the breed in the world.

Towards the movement for the holding of a National Dairy Show for Canada in 1909, \$200 was voted. A change in the form of pedigree issued by the Registrar from Ottawa was adopted. This change will give the pedigree in tabulated form, and provides for showing the production of milk and butter-fat of the females. The constitution and by-laws was completely revised to conform to the Act respecting live-stock record associations.

The Ontario members, were made members of the Dominion Cattle-breeders' Association on payment of 50c. per member. This amount to be devoted to special prizes at the dairy tests at the Winter Fair, at Guelph.

The following amounts were donated to fairs and exhibitions: Toronto, \$100; Calgary, \$75; Sherbrooke, Quebec, St. John (N. B.), Ottawa, London and Winnipeg, each, \$50; Charlottetown, Regina and New Westminster (B. C.), each, \$25; Amherst Winter Fair, \$50; Ottawa Winter Fair, \$59. Also, special amounts were offered for the dairy tests at the Winter Fairs, at Guelph, Amherst, and Ottawa, provided Ayrshires made the highest score over all other dairy breeds. It was requested that those fair boards that have only one class for two-year-old heifers, that they make two classes, heifers in milk and dry class.

Two hundred dollars was voted to the National Dairy Show, if it takes place in 1909. It was considered that the latter part of the month of November would be the best time to hold this show.

It was resolved to memorialize the Board of Directors of each of the Winter Fairs, asking them to extend the dairy test from two to three days, as it would add value to the test.

The sending of an exhibit of Ayrshires to the Alaska-Yukon-Pacific Exposition, to be held in Seattle,

Wash., June 1st to Oct. 30th, 1909, was left in the hands of the Executive. It was decided that the dairy test at this Exposition should not continue for less than thirty days.

The new form of certificate or diploma as devised by the Secretary and Mr. R. R. Ness, to present to the owner of each cow that qualifies in the Record of Performance test, was adopted, and 1,000 copies ordered to be printed.

The following officers were elected: Hon. President, Dr. J. G. Rutherford, Ottawa, President, R. R. Ness, Howick, Que.; Vice-President, W. W. Ballantyne, Stratford, Ont.

Provincial Vice-Presidents: Ontario, W. Thorn, Lyndoch; Quebec, Robert Ness, Howick; Manitoba, Wellington Hardy, Roland; Saskatchewan, J. C. Pope, Regina; Alberta, A. H. Trimble, Red Deer; British Columbia, A. C. Wells, Sardis; Prince Edward Island, W. H. Simmons, Charlottetown; Nova Scotia, F. S. Black, Amherst; New Brunswick, Fred McIntyre, Sussex.

Directors: Ontario—Alex Hume, Menie; John McKee, Norwich; W. W. Ballantyne, Stratford; Robert Hunter, Maxville; A. Kains, Byron; Wm. Stewart, Menie; N. Dymont, Clappison. Quebec—R. R. Ness, Howick; Arsene Denis, St. Norbert; Hon. Wm. Owens, Montreal; Nap. Lachapelle, St. Paul l'Ermite; M. Greenshields, Danville; Jas. Bryson, Brysonville; Hector Gordon, Howick.

Executive Committee: R. R. Ness, Nap. Lachapelle, Hon. Wm. Owens, A. Kains, Wm. Stewart, and W. W. Ballantyne.

Revising Committee: Robert Hunter, W. F. Stephen and J. W. Nimmo.

Representatives to National Record Board: Robert Ness and W. W. Ballantyne.

Secretary-Treasurer, W. F. Stephen, Huntingdon, Que.

Registrar, J. W. Nimmo, Ottawa, Ont.



R. R. Ness, Howick, Que.

President Canadian Ayrshire Cattle-breeders' Ass'n.

Delegates to fair boards: Toronto Industrial, W. W. Ballantyne; London, A. Kains; Ottawa, Robert Hunter, Sr.; Sherbrooke, James Bryson; Fredericton, Fred McIntyre; Halifax, C. A. Archibald; Charlottetown, James Easton; Dominion Cattle-breeders' Association, W. W. Ballantyne; Ottawa Winter Fair, Jas. Benning; Quebec, Nap. Lachapelle.

Judges recommended: Toronto Industrial—W. P. Schank, Avon, N. Y.; reserve, D. Drummond, Ottawa. London—John McKee, Norwich; reserve, Geo. McCormack, Rockton, Ont. Ottawa—W. W. Ballantyne, Stratford; reserve, D. Drummond, Ottawa. Sherbrooke—Jas. Bryson, Brysonville, Que.; reserve, Louis Lavallee, St. Guillaume, Que. Quebec—Louis Lavallee, St. Guillaume, Que. Halifax—Wm. Hunter, Maxville, Ont.; reserve, James Bryson. Winnipeg and Regina—W. W. Ballantyne; reserve, W. F. Stephen. Calgary and Regina—W. F. Stephen; reserve, W. W. Ballantyne.

ONTARIO HORSE-BREEDERS' ASSOCIATION ANNUAL MEETING.

The second annual meeting of the Ontario Horse-breeders' Association was held in the Walker House, Toronto, on Thursday evening, Feb. 13th. The President, Mr. Wm. Smith, Columbus, in his opening address explained the object and purpose of the organization of this Association as apart from the general horse show held later in the spring in Toronto, the Ontario Horse-breeders' Show being confined to awarding of prizes to stallions and mares, and affording opportunity for business in the sale and purchase of the same.

Mr. A. P. Westervelt, Secretary, read the minutes of the last meeting and the Directors' report, which, on motion, were adopted. The financial statement showed receipts \$6,815.10, and expenditures, including

prizes awarded at the spring show, \$6,843.95, and a balance of \$20.85.

The question of inspection and licensing of stallions was discussed in the light of the resolutions adopted at the Ontario Winter Fair, in December, and a motion, urging early legislation covering these points, was adopted.

The following breed associations, having fulfilled the conditions named in the constitution entitling them to representation on the Directorate of this Association, elected, by ballot, the following representatives: The Clydesdale Horse Association, Wm. Smith, Robert Graham, John Bright, James Henderson, A. G. Gormley, F. Richardson, R. E. Gunn, W. Renfrew; Shire Association, John Gardhouse, J. M. Gardhouse; Hackney Association, John A. Boag, E. C. H. Tisdale.

CANADIAN CLYDESDALE ASSOCIATION ANNUAL MEETING.

The annual meeting of the Canadian Clydesdale Horse-breeders' Association was held in the King Edward Hotel, Toronto, on Wednesday, Feb. 12th, as announced. The President, Mr. Wm. Smith, Columbus, in the chair. The attendance was probably the largest in the history of the Association, members being present from Ontario, Quebec, Manitoba, Saskatchewan, Alberta and British Columbia. The President, in his opening address, congratulated the Association on the prosperous condition of the horse-breeding industry and the financial standing of the Association, membership being now 822, and the registrations in the studbook, and the fees for same, being largely in advance of those of the previous year. Secretary J. W. Sangster, Toronto, read the Directors' report, which was exceedingly satisfactory, and was, on motion, adopted. Reference was also made to the very satisfactory success of the mission of members of the Board of Directors and others in inducing the council of the Clydesdale Association of Great Britain and Ireland to raise the standard of registration, and to assign studbook numbers to horses and mares imported to Canada. In recognition of this service, a cordial vote of thanks was tendered by the meeting to these gentlemen. The financial statement showed receipts of \$11,906.89, including a balance as per last statement of \$4,495.35, and expenditures of \$5,515.66, leaving a balance on hand of \$6,891.23. Considerable time was occupied with the reading and discussion of amendments to the constitution, bringing it into conformity with the Dominion Act and the requirements of the National Live-stock Association, the draft of constitution, as amended, being, on motion, adopted unanimously. Mr. R. E. Gunn, of Beaverton, in a vigorous speech, introduced the proposition of the location of the Ontario Winter Fair, at Guelph, supplemented by a horse-show department at Toronto Junction. After some discussion, a motion recommending this proposition to the Minister of Agriculture for the Province was adopted, and a committee appointed to interview the Minister.

The result, by ballot, of the election of officers and directors resulted as follows: President, John Bright, Myrtle; Vice-President, Robert Graham, Bedford Park.

Vice-Presidents for Provinces: Ontario, Peter Christie, M. P., Manchester; Manitoba, John Graham, Carberry; Saskatchewan, Alex. Mutch, Lumsden; Alberta, John A. Turner, Calgary; British Columbia, H. M. Vasey, Ladner; Quebec, Robert Ness, Howick; Maritime Provinces, W. W. Black, Amherst.

Directors: Wm. Smith, Columbus; T. A. Graham, Claremont; Jas. Torrance, Markham; A. G. Gormley, Unionville; John A. Boag, Queensville; Jas. Henderson, Belton; A. Major, Whitevale.

Representatives to exhibitions: Canadian National, Toronto, T. A. Graham; Ottawa, Peter Christie, M. P.; London, James Henderson, Wm. Mossop; Winnipeg, John Wishart; Brandon, Andrew Graham; Regina, Alex. Mutch; Calgary, John A. Turner; New Westminster and Victoria, Dr. Tolmie; Sherbrooke and Montreal Horse Show, Robert Ness, Howick.

FORTHCOMING EVENTS.

- Feb. 20th.—Prince Edward Island Dairyman's Convention, Charlottetown.
- Feb. 26th to 28th.—Ontario Horse-breeders' Show, Toronto.
- May 4th to 9th.—Canadian National Horse Show, Toronto.
- June 29th to July 9th.—Dominion Exhibition, Calgary, Alta.
- July 11th to 17th.—Winnipeg Industrial Exhibition.

CANNOT BE TOO HIGHLY PRAISED.

I take pleasure in acknowledging receipt of premium knife, which is all you represented it to be. As for "The Farmer's Advocate," it cannot be too highly praised, and no progressive farmer should be without it, for, in my estimation, it is second to none among agricultural journals. Thanking you for the knife, and wishing you every success, I remain,
L. C. LIGHTFOOT.
Wentworth Co., Ont.

SHORT COURSE IN FRUIT-GROWING AT O. A. C.

The first short course in fruit-growing, held at the O. A. C., concluded last week, after a duration of some three weeks. It proved a great success. Seventy-eight persons have taken the course, and all have pronounced it to be of the greatest benefit to them. To meet the foremost men in Ontario in their branch of farming, and to receive many valuable hints and much helpful information on their work, has given them the greatest satisfaction. When prominent fruit-growers from all parts of the Province come together to discuss their business, particularly with the view of improving it, it means something for horticulture in Ontario. The course reflects great credit on those who worked it up—Prof. Hutt and his assistant, J. W. Crow.

The addresses, which were given by a number of well-known and expert men, were uniformly excellent. All were intensely practical, and of great value to the commercial man. Some of the practical points have been extracted for "The Farmer's Advocate," and will appear later.

Prof. Hutt deserves credit for what he has done for the betterment of horticultural conditions in the Province. In his opening speech, he outlined the fruit districts of Ontario, enumerating the districts best suited to the growing of each fruit. These divisions are made by climate, which is determined by temperature, proximity to large bodies of water, and altitude. He also spoke of our markets. The Northwest is one of the best. British Columbia and California are our biggest competitors there. They are ahead of us in business methods of handling and packing of fruit, although our fruit is better in flavor than that of British Columbia, at least.

Alex. McNeill, assisted by Messrs. Carey, Thompson and Wilson, gave a number of demonstrations in fruit-packing in boxes and barrels, and in the sorting of apples to conform with the Fruit Marks Act.

The short course ended with a banquet, at which the students expressed themselves heartily in a unanimous vote of thanks and congratulation to Prof. Hutt and Mr. Crow. The benefits of the course have been so great as to insure its continuation in the future.

H. A. W.

CANADIAN HOLSTEIN-FRIESIAN BREEDERS' MEETING.

The annual meeting of the Holstein-Friesian Association of Canada was held in Toronto on Feb. 12th, 1908. The meeting was very enthusiastic, and the attendance the largest in the history of the Association. President A. C. Hallman, Breslau, occupied the chair. The Secretary's report showed a total of 2,235 registrations for the year, an increase of 335 over last year; and 2,078 transfers, an increase of 288. Sixty-seven cows were accepted in the Record of Merit, and 17 additional tests were made, and two cows were tested for 30 days, and five for 14 days. One was tested after eight months from calving. One hundred and nine breeders were accepted for membership. Vol. X of Herdbook, which includes Vol. VI of the Record of Merit, has been printed. A very gratifying feature of the auditor's report was the balance on hand of \$4,896.48, which is \$913.89 more than the balance for 1906, despite the fact that more money was expended for prizes, etc.

It was decided to continue paying the prize of \$5.00 for each cow entered in the Record of Merit, as this was considered a very satisfactory way of assisting breeders to show the public the merits of the breed.

Grants to Fair Boards were made as follows: Toronto, \$100; Sherbrooke, \$100; Calgary, \$100; Winnipeg, \$50; London, \$50; Ottawa, \$50; Charlottetown, \$25; New Westminster, \$50; St. John, \$50; Halifax, \$50; Victoria, \$25; Brandon, \$25; Guelph Winter Fair, \$145; Ottawa Winter Fair, \$100, and Maritime Winter Fair, \$50.

A memorial was prepared to forward to the Secretary of the Fairs Association, asking that at the coming Convention delegates from Fair Boards should be requested to place dairy breeds on an equal footing with beef breeds, and that a separate class be provided for grade dairy females; also that qualified dairy judges should judge dairy cattle. It was decided that the Association provide a number of silver cups, one to be given at each of a number of the larger fairs throughout the Dominion for the Holstein grade that wins in the grade dairy class.

Dr. L. de L. Harwood, of the Notre Dame Hospital, Montreal, who is a member of the Association, was present, and gave a short address, speaking on the value of Holstein milk as food for children.

Very interesting reports from delegates to the various Fair Boards were given by those present, and written reports were read from delegates in the West.

The officers elected are: President, G. A. Gilroy, Glen Buehl, Ont.; Vice-Presidents, B. Mallory, Belleville, Ont.; H. Bollert, Cassel, Ont.; Stanley A. Logan, Amherst, N. S.; J. E. K. Herrick, Abbotsford, Que. Directors—R. S. Stevenson, Ancaster, Ont.; James Rettie, Norwich, Ont.; J. W. Richardson, Caledonia, Ont., and R. F. Hicks, Newton Brook, Ont. Auditors—A. C. Hallman, Breslau, Ont., and F. E. Came, Montreal, Que. Secretary-Treasurer, G. W. Clemons, St. George, Ont. The delegates to Fair Boards were re-elected. The selection of judges for fairs was left with the Executive Committee, who later in the day chose an American judge for the Toronto Exhibition, the selection for best choice being E. A. Powell, Syracuse, N. Y., and Mark R. Seely and E. H. Cortelyou followed

in the order named. Expert judges from the ranks of Canadian breeders were named as capable judges for the other larger exhibitions, and a list was also prepared from which selections could be made for the smaller fairs.

A general discussion took place regarding the Record of Performance, and, in order to make the per cent. of fat in all classes uniform, the amount of fat in each class was changed, and the standard is now as follows: Mature Class, 10,500 pounds milk, 357 pounds fat. Four-year Class, 9,500 pounds milk, 323 pounds fat. Three-year Class, 8,500 pounds milk, 289 pounds fat. Two-year Class, 7,500 pounds milk, 255 pounds fat. It was decided to hold a banquet in connection with the next annual meeting, which is to be held in Toronto.

SHIRE HORSE ASSOCIATION ANNUAL MEETING.

The Nineteenth annual meeting of the Canadian Shire Horse Association was held at the Walker House, Toronto, on Friday, February 14th, at 10.30 a. m.

While the postponement of the Ontario Horse-breeders' Exhibition affected the attendance somewhat, the meeting made up for this in point of enthusiasm. Among those present were J. M. Gardhouse, President, in the chair; W. E. Wellington, Toronto; A. H. Eckford, High River, Alta.; Thos. Mercer, Markdale; C. E. Porter, Appleby; John Breckon, Appleby; John Gardhouse, Highfield; Jas. Henderson, Belton; C. K. Geary, St. Thomas; Jas. Dalgety, London; Arthur Gardhouse, W. J. Gardhouse, J. W. Sangster and J. W. Wheaton, Toronto; F. M. Wade, Registrar, Ottawa; the Secretary-Treasurer and others.

The annual report and the financial statement of the Sec.-Treasurer showed that the Association was making steady progress, the registration fees being \$117, as against \$86 in 1906. The balance of cash in hand on December 31st, 1907, was \$243.19, as compared with \$183.15 at the commencement of the same year. The report referred to the satisfactory prices realized for Shire mares and fillies last fall, in spite of the shortage of feed, the best prices being \$400 and \$430. Breeders were invited to enter their horses for the exhibitions, and so bring them before the public.

Considerable discussion took place on the question of putting on penalties for non-registration, but as this matter will come before the members at a special meeting, to be held Feb. 28th, no action was taken.

The election of officers resulted as follows: President, J. M. Gardhouse, Weston; First Vice-President, Wm. Laking, Haliburton; Second Vice-President, Jno. Breckon, Appleby. Vice-President for Ontario, W. E. Wellington, Toronto; Quebec, Wm. Hodgins, Portage du Fort, Que.; Maritime Provinces, Hon. Frank Hassard, Charlottetown, P. E. I.; Manitoba, F. J. Stott, Brandon; Alberta, A. H. Eckford, High River; Saskatchewan, R. C. Sanderson, Indian Head; British Columbia, S. R. O'Neil, Vernon.

Directors.—Jno. Gardhouse, Highfield; Jas. Dalgety, London; Jas. Henderson, Belton; C. E. Porter, Appleby; C. K. Geary, St. Thomas; Wm. Hendrie, Hamilton; Thos. Mercer, Markdale.

Delegates to Exhibitions and to the Record Board having been appointed at a special Directors' meeting held in January, the meeting confirmed their action. Mr. G. de W. Green, Toronto, was permanently appointed Secretary-Treasurer, and very favorable comments were made as to his work during the past year.

RESULTS OF EXPOSURE OF FORMALDEHYDE SOLUTION.

[Digest of paper by Frank T. Shutt, M. A., Chemist, Dominion Experimental Farms, before Convention of Canadian Seed-growers' Association, Ottawa, 1908.]

Owing to the readiness with which this fungicide may be prepared, formaldehyde is fast replacing blue-stone for the treatment of wheat in the Northwest for the prevention of smut. It had been shown by Mr. Shutt that, all things considered, the best strength to use was 4½ ounces formaldehyde per 10 gallons water, thoroughly sprinkling the wheat, or immersing it, for, say, five minutes.

Solutions of formaldehyde, on exposure, as in a dish or uncorked bottle, became stronger, the concentration depending upon the original strength of the solution, and the length of time exposed, or, more correctly speaking, on the rate of evaporation.

It would appear that formaldehyde is lost during the period of exposure, but as this amount is very much less than that of the water evaporated, the residual solution is stronger than the original. Tables were given showing the effect of exposure and evaporation on various strengths of formaldehyde. The solution as bought (40 per cent.) has a tendency to solidify on exposure; this is not desirable. It has not yet been shown that this solidified formaldehyde (paraaldehyde) is equally efficacious with the fluid form in the treatment of wheat. The dilute solution, ready for use, was found to markedly increase in strength during a fortnight's exposure, so much so that the residual solution was equal to one prepared from 5½ ounces formaldehyde per 10 gallons water. This strength would injuriously affect the germ of the treated wheat. The lesson to be learned is to make the dilution of the formaldehyde as the solution is required.

DAIRY AND OTHER CONDITIONS ON PRINCE EDWARD ISLAND.

We have enjoyed an exceedingly fine winter here so far. There has been very little snow. Wheels have been in use more than sleighs, and still there is scarcely enough snow for good sleighing. The lowest temperature so far has been 12 below zero, and that only one day. The weather has been mild, with quite a number of thaws. There has been no stop in our winter navigation yet, and uninterrupted connection makes life here more tolerable than it is in severe seasons.

Most of the dairy companies have held their annual meetings, and all concerned seem to be well satisfied with the year's business, and hopeful for the future. The average price of cheese was about 11½ cents a pound, and that, taken in connection with the good grazing season of last summer, makes the patron's accounts at the cheese factory very satisfactory. Still, we have great room for improvement in the way of producing more milk per cow, and more milk per acre. Till we work to a higher standard in these matters, dairying will hardly be called a great success with the average patron of the cheese factory.

Winter buttermaking has been carried on to a considerable extent in factories that have butter plants. The high price of factory butter has been quite a stimulus to winter production of milk, and a good many farmers are learning, to their profit, that it pays to lengthen out the milking period of their cows. Creamery butter sells wholesale from 27 to 28 cents. This will give patrons about \$1.00 per hundred, net, for milk. There is not much stall-feeding here this winter. Grain being a good price and the hay crop light, accounts for this.

Sheep are getting back again slowly on many farms that cut them out altogether a few years ago. We notice some five or six about very many farmyards again, which will form the nucleus of larger flocks in the near future. Many farmers now see the mistake they made in going out of sheep entirely, and will not likely repeat the error, especially as sheep and their products have so largely advanced in price in recent years. As labor grows scarcer, farmers will turn more attention to sheep husbandry as a business which can be conducted with an exceeding small outlay for wages.

A good many hogs are being marketed now at about 7½ cents (dressed). Those farmers that are engaged in winter dairying are also feeding good bunches of hogs, and these are the men that are making the money just now. Hogs can be made to gain as fast in winter as any time, when there is a good share of skim milk to help make up their rations. Hay sells here for about \$15 per ton. Oats are rising again, and bring over 40 cents now for shipment. The fields are so poorly covered with snow this winter that many fear the grass and clover meadows will suffer.

W. S.

[Note.—Mr. Simpson encloses a statement of the Stanley Bridge Dairying Company's operations from Jan 3rd to November 2nd. By this, we find that the amount of milk sent in by 135 patrons was 1,501,352 pounds, from which 143,395 pounds cheese were manufactured, realizing, when sold, with skimmings, \$16,771.33. The total amount paid out to patrons in cheese and cash was \$13,501.44; the expense of manufacture, plus milk-drawers' salaries, \$3,269.89. The largest amount paid to any patron in cash was \$247.22, the lowest \$17.44, the average about \$100. This, Mr. Simpson writes us, may be taken as representative of the average cheese factory in the Province.—Editor.]

COW CONTRASTS.

Dominion Department of Agriculture, Branch of the Dairy and Cold-storage Commissioner, Cow-testing Associations:

The records of two associations in the Province of Quebec are full of interest.

In one association, the highest yield of any cow in a certain herd during six months, June to November, was 132 pounds fat. In a neighboring herd the best yield was 200 pounds fat, or a difference of 68 pounds fat. This is a difference in the earning power of these two cows of at least \$17 in six months. This is not a contrast between a good and a poor cow, but between the best cow in each herd. In this case, twenty cows of the one kind equal forty-four of the other, as regards value of product. Why should not the returns from scores—yes, hundreds—of our dairy cows be increased by \$17? They could be very easily, if farmers were fully alive to the possibilities of systematic improvement. We must aim higher.

In another association, a more startling difference is discernible. In one herd the best cow yielded 450 pounds of fat during the full period of lactation, while the best cow in another herd gave only 141 pounds. With butter-fat at 25 cents a pound, the one cow is credited with \$112.70, and the other with only \$35.32. This is a difference of \$87.38 between these two cows. Assuming that the cost of feed is the same in both cases, and is \$30, we find that 12 cows in the one case would equal 188 of the other.

C. F. W.
Ottawa, Jan. 30, 1908.

CANADIAN PONY SOCIETY ANNUAL MEETING.

The Canadian Pony Society, at their annual meeting, in the King Edward Hotel, Toronto, Feb. 12th, fixed the following standard heights for the several classes of ponies: Shetland, 44 inches; Hackney, 14 hands 1 inch; Polo, 14 hands 2 inches; Welsh, Exmoor and Connemara, same as British standards; Canadian-bred, 14 hands 1 inch.

A new constitution was adopted, and the application for incorporation was passed. The membership has greatly increased during the year.

Messrs. W. J. Stark and W. R. Mead were elected representatives to the National Record Board, and Mr. Stark's appointment to the Exhibition Association was confirmed.

The sum of \$25 was granted to the Canadian Horse Show, to be held in St. Lawrence Arena, in the spring.

The following officers were elected: Hon. President, W. J. Stark; President, W. R. Mead; First Vice-President, R. W. Davies; Second Vice-President, John Graham, of Carberry, Man., President of Manitoba Horse-breeders' Association; Secretary, H. J. P. Good; Treasurer, Arthur Taylor. Directors—A. Major, Whitevale; W. C. Renfrew, Bedford Park; Geo. Pepper, Toronto; R. Miller, Stouffville; F. Somers, Toronto; H. M. Robinson, Toronto; E. T. Campbell, Toronto; P. McCulloch, Markdale; C. A. Barclay, Brougham; C. E. Stone, Toronto.

NEW C. P. R. STOCK-YARDS FOR MONTREAL.

Press despatches announce that tenders have been called for the construction of new stock-yards, which the Canadian Pacific Railway intend establishing in Montreal. These stock-yards, which are to be situated on Frontenac street, will, it is said, be the largest and

most complete east of Chicago, and it is figured will cost between one and two million dollars. The buildings will give accommodation to thousands of animals. Separate buildings will include horse stables, cattle stables, a calf and sheep house, hogpens, unloading pens, and hay barn. Specifications call for completion by the end of July next.

SCALE VERSUS MERIT.

"A good deal of dissatisfaction with the insurance laws finds expression," says the Saturday Evening Post. "That which arises simply out of the notion that a life-insurance company exists for its own power and glory, and that its chief duty is to be big, will get no more consideration, we think, than it deserves. To see which one can be the biggest is a poor motive for life-insurance companies, for universities, or for almost anything except prize steers."

The exception is not well taken. Size has long since ceased to be regarded as the prime merit of a steer.

The application of the paragraph is good, however, notwithstanding the writer's mistaken choice of illustration, and it applies to other things than life-insurance companies and universities—exhibitions, for instance. Those who are assiduously promoting the idea of a "Canadian International Exhibition" at Toronto Junction seem to proceed on the assumption that bigness is the chief desideratum of the Winter Fair. Those who think more deeply esteem the educational privileges as the prime object. These are better secured at a show of moderate dimensions, situated in proximity to the Agricultural College. Guelph is the place for the Winter Fair, but Guelph City must do its part.

THE GLASGOW STALLION SHOW.

In the class of Clydesdale stallions over three years old, for the Society's £80 premium, at the Glasgow Show, Feb. 4th, 29 horses competed. The final pull was between Mr. Pollock's five-year-old Margrave (12240), by Hiawatha, and Mr. Taylor's four-year-old Sir Spencer (18211), by Sir Hugo, and they were placed in the order named. In the open class, with another set of judges and 31 entries, Mr. Kilpatrick's four-year-old Perfect Motion, by Baron o' Buchlyvie, was first; Mr. Marshall's four-year-old Memento, by Baden-Powell, second; Sir Spencer, third; and Margrave, fourth—a reversal of the award in the former class. In the three-year-old class, for the Glasgow Premium, Mr. Walter Park's Chattan Again was first, Mr. Marshall's Musilino, by Marcellus, second or reserve. In the open class for three-year-olds, Mr. Park's Chattan Again was again the winner, second being Mr. Clark's Lothian Pride, third Mr. Taylor's Sir Dighton, and fourth Mr. Marshall's Musilino. For the Cawdor Cup and Brydon Shield, Mr. Kilpatrick's Perfect Motion was the winner, and Mr. Park's Chattan Again the reserve.

My watch premium for 11 new subscribers arrived safely by yesterday's mail. I think it is a little beauty; it more than filled my expectations. I thank you very much for the watch, and also for your promptness. I appreciate it all the more because I earned it myself. I have two or three more about ready to subscribe, which I will be sending soon. Again thanking you, I remain, Your little friend,

MARJORY WHITE.

GOSSIP.

Mr. J. C. Anderson, Morganstown, Northumberland County, Ont., advertises a registered Clydesdale stallion, six years old, for sale, or to exchange for a Percheron. Reason for parting with him, customers want to try a Percheron.

POSTPONED SALE.

Owing to storms and impassable roads, the auction sale of Shorthorn cattle from the herd of R. H. Reid, Pine River, Ont., near Ripley (G. T. R.), has been postponed to February 26th, when 16 head of young Shorthorns, Scotch and Scotch-topped (11 bulls and 5 heifers), ten to fifteen months old, will be sold.

SALE WILL BE AT TORONTO JUNCTION.

The joint sale of Shorthorns from the herds of Messrs. Robert Miller, Stouffville, and D. Gunn & Son, Beaverton, will be held at Toronto Junction, on March 6th, instead of at Stouffville, as originally announced. See advertisement.

AGRICULTURAL HINTS.

If you wish to raise a good crop of bachelor's buttons, it will be necessary to see that there are no widow's weeds in the vicinity.

A good hay rake has about 15 teeth—dependent, of course, on the rake.

Do not drain off your swamp land. Plant tadpoles and raise frogs, and ship the hops to Milwaukee. Here we may say that the hop is somewhat larger than the skin, though not so large as the jump.

THE MILLER-GUNN SALE.

The Shorthorn cattle to be sold at Toronto Junction on March 6th, from the excellent herds of Messrs. Robert Miller, Stouffville, and D. Gunn & Son, Beaverton, will be found to be well up to the standard of the best herds in the Dominion in breeding and individual merit. The offering includes eight bulls, from eleven months to four years old, 5 of which are imported, and of a very desirable class. The females, 32 in number, are young and vigorous; sixteen of them imported and richly bred, and most of them in calf to first-class imported bulls. It will be noticed that this sale was originally advertised to be held at Stouffville, but is now announced to take place at Toronto Junction, a much more convenient place. For catalogues, apply to Robert Miller, Stouffville, Ont.

ANNANDALE HOLSTEIN SALE.

The catalogue of richly-bred Holsteins from the great Annandale herd of Holsteins to be sold at his annual sale, at the farm at Tillsonburg, Ont., on Feb. 25th, shows that they come of the best producing strains of the breed, which has become famous for its startling records of milk production, and is in keen demand wherever dairying is followed. And no herd in America has done more to bring about this fame than the herd of Geo. Rice, which, in public tests, the most trying of any, have proven that he has the deep-producing sorts par excellence. The Annandale herd is full of the blood of the greatest producing cows of the breed, and they have been judiciously bred, fed and developed. Mr. Rice gives the breeders and farmers of Canada an opportunity at these annual sales to get a share of the results of his careful, persistent and systematic work at their own prices, and trusts the public to show their appreciation by giving fair prices for the animals he offers, which are a fair division of the herd.

Dairying stands out prominently as the safest and most profitable branch of farming in Canada to-day, and the difference between deep-milking cows and ordinary ones may make all the difference between profit and loss. It's a big mistake to give good feed to a cow that gives 3,000 lbs. milk in a year, when you can get one that will give 6,000 to 9,000 lbs., and will cost no more to keep. There should be a bumper attendance at Geo. Rice's sale, at Tillsonburg, on the 25th.

The catalogue of the 15 young Shorthorn bulls, from the herds of Messrs. Nicholson, Fairbairn and Rawlings, advertised to be sold by auction at the farm of Mr. Nicholson, of Sylvan, Ont., near Parkhill (G. T. R.), shows that they are an exceedingly well-bred offering, and we are assured the cattle will be found fully equal to their breeding. Most of these young bulls are bred direct from recent importations from noted Scottish herds, and their pedigrees show that they are deeply bred in the blood of the Cruickshank, Marr, Bruce and other noted strains. Half a dozen are sons of Spicy Count (imp.), an excellently-bred sire. One is full brother to the noted champion sisters, Fair Queen and Queen's Ideal; the latter sold for \$1,500. Golden Nonpareil is by Nonpareil Count, a son of Spicy Count (imp.), a richly-bred Nonpareil bull, and his dam comes of a deep-milking strain. Three are by 22nd Crown Jewel, another son of Spicy Count (imp.), and of Messrs. Nicholson's Leonore family, which has produced many prizewinners at leading shows in Canada. These are thrifty young bulls of good colors and thick flesh, and ranging in age from ten to eighteen months of age, and may be depended upon to make improvement in any herd into which they

may go. The terms of the sale are easy: ten months' time. Teams will meet trains the evening before and morning of sale.

QUESTIONS AND ANSWERS.

Miscellaneous.

ALSIKE FOR SEED—HOG PASTURE—WORMS IN HORSES.

1. Is a heavy clay farm suitable to raise alsike clover for seed?
2. What is best crop to sow it with?
3. Give time of sowing and quantity per acre.
4. I have no clover near barn. What is cheapest feed for hogs that will average about 75 lbs. 1st of May?
5. Give cure for small worms in horses.

Ans.—1. Yes.
2. Wheat or barley.
3. Six to eight pounds per acre, sown with grass-seed attachment on grain drill, if sowing with barley. On fall drill, we suggest sowing late in March or early April on a still morning, when the ground is honeycombed with frost. Some favor sowing clover and grass seed after the ground is dry enough in spring that the seed can be harrowed in, but we would not advise it as a general practice on very heavy land.

4. If a grass run is available, use it. If not, try one of the following mixtures: Oats, 1 bushel per acre; peas, 1 bushel, and rape, 2 pounds; or the same proportions of oats and rape, substituting three pecks of vetches for the peas. Sow about the first week in May.

5. Take 1½ ounces each of sulphate of iron, sulphate of copper and tartar emetic, and 1 ounce camomel. Mix, and make into 12 powders. Give a powder every night and morning in damp food, or mixed with a little water as a drench. Give nothing to eat but a little bran. After giving the last powder, in about eight or ten hours give a purgative of 8 drams Barbadoes aloes and 2 drams ginger. Feed bran only until purgation commences, and do not work until the bowels regain their normal condition. The horse can work in the usual way until he gets the purgative.

At the adjourned meeting of the Dominion Shorthorn Breeders' Association, held in Toronto, Tuesday, February 11th, to complete the revision of the constitution, the suggestion offered by Andrew Graham, of Manitoba, aiming at a representative basis of electing directors according to membership in the various provinces, was not adopted. Practically the only further change made in the proposed constitution, as printed, was in eliminating the vice-presidencies representing the different provinces.

TO MY DOG "BLANCO."

(A famous old poem by J. G. Holland.)

My dear dumb friend, low lying there,
A willing vassal at my feet,
Glad partner of my home and fare,
My shadow in the street.

I look into your great brown eyes,
Where love and loyal homage shine,
And wonder where the difference lies
Between your soul and mine.

For all of good that I have found
Within myself or human kind
Hath royally informed and crowned
Your gentle heart and mind.

I scan the whole broad earth around
For that one heart which leal and true,
Bears friendship without end or bound,
And find the prize in you.

I trust you as I trust the stars;
Nor cruel loss, nor scoff, nor pride,
Nor beggary, nor dungeon bars,
Can move you from my side—

As patient under injury
As any Christian saint of old,
As gentle as a lamb with me,
But with your brothers bold;

More playful than a frolic boy,
More watchful than a sentinel,
By day and night your constant joy
To guard and please me well;

I clasp your head upon my breast—
The while you whine and lick my
hand—
And thus our friendship is confessed,
And thus we understand!

Ah, Blanco! Did I worship God
As truly as you worship me,
Or follow where my master trod
With your humility,

Did I sit fondly at His feet,
As you, dear Blanco, sit at mine,
And watch Him with a love as sweet,
My life would grow divine.

Pat, a miner, after struggling for years in a far-off Western mining district, finally giving up in despair, was about to turn his face Eastward, when suddenly he was struck it rich. Soon afterward he was seen, strutting along, dressed in fine clothes.

One day an old friend stopped him, saying: "And how are you, Pat? I'd like to talk to you."

Pat stretched himself proudly. "If you want to talk with me, I'll see you in me office. I hev an office now, and me hours is from a. m. in the mornin' to p. m. in the afternoon."

DEPOSITS OF \$25,000,000

IN THE BANK OF TORONTO

exhibit the well-placed confidence of the people who deposit their savings in this institution for safety. That these deposits are well secured is shown by the fact that their last printed statement showed cash and bank balances of over \$5,000,000, and surplus of assets over liabilities to the public of \$8,800,000.

CAPITAL - - - \$4,000,000
RESERVE - - - 4,500,000

Interest paid on Savings Deposits
at the 73 Branches of the

Bank of Toronto.

MARKETS.

TORONTO.

LIVE STOCK.

Receipts of live stock at the City and Junction markets last week were 263 carloads, containing 4,665 cattle, 1,680 hogs, 1,708 sheep, 230 calves, and 102 horses. Early in the week, on account of light receipts for the previous week, trade was brisk, and prices firm; but, later on, a weaker feeling prevailed, and prices were easier for the lower grades of cattle.

Receipts of cattle at the Junction on Monday, Feb. 17th, numbered 1,008; trade slow. Exporters, \$4.75 to \$5.25; export bulls, \$4 to \$4.50; prime butchers', \$4.80 to \$5.10; loads of good, \$4.50 to \$4.75; medium, \$4.15 to \$4.40; common, \$3.75 to \$4; cows, \$3 to \$4; milk cows, \$30 to \$50; calves, \$4 to \$7 per cwt. Export sheep, \$4 to \$4.50; yearlings, ewes and wethers, \$5 to \$5.50; lambs, \$5.75 to \$6.75 per cwt. Hogs, \$5.15, and watered at market, to drover at country points, \$4.90 per cwt. Exporters.—Last week, prices for export steers ranged from \$5 to \$5.80; export bulls sold at \$4 to \$4.50.

Butchers'.—Prime, picked lots sold at \$5 to \$5.25; loads of good, \$4.60 to \$4.90; medium, \$4.20 to \$4.50; common, \$3.75 to \$4.10; cows, \$3 to \$4.25 per cwt.; canners, \$2 to \$2.50.

Feeders and Stockers.—Neither class was represented on the market. Milkers and Springers.—About 75 cows of all descriptions sold all the way from \$25 to \$35 for common to medium, while the best on sale sold from \$40 to \$55 each.

Veal Calves.—There was an excellent demand for veal calves, which sold at \$4 to \$7 per cwt., and an extra quality, new-milk-fed calf sold as high as \$7.50 per cwt.

Sheep and Lambs.—Light receipts caused a strong market. Export ewes sold at \$4 to \$4.50 per cwt.; yearling ewes and wethers, for butcher purposes, sold readily at \$5 to \$5.50 per cwt.; lambs sold at \$5.50 to \$6.75 per cwt.

Hogs.—Receipts light, but prices unchanged at \$5.15 for select, fed and watered at the market, and \$4.90 to \$5. f. o. b., cars at country points.

Horses.—Between 75 and 100 horses changed hands at the Union Stock Exchange stables, Toronto Junction. More horses were expected, but, owing to some of the branch lines of the railways not being in a position to receive live stock, several lots were held back. The demand was for young and sound horses in the several classes. Light drafters, 1,200 to 1,400 lbs. each, sold from \$140 to \$180; one fine heavy drafter, 1,700 pounds, was withdrawn at \$225; general-purpose horses sold at \$125 to \$175; serviceably sound at \$30 to \$75 each; drivers of good quality, \$140 to \$200; second-hand drivers, \$30 to \$75 each.

BREADSTUFFS.

Wheat.—No. 2 white, and red, sellers, 99c.; No. 2, mixed, sellers, 98c., with buyers, 96c.; Manitoba No. 1 Northern,

\$1.19; No. 2 Northern, \$1.15; feed wheat, 66c.; No. 2 feed, 62c., lake ports. Rye.—No. 2, buyers, at 81c. Peas.—No. 2, buyers, 85c. Buckwheat.—Sellers, 66c. Corn.—No. 3 yellow, sellers, 65c., at Toronto.

Barley.—No. 2, sellers, 75c. Oats.—No. 2 white, 51c. to 52c., outside, and 58c. to 54c. on track at Toronto, No. 2, mixed, 49c. to 50c., outside points. Oats remain scarce.

Flour.—Ontario, 90 per cent. patents, \$3.60 bid for export; Manitoba patents, special brands, \$6; second patents, \$5.40; strong bakers', \$5.80.

Bran.—Scarce, full cars of bran, in bags, \$24 per ton.

Shorts.—In buyers' bags, \$24 to \$25 per ton.

COUNTRY PRODUCE.

Butter.—Market remains firm. Creamery, pound rolls, 30c. to 31c.; creamery, boxes, 29c. to 30c.; dairy, pound rolls, 25c. to 26c.; tubs, 23c. to 24c.

Eggs.—New-laid, 30c. to 32c.; cold-storage, 21c. to 22c. Eggs, strictly new-laid on the farmers' market, in baskets, sold at 35c. to 40c.

Poultry.—Market quiet, with light deliveries; prices about steady, owing to dealers drawing on their cold-storage supplies, which were put away when prices were low just before Christmas. Dressed poultry is quoted as follows: Turkeys, 13c. to 14c.; geese, 9c. to 10c.; ducks, 11c. to 12c.; chickens, 12c. to 14c.; old fowl, 8c. to 9c.

Cheese.—Market firmer. Large, 13c.; twins, 14c.

Honey.—Market steady. Extracted, 11c. to 12c. for 60-pound pails, and 5- to 10-pound pails, 12c. to 13c. Combs, in dozen sections, \$2.75 to \$3.

Potatoes.—Market firmer. Car lots of New Brunswick Delawares sold at 95c. to \$1 per bag, on track, at Toronto. Ontarios sold at the same prices. The cause of the present advance was the blockade of the railways, caused by storms. It is expected that prices will again decline as soon as the railways resume their normal traffic.

Beans.—Prices unchanged at \$1.70 to \$1.75 for primes, and \$1.80 to \$1.85 for hand-picked.

Hay.—Baled, in car lots, for No. 1 timothy, \$16 to \$17, on track at Toronto.

Straw.—Baled, in car lots, easy at about \$9.50 to \$10, at Toronto.

TORONTO FRUIT MARKET.

Apples.—Deliveries have been light on the farmers' market, owing to storms. No. 1 Spies, by the load, sold at \$3 per bbl.; No. 2 Spies, \$2.50 per bbl.; apples of other kinds, rejected by packers, sold at \$1.50 to \$2 per bbl., by the load. Dealers are holding No. 1 Spies at \$4 to \$4.50, and are not anxious to take them out of cold storage at these prices. Evaporated apples are quoted at 7c. to 8c. per lb.; dried apples, 5c. to 5c. per lb.

SEEDS.

The seed market is a little firmer. The William Rennie Co. report prices as follows: Alsike, fancy, \$8.25 to \$8.75; alsike, No. 1, \$8 to \$8.25; red clover, fancy, \$11; red clover, No. 1, \$10 to \$10.50 per bushel.

HIDES AND WOOL.

The market for hides has advanced fully one cent per pound. E. T. Carter & Co., 85 East Front Street, wholesale dealers in wool and hides, report prices as follows: Inspected hides, No. 1, cow and steers, 6c.; inspected, No. 2, cows and steers, 5c.; country hides, cured, 4c. to 4c.; calf skins, 8c. to 9c.; kips, 6c. to 7c.; horse hides, No. 1, each, \$2.50; horse hides, No. 2, each, \$1.50; horse hair, per lb., 25c.; tallow, per lb., 4c. to 5c.; wool, unwashed, 10c.; wool, washed, 19c. to 20c.; rejects, 14c. to 15c.; lamb skins, 70c. to 80c.

BUFFALO.

Cattle.—Prime steers, \$5.75 to \$6.

Veals.—\$5 to \$8.50.

Hogs.—Heavy, \$4.55 to \$4.65; mixed and Yorkers, \$4.60 to \$4.70; pigs, \$4 to \$4.60; roughs, \$3.80 to \$5.10; stags, \$3 to \$3.25; dairies, \$4.55 to \$4.60.

Sheep and Lambs.—Lambs, \$5 to \$7.35; yearlings, \$6.25 to \$6.50; wethers, \$5.50 to \$6; ewes, \$5.25 to \$5.65; sheep, mixed, \$2 to \$5.75.

MONTREAL.

Live Stock.—Owing to the recent stormy weather having blocked up the roads throughout the entire country, and interrupted railway traffic, receipts of cattle were very light last week. As a result, butchers have been competing with each other to secure the offerings, and prices have been run up in consequence. Other live stock has also been scarce and firm in price, with advances here and there. Buyers have been purchasing only for immediate wants. Choice cattle sold at 5c. to 5c. per lb.; fine, 5c. to 5c.; good, 4c. to 5c.; medium, 4c. to 4c.; common, 3c. to 3c., and inferior as low as 2c. Practically no sheep or lambs were offered; but choice lambs were still quoted at 6c. to 6c.; good, 5c. to 6c., and common, 5c. to 5c. Choice sheep sold at 4c. to 4c.; good, 3c. to 3c., and culls, 3c. to 3c. The hog market has continued very firm, and prices advanced 1c. to 1c. per lb., owing mainly to the scarcity of receipts. Meantime, sales of select, 6c. per lb., off cars.

Horses.—Heavy-draft, weighing 1,500 to 1,700 lbs., \$250 to \$300 each; light-draft, weighing 1,400 to 1,500 lbs., \$225 to \$275; good blocks, 1,300 to 1,400 lbs., \$200 to \$225; express horses, \$150 to \$225; common plugs, \$50 to \$75 each, and choice saddle and carriage animals, \$300 to \$500 each.

Dressed Hogs.—Good demand for abattoir-dressed, fresh-killed hogs at 9c. to 9c. per lb. Demand for hams, bacon, etc., is excellent, and prices hold steady at recent quotations. Lard is also in good request at 8c. to 9c. per lb. for compound, and 11c. to 12c. for pure.

Potatoes.—The market jumped up 75 per cent. last week, owing to scarcity of stock, due to storms throughout the country. One lot of over 1,000 bags was offered here at 40c. per bag of 90 lbs. a few weeks ago, and refused. The same lot was sold last week at 80c. Choice potatoes sold at from \$1.20 to \$1.50 per bag, delivered into store, in small lots. Increased supplies at the close of the week depressed prices to \$1.15.

Eggs.—Market firm last week. Fresh-laid eggs, 40c. per doz., cold-store stock being 22c. for No. 1, and 26c. to 27c. for select, and limed being about 22c. Later, the market broke, and fresh eggs sold down to 32c.

Poultry.—Receipts have been light, but demand not active, and, as a result, prices show very little change. Turkeys, 14c. to 16c. per lb.; geese, 11c.; chickens, 10c. to 12c., and fowl, 9c. to 10c. per lb.

Butter.—Receipts exceedingly light, owing partly to the lateness of the season, and partly to the recent severe storm. Hardly anything has been coming in, and what did come was sold at firmer prices, being about 29c. to 29c. for best. There has been an advance in grass creamery; dealers asking from 29c. to 30c. for it, in a wholesale way. Single packages about a cent more. The English market advanced about 5s. lately, the result being that the New Zealand butter which had just been received here from England, or which is en route, has been resold, and is being reshipped to England. It would have been offered here at about 30c. There is quite a lot of creamery being shipped from here to Western Ontario.

Cheese.—The market for cheese has been reported firm by some and steady, and, if anything, easier, by others. Prices hold steady at 12c. for white October cheese, and 13c. for white Septembers, colored being 1c. more in each instance.

Grain.—Market for oats steady. Demand has been light and continues so. Receipts also are light. Prices are 53c. per bush. for No. 2 white, 50c. for No. 3, 48c. for No. 4, and 47c. for rejected, prices mentioned being for Eastern Canada oats. Manitoba rejected are 49c. to 49c., in store.

Hay.—Market very firm in view of the light receipts since the recent snowfalls. Prices, however, hold fairly steady, being \$15.50 to \$16.50 per ton for No. 1 timothy, \$13.50 to \$14.50 for No. 2, \$12.50 to \$13 for clover-mixture, and \$11.50 to \$12 for pure clover.

Hides.—Demand fair, having shown quite an improvement of late. Quality is just commencing to show deterioration. Dealers are paying farmers 5c., 6c. and 7c. per lb. for Nos. 3, 2 and 1 beef hides, respectively, and 7c. and 9c., respectively,

for Nos. 2 and 1 calf skins, and selling to tanners at 1c. advance. Sheep skins are 80c. to 85c. each, and horse hides, \$1.25 to \$1.75 for Nos. 2 and 1, respectively. Tallow is 1c. to 3c. per lb. for rough, and for refined, 6c.

Seeds.—Dealers quote red clover at \$22 to \$24 per 100 lbs., in bag lots and more, f. o. b., Montreal, \$17 to \$20 for alsike, and \$6 to \$7.50 for timothy.

CHICAGO.

Cattle.—Steers, \$4.25 to \$6.15; cows, \$3 to \$4.25; heifers, \$2.50 to \$5.25; bulls, \$3.25 to \$3.50; calves, \$3 to \$7; stockers and feeders, \$2.60 to \$4.75.

Hogs.—Choice heavy shipping, \$4.80 to \$4.45; butchers', \$4.25 to \$4.40; light, mixed, \$4.15 to \$4.25; choice light, \$4.25 to \$4.35; packing, \$4 to \$4.80; pigs, \$3.50 to \$4.25.

Sheep and Lambs.—Sheep, \$4.25 to \$5.40; lambs, \$6.25 to \$6.90; yearlings, \$5.60 to \$6.40.

BRITISH CATTLE MARKET.

Liverpool.—Liverpool cables: States steers, 11c. to 12c.; Canadians, 11c. to 11c.; bulls, 10c.; cows, 11c.

GOSSIP.

A special meeting of the members of the Canadian Shire Horse Association will be held on Friday, February 28th, at 10.30 o'clock a. m., at the Walker House, Toronto, for the purpose of revising the constitution.—G. de W. Green, Secretary-Treasurer.

SALE DATES CLAIMED.

March 12th.—J. H. Patten, Paris, Ont., Holsteins.

March 18th.—C. M. & G. W. Blythe, Marden, Ont., dispersion sale of Short-horns.

June 4th.—John Dryden & Son, Brooklyn, Ont., Shorthorns.

POSTPONED HORSE SHOW.

The Ontario Horse Show, postponed owing to the late storms, will be held in the St. Lawrence Market Arena, Toronto, on Feb. 26th, 27th and 28th. The prospect is that this will be the best exhibition of heavy-draft and Hackney and other stallions ever seen in Toronto. Single-fare rates, good to return Feb. 29th, on all railways.

Volume 15 of the Clydesdale Studbook of Canada, edited by Mr. F. M. Wade, Registrar, has been issued from the office of the National Live-stock Record Association, at Ottawa. It is a highly-creditable production, comprising 668 pages, containing the pedigrees of 982 stallions, numbering from 5,725 to 6,707, and 2,091 mares, numbering from 8,564 to 10,655, a total of 3,073, and is well printed and bound. A decided improvement in the style of printing of the pedigrees in this volume has been adopted. Formerly the pedigrees appeared in compact form, similar to ordinary reading matter, which necessitated careful examination in order to ascertain the breeding. They are now given exactly as they appear on the certificate of registration, and enable the number of crosses, etc., to be seen at a glance. This arrangement may take more room, but is well worth it as a matter of convenience.

TRADE TOPICS.

NEW TELEPHONE CONNECTION.—The private telephone line running from Ballymote to St. Johns has been connected to the Bell Telephone Company's lines at Ballymote, making intercommunication possible between the two company's lines.

WEST'S CHEMICAL FLUID for purposes of disinfection, destruction of lice, fleas and worms, cure of ringworm, Mange, scratches and other ailments in farm stock is highly recommended by Canadian stockmen, who have used it as an effective remedy, also, for contagious abortion. It is easily prepared, needing only to be diluted with water. A supply should be kept on hand in every farmhouse for disinfecting closets and stables when necessary. See the advertisement in this paper, and send for a trial can.



Life, Literature
and Education.

[Contributions on all subjects of popular interest are always welcome in this Department.]

THE HEARTH.

(By Wilfred Campbell, author of "Ian of the Orcaes," "Lake Lyrics," etc.)

The night blows loud, the wind is chill,
But let him whistle as he will,
We'll keep old Christmas merry still.

Such a conception of the season of all joyous deeds and memories could only be drawn from a warm fireside, where, on the kindling or flaming hearth, the log or fagot sends forth its radiating heat and light—the center of holiday comfort and the happy home.

In the traditions and annals of the British peoples, the hearthside has always symbolized the home and the center of the home-life; and wherever the race has spread throughout the temperate zones of the world it has carried this idea, that the household is the most sacred place on earth, and the hearth or ingle-light its holiest spot.

Some genius has said, let the songs of a people be well sung, and I care not who makes its laws. I would add, let the hearths of a people be well built, and I will chance the sort of habitations which contain them. Be this a wise idea or not, certainly the race owes much to the magical light of the hearthstone. There forever lingers in the memory of our people the legends and histories of good and ill, of peace and war, of heroism and defeat, since the remotest ages. There still clings that magic poesy of love and valor, romance and fairy lore, which we inherit from those vanished but never banished golden ages of the heart's imagination.

In history and romance, in our finest poetry and prose, the hearth-light is never dead; and from the days of the olden Saxon Jarls and Norse Vikings, to the present day, our chronicle of the Anglo-Celtic people has been that of a home-loving, hearth-tending race or family.

In the dull or stormy winter solstice, when out of doors the frozen moon is wan on mute, dead waters, or the mad wind smites the frozen ground, shakes the forests, and rattles the casement, it may not be uninteresting, as we draw closer to the cosy ingle-light, to renew in fancy the place which the hearthstone and the hearth-light have held in our history and our literature.

As an introduction to this interesting subject, a short inquiry into the early origin of the hearth may not be out of place.

As the nation grew out of the tribe, and the tribe out of the family, so it seems that the home or domicile grew about the hearth or fireplace. As far back as man can go in history, or what are called prehistoric ages, even the rudest peoples gathered about the fire-stones or chimney-corner, as the center of all their social existence. By

many peoples fire was regarded as sacred, and it is quite natural that they should have acquired this idea. But it was, no doubt, in the temperate zones, where the colder seasons following the warmer, made some fixed habitation necessary, and the use of fire a necessity, that the hearth had its primitive origin.

One can imagine a rude people, dwelling in a cave, building a fire under a hole in the roof where the smoke would escape, and thus establishing the first hearthstone as we have it to-day. It must have been some such discovery or experience which foreshadowed the idea of the hearth-fire.

Whatever its origin, and under what conditions instituted, the hearthstone, from time immemorial, has been the center, in the temperate zone, of the family-life. About it has clustered all the most sacred associations. Even in recent centuries, the building of a fireplace or chimney, and the starting of its first fires, has been regarded as a sacred observance.

It was the place in the household where youth dreamed its dreams of the future, and where age awaited its approaching dissolution. Indeed, in all stages of life, from the cradle to the grave, what has the hearthstone not witnessed?

British literature contains many beautiful references to the hearth. Lowell, in his "Vision of Sir Launfall," gives the following delightful picture of the old baronial fireside:

"Within the hall are song and laughter,
The cheeks of Christmas grow red and jolly,
And sprouting is every corbel and rafter,
With lightsome green of ivy and holly;
Through the deep gulf of the chimney wide
Wallows the yule-log's roaring tide.
The broad flame-pennons droop and flap,
And belly and tug as a flag in the wind;
Like a locust shrills the imprisoned sap,
Hunted to death in its galleries blind;
And swift little troops of silent sparks,
Now pausing, now scattering away as in fear,
Go threading the soot-forest's tangled darks
Like herds of startled deer."

Washington Irving, in his exquisite picture of old English country life, gives many a glimpse of flaming hearths; on ancient armored wall and tapestried hanging. Sir Walter Scott and Charles Dickens, both repeatedly mention the fireside delights of the Old World, as not only connected with the social joys, but also the creature-comforts. The latter is never more happy in his tales than when describing the arrival of his hero or heroes at the doors of some cosy inn or home fireside, where the buxom landlady, or mine host of the rubicund countenance, is ready to administer comfort and good cheer. Among the finest of Dickens' pictures is the arrival of Mr. Pickwick and his friends at Dingley Dell Farm, and the scene of the yuletide reunion

about the old parlor fireplace in the quaint old farmhouse.

Stevenson, less vigorous a writer, and dealing more with the recluses of existence, gives a quaint picture of the old Scotch lord, in "The Master of Ballantrae," who, in the sole companionship of a classical author, spent the most of his days over the fire in the ingle-nook.

These are but a few instances of the many witnesses to the part the hearth has played, during a thousand years, in the life of our race in the old lands of our Celtic, Saxon and Norman forefathers, and we, in the new world, have also evidence, both in literature and our personal experience, of the part the hearth has played in the life of this continent. In the early days the hearth-fire was the only candle for many a poor scholar, and by it the housewives plied their evening toil. From the time when the great King Alfred let the bread burn by the Saxon cottage hearth, to the day when the young Canadian embryo-scholar or statesman learned to spell by the flame of a maple or a pine knot, the hearth-light has done much for the thinkers and dreamers of mankind.

In these days of the gas-jet, and the search for cheap electric heating; when the apartment-house is superseding the home, and the family is said to be dwindling or disappearing, many may scoff at the fancied joys of the old-time hearth, and claim for our age a superior means of household warmth. However true or false this may be, our present means of heating is far from perfect, and decidedly unsatisfactory. But, in addition to its many advantages, the good old hearth is the finest ventilator a house can have. There are many of us, and it is a hopeful sign that the class is growing, who yet consider no home complete without a good old-fashioned fireplace.

There are some famous old fireplaces in the Old World, and I have seen some noted ones on this side of the water. These are remarkable because of their design and decoration. The old Dutch fireplaces are famous for their tiles. Some in Scottish and English castles, which I have seen, are large enough to roast an ox in their yawning cavities. It was a fashion among the old nobles to carve their family arms or some suggestive motto in the stone mantel above the fireplace.

On some of these old mantels were curious carvings, and over them generally hung an important family portrait, or some old shield or bit of armor, or perchance a trophy of the chase.

There are fireplaces in old homes in Britain which have been kept alight, some of them, by the same family, from descendant to descendant, from the twelfth century to the present day.

What a vast succession of human life, with its happiness and misery, birth and death, must such an old fireplace have shed its glow upon! What a variety of hands must have tended it during all those hundreds of years! What sorrow and joy, what virtue and vice, may have warmed limbs at its embers and gazed into its flames? It may be but the idle thought of a dreamer who loves to dwell on the tragedy and comedy of

the past, but it may also be a greater truth than we realize, that, having to keep the fires of a household, generation after generation, in one spot, may be a sort of religious sacrifice, and that those whose fate it was to do so may have been the greater people because of this very hereditary necessity.

A BACK TOWNSHIPS ART LOVER.

"To the Editor of The Globe: What is the attitude of The Globe with regard to the purchase by the Ontario Government of original works of true art for their public galleries and museums, by which and through which the public may have the opportunity of becoming familiar with the true principles of beauty? In every other country this is a matter of the first consideration. Why are our people neglected so in Canada? What little is done at the present time in that direction is almost wholly a waste of the small sum set aside for the purpose. The Government should wake up to its responsibilities in this regard. An overhauling of this department of the public service is imperatively necessary. The idea that 'the farmer is an ignorant boor' and wants to remain so, must be given up. His sons and daughters resent this neglect. Why they should have to depend upon the bounty of private collectors, sitting, like Lazarus, at the foot of Dives, is more than I can see. It is an insult to the spirit of the age."

"BACK TOWNSHIPS."

The above letter, which appeared recently in the Daily Globe, is both interesting and suggestive, and worth, surely, much more than a passing comment. It is interesting in that it reflects the spirit of a great many farmers of our time; it is suggestive in that it foreshadows a possibility that, in the early future, the farmers of our land may be, by simple reason of their overwhelming numbers, if for no other, the great supporters of the fine arts in the Dominion of Canada.

As "Back Townships" has noted, encouragement of art is a matter of the first consideration in all of those countries which have made most advancement in refinement and love of the beautiful. The farmers, the merchants, the tradesmen, the professional men, may be—are it is true, the backbone, the wheat of any land, yet what country would not have its flowers, too; its literary men, its musicians, its artists? The love of the beautiful is, in the deepest consideration, no unimportant matter; even the Chinese have a saying, "If you have but two loaves of bread, sell one and buy a lily."

It is a great thing to see Canadian farmers interested in such development. When they have proved themselves the champions of the fine arts in our country, which they may easily do without sacrificing by one jot the commercial considerations which must of necessity occupy them, but not, it is to be hoped, to obession, they will have repudiated for all time the possibility of being regarded, as they have been for so long, and often so unfairly, as "Ignorant boors." This, however, is but a secondary consideration.

Ostensibly, the fine arts, especially painting, need encouragement in our country. It is notorious that Canadian artists, who go abroad and

stay there, find comparatively ready sale for their works on foreign subjects which they send home. Let them come back again, begin painting Canadian subjects, and, be their work never so well done, there is a different story. The man who will buy a "foreign" picture and point to it with pride, simply overlooks the prophet in his own land. He overlooks the fact, also, that in his buying he has been influenced much more by a spirit of mere snobbery than—as he probably likes to make himself and others believe—by any faculty of real appreciation for art.

Such a state of affairs is a burning shame, and a reproach to our people. May this letter of "Backwoods Township" to the Globe mark the beginning of a new era, at least so far as the farmers (who make up 80 per cent. of our population) are concerned.

It is evident that The Globe correspondent referred to the purchase of expensive works of art, works which are worth many hundreds, perhaps thousands, of dollars; but, although Dr. Pyne, the Minister of Education, when approached on the subject, expressed his inability to do anything at present—the annual appropriation set aside for the purchase of paintings in Ontario amounting to only \$1,000—there is another way in which much may be done for the encouragement of art in Canada.

I am not here to boom the purchase of paintings from any personal motive—I am not an artist, nor have I any relative, nor even intimate friend, an artist—yet I do say this, for the sake of a patriotic interest in the development of their own country, for their own sakes, hundreds of the farmers of Canada might give substantial support to our own little coterie of artists. Hundreds—yes, thousands—of the farmers of Canada are wealthy; thousands upon thousands more are quite wealthy enough to enrich their homes, once in a while, at least, by the purchase of a beautiful painting, though it be but a small one. In most cases the money is spent, anyway, and to how much worse purpose. I have been in houses crowded with cheap, tawdry furniture, carpets and curtains, much of which could be dispensed with, with vast improvement—houses in which every wall was decorated (!!!) with pictures, sometimes quite expensively framed—but such pictures!—mere daubs and atrocities, than which bare walls would have been a thousand times more preferable. How much better, how vastly better, to have put the sum total of the expenditure on superfluous furnishings—on the wretched things distributed about the walls—into two or three, even one, veritable gem of art. It is time our people, as a whole, learned that a home-spot of simple furnishings, but with good books, music, flowers, and pictures that are real things of beauty, is an influence on character itself, which is not easily to be estimated. Such surroundings not only help to make character—gentle, refined character—but are an index of it. As a corollary to this, it may be noted that a home of the fussy, tawdry type is also an index—an index of poor, undeveloped taste at least, if not of positive vulgarity.

We have many artists in Canada who paint, and paint well, and whose works may be depended upon; a genuine artist would scorn to let inferior work pass from his brush stamped by his signature. Among these, may be mentioned, naming them in alphabetical order, W. E. Atkinson, Carl Ahrens, F. Brownell, F. H. Bridgen, Mrs. Sophie Benlands, F. M. Bell-Smith, Arch. Brown, W. Brymner, H. Britton, Eva Bradshaw, Geo. Chavignaud, Florence Carlyle, F. S. Challenger, Maurice Cullen, W. Cutts, Mrs. A. Compton, E. Dyonnet, R. F. Gagen, Robt. Harris, Gustave Hahn, Philippe Herbert, F. S. Haines, A. C. Hutchison, Clara Hagarty, A. H. Howard, John Hammond, J. M. Hope, F. McG. Knowles, Mrs. Knowles, Hamilton McCarthy, J. W. Morrice, E. Morris, G. M.

Manly, Laura Muntz, M. Matthews, A. C. Patterson, J. C. Pinhey, G. A. Reid, Mrs. Reid, J. T. Rolph, Jas. Smith, St. Thomas Smith, O. P. Staples, G. E. Spurr, S. S. Tully, E. Thurston, Homer Watson, Horatio Walker, Curtis Williamson, Mary E. Wrinch, A. M. Wickson, Paul Wickson. To these may be added the names of J. W. L. Forster, Wyley Grier, and Caroline Farncomb, portrait painters; and J. L. Banks and Walter Allward, sculptors.

Although much of the work of these and other artists is rated at what may seem high prices, many exquisite studies may be procured from them at moderate rates; even in the Canadian National Exhibition catalogues we find many of the smaller bits listed at from \$25 to \$50 each. Such prices are not beyond the means of the ordinary farmer.

Once more, this letter is not a mere advertisement, pecuniary or otherwise. I have absolutely no purpose in writing it, save the wish to see our country develop in regard to the fine arts, and our farmers a substantial instrument in that development.

BACK TOWNSHIPS SYMPATHIZER.

WHAT IS THE TEST OF TRUE GREATNESS?

(From the address delivered to the Canadian Club at Toronto last week by Mr. William Jennings Bryan, probable Democratic candidate for the Presidency of the United States.)

"The ideals of greatness for a country are like those by which we measure individuals. What is the measure of greatness in a man? When the disciples quarrelled over the question as to who should be greatest, and appealed to Jesus, they were told that service was the test of greatness. The greatest nation is the one that gives the greatest measure of service. Not by the size of a nation's army or its navy, but by its capacity for service, is its greatness revealed. I am not one who believes it is part of the Divine plan that one nation's prosperity can be built upon another's misfortune. I could not worship God as I do if that were so—and I cry shame on the doctrine of those who say that there must be an uneducated class for the thinkers and the educated to build their fortunes upon. Let us put behind education a conception of life that will make us all anxious to work for others, that will root up the heresy that it is more respectable to spend the money earned by someone else than it is to earn money for one's own needs. So, too, in our national life there are rights Governments never gave, and which Governments cannot take away, and which tariffs cannot wall out. There is the right to set a good example, 'that men may see our good works,' and that most potent influence which goes out among the nations from the upright life."

LITTLE MISS ELLERBY AND HER BIG ELEPHANTS.

I say "her big elephants," but I must premise that that is somewhat of a figure of speech. I would not insult your credulity by asking you to believe that little Miss Ellerby had two big elephants of her very own. Indeed, it was rather the other way; the elephants, so to speak, had Miss Ellerby. At any rate, how to be rid of them, was a problem which perplexed her by day and troubled her in her dreams by night. Nor am I strictly accurate when I describe both of these obtrusive animals by the single adjective "big," for there are degrees even in bigness, and one elephant was considerably bigger than the other, as indeed it ought to be, being its mother.

As I write, another inaccuracy suggests itself. By my calling my little historiette, "Little Miss Ellerby and Her Big Elephants," I find it more

difficult to make you understand that it was a kind of joint-stock affair after all, for others had to go shares in their proprietorship, and in the very palpable duty of getting rid of them both as quickly as possible, and how to do this, was the puzzle. It all came about in this way. Little Miss Ellerby, who had a heart of gold (about the only gold she had, good little soul), and a deep and abiding love for her Church and Parish, and who never tired in her efforts to benefit both, had come home after a long round of district visiting, thoroughly tired out, and, what was somewhat unusual for her, a trifle depressed and disappointed. One after another had groaned over the church debt. Some had shirked doing anything at all because the debt was so big, and "the little we could do would not make much difference, anyway," another had said, "She preferred sending her money to the heathen, and that was about all she could manage to do," another was a member of "this society" and another "of that," one excuse following each other so glibly that, although they deceived neither those who spoke nor her who listened, still they served to send little Miss Ellerby home with a confused sense of things being altogether wrong, somehow, taking away her appetite, and giving her a bad attack of what her good old handmaid Bridget called her "neurology."

A cup of tea somewhat revived her, and a few comforting words from the Book of Books calmed her nerves and raised her hopes.

She was sitting quietly in her easy chair, half dozing and half cogitating, when her bright schoolboy-nephew, Leo, popped in, as he often did on his way to his home in the next street. "Why! Aunt Liz, not even your knitting in your hand, and you do look glum, whatever's wrong with you?"

"Tired, Leo, only, and a fit of the blues, which will go away if you stay and chatter to me a bit," which Leo was nothing loth to do.

What started the boy upon the subject of elephants, is hard to say, but as most boys are fond of animals, and as there was a promise of a travelling circus coming their way shortly, possibly that was at the bottom of it. One story after another he related of the wonderful instinct of these big creatures, how cunning they were, how clever, how docile and patient, how obedient in spite of their tremendous strength, and then, "Aunt Liz," added he, "they really can enjoy a joke, too, like the old fellow who took the painter's brush, when the man had left his paint-pot behind him when he went to his dinner, and with it streaked the sleepy old camel in the next compartment of the menagerie, till he made him look like a long-necked, hump-backed zebra." From this he went on to tell the pathetic story (which I really hope is true) of poor old Jumbo's death, how the big, kindly brute tried to save the Baby Elephant, and did so, too, at the cost of his life. With a "good-bye, Auntie," and the remark, made for the fortieth time, that he just wished that "the circus folks would hurry up," Leo darted off to get up his tasks for the High School on the morrow.

Now, whether it was this elephant-talk of Leo's, or whether the least bit in the world of pickled salmon, which Bridget brought in at supper-time upon a dainty china plate, wherewith to tempt her dearly-loved mistress's failing appetite, was the cause of her very bad dream (you see that the tale hinges upon a dream, after all), little Miss Ellerby was never quite sure, and, indeed, during the progress of the dream, she did not know it was a dream, but believed it to be a very terrible reality. "She heard or thought she heard (which amounts to the same thing) a terrific noise—a kind of groaning and grumbling mixed with what might have been the sighing of the wind in the locust trees, or the roaring of a big animal in distress.

Was it a whirlwind? was it an earthquake? was it a fire?—that thought which strikes terror into the female breast. With beads of horror upon her brow, Miss Ellerby started up (or thought she did, which, I repeat, amounts to the same thing), and, seizing a quilted wrapper which lay upon the chair beside her, and thrusting her feet into some slippers lying handily underneath it (you see she was a methodical body, with an eye to propriety, even in her dreams), she rushed out into the landing, crying, "Bridget! Bridget! get up, fire! fire! thieves! call the engines! call the police! call the—call the Churchwardens!"

Now this happy thought shows the tenor of little Miss Ellerby's mind. Whatever the impending trouble was, it might be a something which would involve her beloved Church, and the beautiful school buildings, or, horror of horrors! the Rectory, the new Rectory, of which they were all so proud, whilst the Rector himself, whom all alike loved and respected, with his kindly wife, and—well—his big tribe of little ones, might be burned in their beds!

Bridget was equal to the occasion; what the hubbub was all about she knew not, but she distinctly heard the command to call the Churchwardens, and that she obeyed without the slightest hesitation, and with a promptness worthy of all praise.

Now, one of the Churchwardens was their nearest neighbor, with just a tiny strip of lawn separating the two houses. With well-directed aim, Bridget, who had, after her usual housewifely fashion, all her kindling-wood in the coal box, ready prepared for the morning's needs, made use of them as missiles, hurling lump after lump against the closed venetians of good Mr. Pratt's bedroom window, shouting, "Church! Rectory! Schoolroom! Fire! Fire!"

In spite of his sixty years and his somewhat ponderous frame, in that incredibly short space of time which schoolboys generally describe as a "jiffy," Mr. Pratt appeared upon the scene, looking somewhat scared, it is true, but "all there," nevertheless.

By this time the whole place was alive; one had shouted one thing and one another, until the entire parish was represented, from the Rector himself, down to the Sexton's youngest boy.

"What was it all about? Where was the fire? Who had shouted first? Stop the engines! What's the meaning of it all?"

The gathering crowd were all making for one point, and that was the beautiful block of shaded grounds upon which stood the Church, Rectory, Schools—all models of their kind, and without equals far or near, a fact they had often challenged anyone to contradict. Just at the central point, which gave entrance to all, there was a large arched and pillared doorway, and to either side of this was firmly chained an elephant, that on the right hand being a veritable monster, that on the left certainly of much smaller dimensions, but big enough in all conscience!

Under the foundations of each building alike, some mysterious power had contrived to place huge rollers, or whatever might be the name for such house-moving apparatus, and the elephants were apparently disposed to make light work of the task assigned to them, which was, without doubt, to convey the whole bodily away into the waters of the broad lake, the waves of which were dancing and frolicking joyously under the beams of the lovely moon, which was shining with unusual brilliancy, just the same as if no such undermining plot had ever been concocted.

Upon one was a placard, none the less distressing because its announcement was written in letters of gold upon a banner of blue silk (or, perhaps, it was simple silesia), which informed the awe-struck gazers that the name of its bearer was "Parochial Debt," whilst the placard upon the other indicated the close tie

of relationship which the lesser brute bore to the greater, for upon it was inscribed "The Interest of the Debt," and, as everyone knows, where the one is, the other is sure to be close at hand, and is indeed often the more offensively obtrusive of the two.

Midway between them stood the keeper, or the driver, or the owner—you may call him what you like—with the air of one who was ready to answer any questions and to give every information in his power. It was at this juncture that little Miss Ellerby began to have a faint hope that the whole thing might be a dream, after all, the two elephants being only a foreshadowing of Jumbo's successors, and the piebald look of the man in charge an outcome of Leo's story of the zebra-like camel. But that relief was speedily denied her, for, with a crack of his whip, and an earthquake-like upheaval of what seemed like the very ground upon which they were assembled, the two elephants bent to their work, and the buildings gave a lurch forward, as if they were starting upon their journey. With a cry of anguish and despair, Miss Ellerby waved what she took to be her pocket handkerchief, but which turned out to be a large bath towel she had seized in her hurry.

In her hands it became a veritable flag of truce, for at the mere sight of it the man made a signal which his mammoth steeds instantly obeyed, and all again was still.

Seizing the auspicious moment, the whole parish advanced as one man to expostulate, to plead, to explain, to promise anything, anything if only those elephants would go away at once. "Hungry! why to be sure they were," said the man, "the little chap in particular! He always has to be fed first, and the worst of it is you never seem to get on any further with him, feed him as you may! When his next meal-time comes round, there he is, trunk-hunting about, so to speak, to pick up every morsel that comes his way. As to his poor mother! why, the patience of that animal is beyond belief. She never even looks to be fed until her young one is satisfied, and goodness knows, whenever that may be! I only hope that her turn will come some day, for, big as she looks, she must be that holler that, if her ribs were not as strong as iron, and her hide as thick as a dozen parchments, she'd never be fit for her work!" With this he gave an ominous crack of his whip, as though time was up, and they must stay no longer palavering.

In dreams (for, of course, you remember this is only a dream, after all), things and places, and times and seasons, get oddly mixed up, and some two or three years seemed to have come and gone like a flash, and much of what had really occurred in the interim I must leave to your imagination.

The imminent though imaginary peril of losing their really much-prized church, with its beautiful adjuncts—a peril they had escaped, it is true—had led them to a more thorough appreciation of them all, and they had even gone so far as to say "we should have deserved it had the calamity befallen us." The old excuses and reasons which had once seemed so all-sufficient, now appeared to themselves what they had always been in reality, paltry and insufficient. The majority acknowledged that they had let the heavy burden fall upon the few, who from year to year had been feeding (metaphorically) Jumbo junior, to prevent the distracting roar of the starving mother-elephant from reaching their ears. They had in old times been tempted to believe that they might make a bargain with their Maker, that if they gave to His poor, or ranged themselves under one organization or another, and did something for His creatures, that that absolved them from doing more.

Now they recognized that both were equally duties. Of either could it

justly be said, "This should ye do, and not leave the other undone." They did not withdraw their hands from any good work which they had begun. Those had been begun in obedience to the Royal Command to "Feed my lambs," to "tend the sick and soothe the sorrowful, to visit the widows in their affliction," and of these commands they must still be mindful, but over and above these, and because of the heart-softening influences of these very things, they did more; they went to the root of the matter, and, laying by weekly as God had blessed them, they found that their charity purse was never without a coin to bestow upon a needy fellow creature, and yet that they could pay their share towards the due and fitting maintenance of the Sanctuary itself. "A long pull, and a strong pull, and a pull all together," had achieved, by united

The Quiet Hour.

"BE STRONG AND OF A GOOD COURAGE."

"I do not pray for peace,
Nor ask that on my path
The sounds of war shall shrill no more,
The way be clear of wrath.
But this I beg thee, Lord:
Steel thou my will with might,
And in the ring of battling
Grant me the strength to fight."

"I do not pray for arms,
Nor shield to cover me;
What though I stand with empty hand,
So be it valiantly?
Spare me the coward's fear,
Questioning wrong or right;
Lord, among these mine enemies
Grant me the strength to fight."



A Lover of Art.

(From a painting by Sir Alma Tadema. Exhibited at Canadian National Exhibition, Toronto, 1907.)

action, in a very short time, what had been for so long almost a single-handed fight. They could endorse the truth of old John Bunyan's lines, "A man there was, some called him mad, the more he gave the more he had," and, far better still, they could realize the beautiful words in Proverbs, 11th, 24 v., "There is that scattereth and yet increaseth."

H. A. B.

AN APPROPRIATE TEXT.

It was the custom in a minister's family to have each member repeat a verse from the Bible at the beginning of every meal. One day the five-year-old son had been naughty, and was put at a little table by himself by way of punishment. When it came time for his verse he said very solemnly, "Thou hast prepared a table before me in the presence of mine enemies."

Three times in one chapter does Moses give this charge to Joshua and all Israel: "Be strong and of a good courage," and we all have good reason to take that charge to heart. Life is not an easy thing, and we are all cowards sometimes. I wonder if there is any special meaning in the expression "good" courage. Certainly there is a kind of brute courage possessed by a very low type of man, and there is also a courage which might well be called "good," often startlingly displayed by very timid women: a courage which can endure pain with a smile, or face awful peril without a thought of personal danger.

A man who possessed plenty of rough, brute courage once said to a young officer who was in the thick of his first battle, "Why, you are afraid!" The shells and bullets were falling like hail as the young fellow answered, "That's true, and if you were only half as much afraid as I am you would run away."

He was brave enough to own that he was afraid—and it must have taken some pluck to do that—and he was also brave enough to stick to his post in spite of fear. "Good" courage is surely not the kind of daring that takes pleasure in fool-hardy exhibitions of bravado, risking one's life without sufficient reason; but rather the quiet, steady sticking to one's duty all the year round. It may be monotonous sometimes, and again it may be almost too exciting and grand to be pleasant, but the people we have good reason to admire for dauntless courage are not trying to establish a reputation for heroism, but simply doing what they consider their duty. After that terrible disaster in a coal mine, which killed so many bread-winners a short time ago, some men worked for two days and nights without rest. They forgot their own weariness, thinking only of their suffering, sorrowing fellows. Such a demand to be strong and of good courage nearly always comes suddenly, and until a man is tried he never can be sure whether he can stand the test. Perhaps such an opportunity may never come to you, and yet everybody is called to "be strong and of a good courage," to-day, and every day. When volunteers were wanted for South Africa, they eagerly responded to the call to the post of danger. Were all those would-be heroes really filled with "good" courage?

"Any common man may face a cannon, but how many men dare face the sneers and calumny of their brethren?" so says a modern writer, and he adds: "Those of us who consort much with people in humble life often see bold men submitted to trials that test their essential courage to the last degree. Does anyone ever give a thought to the sufferings of a workman in a rough shop when he leaves off drinking and takes to religion? Life is often made bitter for him, and it is the more bitter in that he is almost always accused of hypocrisy. Daily he is told that the feelings and beliefs which are the breath of life to him are shams and worse; he may even be obliged to brook violence, which his principles will not suffer him to return. It is cruel work, and yet how many fine fellows go through the ordeal proudly and gravely! These obscure and modest folk are the true heroes." The world may heap honors on the soldiers who have killed or wounded their fellow men; but if we look with God's eyes, perhaps we may give higher praise to the men and women who stay at home, and go cheerily on with "the trivial round, the common task"—plowing, sowing, and threshing, cooking, washing and sewing, year after year. Some people may admire the dashing courage of a general who forces his way to victory, utterly careless of the lives sacrificed that he may win success—"an excellent general at ten thousand men a day"—but I think General Gordon showed far greater courage in his open, unabashed loyalty to his God. It is said that in the journey through the Soudan a handkerchief was spread before his tent for half an hour every morning. This was a warning to the whole camp that he was having his daily meeting with his Captain, and must not be interrupted. No man, white or colored, heathen or atheist, dared to enter the tent while that token lay outside. A frank and fearless loyalty to Christ, like this, is sure to win the respect of all; for God always makes good His own words: "Them that honor Me I will honor, and they that despise Me shall be lightly esteemed." Then there is another kind of courage deserving the name of "good"—the patient, cheerful endurance of long-continued pain. The "noble army of martyrs" still praises God in the furnace of affliction.

"For earth hath martyrs now, a saintly throng,
Each day unnoticed do we pass them by;
Mid busy crowds they calmly move along,
Bearing a hidden cross, how patiently!
Not theirs the sudden anguish, swift and keen,
Their hearts are worn and wasted with small cares,
With daily griefs and thrusts from foes unseen,
Troubles and trials that take them unawares;
There is a lingering, silent martyrdom,

They weep through weary years, and long for rest to come.
They weep, but murmur not; it is God's will,
And they have learned to bind their own to His,
Simply enduring, knowing that each ill is but the herald of some future bliss;
Striving and suffering, yet so silently they know it least who seem to know them best,
Faithful and true through long adversity,
They work and wait until God gives them rest;
These surely share with those of by-gone days,
The palm-branch and the crown, and swell their song of praise."

Dr. Arnold says that his sister, who was the victim of hopeless disease, "suffered a daily martyrdom for twenty years, during which she adhered to her early-formed resolution of never talking of herself; thoughtful about the very pins and ribbons of my wife's dress, or about the making of a doll's cap for a child; but of herself, save only as regarded her ripening in all goodness, wholly thoughtless, enjoying with the keenest relish everything lovely, graceful, beautiful, high-minded, whether in God's work or man's."

"It is easy to be good
When life's skies are clear and calm,
When the voice for gladness drifts
Unaware into a psalm;
When, full fed, we sit content
In our garden fair and sweet,
When temptations pass us by,
And our lives grow full, complete.

"When the harp of life is set
To rare strains of melody,
Pleasant now, and full of hope
For the time that is to be;
When our lessons are each day
Easy to be understood,
When life's skies are calm and clear,
Then 'tis easy to be good.

"But the real test is when
Close we hear the battle blare,
When we wrestle face to face
With our formen, want and care;
When our happy gardens lie
Waste beneath the spoiler's tread,
When our toil has seemed for naught,
And our fairest hopes are dead.

"When we feel within us rise
Passions that we thought were slain,
When we find the stalwart tares
Growing in our fields of grain;
Then, if patiently we toil,
If temptations be withstood,
If we stand and overcome,
Then may we be counted good."

HOPE.

Current Events.

A three-story fireproof Observatory, to cost \$91,000, is to be erected in Toronto.

George Meredith, the veteran British novelist, celebrated his eightieth birthday on Feb. 12th.

An appropriation of \$101,000,000 has been authorized for the United States navy for the next fiscal year.

A movement is afoot to abolish the Central Prison, Toronto, and establish, instead, a Provincial Reformatory.

The postage on daily newspapers between Canada and the United States has been reduced from four cents to one cent per pound.

The financial statement for Canada for the last ten months shows an increase of revenue equal to nearly a million dollars a month.

Rev. J. J. Campbell, the "New Theology" divine, of London, Eng., will come to America on a lecturing tour during the coming summer.

The Nimrod, a British vessel, in command of Lieut. Shackleton, has left New Zealand on a voyage of scientific discovery in the South Polar regions.

Relations between Russia and Turkey have been strained, and troops are being rushed to the Turko-Persian frontier, beyond which the Turks have been encroaching.

Mr. William Jennings Bryan, who will probably be the Democratic candidate for the Presidency of the United States next November, has been in Canada for the last fortnight.

Six motor-cars started from New York on Feb. 12th for an overland race from New York to Paris. They will cross into Asia by Behring Strait, after being conveyed from San Francisco to Alaska, and thence across the Strait by steamer.

Mr. Bryce, British Ambassador at Washington, is at present in Canada, conferring with the authorities at Ottawa in regard to the consummation of a treaty between Great Britain and the United States, for the settlement of various naval issues between the United States and Canada, the use of the Niagara River, fishing rights in the Great Lakes, fixing of boundaries, etc.

The Young People's Department.

[All letters for Young People's Department must be addressed to Cousin Dorothy, 52 Victor Ave., Toronto.]

MAKE THE BEST OF IT.

To take life "as God gives it, not as we want it," and then make the best of it, is the hard lesson that life puts before the human soul to learn. One's environment may be very disagreeable. It may bring mortification, tears, angry rebellion, and wounded pride, but there is a reason for the place we are put in. To become strong, we must needs fight something, overcome something. You cannot gain muscle on a bed of down. A great deal of the strength of life consists in how far we get into harmony with our appointed environment. So long as we are at war with our town, our relations, or family, our station, and our surroundings, so long will much of our force be spent uselessly. Let us say: God put me among these scenes, these people, these opportunities, these duties. He is neither absent-minded nor incompetent. This is exactly the place He means me to be in; the place I am capable of filling: there is no mistake.—"What is Worth While," by Anna Brown.

CHINESE PECULIARITIES.

The Chinaman shakes his own hand instead of yours.
He keeps out of step when walking with you.
He puts his hat on in salutation.
He whitens his boots, instead of blackening them.
He rides with his heels in his stirrups, instead of his toes.
His compass points south.
His women folks are often seen in trousers, accompanied by men in gowns.
Often he throws away the fruit of the melon and eats the seeds.
He laughs on receiving bad news. (This is to deceive evil spirits.)
His left hand is the place of honor.
He says west-north, instead of north-west, and sixths-four, instead of four-sixths.
His favorite present to his parents is a coffin.
He faces the bow when rowing a boat.
His mourning color is white.
To bore a hole he uses an instrument that works up and down, instead of around.
The children of a Chinese school study out loud.—[The Junior Herald.]

ANECDOTES OF DOGS.

On a wet day in the autumn of 1814, an officer at Chatham, while studying a plan brought for his inspection, had his attention arrested by the piteous cries of an animal in distress. Going to the window, he saw a man cruelly beating a half-starved dog. Speaking to the man in vain, he at length gave him half a crown to let the poor creature go, and having thus gained quiet, he thought no more of the matter; but, in the evening, he heard a faint whine at the door, and, opening it, he saw the dog, which jumped upon him, expressing his gratitude in every way in his power. He was allowed to remain all night upon the mat, but in the morning the servant turned him out, and drove him away. But he remained near the house, and, when the officer came home in the evening, he allowed him to come in and to remain, with the name of Shag.

In 1815, the regiment was ordered to Belgium, and, on embarking, the officer discovered poor Shag in the boat, hidden under his coat. He ordered him to be taken back, but this was only done by force, in the midst of cries and howls. In the night, however, while on board ship, the officer was roused by something jumping upon him, and soon found that Shag had found his way on board. On landing, for some time the dog was missed, and did not appear again till the morning of the Battle of Waterloo, when he was again found in his Master's tent. In the battle, the officer was dangerously wounded, and was carried to a farmhouse, where he was nursed till he was able to be moved to Brussels. Here Shag followed; soon discovering the house, into which he rushed, and, flying upstairs, was again with his master, from whom after that he was never separated for many years.

A gentleman in England used to go twice a year to London, and remain a week. He would leave his horse at St. Alban's, and go on from there by coach. On one occasion, he had a small dog with him, which he left with his horse at St. Alban's. Returning at the week's end, the ostler told him that on the day on which he left for London, the innkeeper's dog broke loose and seized the little one. The bystanders parted them, or the little dog would have been killed. When set free, the small dog disappeared; but the next day he returned, and, with him, a large Newfoundland dog. The two went straight for the innkeeper's dog, and gave him a terrible punishment. When they thought he had had enough, they went quietly away, and had not been seen since. The gentleman asked for a description of the Newfoundland dog, and at once exclaimed, "Oh, I thought so." The little fellow had been home, about twenty miles, and fetched his friend and companion to help him finish the quarrel.

MAKING SKIS.

Would you please tell me how to make a pair of "skis," which are used on the same principle as snowshoes?

A YOUNG READER.

Oxford Co., Ont.

Can any of our readers answer the question?

AT THE BREATH OF FALL.

(By Douglas Roberts.)

Leaving the shack at the break of day
We break a trail when the world is gray,
When the earth smells damp and the low,
White mists
Over the marshes stray.
We stealthily make for the reed-rimmed pond,
Wherever again our guns respond
To the beat of wings, as the startled flocks
Take flight for the skies beyond.
When dusk has crept through the forest hall,
Hidden we lie by the old wind-fall,
And the moose by the stream forgets to feed
At the lure of our birch-bark call.

Then over the crunch of the forest floor
We seek our cabin; and comes once more
The chill, white dawn of an autumn day
Outside our lonely door.

With the Flowers.

SOME DESIRABLE SHRUBS FOR SPRING PLANTING.

SYRINGA.

To this family all the lilacs belong, and, upon the whole, no shrubs are more desirable for the lawn. The foliage is attractive, the flowers both beautiful and sweet, and of many colors, ranging from white, through varying shades of blue, heliotrope, pink and purple. Moreover, by having several varieties, one can be provided with lilac blossoms for many weeks, S. Oblata being the first to bloom, and S. Japonica, a large, tree-like variety, the last. Lilacs are very easy of cultivation, requiring merely a rich, moderately moist soil, and a little attention after flowering, when all the withered panicles should be cut off and unsightly branches removed. Species which can be recommended especially for Canada are Charles X., a blue-flowered species; Marie Legraye, with beautiful white blossoms; Madame Lemoigne, also white; and Souvenir de Louis Spathe, with large reddish spikes of bloom.

FORSYTHIA.

Those who wish to see masses of flowers in early spring will not omit the Forsythia (Golden Bells) from their shrubbery border. This shrub grows from 5 to 6 feet in height, and is covered in early spring with bell-like blossoms of a bright yellow color. There are two varieties, F. suspensa, a drooping species, and F. viridissima, of more erect habit. The Forsythia has the further advantage of possessing handsome foliage which is remarkably free from attacks of insects. It is quite hardy, and easily cultivated, as it will grow in almost any kind of soil.

SPIRÆA.

The Spiræas are very desirable shrubs of easy cultivation, growing well in any rich, moderately moist soil, and requiring little pruning, save to cut out dead wood; some of the most graceful specimens, in fact, have never known the touch of a knife, save for this purpose. The best varieties for Canada are the well-known white varieties, Van Houttei and Thunbergi, and the purplish-crimson species, "Anthony Waterer."

GARDEN HYDRANGEA.

The only species of Hydrangea suited for the garden in this country is the fine Hydrangea paniculata grandiflora, which comes into bloom in July or August, and remains in flower two or three months. The large trusses of flowers are white at first, changing later to pink or reddish tints. Plant the Hydrangea in rich soil. If you secure three-year plants from the nursery, and plant them out in spring, no winter protection will be needed.

WEIGELIA.

The Weigelias are pretty shrubs, which bear in June and July numerous flowers, varying from white to red. They grow well in any rich, moist garden soil, and are especially suitable to fill in spaces before clumps of trees, etc. The best varieties for Canada are W. Rosea, with pink flowers, and W. Candida, with white flowers, which keep in bloom a long time.

CARAGANA.

The Caragana is an exceedingly hardy shrub, which is profusely covered in May with pea-shaped yellow flowers. It will grow in any soil, but does especially well in sandy soil, and in a sunny position.

CLETHRA.

The Clethra, or sweet pepper bush, a cultivated variety of the white alder, is especially valued for the fragrance of its yellowish-white flowers, which open about the first of August. The shrub grows from 4 to 5 feet in height, and does best in a moist, peaty or sandy soil.

Other shrubs which may be recommended for Canadian lawns are the well-known, low-growing Flowering Almond, and the varieties of Flowering Plum—Prunus triloba, which bears myriads of pink flowers in May, and Prunus pissardi, or purple-leaved variety, with pure white blossoms.

In closing, it may be added that the proper time for pruning nearly all

flowering shrubs is directly after the flowering season has passed. Many shrubs have been practically ruined by inexperienced gardeners, who have ruthlessly trimmed them back in March, thereby cutting off many of the flowering shoots. For most shrubs, very little pruning is necessary, too little being, on the whole, vastly better than too much.

About the House.

SOME BETWEEN-SEASON RECIPES.

Pumpkin Pie Without Pumpkin.—Make a thin gruel with one pint boiling water, slightly salted, and two large tablespoons corn meal. Sweeten to taste, add a cup of milk, 2 well-beaten eggs, and a little ginger and cinnamon. Bake as for pumpkin pie.

Dried Apple Pie.—One cup stewed apples, 1 cup milk, 1 of sugar, 1 egg and the yolk of another, a little grated lemon rind or nutmeg. Cover with a meringue made of the white of the eggs, mixed with 2 tablespoons sugar.

Buttermilk Pie.—Two cups buttermilk, 1 cup sugar, 1 tablespoon flour, 2 eggs, pinch of salt. Bake, and put a meringue of whipped cream on top. This is enough for two pies.

Orange Pudding.—Put 1 quart milk in a double boiler. When hot, add 1 cup sugar and the beaten yolks of 4 eggs. Stir till it begins to be creamy, then add 1½ tablespoons gelatine dissolved in a little boiling water. Beat in 2 eggs, beaten stiff. Put layers of this custard and sliced oranges in a glass dish till full. Cover with meringue, and decorate with orange sections.

Cheese Toast.—Cut cheese up fine, and mix with it 1 beaten egg, 1 spoon butter, ½ cup new milk. Cook till smooth, and pour over toast.

Golden Pudding.—One-quarter pound flour, ¼ lb. crumbs, ½ lb. chopped suet, 1 egg, orange or peach marmalade to mix through it well. Put in a bowl, and steam 2½ or 3 hours.

Bread Pudding.—Put in a baking dish, layer about of buttered bread and stewed or canned fruit to fill. Cover with custard, and bake. Put white-of-egg meringue on top, dot with jelly, and serve with cream.

BLACKBERRY BAVARIAN CREAM.

Soften half a package of gelatine in half a cup of cold water, and dissolve it in a cup of blackberry juice and pulp, or, if uncooked juice be used, over hot water; add three-fourths a cup of sugar, and the juice of half a lemon, and stir while cooling in ice-water. When the mixture begins to thicken, fold in two cups of whipped cream. Turn into a mould.

MAPLE PARFAIT.

Beat one cup of double cream and one cup of cream from the top of a quart bottle of milk until thick to the bottom of the bowl, and set aside to keep chilled. Boil one cup of maple syrup and one-eighth of a teaspoonful of cream of tartar until reduced a little. Beat the yolks of two eggs until thick. Then pour the hot syrup over them in a fine stream, beating constantly meanwhile. Return the mixture to the fire, and let cook over hot water until thickened a little. Remove from the fire, and beat until cold. Then add to it a little of the cream. Cut and fold the two together. Add a little more cream, and when the two are evenly blended, add to the remainder of the cream. Blend the two without breaking down the cream, and pour into a quart mould. Spread a paper over the top, press the cover over the paper, and pack the mould in equal measures of ice and salt. Let stand about three hours. When turned from the mould, sprinkle with sliced pecan nuts.

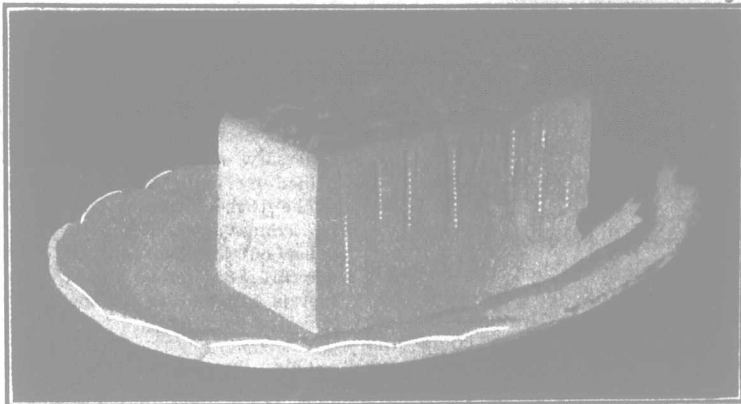
"What little boy can tell me the difference between the 'quick' and the 'dead'?" asked the Sunday-school teacher. Willie waved his hand frantically. "Well, Willie?" "Please, ma'am, the 'quick' are the ones that get out of the way of automobiles, the ones that don't are the 'dead.'"

THE WRITER WHO FAILED.

One winter morning several years ago the mail brought me a roll of manuscript and a letter. Every publisher and editor receives such packages so often as to know them at a glance. Usually they contain half a dozen poems and a story—a blur of sunsets, duchesses, violets, bad French and worse English, with not a grain of common sense, not a hint of reality in the whole of it. I opened the letter and read that the writer was "not dependent on her pen for support"; she "had vowed herself to literature"; she "was resolved to assist in the progress of humanity." Scarcely had I laid down the letter when I was told that she waited below to see me.

grammar beyond remedy. But in all her ignorance and weakness there was no taint of imitation. She plagiarized nobody. She painted over and over again her own home life on the Yazoo; the hot, still sunshine, the stagnant swamp, the semi-tropical forest, the houses and negro quarters, with all their squalor and dreary monotony.

All my counsel to her to forsake the occupation she had chosen was in vain. During the months that followed her case very nearly reached starvation. I remember few things more pathetic than the damp, forlorn figure that used to come to the editorial rooms through snows and rains that winter. Sometimes she brought small items of news, and



Maple Parfait, with Nuts.
(With permission of Harper's Bazaar.)

The card she sent up was a bit of a flyleaf of a book, and the name, Miss Barr, written in imitation of engraving. Her back was toward me when I came down, and I had time to read the same sham stylishness written all over her thin little person. She told me that she came from Mississippi and that she had been the only white child on a poor plantation on the banks of the Yazoo.

"I have only had such teachings as my mother could give me," she said, simply, "and my mother had but two years with a governess. Life on the lonely old plantation became distasteful to me, and I got my father and mother to consent to my coming to New York to engage in work as an author. I shall succeed as a writer some day. Just now people will do anything for me but print my manuscripts."
"You came alone?"

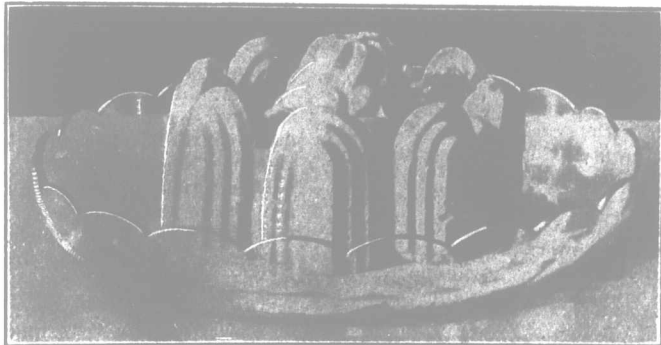
this information was the means of her securing a few dollars.

One day in the spring I was summoned to see a visitor on business. I found a tall, lank young man stalking up and down the room, the most noticeable point about him being the shock of red hair and whiskers falling over his neck. The face was that of an ignorant and small-minded man.

He came straight toward me. "Is Marcia Barr here?"

"No, she has been gone an hour." He berated his luck in a white heat of rage, which must, I thought, have required some time to kindle. Indeed, I found he had been pacing up and down the street half the morning, having seen her come in. She had gone out by a side door.

"I caught a glimpse of her on the street," he said. "I have come to New



Blackberry Bavarian Cream.
(With permission of Harper's Bazaar.)

"Quite alone. I hired a little room over a baker's shop on Second Avenue. I board myself and send out manuscripts. They always come back to me."

"How long have you been here?"

"Three years."

"Impossible! You are but a child."

"I am twenty. I had an article published once in a Sunday-school paper," she continued, producing a slip of printed paper about three inches long.

Three years and only that little grain of success! She had supported herself meanwhile, as I afterward learned, by needlework for a wholesale firm in Brooklyn.

Her books and poems must, I think, have seemed unique to any editor. The spelling was atrocious and the errors of

York three times in the last year to find her. Good God! how rank poor she is. Where does she live?"

I could not tell him, as Marcia had long ago left the baker's and changed her quarters nearly every month.

"And I reckon I'll have to wait until she comes hyar again. Tell her it's Zack Biron, the overseer's son, on—on business."

He was not long in unveiling his business, which any woman would soon have guessed. He had come to bring Marcia home and marry her.

Two months passed, in which he sought for Marcia in vain. She had seen him and knew of his errand. Then one evening as I was passing along lower Broadway I saw a crowd around the form of a woman on the pavement, who,

I was told, had been injured by a car while crossing the street. One glance at the figure showed me that it was Marcia, and I hurriedly followed the ambulance which carried her away to the hospital.

When I arrived at the hospital, Marcia was lying on an iron stretcher. The Mississippian, Biron, was with her, kneeling on the floor in his shirt sleeves and chafing her hand. He had taken off his coat to wrap about her. He told me later that he had recognized Marcia as she was being lifted into the ambulance after the accident.

"I've a good Quaker nurse and a room ready for her at a first-class hotel the minute she can be removed," he whispered. "Look a-here!" he said, turning down the tawdry bit of lace and ribbon at her throat, his big, hairy hand shaking. "Them bones is almost through the skin! The doctor says it's hunger—hunger!"

He was right. Starvation had almost done its work. There was but a feeble flicker of life left in the emaciated little body; not enough to know or speak to us when at last she opened her dull eyes.

"None of them folks need concern themselves any fuder about her," said Biron. "She'll come home to her own now, thank God, and be done with writing stuff to make books. Mrs. Biron will live like a lady."

About three weeks later a splendid phaeton stopped in front of my door, and Mr. and Mrs. Biron sent up their cards. Mr. Biron was glowing with happiness.

"We return immediately to the plantation," he said, grandiloquently. "I reckon largely on the effect of her native air in restoring Mrs. Biron to health."

Marcia was magnificent in silk and plumes. Her little face was pale, however, and she looked nobody in the eye. When they arose to go, Marcia handed me a bulky package of papers. "These are my manuscripts," she said. "Will you burn them for me? All; do not leave a line, a word, a word, I could not do it."

I took the package, and they departed. Mr. Biron was vehement in his protestations of friendship and invitations to visit the plantation. But Marcia did not say a word, even of farewell. [Philadelphia Item.]

HEALTH HINTS.

Biliousness will generally yield to a free purgative.

Pimples are caused by an unhealthy condition of the blood. A mild aperient and healthy living soon banishes them.

Rickets in children is invariably caused by the little ones having been fed upon sloppy and unnatural articles of diet. Feed your children properly; they will never have rickets.

Bleeding at the nose can often be stopped if the patient stands with arms upraised for some time. The application of ice to the spine is also very often effective in stopping the trouble.

Quinsy should, immediately its presence is suspected, be treated with Salicine and chlorate of potash, each 2½ drams; guaiacum mixture, 6 ounces. A dessert-spoonful every two hours for an adult; a teaspoonful for a child.

Dog bites should, in every case, be first of all thoroughly cleansed in hot water, the bleeding being encouraged. Afterwards cauterize the raw surface with lunar caustic, or carbolic acid. Then dress the wound with carbolized zinc ointment.

A painter was praising the other day the artistic taste of John G. Johnson, the famous Philadelphia lawyer. Mr. Johnson has collected one of the finest private galleries in the world, and as a connoisseur he has few living equals.

"A young impressionist," said the painter, "got John G. Johnson to visit his studio last year. He showed his latest picture, and tried to get Mr. Johnson to buy it. But Mr. Johnson would have none of it. He said politely that he thought the picture was not good."

"This so annoyed the impressionist that he let his temper get the better of him. He said, hotly:

"After all, Mr. Johnson, what do you know about pictures? You never painted any."

"My dear, sir," the lawyer retorted, smiling and rubbing his glasses with his handkerchief, "I know a bad egg, but I never laid one."

HOT-AIR HOUSE-HEATING.

Most persons with an eye to comfort in the home, and who can afford it, are installing their heating apparatus in the form of a coal or wood furnace, the choice as to whether it shall be the latter or former being governed by the class of fuel available in the vicinity of residence.

Hot-air heating is no longer an experiment, but a science governed by principles of radiation and circulation. A hot-air furnace not only makes it practicable to equalize the heat throughout the house so that all rooms will be of the same temperature, but makes it possible to provide a certain amount of ventilation which can be modified more or less according to the weather and the tightness of the building to be heated.

This article is put forth with a view to giving the farmer a few common-sense ideas on the subject, both the general principles of heating and of a guide to him in the selection of a furnace; and in addition to this to put him in possession of some of the general features that must be complied with if satisfactory results are to be obtained. We feel that it is important that the ordinary householder should have such information, because unfortunately not all heating contractors or tinsmiths are as well posted as they should be, or as fully experienced in this line of work as is advisable.

Just a word about the general principles of circulation, which, if borne in mind, will aid in better understanding this article, and enable the householder to appreciate more fully the requirements of a hot-air heating system. Warm air rises; that is, as soon as air becomes heated it starts to rise. Then it is natural that the hottest air in any room will be near the ceiling, and the cold air on the floor. It naturally follows that the impure air will be on the floor, for the reason that it is the oldest air in the room. If the warm air rises to the ceiling at once it is natural that it should be best to put it in the room as near to the floor as possible. It is further natural, that as the cold or impure air lies near the floor, it must be taken off as near to the floor as possible. In fact, the top-most portion of the cold-air ventilators or air ducts should be within six inches of the floor, no higher. The hot air off the furnace rises very rapidly from it, and necessarily fresh air is drawn in to keep it supplied. Therefore, if the cold-air ducts are connected with the furnace at the bottom of the casing there will be a strong draft through them into the furnace, which you will see will mean that the cold and impure air on the floor of the room will be carried off and give place to warmer air fresh from the furnace. This means a continual circulation, a continual carrying off of the cold air and bringing in warm air. If the cold-air ducts are placed near outside doors and windows, it means that a great deal of fresh and outside air will be taken into the furnace. This can be added to in milder weather, at least, by taking some of the air supplied directly from outside.

CHOOSING THE FURNACE.

There are a number of kinds of good furnaces. In deciding between them perhaps the most important thing is to choose a furnace manufactured by an old and established firm, and there are a number of such in the Dominion. When you have decided upon the different makes that you would feel confidence in, you can then get from them descriptive booklets and can go into the merits of their furnaces.

There are two distinct lines of furnaces, namely, the furnace constructed for burning wood only, and the one designed to be suitable for all classes of fuel.

THE FURNACE FOR WOOD ONLY.

This is advisable in districts where wood is and will be for some time to come the only fuel, because it is designed so as to handle this class of fuel more economically and with less labor in firing and preparing of fuel.

In choosing a wood furnace, perhaps the most important point is to have a good large fire-box.

The radiator for a wood furnace should be constructed of steel tubes with cast-iron elbows and heavy castings anywhere where the heat will strike it with extra force. There should be adequate clean-out doors so that the flues of such radiators can be readily cleared of soot. This

cleaning should be done frequently, otherwise there will be a great deal of heat lost through the pipes being more or less choked, and thus not radiating the heat quickly.

The fire-box should be made heavy, all of cast iron and corrugated so as to increase the amount of radiating surface.

The Ash-pit.—All the better-class furnaces are supplied with an ash-pit, which is very much better than a fire-box without an ash-pit.

The all-wood furnace is comparatively a simple heating apparatus, readily installed and easy to operate, and gives very quick results. It, of course, requires more frequent firing than a coal furnace.

The Casing.—A wood furnace can be either cased with galvanized iron or with brick. The latter is preferred by many people for wood furnaces, and is probably advisable for two reasons.

First, it is safer in case of any wood-work near the furnace, as a wood fire makes a very intense heat in the furnace itself.

Secondly, as it saves heat being wasted in the basement, and also keeps the basement from getting too warm, which might sometimes be objectionable.

FURNACES FOR COAL AND WOOD.

The most popular furnace at the present time is one for burning coal and which will also burn with more or less satisfaction soft and lignite coals and wood, is a furnace made with upper sections above the fire-pot, principally of steel. In choosing such a furnace, there are a number of points to be considered, namely:

The fire-door should be large, and on the better furnaces is made in two sections, the extra upper section only being used when required; for instance, for putting in large blocks of soft coal or wood. Also gives more ready access to the fire-pot and interior when cleaning out. The general principles of the furnace should be as simple as possible. Simplicity in the construction of any apparatus means more easy operation, less chance of its getting out of order and less difficulty in making repairs when required.

The next most important feature is the radiating surface. There should be the largest possible amount of radiating surface. Every inch of surface, particularly in the portions of the furnace nearest the fire, means so much more heat thrown off.

WEIGHT.

In comparing furnaces, the weight is the most important item to be considered as against the price. Every pound put into a furnace means so much more in its sustaining qualities. The heavy furnace will invariably outlast the light one, and will ensure a more equal and greater radiation of heat. It may be argued that a heavier furnace will take longer to get heated up, but it does not absorb the heat. When once it gets hot, it holds such heat and distributes it more evenly, and with greater power. Weight in a heating apparatus is much the same as a fly-wheel on an engine.

Furnaces are made of metal which is worth so much a pound. Provided that the consumer knows that he is getting a well-made and a well-constructed furnace, he can judge the value best by the weight.

The Fire-pot.—In the coal class of furnaces, the best grades are made with the fire-pot in two sections, the upper and lower. The upper section fits into a groove in the top of the lower section, and the two are cemented together, making an absolutely air- and gas-tight construction, but having the advantage of allowing for the replacing of the lower section at any time should it burn out, which it eventually will, without having the expense of replacing the entire fire-pot, as the upper section will probably last as long as the furnace itself.

Further, a two-sectional fire-pot is better than the solid or one-piece fire-pot, for, in the latter, when a fire is in the lower part of the fire-pot, it is apt to become heated quicker than the upper portion, thus it would expand, and the lower part of the pot is liable to crack, whereas with the two sections the expansion is provided for without injury to either section.

The outside of the fire-pot should be corrugated so as to increase the radiating surface. The size of the fire-pot in a

furnace taken with the weight are what govern its heat capacity, so compare sizes of fire-pots when comparing different makes, the same as you compare the weight.

THE GRATE.

This is one of the most important features in the modern furnace. The most approved grate, and by far the most satisfactory, economical and effective is what is known as the roller grate, usually made in four bars, which are three-sided with teeth. These four bars are arranged side by side immediately under the fire-pot, and can be turned with a shaker handle. Aggravation of them at regular intervals clears all the ashes from the fire, and turning once night and morning will clear all clinkers, and after a little experience the householder will find that he can keep a fire in his furnace practically the winter through without having it once go out.

Always keep a fresh, clear fire, and you will practically never have trouble with clinkers.

In burning anthracite hard coal, it is seldom necessary to use a poker; in fact, generally speaking, better results are obtained by using the shaker only.

The three sides of these grate bars being concave when turned one against the other cut off the bottom or dead edge of the fire, but close again before any live fuel is allowed to escape.

THE ASH-PIT.

This section should be roomy, fitted with a good large ash door and draft, and should be supplied with a galvanized or sheet-iron removable ash-pan with handle. This, when emptied regularly every morning, will keep the furnace clean; and having a handle can be carried right outside and emptied, thus keeping to a minimum the amount of dust distributed in the basement of house.

THE DOME AND RADIATORS.

These should be made on as clear lines as possible, and, when of steel, should be strengthened with castings at points where the greatest heat from the fire will strike them.

The radiator should be large enough to admit of a good draft so it will not clog up with soot and ashes, and should be fitted with clean-out doors that will be readily accessible.

SOFT-COAL FURNACES.

A new furnace has just been put on the market, particularly designed for burning soft coal. It is fitted with a cast-iron radiator, and built very heavy to resist the heat generated from soft coal. It has a gas-ring around the top of the fire-pot. This supplies a blast of cold air or pure oxygen, and throws it into the fire all around the top of the fire-pot. This oxygen meeting with the carbon or gas from the soft coal causes perfect combustion so that the thick smoke usually derived from such fuel, and which contains heavy percentages of gas that under ordinary circumstances would be carried up the chimney and wasted, is, under this new arrangement, burnt. Tremendous extra heat is thus generated, and the final smoke is clear.

This furnace also has no direct draft in the smoke-pipe, and a very simple radiator with large flue, which, on account of its size and the strong draft that will be carried through it, will keep itself clear. An ordinary coal furnace is liable to become choked up very quickly in burning soft coal. This new furnace will be a great boon to people residing in the soft-coal districts, and will have a longer life, and generate correspondingly more heat for its size of fire-pot.

First, on account of the intensity of the heat obtained from such supply and the burning of the gas.

Secondly, on account of the extra weight from it being built heavier.

THE SIZE OF THE FURNACE.

In arriving at this, the cubic contents of the house can be figured up very easily, taking the outside dimensions of the house roughly and without allowing anything for the partitions, etc. In this country it is well to have a size of furnace that is a rated capacity slightly in advance of the manufacturers' estimates as shown in their printed tables. Particularly is this so if the house is exposed, has very many windows, or is not very warmly built. Square houses are naturally much easier to heat, and hot-air furnaces give greater satisfaction in such houses.

If a house has a wing extending out at one side, it is sometimes a very difficult matter to heat it with reasonable satisfaction for all classes of weather. A point from which the wind is blowing has a great effect upon a hot-air furnace. Sometimes difficulty is experienced in getting certain rooms heated when the wind is in a certain direction. This can be overcome to a certain extent by putting a larger register than might otherwise be necessary in a room so exposed.

In setting up a furnace, it is very necessary that great care should be exercised to properly cement all the joints of the furnace, otherwise there will be leakage of gas and dust.

LOCATION OF REGISTERS.

The hot-air registers should be placed in all rooms as near as possible to the furnace. The furnace should be located in the basement in as central a position as practicable, and the shorter the heating pipes from the furnace to the registers the better results there will be and less waste of heat.

Sometimes four rooms can be heated by carrying one pipe from the furnace, running the pipe up a wall between two rooms, and thus heating two rooms on each floor, and all from the one pipe, which, necessarily, must be large. This is very much preferable to carrying individual pipes to each room. The one pipe has correspondingly greater power, and there is not the same loss from radiation between the furnace and the room.

PIPE AND REGISTER CAPACITY.

The hot-air pipes for the heating of each room should be of sufficient size to supply the hot-air capacity required by such room; that is, the size of the pipes for different rooms will be varied according to the size of the rooms or amount of exposure. Then, again, the registers should have a capacity equal to the size of the pipes.

It will be understood that it would be a waste of money to put a large register in a room and a small pipe, as the register would not then be operated to the full extent of its capacity. On the other hand, if the register, or the pipe, are not large enough, the supply of heat delivered into such room will be insufficient.

The manufacturers supply tables covering such matters in their furnace catalogues, and it gives the householder an opportunity of seeing that such installation is up to the standard.

THE COLD AIR.

For ventilating purposes, it is sometimes provided to take a part of the cold-air supply from outside, but this should be arranged so that it can be cut off in severe weather, and at such times all the air taken from inside. While the hot air is taken into the rooms at the nearest point to the furnace, the coldest air should be taken from the farthest points in the rooms. From the hall, as near as possible to the front or outside door; from the kitchen, near to the outside door, and from the living-rooms, the coldest point of the room, namely, near the outside windows.

The cold-air registers and pipes should be of a capacity almost equal to the amount of hot air that is being distributed, at least 90 per cent., the balance can be made up by expansion. This is a very important point, however, and a great many heating plants are spoilt through not supplying enough cold air. It must be readily understood that you cannot take hot air out of a furnace if you do not put air in. In the first place, therefore, it is better to err on the safe side, and supply more than necessary rather than not enough.

Cold air is usually taken through registers in the floor, but if carried from the walls of the room should be taken off within five or six inches from the floor, as any air above that is warmer and the register will probably not work as a ventilator.

Hot air can be taken into the rooms either through the floor or through the wall. The latter is preferable, and is coming more generally into use as wall registers are more convenient and more sanitary.

First, the wall register from its location in the wall does not effect the carpet, whereas with the floor register the carpets of a room have to be cut. The floor register makes a dirt for the accumulation of dust and dirt. The wall register, on the other hand, does not ac-

accumulate sweepings, etc. Further, the wall register looks nicer, and makes it possible to use two registers on each floor from one pipe, or, in other words, double-headers. This cannot be done with floor registers, which must each be supplied by an individual pipe.

ASSISTING THE FURNACE.

A great deal can be done to help the furnace when it is installed under unfavorable conditions; for instance, exposed windows and doors can be protected by storm windows and doors. Cellar pipes subject to exposure from windows in the basement can be covered with sheet asbestos.

PLACING THE FURNACE.

All furnaces, both for wood only and for coal and wood, are supplied by the manufacturers uncased, and have to be covered in with either galvanized sheet-iron or brickwork. The latter is preferred for a "wood only" furnace, but for a coal furnace a galvanized-iron casing, lined inside with asbestos sheeting and corrugated tin, is much the better.

These latter galvanized-iron casings can be supplied by the manufacturers, if specially ordered; but, as a rule, are made by the tinsmith or contractor who installs the furnace.

THE CELLAR PIPES.

The hot-air pipes are usually made of bright tin plate, but with a little extra expense galvanized-iron pipes could be supplied, and represent a much more permanent investment. The cold-air pipes should always be made of galvanized iron.

RE WALL PIPES.

These should be covered with sheet asbestos, which is a safe-guard for fire protection, as well as retaining the heat in the pipes, and saving any waste from radiation between the walls.

THE CHIMNEY.

No matter how good a furnace is, or how well it may be installed, all such care will be of no avail if it is not connected with a good chimney, having a good strong draft. Of course, the size of the furnace will necessarily govern the size of the chimney. It must be clearly understood that it is not the furnace that makes the draft, but the chimney. Manufacturers are too frequently blamed for trouble which is entirely due to an inadequate draft flue or chimney. There are two or three simple matters to be considered.

First, there should be no other opening or pipe hole in the same chimney with the furnace, unless the chimney is large enough to supply an extra draft. If there is any such opening, which has no stovepipe connected in it, it should be closed by a flue-stopper.

Care should be taken to see that the smoke-pipe is not carried too far into the chimney, otherwise it will come against the back of the flue and thus there will be no outlet to the draft.

If your house is yet to be built, have the chimney with a flue of good size, 9 x 9, and see that the masons in building it plaster the inside smooth with mortar. The smoother the inside of the chimney shaft, the stronger will be the draft, and if it is required to operate a stove or stoves as well as the furnace, if possible, have an extra chimney, or else, if only one, have it extra large, say 9 x 12. See that it is carried from two to three feet above the highest portion of the roof, and if there is any large building near the house, which would cut off the draft, carry your chimney to a greater height to overcome it.

When more than one flue is required, a double-flue chimney is much to be preferred to two single chimneys. Such chimney should be built 9 x 18, with division.

To conclude, the householder should not only use great discretion and care in choosing the furnace, but, after that, should look after the installation, and see that it is properly done, and in accordance with the general principles above set forth.

G. EDWIN MAIN.

"Are these eggs fresh laid?" asked the old lady. "Strictly," replied the grocer. "The farmer I got them from won't have his hens lay 'em any other way."

Carmichael.
BY ANISON NORTH.

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CHAPTER XV.

An Excitement at the Centre.

The first diversion, although not at all a pleasant one, came of Gay Torrance. I think I have mentioned that her preference for the young doctor was the neighborhood talk, although why Gay Torrance should be set upon more than any of the others who fished in the stream, might have been a question, unless, indeed, it was because of her pretty face. Only a homely woman, as a rule, receives credit for all her virtues at the hands, or tongues, rather, of her own sex.

I myself had met Gay walking with the doctor on several occasions, and had come upon them once by the roadside, Gay sitting upon the low fence wreathing ropes of the woolly, wild clematis about her, and putting clusters of ripe, scarlet haws in her hair, while the doctor stood looking at her with open admiration in his eyes; and I had wondered if he could have looked upon a fairer picture. But then, to me, strangely, perhaps, the young doctor was as no one at all, and I could afford to see Gay's beauties just then. Had it been Dick, perhaps—but then, why think of Dick? What was it to me, either, if she chose to play fast and loose between him and this gay young gallant? And yet poor Dick had had so much to worry him! Surely Gay, too, would not stab him! Yet, would it not be a mercy if she did before it was too late. She was not worthy of him—she—But, pshaw, was I becoming as ungenerous as the rest? Why think of Dick? And winsome, winsome Gay, surely any man could be happy with her; and, after all, it was not companions men wanted in wives, but playthings, to look at, and pet, and be proud of! Surely even Dick might be proud of Gay!

Yet, excusing her faults as I would, seeing her faults as I did, even I was dumfounded at the dance that the little lady presently led us, and ready to believe at last that there had been some foundation in it when Amanda Might said: "That Gay Torrance 'll need to keep busier nor she is or she 'll get into mischief."

Yet poor Gay!—Looking back on it all now, I am sure she drifted into it as the moth drifts into the candle; and when we saw her afterward, with her poor singed wings, I am sure that those of us who knew her best were, at least, ready to pity her.

I remember it as though it had been yesterday, that day in which so much seemed to happen, and which left us all in a turmoil; just how crisp and cold the air felt; and how the little Clearing looked with the first snow upon the cornstalks, like dust which had fallen in the night, and the brown earth showing through everywhere; and how we wondered when old Yorkie Dodd came driving in very slowly, almost at daybreak, with someone or something huddled beside him on the seat of the democrat.

"Gracious sakes' alive!" said my mother, drawing back the curtains to see, "what on earth's Yorkie Dodd comin' in this time o' day fer? 'N' who on earth's he got with him?"

And so we peered, while the stout brown horses came nearer and nearer, leaving a long black mark where the snow stuck to their feet and the wheels of the democrat. When at last Yorkie's face could be clearly seen it looked solemn enough, set straight ahead, and never once turned toward the figure all covered over with a brown shawl that crouched at his side.

And then, just in front of the window, the head of the bundle was raised, and the shawl fell back, and

POSTPONED SALE

R. H. Reid & Sons, Pine River, Ont.,

WILL SELL BY AUCTION, ON

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16 HEAD OF YOUNG SHORTHORNS:

11 Bulls and 5 Heifers, from 10 to 15 months of age, at their farm, Clover Lea, 8 miles from Ripley station, on the Palmerston-Kincardine branch of the G. T. R., where conveyances will meet morning trains. Pure Scotch and Scotch-topped. Extra well bred, and a rare good lot.

Terms: 9 months' credit on bankable paper, or 5 per cent. per annum off for cash. Lunch at noon. Catalogues on application.

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These Frictionless Bearings

Make the **EMPIRE** Easiest Running Cream Separator

Not only the closest skimming, but the easiest running—the greatest saver of elbow grease—is the Frictionless Empire Cream Separator.

With its lighter bowl, its simpler driving mechanism, its Frictionless Bearings, the Empire revolves so much the easier that a child of ten can get it whirling at full speed with a few turns of the handle.

The bowl of the Empire spins on the point of its spindle. As the point of the spindle rests between and touches nothing but the three balls of the Frictionless Bottom Bearing (see bottom arrow) and automatically adjusts itself to the proper center, friction—wear—is reduced to the smallest fraction.

The Frictionless Neck Bearing (see top arrow) eliminates all friction on the spindle—makes the Empire easiest, smoothest running. If there was friction the Empire Neck Bearing would, like others, require a large quantity of expensive oil instead of just ten drops per day.

To prove to you that the Empire runs easiest we will allow you to try it free of charge in your own dairy, but in the meantime drop us a post card for our

Free Illustrated Dairy Book

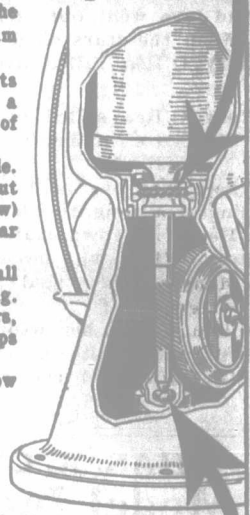
which tells how to make your cows pay better.

Every Frictionless Empire sold under the strongest kind of a Guarantee.

The Empire Cream Separator Co. of Canada Limited

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Fifteen Years Selling Direct



No. 10 Piano Box Buggy. Price \$57 00.

We are the only manufacturers of Vehicles and Harness in Canada selling direct to the consumer, and have been doing business in this way for 15 years. We have no agents, but ship anywhere for examination. You are out nothing if not satisfied. Our prices represent the cost of making, plus one profit. Our large free catalogue shows complete line and gives prices. Send for it to-day.

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Women Cured at Home!

Women's disorders always yield, from the very beginning of the treatment, to the mild but effective action of Orange Lily. Within two or three days after commencing its use the improvement becomes noticeable, and this improvement continues until the patient is completely cured. Orange Lily is an applied or local treatment, and acts directly on the womanly organs, removing the congestion, toning and strengthening the nerves, and restoring perfect circulation in the diseased parts. In order to convince all suffering women of the value of this remedy, I will send a 35-cent box, enough for ten days' treatment, absolutely FREE to each lady sending me her address.

MRS. F. V. CURRAH, Windsor, Ont.

TELLS HOW TO MIX IT.

A well-known authority on Rheumatism gives the readers of a large New York daily paper the following valuable, yet simple and harmless prescription, which anyone can easily prepare at home: Fluid Extract Dandelion, one-half ounce; Compound Kargon, one ounce; Compound Syrup Sarsaparilla, three ounces.

Mix by shaking well in a bottle, and take a teaspoonful after each meal, and at bedtime.

He states that the ingredients can be obtained from any good prescription pharmacy at small cost, and, being of vegetable extraction, are harmless to take.

This pleasant mixture, if taken regularly for a few days, is said to overcome almost any case of Rheumatism. The pain and swelling, if any, diminishes with each dose, until permanent results are obtained, and without injuring the stomach. While there are many so-called Rheumatism remedies, patent medicines, etc., some of which do give relief, few really give permanent results, and the above will, no doubt, be greatly appreciated by many sufferers here at this time.

Inquiry at the drug stores of this neighborhood elicits the information that these drugs are harmless, and can be bought separately, or the druggists here will mix the prescription for our readers if asked to.

AN IRISH FOLK SONG.

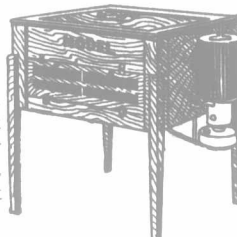
Rory O'Rea sailed on the sea—
Out on the sea when the sun was
sinkin';
Night came over him, grim and gray,
And love went out of his heart, folk say,
When the stars came blinkin', blinkin'.
Rory O'Rea sailed over the sea:

Rory O'Rea sailed over the sea:
Woe to a heart that is fond and
breakin'!
Aileen sits on the lonesome shore
Singin' a song to him, o'er and o'er,
Her bride-gown makin', makin'.
Rory O'Rea will never come back:
Many's the soul that is sore and
grievin'!
Aileen lies in her weddin'-gown,
Still, and white as the flaxen down
O' the shroud they're weavin', weavin'.

—B. Malcolm Ramsay.

CHAS. A. CYPHERS' Model Incubators and Brooders

On my Model Poultry Farm I now have poultry numbering 80,000 hatched and brooded in my famous Model Incubators and Brooders. Buying your incubators and brooders of a man who knows nothing (or next to nothing) about hatching and raising poultry is running a useless risk. Don't do it.



I not only sell you a Model Incubator or Brooder, but I add to them the valuable experience of years as shown in their construction. Model Incubators show excellent hatches, hatch every hatchable egg. The Model Brooder grow sturdy chicks.

Send your order in to-day, and get in line with the profit getters. Free catalogue for everyone.

THE MODEL INCUBATOR CO.
196-200 River Street TORONTO, ONT.

LEARN DRESS-MAKING BY MAIL

In your spare time at home. We will give, direct to the public, our \$15 course, including our Ladies' Tailor System for wholesale price, \$5. As there are a large number say you cannot learn by mail, we will send system and first lesson (which teaches how to make a perfect fitting waist) to send \$5 and we will forward full course of lessons. We guarantee to give \$500 to anyone we cannot teach. These lessons teach how to cut, fit and put together any garment, from the plainest shirt waist suit to the most elaborate dress. We have been in business for over ten years, have taught over 7,000.

Write for particulars.
Address—**SANDERS' DRESS-CUTTING SCHOOL,**
31 Erie Street, Stratford, Ontario, Can.

\$12 WOMAN'S SPRING SUITS \$6.50

Tailored by our best dressmakers to \$15. Send to-day for free catalogue, search and style book. **Soutacott Suit Co., London, Ontario**

we saw two sad dark eyes, and a pale, pale face that was strange to us, turn with a keen, hunted look towards us.

"Mercy onto us!" exclaimed my mother, dropping the curtain, "Who can it be? and she seems to hev' a baby, too. Run, Peggie, 'n' bring the poor thing in, whoever she is." So I went out, and the strange young creature handed me down the little one, which was maybe two years old, with a sort of sob.

When I had taken the woman and child to the door, I went back to Yorkie, who had been winking and blinking at me significantly.

"Who is she, Yorkie?" I said.
"Blest if I know!—but she says she's the wife o' the young doctor."

"Wha—at?"
"That's what she says, sure enough—that she's the wife o' Doctor Jamieson. Says she tracked him from somewhere in the States. Poor soul, she looks as if she'd been trackin' long enough."

"But Yorkie, it can't be true! Where did you pick her up?"

"At Saintsbury, three o'clock this mornin'." Me 'n' Jim Hall was there shippin' cattle, druv' the two bunches in the night, 'n' we'd just got them into the car when in came the west-bound express 'n' off got this poor young craythur, askin' when the next train left for Oroway Centre.

"Why," says the station man, 'there's no train to Oroway Centre.'
"No train," says she, dazed-like.
"No train," says he, 'n' no way to git there, only by livery."

"How much will it cost?" says she, kind o' sinkin'-like.

"Two dollars," says he, 'n' with that she sunk all in a little heap like, 'n' that forlorn lookin'.

"How fur is it to walk?" says she.

"Good fifteen miles," says he, 'more 'n' you can do with that baby to carry. Who's yer folks?' says he, "Didn't nobody come to meet ye?"

"I hev' no folks," says she, kind o' proud like, 'only my husband, Doctor Jamieson, 'n' he didn't know I was comin' to-night."

"With that the station man stared 'n' give a low whistle—peared he knew Doctor Jamieson—then he kind o' laughed, 'n' said she'd better go to a hotel 'n' send for the doctor if she hedn't money to git to him."

"That laugh was enough for me, 'n' so I went up 'n' told her she might come along with me. I didn't ask her no questions, but I knew she had somethin' to do with the doctor 'n' wanted to git to him bad, 'n' that was enough fer me."

"And she said no more?" I asked.

"Not much, jist kep' fondlin' the baby, 'n' callin' it pet names, 'n' tryin' to keep it warm. 'N' I ast her no questions. When we got near home the baby began cryin'. 'Is there a hotel,' says she, 'where I kin go 'n' git the baby asleep before I go to his father?' 'No, there isn't no hotel,' says I, 'but I know a house where ye'll be well used, 'n' git yer baby warmed,' says I, 'if I know it,' 'n' so I brung her here. I hope it wasn't bein' too presumptuous."

"No, no," said I, "You know mother's heart for babies."

With that I went in all in a maze, and found my mother with the little one on her knee in front of the stove, and her whole face lighted up and beautiful, as it ever became over little helpless things.

The woman who called herself Doctor Jamieson's wife was in our biggest armchair, close by the stove, too, spreading out her fingers to the warmth, and watching the baby as though she couldn't take her eyes from it. Miss Tring brought her some hot tea, and some toast left from our breakfast, and she drank and ate greedily, as though famished. She seemed very young, and it was not hard to see that she had been very, very pretty; but when she spoke it was in a voice that did not suit her pretty face, and with an accent that might have belonged to

one of the dining-room maids in a Saintsbury hotel.

"Oh," she said, presently, "I don't think I can walk about any more to-day. Could you," to my mother, "send word to Doctor Jamieson that there's a lady here wants to see him? Don't mention my name. I want to give him a surprise," with a sorrowful attempt at deceiving us. "Jist say that a lady here wants to see him."

"Of course we'll send word," said my mother, sympathetically. "Yer husband has a right to come to ye. Peggie, run 'n' send word with Yorkie now. It'll not take him much out of his way."

I ran after Yorkie, and caught up to him just as he was going out of the wood lane.

"I'll tell him," he said, scratching his head. "But if Jim Hall's got back afore I git there, I'm afraid, the Doctor'll hev' the whole story. Jim Hall's a grand hand to spread news, 'n' this 'll be as good as nuts to him. I'm thinkin' it 'll not be as sweet to the young doctor. There's somethin' in it that's not good, though I'd never ha' thought it o' Doctor Jamieson. Well, I'll go on as fast as I ken. Go on, Jen! Go on, Jerry!" and he rattled off into the open country.

When I came to the house I found the stranger on a bed, with the baby beside her, laughing and prattling a few baby-words. The mother seemed to be completely exhausted, but for all that she had become nervous, too, and she was all in a tremble, with her eyes burning like coals.

"How long 'll it take him to git here?" she said.

"Oh, he can't be here short of an hour," said my mother, "so jist try 'n' go asleep."

"Yes, yes," she said, "I must try 'n' git a quiet sleep somehow, fer I've a good deal to say to him. It's quite a while since I seen him last."

"Now, shut yer eyes," said my mother, spreading a cover over her. "I'll tell ye when he comes, 'n' I'll keep the baby. Bless its little heart, it'll be jist as happy as if its mother held it, and I'll git it a nice cooky," holding her hand out to it.

For a moment the mother strained it to her, then, when it laughed and reached out its hands towards my mother, she handed it over without another word, and we went out and closed the door.

"Well," said my mother, decidedly, as we sat down by the stove, with the dishes unwashed on the table, and the floor all unswept, "well, I alwus thought a heap o' Doctor Jamieson, but if there's truth spoke under heaven, that girl's spoke it to-day."

"You think she's Doctor Jamieson's wife?" I asked, still incredulously.

"As sure as I was Robert Mallory's!" and Miss Tring added, "Yes, I think she spoke the truth."

"'N' if he doesn't do his dooty by her and this poor lambie," went on my mother, fondling the baby, "it'll not be for want o' me tellin' him what his dooty is! Fer if ever I told a livin' soul his dooty I'll tell it to Hudson Jamieson this day. Not that I ever was used to tellin' it to Robert Mallory, or needed to—but, dear, dear, what men some girls git! . . . Peggie Mallory,"—looking at me straight.

"Yes, mother."

"'Twas a work o' Divine Providence that ye didn't git caught! Not but what Doctor Jamieson wasn't keen enough to marry ye—'n' him with another wife all the time! Oh, dear, dear!"

"Where did she come from?"

"From the other side, away beyond—oh dear, hundreds 'n' hundreds o' miles—tracked him all the way like a detective! 'N' he lived with her jist six months, 'n' went off without a by yer leave! Oh, dear, dear! . . . Never had I seen my little mother more flustered."

All morning we waited the doctor's visit, unable to settle ourselves to our work, or do anything much but

peep out of the window and watch the little one toddling about the floor, and drawing himself up by chairs. And when, at last, old Yorkie Dodd came rattling in from the wood-lane alone, our hearts sank. My mother met him half way up the path, and came back to the house walking behind the democrat.

"Too late!" she said to us, as Miss Tring and I stood waiting at the door. "Jim Hall had been and told the whole story, 'n' the doctor had driven off. Someone had seen him go toward Torrance's, 'n' Mr. Dodd went there, but Mrs. Torrance said he hadn't been there."

"Did you see Gay?" I asked.
"Yes," said Yorkie, "she was sittin' by the window, but she never said nothin'!"

"Did the Torrances know?"
"Oh, yes; Mrs. Torrance looked as if she'd been cryin', 'n' Dave was stormin' about at the barn what he'd do if the scoundrel ever dared set foot there again."

It was hard to know how to tell the poor creature in the bedroom that the doctor could not be found, but Miss Tring managed it somehow, and managed, too, to keep up her hope, for Jim Hall had taken it in hand to find the doctor, and had sent messengers to watch the trains at Saintsbury.

But as the day wore on, and still there was no word, the poor girl became very restless, and began tossing her arms as though in a fever. Indeed, we began to fear very much that she was on the verge of a serious illness; and what should we do, since now, and, indeed, because of her, there was no accessible doctor nearer than Saintsbury?

(To be continued).

MY LOVE SHE'S BUT A LASSIE YET.

My love she's but a lassie yet,
A lightsome lovely lassie yet;
It scarce wad do
To sit an' woo
Down by the stream sae glassy yet.

But there's a braw time coming yet,
When we may gang a roaming yet;
An' hint wi' glee
O' joys to be,
When fa's the modest gloaming yet.

She's neither proud nor saucy yet,
She's neither plump nor gaucy yet;
But jist a jinking,
Bonny blinking,
Hilty-skilty lassie yet.

But O her artless smile's mair sweet
Than hinney or than marmalade;
An' right or wrang,
Ere it be lang,
I'll bring her to a parley yet.

I'm jealous o' what blesses her,
The very breeze that kisses her,
The flowery beds
On which she treads,
Though wae for ane that misses her.
Then O to meet my lassie yet,
Up in yon glen sae grassy yet;
For all I see
Are nought to me,
Save her that's but a lassie yet.

—James Hogg.

SUCCESS.

To work steadfastly with an upward aim,
To conquer wisely trials met;
With little use for anger or for blame,
The highest good from life to get;
To gather wealth, not for its sake alone,
But for the good it helps to do;
To strike each morn a richer mental tone,
And onward press with courage new;
To hold in other hearts a sacred place,
To gladly helping hands extend,
To grow in spirit beauty, spirit grace,
As through this busy world we wend;
To win the power to lead, to cheer, to bless.

Our brother man—this constitutes success.
—Sarah E. Howard, in the Circle.

DOWNRIGHT DICK'S DEFENCE OF THE COUNTRY.

The sentimental antagonism between London and the provinces was for centuries very marked, and in the following little-known ballad dating from 1685 we have a popular expression of this feeling of rivalry—all the more interesting because the victory is given to the countryman.

I pray now attend, and give ear to my jest, A Countryman he came late from the West, For he had a mind to see my Lord Mayor,

The Countryman there amazed did stand, And looking about with his whip in his hand, There comes a fine fellow, a Don of the Town,

"I pray, who are you?" then the Plowman replied, "That does so scornfully here me deride? Fine fellow," said he, "seeing you are unkind,

"For why?" said the Plowman, "I care not a fig For all your high words and your looking so big."

O then this fine fellow began for to roar, Then presently came in twenty and more, Who asked the Plowman how dare he to do't,

"Nay, Plowman, I'd have you to well understand That we have both silver and gold at command,

Then what do you think of such fellows as these?"

"For all your rich jewels, you starving may die, If we do not bring in a daily supply!

Both Linen and Woollen, what e'er we will wear, We have of our own by industrious care,

The Londoners presently laughing outright, For in his discourse they had taken delight,

A WOMAN OF THE OLDEN TIME.

There is a lot of talk about woman's advancement; about woman's position; about woman's attitude towards life.

MARRIAGE.

Life's most trying complications began early enough for Catherine. At ten years of age she was married to Girolamo Riario, nephew of Pope Sixtus IV.

A TERRIBLE MOMENT.

It was in vain the lovely woman smiled blandishments on the people; discontent increased, and revolt rose on the air.

her husband. She was commanded to give up her claims to the State. She pretended to consent; but asked permission to go and speak to the Governor of the Fortress Tommaso Feo.

CONDUCTING A SIEGE.

In time Catherine's relatives come to her aid, and she took the fullest revenge on her enemies, always, however, sparing women and children.

STRONG MEASURES.

The late General Thomas H. Ruger was like many army officers an authority on good cooking, but he detested "high" cheese.



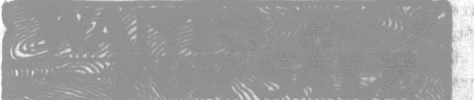
Condensed advertisements will be inserted under this heading at two cents per word each insertion. Each initial counts for one word, and figures for two words.

BONZE TURKEYS—Won five firsts, three seconds and every special at last Winter Fair, G. S. S. Supply winners at Madison Square Garden, New York, and Indiana shows.

MOHAMMAD Stock Farm has a few Mammoth Bronze turkeys, imp. 'ekin ducks, and Barred Rocks for sale. Quality A1. Prices right. D. A. Graham, Wainstead, Ont.

MAMMOTH B. turkeys for sale, bred from imp. stock. Young birds look just as good as the old ones. Pairs and trios mated not skin. B. G. Rose, Glanworth, Ont.

MAMMOTH Bronze turkeys for sale. Bred from a heavy prize-winning tom and high-class hens. T. Hardy Shore & Sons, Glanworth, Ont.



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.

CHERRY TREES—We are offering a very fine block of yearling trees. Spring dug. The buds were all out from our best-bearing trees. They are true to name. All standard varieties \$25 per 100. Auburn Orchards, Queenston, Ont.

DOWNHAM'S Strawberry Plants downs them all. Fifty-five varieties. Catalogue free. Seed potatoes, blackberry and raspberry plants. John Downham, Strathroy, Ont.

SEED CORN—Reliable seed corn that we guarantee to grow or money refunded. The largest and most comprehensive seed catalogue published in Canada; send for it; sent free to all who write for it. Globe Seed Co., Buxton, Ont.

WANTED—A few good subscription agents for The Farmer's Advocate and Home Magazine. Liberal terms. The William Wolf Co. Ltd., London, Ont.

WANTED—Good farm hand. Single. To hire by the year. W. C. Good, Brantford.

Wanted! I want to see your hides, skins and furs soft and pliable; never get hard. Also to make and line your robes, or make your fur coats. Try me for best of satisfaction. I aim to please you. Address: B. F. BELL, Delhi, Ont.

West's Disinfecting Fluid KILLS LICE SPECIAL PRICE: Five Gallons, \$6.50. FREIGHT PAID. The West Chemical Co., 125 Queen St., East, Toronto.

Bargains—Ladies' shirt waist suits, \$1.50 up; cloth suits, \$3 up; waists, 50c. up; skirts, \$1.25 up; misses' cloth suits, \$2.75 up; child's dresses, 50c. up; boys' suits, 75c. up. Send for free samples and catalogues. W. SOUTHCOTT & CO., London, Ont.

"Gracious! my dear," said the first society belle, "I do hope you're not ill; you look so much older to-night." "I'm quite well, thank you, dear," replied the other, "and you—how wonderfully improved you are! You look positively young."—[Washington Herald.]

Reliable Farm Help

BRITAIN'S BEST IF YOU need laborers for any class of work, you can rely upon the Salvation Army Immigration Department doing its best to meet your requirements from those whose emigration from Great Britain it proposes to undertake during this year. The majority of these people will come prepared TO WORK ON THE LAND as farm laborers or as teamsters, quarrymen, laborers or railway construction and general laborers. Apply at once for application forms to LIEUT.-COL. HOWELL, James & Albert Sts., Toronto.

Let me tell you how
to make money
out of poultry.



I have started others
earning good profits.
I can start you.

JUST a very little more time than you spend now caring for a few hens can be turned into a good profit with a Chatham Incubator.

That is the best of it. It requires no experience. Just follow my simple, clear directions. Your wife or daughter can do all that is required in a few minutes each day while the hatch is on.

And the profits are sure and certain. I know this is true because I am receiving letters every day from those who are using my incubator and making good money out of it. Many of these people never used an incubator before, others have tried other makes but are making bigger profits with a Chatham Incubator.

The Experimental Farm at Guelph, Ont., use my Chatham Incubator in their special poultry course. In a recent letter the Professor of that course stated that they out-hatched any incubator they have had on the farm.

Don't you think that the incubator that the Ontario Government has found best should prove best for you?

So you see it not only is a case of making more money with an incubator than by the old setting-henway, but it also means you can make more money with my Chatham Incubator than any other on the market.

I guarantee the Chatham Incubator for five years. This is not a mere promise, it is an actual guarantee, backed by my Company, who have been doing business in the United States and Canada for over 50 years. If our guarantee wasn't an actual bona fide one and our dealings honest and fair, we couldn't have continued in business so long. Don't you think so?

Now I want you to write me a postcard to-day asking me to send you my 1908 Poultry Booklet—it tells all about the profits you can make out of chickens, how the Chatham Incubator is made by careful workmen from sound lumber, and why it will hatch more chickens than any other incubator on the market.

Remember that every day you delay means just so much profit lost. I know when you get all my facts you'll want to start making money now.

Write this post card now, while you think of it and I will also send you my special price on easy terms.

To save time address my nearest office.

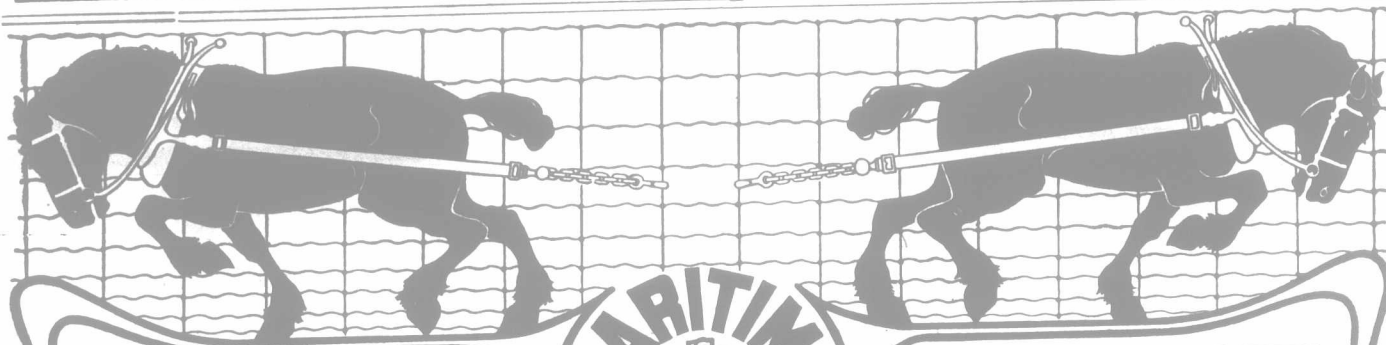
The Manson Campbell Co., Limited,
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President

The Manson Campbell Co., Ltd.
Dept. 11 Chatham, Ontario.
I also have a shipping warehouse at Halifax, N.S.



Guaranteed
Five Years
Direct from
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THE LOCK

The illustration demonstrates the phenomenal gripping-strength of our lock. Under the most unusual strain it never gives. It is known as the lock that can't slip; the lock that un-failingly holds the wires in their correct position.

New Brunswick Wire Fence Co., Limited, Moncton, New Brunswick



CAN'T SLIP

Our Free Catalogue

will tell you more about our can't-slip lock, and about the superior English high-carbon, hard-drawn steel wire from which Maritime Wire Fence is made. Address the card to

ALL O. K.

A small, quiet-looking man, smoking a large cigar, sat by the side of a medium-sized automobile that was drawn out of the road as a large touring car came along, driven by a man with an interrogatory aspect.

The man in the touring car slowed up and leaned over.

"How long have you been here?"

"About two hours."

"Can't you find out what the matter is?"

"No."

"Inlet valve all right?"

"Yes."

"Trouble with spark-plug?"

"Think not."

"How are your batteries?"

"O. K."

"Haven't got a short-circuit, have you?"

"Oh, no."

"How's your commutator?"

"Great."

"Perhaps your worm-gear is clogged?"

"No—all clear."

"Got any gasoline in your tank?"

"Plenty."

"How about your circulation; cylinder isn't bound, is it?"

"No, sir."

"Tires seem all right?"

"Never better."

"Well, maybe your vibrator isn't adjusted."

"That's all right."

"Have you looked at your carbureter?"

"Yes."

"How about the cam-shaft?"

"Grand."

"Have you tightened your connecting-rods, examined your clutches, and gone over the differentials?"

"Yes—yes."

The man in the touring-car paused a moment, and then looking at the stranger by the roadside, said at last:

"Would you mind telling me, sir, just what's the matter with that machine of yours?"

In answer, the man pointed to a large red farmhouse in the distance.

"See that house out there?" he asked.

"Yes, sir."

"Well, sir, there isn't anything the matter with this machine, but since noon my wife has been in that house kissing her sister's first baby good-bye. When she gets through, if you are not over a thousand miles away, and will leave your address, I will telegraph or cable you the glad news at my own expense."

—[Collier's Weekly.]

THE FLOWERS' MESSAGE.

God gives us sweetest flowers,
Whose fragrance fill the air,
To show us that He loves us—
We're all within His care.

Yet we in careless hurry
Return by faintest praise,
Nor seem to grasp the lesson
He teaches by His ways.

The pure and modest lily,
The ardent, blushing rose,
May cheer the heavy-hearted—
Let's pass them on to those.

Why wait till death shall linger
'Til dear ones' marble brow—
Let's show them that we love them—
By sending flowers—now.

—Robert R. Carrell.

FELL INTO BAD COMPANY.

A canny Scot was brought before a London magistrate on the charge of being drunk and disorderly. "What have you to say for yourself, sir?" demanded the magistrate. "You look like a respectable man and ought to be ashamed to stand there."

"I am verra sorry, sir, but I cam' up in bad company fra Glasgow," humbly replied the prisoner.

"What sort of company?"

"A lot of teetotalers!" was the startling response.

"Do you mean to say teetotalers are bad company?" thundered the magistrate. "I think they are the best of company for such as you."

"Beggin' yer pardon, sir," answered the prisoner, "ye're wrong; for I had a bottle of whisky an' I had to drink it all myself!"

THE WOMAN OF TO-DAY.

Writing on the subject, "Is there an American type of feminine beauty?" in Everybody's, James Huneker says:

"Twenty-five years ago blonde women (real blondes) were far from rare; a careless observer can see at the present that American women in pigmentation are becoming darker. Up in New England, out in certain parts of the West, the thin, nervous, plain-featured, earnest, underfed and overworked female was in the majority. Her voice reached us across picket fences, her hand was in every pie. Above all, she sang in church on Sundays! When Mr. James and Mr. Howells began to write of her she was already vanishing. Where has she gone? You encounter isolated specimens to-day; and her feminine contemporaries make mock of her queer bonnet and her puritan conscience.

"Every decade is adding its quota of derangement of the normal national woman—as we once saw her. What has become of this average American woman? Where is the waist of yesterday? Women's hands and feet are larger; the skeletal formation is said to be bigger. They are not afraid of the winds that tan, the sun that freckles. They motor and golf; they swim, row, wrestle. They play Chopin, despite all these things—mirabile dictu! They stand the strain of college study, and there seems to be no marked diminution in the birth-rate. They are taller, broader of chest, and their eye is as soft as their mother's (for the happy chap, of course). Is there an American type? It would seem so, after these statements. Unluckily for the statistician, the same girl may be seen to-day in Germany, in England, Ireland, Scotland, France, Italy, Austria. Northern women are of splendid physique. The truth is that the feminine movement is world-wide."

THE DOG PROTECTED THE DEER.

A man whom I know has been staying in New Hampshire this summer, and he tells that one day as he was driving over the hills he saw a beautiful deer drinking out of the trough by the wayside. So intent was she that she did not seem to notice a dog which was trotting down the road towards her. Fearful lest harm should come to the graceful little creature the man tried to drive the dog away. What was his surprise to see the deer, when she had finished drinking, turn to the dog, greet him by rubbing her nose against him, while he responded by licking her face. Then together they trotted away over the fields, evidently on the best of terms. He spoke of his adventure to his New Hampshire host, and was told that the deer was tame, that it had been brought up by a farmer's wife, who found it, just a new-born baby, in the field by her farm house. The mother had been killed by some accident, and the tiny creature would have died from exposure had not the woman rescued it. She took it to the house, and brought it up, and it became a household pet, devoted to its mistress and all the members of the family. But its dearest friend and chosen playmate was the hunting dog, and together the two ranged field and wood, the dog constituting himself the protector of the fawn. This is one of the occasional strange friendships of the world, and it is valuable as proof of what propinquity will accomplish.—Sel.

A DOG'S FAITHFULNESS.

The faithfulness of a dog has been demonstrated in this town. Last Saturday Silas Cain, who lives near Glenville, was in Columbia, his shepherd dog being with him. In the afternoon Mr. Cain went into T. E. Paull's drug store, leaving his dog on the outside. After transacting some business, Mr. Cain left the store, but his faithful canine did not notice him. The dog waited patiently, lying upon the doorstep, and when Mr. Paull closed his store at bedtime he had not moved. Sunday morning he was still watching, and continued to watch during the whole of the day Sunday and all Sunday night and up to ten o'clock Monday when Mr. Cain returned. There is no way to express the joy manifested by the dog when he saw his master.—[From the Adair County News.

The Ingle Nook.

Not long ago I had occasion to stay for a couple of days at a boarding-house in which I felt very much like preaching a sermon. On my arrival, after a railway journey, I was very tired, and was shown immediately to my room. It was provided with two windows and a door leading to a balcony; looked clean, but smelled as if it had been hermetically sealed for months. Both windows were double, and provided with ventilation slides, which had swollen so that it would have required a crowbar to budge them. The storm-door, fortunately, was fastened on the inside, so that it was possible to open it. Leaving both doors open so that the clean, fresh air poured into the room, I crept under a big comforter and had a comfortable little snooze, after which I finally emerged without the least consciousness of having done anything remarkable. Imagine my surprise when I found that my hardihood or idiocy—I don't know which they regarded it, but I have my suspicions—had become the talk of the house. "To sleep in a freezing room like that!" "Hadn't I taken my death of cold?" "And I didn't mean to say that I always slept with my window open!" To all of which I felt like exclaiming, "And this is the Twentieth Century!"

A day or so later I had to wait for a short time in the anteroom of a dress-making department, divided from the work-room by a half-way-up partition, on the other side of which ten or a dozen girls were working and chattering away as they worked. There were four high, very narrow windows in the two apartments, and every one tightly shut, not even a crack at the top to let in the least whiff of life-giving oxygen. The whole place was heavy with the abominable odor of breathed and rebreathed air, filthy and poisonous, even if invisible, and when the pale little head dressmaker came out I made bold to ask her if it wouldn't be better to open one of the windows for a little while. But that wouldn't do. "The girls complained so of the cold," she said, if a window were open. From sundry chance glances it appeared that "the girls" were all wearing white waists, without doubt over the thin underwear affected of late years by sundry misguided females, even during the coldest winter weather. Verily such a sight in such an atmosphere made one feel that missionaries were needed elsewhere than among the heathen.

A girl whom I know, who was recently threatened with tuberculosis, has been imperatively ordered by her physician to put aside her "peekaboo" waists during cold or even cool weather, to wear warm clothing from head to foot, and breathe pure air night and day. Already she is feeling better, and she says she is going to exercise more common sense about such things in future. What is good for her is surely good for us all.

It may be impossible, in furnaceless houses, to keep windows—even one window—open all the time during daytime, but care may surely be taken during this winter weather, to fill the house with fresh air several times a day. And if pure air or peekaboo waists be the alternative, may we know which to dispense with. It is much better to wear warm clothing and let plenty of oxygen into the house than to wear thin materials and breathe the poisons of an unclean atmosphere. Ignorance is, to-day, no excuse. This is the Twentieth Century. D. D.

"Scraps" from Jack's Wife.

Dear Dame Durden,—I am sending you a "budget of scraps" in which you may find something useful. I have been much too busy to write a "really truly" letter, but have by no means lost interest in our corner.

When wash day is cold and blustery, try putting all finer pieces, such as handkerchiefs, collars and table napkins, into the pillow slips before putting the latter on the line. It saves cold fingers and many rents when taking the clothes from the line. The frost will do all the bleaching necessary.

Another wash-day suggestion: Have a pair of mittens made of heavy white flannelette. To get a pattern, spread the open hand on a sheet of paper, and mark about with pencil; or a man's

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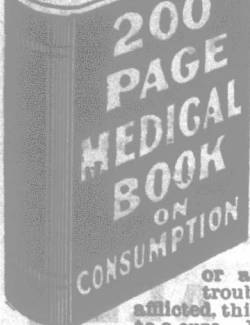
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leather mitten makes a good pattern.

Do not be afraid that you cannot do your washing on a coal-oil or gasoline stove. Set the stove on the floor, then put the boiler on it, and you will be saved much heavy lifting. Of course, one must be careful if there are children about. If everyone would make a practice of always covering hot water when it must be set low down, or on the floor, many little lives would be saved every year.

On ironing day, try inverting over the irons an old roasting pan or granite pot from which the ears have been removed. The irons will heat with less fire, and in considerably less time. If you use an oil stove, put the irons inside the granite pot, and put a lid on it, then turn on the flame, and you will be surprised how quickly the irons heat.

When cooking chicken, remove the neck, wing points and feet. Dip the feet in boiling water until the outer skin and toe nails peel off. To these pieces add the heart, gizzard and liver, if liked; cover with cold water, and simmer gently for several hours. Drain off the liquor, season, and use as soup. Pick the meat from the bones, and run through a chopper for croquettes. The giblets of one medium-sized chicken will make about three cups of soup.

A nice celery soup can be made from the green leaves, tough stalks and stub-ends of the celery. Wash thoroughly, and cover with cold water; add a small onion, and simmer for several hours. A quart of celery will require about a quart of water, which should simmer to a pint. Press through a colander. Add as much milk as you have celery stock; thicken very slightly with flour wet in milk (about like a thin cream is right). Season with salt and pepper, and serve with crackers, or toasted bread. Cold potatoes may be mashed and look as nice as freshly-boiled ones by putting in a kettle containing a very little boiling water; cover very closely, and let them steam from 5 to 10 minutes. It is better to cut them into several pieces before putting in the kettle, as they warm through more quickly. When well warmed, add milk or butter and salt, and mash. Cover with a clean towel for a few minutes to get thoroughly hot, then serve. Never pat mashed potatoes to make them look smooth; leave as light and "fluffy" as possible.

Now that cold weather has come, try cooking double quantities of vegetables. Make as much variety as possible in the methods of serving, and do try to break away from the time-honored seasoning of salt, pepper and butter. Almost any of the ordinary vegetables are nice creamed, escalloped, in purées or croquettes. In boiling cabbage, turnips, carrots or parsnips, a nice flavor is obtained by adding a slice or two of bacon or other pork, if not too fat (of course, it is better not smoked).

To cook rice in true Chinese style, put one cup of rice in two quarts of cold water; let it boil five minutes, stirring once or twice before it begins to boil. When it has boiled up well, drain through a sieve, pouring three or four quarts of cold water over it to wash it thoroughly. Return the rice to the saucepan, and add two quarts of boiling water and a level teaspoon of salt. Let it boil briskly for ten or fifteen minutes; but do not stir at all. Drain again through the sieve, and serve at once on hot dishes.

I saw a new idea in closet hooks the other day: Spools were slipped on long wire nails, which were driven in rows about the closet. The spools from which silk had been used were the nicest.

It is easier to be happy, and even to be good, when the household wheels run smoothly, so see to it that you purchase every labor-saving device your pocket-book will afford, remembering always that it is much more important to have a properly-furnished kitchen than fine parlor carpets and curtains. Use every labor-saving method you can hear of, even if "mother did not do it that way," and do not be afraid of bankrupting your husband if you forsake the time-honored ashes and lye for sapollo, borax, ammonia and the various aids to cleanliness.

Do you all know that you should never use soapy water about milk vessels? Washing soda is much better, or the newer "Wyandotte Cleaner or Cleanser." Of course, after using either of these,

everything must be thoroughly rinsed and scalded.

Not long ago a party of city friends came in unexpectedly for dinner. I had a cold roast from the day before, so I sliced it and served it as it was. One and all were puzzled to know what it was, but it was only pork which had been salted three or four days, then thoroughly washed, and baked with a small onion in the pan directly under the meat. Of course, I served fresh apple sauce with it.

Some day, when you have about a cupful of fruit "left over," try this recipe: Take two eggs, one cup sugar, one cup of cooked fruit (berries, cherries, plums, etc., seem to be nicest, but I use even prunes and apple sauce sometimes), two tablespoons cream, two tablespoons buttermilk, one teaspoon molasses may be used, if liked, one-half teaspoon salt, a heaping teaspoon soda, a grating of nutmeg, and two cups flour. Bake in layers, and use as cake or pudding. If the fruit is slightly fermented, it will still be all right.

One of the prettiest shirt-waist suits I saw last summer was made of ten-cent factory cotton, the creamy tint being preserved by an occasional dip in coffee. Cream, white, navy blue and red ties and belts made a delightful series of changes. The little lady who wore it told me that in the city where she lived it was much used for children's dresses, as the color was sure no matter how often it was washed.

Speaking of that pretty shirt-waist suit reminded me of something "Jack" and I saw one "boiling" hot day last summer. We were out to see the circus, but, while I have forgotten everything I saw of the circus, I remember very vividly two families I saw there. On the seat immediately below and in front of us sat one of the wealthy business men of the city, his wife and four children—the eldest, a boy of sixteen, and three girls between fourteen and six. The father and son wore loose, light-colored suits, without vests, and soft shirts. The mother wore a shirt-waist suit of blue chambray, with white collar and belt, and a cream straw hat, trimmed with a couple of yards of wide blue ribbon. She carried a pair of white gloves in her hands. The three little girls wore very plainly-made dresses of cross-barred muslin, with ribbon sashes, and their hats were those soft, white linen ones, with ribbons tied sash-fashion. They all looked so clean and comfortable it made one feel cool to look at them. A few seats below them sat a man, evidently a farmer, his wife and little daughter. The man wore a heavy, dark tweed suit, faded with dust and sun, a stiffly-starched shirt, and high celluloid collar. His wife looked as if she had been melted and poured into her black silk gown, which had been made at least five years before. Her big picture hat was bedecked with feathers, bows, buckles and streamers, and on her hands were black kid gloves, with a hole in each finger. The little girl wore a white silk frock, elaborately trimmed with lace, tucks and insertion, and a big, laced silk hat, ornamented with feathers and ribbons, and tied with very wide bows close up under her chin. Her elaborately-curled hair hung in half-hearted ringlets about her hot, tired face and moist little neck, until one longed to snatch off that monstrous hat and make a fan of it. The husband spent most of his time wiping the perspiration from his collar, and the stout wife fanned herself most vigorously with a ridiculous wisp of a handkerchief. Taken altogether, they were a hot, uncomfortable-looking trio.

Have you seen such people as these I have described? If you have, which are you imitating, those who are ruled by good taste and common sense, or are you ruled by a desire to be "fine" regardless of where it may lead you?

Middlesex Co., Ont. JACK'S WIFE.

"Jack's Wife" has spoken opportunely on the subject of dress. Spring is nearly here, old clothes have gone shabby, and willy-nilly we must have new ones. It is to be hoped that after reading the above letter we will not be tempted into wearing fussy, furbelowed garments; that we will remember that for nearly all the occasions of life simple, plain, well-made clothes are best. Elaborate gowns are all right in their place, for evening parties, or formal afternoon functions, worn anywhere else they are out of place,

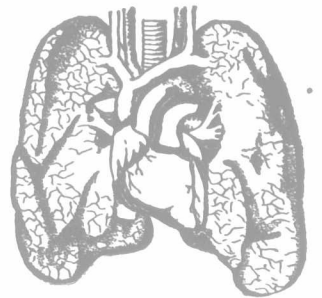
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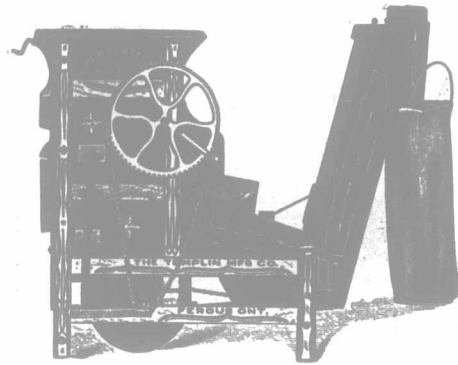
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and likely to be vulgar. . . . It is right that we should, at the change of seasons, put some thought on clothes, not that we should strain to find out what is the very latest fad of fashion and try to keep up with that—extremes are never wise—but that we should try to get good patterns, and have our clothes perfect as far as we can. Clothes express "us" perhaps more than we know. As Mrs. Osborn, the noted fashion creator, says: "Ignorance, crudeness, bad taste, speak through a woman's clothes so loudly that among the newboys on the street and loungers in the club window she stands appraised and catalogued at a glance. Clothes do not make the woman, but they are a part of her, an expression of her individuality, a revelation of her character that permits one to read her like an open book. If she is vain, shallow, foolish, one feels it in the glitter and ostentation of her clothes."

Just here I want to give you a bit of a warning in regard, especially, to hats. A milliner who, because I have been living in the city for so long, had no idea that I have any connection with the country, said to me once, "You know we put all our cheap hats out on Saturday when the country people come in." Looking round upon the assortment, I did not see two hats fit to go on anyone's head.

Remember, there are likely to be plenty of pretty ones laid away in drawers, and insist on seeing them, numbers of them, until you find what you want. If it doesn't appear in the first store, go to another. The clerks are used to showing their stock, although if they find you are easily persuaded some of them will not trouble themselves much to find what is most becoming to you. Don't be too easily satisfied, and don't be argued into taking something you don't like, as many a country girl is by sheer reason of shyness. City women insist on seeing things, and why should not you? You can do so in a quiet, courteous way that cannot give offence, and the clerks will respect you more in the end than if they were able to work off any old thing on you.

A WHISTLER CRITICISM.

The late James McNeil Whistler was standing bareheaded in a hat shop, the clerk having taken his hat to another part of the shop for comparison. A man rushed in with his hat in his hand, and, supposing Whistler to be a clerk, angrily confronted him.

"See here," he said, "this hat doesn't fit."

Whistler eyed the stranger critically from head to foot, and then drawled out:

"Well, neither does your coat. What's more, if you'll pardon my saying so, I'll be hanged if I care much for the color of your trousers."

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4th.—When a reply by mail is required to urgent veterinary or legal enquiries, \$1 must be enclosed.

Veterinary.

WARTS.

Cow has a wart as large as a cabbage-head, and several as large as apples, on her side.

Ans.—Warts of this size can be removed only by excision or torsion. The better way is to cast her, and secure firmly by ropes, then, with a sharp knife, carefully dissect the warts off, removing only those portions of skin to which the warts are directly attached. There will be little bleeding, as there are no large blood vessels in such growths. After the operation, the raw surfaces should be dressed, once daily, with butter of antimony, applied with a feather, for three or four days; after which they should be dressed, twice daily, with 1 part carbolic acid to 20 parts sweet oil until healed. If there are any small, flat warts, they can be slowly removed by dressing daily with butter of antimony.

PTYALISM.

Horse slobbers a great deal, mostly all the time, whether working or standing in the stable. His appetite is good, but he does not look well, and is thin in flesh.

W. J. R.

Ans.—This is called ptyalism, or excessive salivation, and is due either to the food or to some disease of the mouth, or irregularities of the teeth. It is very probable the trouble is with the teeth. Take him to your veterinarian, and get him to examine his mouth. If there be any disease, he will treat it, and he will dress his teeth. The fact that he eats well, but does not thrive, indicates an imperfect mastication. V.

SKIN DISEASE.

Cow calved, but gave little milk. She was in good flesh. After a week, the milk became bloody. I gave her salts, followed by saltpetre, and rubbed the udder with oil of belladonna, and the condition improved, and the milk was pretty good. Now, her teats, udder, floor of abdomen and spine are covered with little, very itchy sores about the size of a pea. She does not give much milk.

W. E. T.

Ans.—The bloody milk was due to a rupture of some of the small blood vessels in the udder, and is not uncommon shortly after calving, especially when there is any inflammatory action in the gland. The small supply of milk is doubtless due to the existing and irritating skin trouble. This cow should be isolated, as the disease may be contagious. The person who attends to her should change his clothing and wash his hands before going near healthy cattle. Make an ointment of four drams boracic acid and twenty drops carbolic acid, mixed with two ounces vaseline. Dress the sores three times daily with this. In addition, wash the affected parts every second day with a five-per-cent. solution of Zenooleum or creolin in water, heated to 100 degrees Fahr.

CRIPPLED PIGS.

Pigs, now three and a half months old, had black teeth at eight weeks old. I had the teeth pulled, and the pigs seemed to do better for a while. Two are now crippled, and do not feed well. They do not seem to be able to get their hind legs under them, and will squeal if forced to move. They are fed on sugar beets, bran, grain and buttermilk, and have a warm pen, with cement floor, and are out in barnyard for an hour or so mostly every day.

T. H. T.

Ans.—Crippling in pigs is usually due, either to too high feeding and want of exercise, or to sleeping on cold or damp floors. My experience is that pigs that sleep on cement floors generally become crippled. It appears to be too cold, though probably not damp. Black teeth is purely an imaginary disease in pigs. Build a wooden platform about a foot high in one corner of the pen for the pigs to sleep on. Give each pig a purgative of three to four ounces Epsom salts, and follow up with six grains nuxvomica three times daily. Feed on milk, shorts and raw roots, with very little grain, and continue to allow exercise as soon as they can walk.

LAMENESS—CURB.

1. Eight-year-old mare goes lame. She has been lame for about three weeks. She goes sound for a mile or two, and then goes quite lame on one fore foot. Is she lame in the coffin joint?

A. E. G.

Ans.—1. The symptoms indicate trouble in the knee. It would be safer to get your veterinarian to examine her, as it is impossible to make a definite diagnosis from such symptoms as you have given. If you decide to treat according to my diagnosis, get a blister made of two drams each of cantharides and biniodide of mercury, mixed with two ounces vaseline. Clip the hair off all around the knee. Tie her so that she cannot bite the part. Rub well with the blister once daily for two days, and, on the third day, wash off and apply sweet oil. Turn her in a loose box now, and oil every day. As soon as the scale comes off, tie up and blister again, and as soon as the scale comes off after this blister, give her a drive to try her. If she still shows lameness, blister every month until lameness disappears.

2. The same as for question 1. V.

DYSPEPSIA AND STOMACH DISORDERS MAY BE QUICKLY AND PERMANENTLY CURED BY BURDOCK BLOOD BITTERS.

Mr. P. A. Labelle, Maniwaki, Que., writes us as follows: "I desire to thank you for your wonderful cure, Burdock Blood Bitters."

Three years ago I had a very severe attack of Dyspepsia. I tried five of the best doctors I could find but they could do me no good.

I was advised by a friend to try Burdock Blood Bitters and to my great surprise, after taking two bottles, I was so perfectly cured that I have not had a sign of Dyspepsia since. I cannot praise it too highly to all sufferers. In my experience it is the best I ever used. Nothing for me like B.B.B.

Don't accept a substitute for Burdock Blood Bitters. There is nothing "just as good."

A BOY'S WANTS ARE MANY UNTIL YOU GIVE HIM



STEVENS

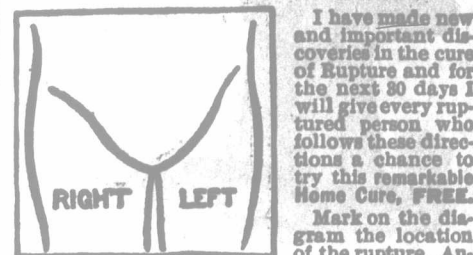
It keeps him out of mischief—and out of doors where he can develop muscle, nerve, red blood and manliness.

Write for 160-page Catalogue—tells all a man or boy should know concerning firearms. Illustrates and gives prices. Send 5 cents to pay postage.

OUR LEADERS FOR BOYS ARE:
Little Scout, \$2.25
Stevens-Maynard, Jr., \$3.00
Crack Shot, \$4.00
Little King, \$5.00
Favorite, \$6.00

Perfect in workmanship. Straight shooting and hard hitting. If your dealer can't give you the genuine, notify us.
J. Stevens Arms and Tool Co.
25 Front Street
Chicopee Falls, Mass. U.S.A.

FREE to the RUPTURED A Quick New Cure



Answer the questions and mail this to DR. W. S. RICE, 865 Main Street, Adams, N. Y.

Age..... Time ruptured.....
Name.....
Address.....
Does rupture pain?..... Do you wear a Truss?.....

Tobacco Habit.

Dr. McTaggart's tobacco remedy removes all desire for the weed in a few days. A vegetable medicine, and only requires touching the tongue with it occasionally. Price \$2.

Liquor Habit.

Marvellous results from taking his remedy for the liquor habit. Safe and inexpensive home treatment; no hypodermic injections, no publicity, no loss of time from business, and a cure certain.
Address or consult Dr. McTaggart, 75 Yonge Street Toronto Canada.

PLEASE MENTION THIS PAPER WHEN WRITING ADVERTISERS



IMPORTANT TO FARMERS

Your fences are your fortress against loss and damage. They must be strong enough to resist invasion from without, and to keep within bounds your flocks and herds. You can't afford to take chances on soft, slack, or brittle wire fences, which may fail just when most needed.

Peerless Woven Wire Fence

has the elastic springiness and resisting qualities that make an A 1 farm fence. Once up it lasts—no breaking—no falling down. There are reasons why. We can't tell them all in this ad, but if you will write to us we will send you some valuable fence facts.

The Banwell Hoxie Wire Fence Co. Ltd.

Dept. B, Hamilton, Ont.
Winnipeg, Manitoba.

QUESTIONS AND ANSWERS.
Miscellaneous.

COAL ASHES ON SANDY LAND.

Would coal ashes be beneficial to light sandy soil? C. S. S.

Ans.—No.

BLENHEIM PIPPIN.

Is the Blenheim Pippin considered as good and profitable a tree to plant as the Stark or Ben Davis? I notice the Gravenstein tree spoken of favorably. I want to plant some more and do not know what kind. Kindly advise. A. S.

Ans.—The Blenheim Pippin is a much finer apple than either Stark or Ben Davis, as far as quality is concerned, but cannot compare with them as a profitable variety in the orchard, because it is not nearly so productive, nor does it ship so well as either Stark or Ben Davis. The Gravenstein is a choice fall variety which might be grown much more largely than it is because of its extra fine quality. It must, however, be handled promptly and carefully to get the best results from it in marketing. I send by this mail bulletin giving list of varieties recommended for planting in Ontario as determined by the Ontario Fruit Experiment Stations. From this, you may be able to determine what varieties will be most profitable to plant. As you are midway between Burlington and Trenton stations, you should compare lists recommended at each of these stations. H. L. HUTT.

O. A. C.

MISTAKEN FOR FISTULA.

I saw a question in "The Farmer's Advocate" asking for a cure for a fistula. We have had three with fistulas. We had the veterinary for two of them without success; but, for the third, which was the worst one, I used — cure. Just put a small blister at the bottom of the fistula, and, if that does not do, put another one on. G. B. P.

[Note.—Fistula cannot be cured by the application of anything at the bottom. Of course, the correspondent means to the skin at the bottom, not to the inner structures, as it would require an operation to get the cure there. G. B. P. is certainly mistaken. It is possible he thought he had a case of fistula, which was merely a temporary swelling, and he had treated as stated and the swelling disappeared; but there was no fistula present. Any thinking person can see for himself that there is deep-seated disease causing the formation of pus, and a pipe or fistula leading from that to the surface to conduct the pus, that the external application of any cure cannot be effective. Just such mistaken ideas as G. B. P. has accounts for the wonderful testimonials many of these nostrums get.—V.]

LUCRETIA DEWBERRIES — PROPAGATING GRAPES— BIGGEREAU CHERRIES.

1. Am situated about twenty miles north-west from London. Would the Lucretia blackberry be hardy here? Is it a valuable blackberry?

2. How are grapevines best propagated, by layers or cuttings?

3. Do you know of any cherry called 'Turkish Bigarreau'? W. E. W.

Ans.—1. The Lucretia is a dewberry, something of the type of the blackberry, but it has a much more sprawling habit of growth, and requires a trellis to be grown satisfactorily. It should prove quite hardy in your district. It is grown at Mr. Sherrington's Fruit Experiment Station, at Walkerton, and has there proved hardy. It fruits freely, and the fruit is of good quality, but it is not so productive as some of the best blackberries, and will probably never be grown to any extent commercially.

2. Grapes may be propagated either by cuttings or by layers. In nursery practice, where large quantities are required, they are propagated altogether by cuttings. The amateur who wishes to propagate only a few strong vines may do it by means of layers. The only advantage in the layer over the cutting is that the layer is nourished by the mother plant until roots have formed, and it is thus more sure of striking roots.

3. There are a number of varieties of

TAXIDERMY BOOK FREE

Mount Birds and Animals!

Sportsmen! Fishermen! Hunters! Naturalists and others seeking to better themselves by learning a great profession. The wonderful art of Taxidermy, so long kept secret, can now easily be learned right in your home during your spare hours. No need to give up your business.

WE TEACH BY MAIL how to mount birds, animals, game heads, tax skins, make rugs and mount all trophies. A delightful, entrancing and money-making profession for men and women. Decorate your home with rare specimens of the hunt or chase. Easily and quickly learned. Success guaranteed or no tuition. Endorsed by thousands of delighted graduates.

Great Book FREE! Our beautiful, illustrated book, "How to Learn to Mount Birds and Animals," and our hands-on Taxidermy Magazine absolutely free to all who write. Stop depending on a job. Have a profession. Write today. N.W. School of Taxidermy, 48 & 49 St., Omaha, Neb.

THE LAFAYETTE STOCK FARM

J. CROUCH & SON, PROPS.,
LaFayette, Ind.

Largest importers in America of Percheron, Belgian and German Coach stallions and mares. The three popular breeds. The States have about 100,000 all breeds of draft horses except the Percheron and Belgian. They are low down, blocky shaped, clean legs, cuppy foot and tough, and can go over rocky roads without shoes; are cl se made, long ribbed, and live on half the food that the leggy shorly ribbed, big Roman nose kind do. They mature at three years old. Long time to responsible buyers. Guarantee the best. Prices from \$700 up to \$2,900.

the Biggereau cherry, but I never heard of any called Turkish Biggereau. Two of the most commonly-grown Biggereau cherries are Napoleon Biggereau and Schmitz Biggereau. H. L. HUTT.

O. A. C.

EXPERIENCE WITH METAL SIDING.

Will you please let me know through the columns of your paper what experience you have had with metal siding on barns? Does it give good satisfaction? Would it make the barn too warm so that the grain would heat in the mows? J. H. M.

Ans.—Replies are invited from those who have had experience.

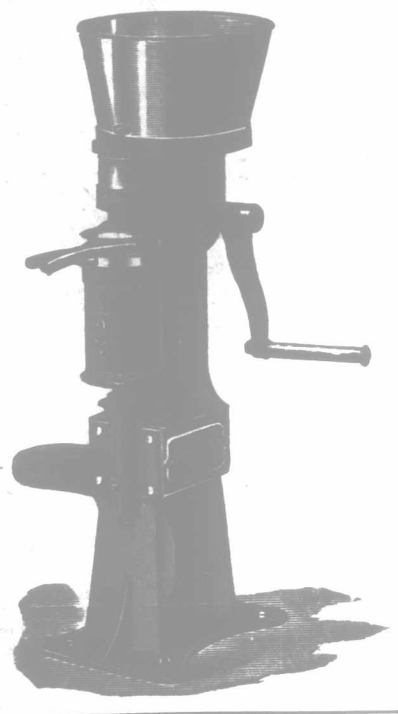
ONION CURE FOR PNEUMONIA.

This remedy, which is claimed to be infallible in pneumonia, was formulated many years ago by a well-known physician, who never lost a patient by this scourge: Take six or ten onions, according to size, and chop fine. Put in a large frying-pan over a hot fire, adding about the same quantity of rye meal and vinegar to form a stiff paste. Stir thoroughly, and simmer five or ten minutes. Put into a cotton bag large enough to cover the lungs, and apply to the chest just as hot as the patient can bear it. In about ten minutes change the poultice, and thus continue reheating and applying, and in a few hours the patient will be out of danger. And, just here, a word of caution. In applying this, or any other hot poultice, care must be exercised not to let the patient get chilled during the changing process. Have the hot one all ready to go on before the cooling one is removed, and make the exchanges so swiftly and deftly that there is not a moment's exposure of the body surface, which becomes exceedingly sensitive to a chill.—[Ex.]

A FLATTERING ILLUSION.

"I thank you for the flowers you sent," she said, And then she pouted, blushed, and drooped her head. "Forgive me for the words I spoke last night; The flowers have sweetly proved that you are right." Then I forgave her, took her hand in mine, Sealed her forgiveness with the old, old sign; And as we wandered through the dim-lit bowers, I wondered who had really sent the flowers."

MAGNET Cream Separator Competition.



The Petrie Mfg. Co. Limited.
Hamilton, Ont.
Winnipeg, Man.
St. John, N. B.

Twenty Prizewinners of \$1.00 Each.

- Arthur, Pearl A., Huntingdon, Quebec.
- Benson, Gena, Rednerville, Ontario.
- Court, Maude H., Dunstaffnage, P. E. I.
- Coldwell, Evelyn, Melanson, King's Co., N.S.
- Fraser, B. o'da, Bo lardie, C. B., N. S.
- Finegan, W. A., Lenister, Ontario.
- Herron, Jessie E., Courtland, Ontario.
- Lowther, Mary, Nine Mile Creek, P. E. I.
- Mitchell, Ruby M., Argyle, Man.
- Ramplie, Jacob T., Resenot, Man.
- Ross I. G., Union Road, P. E. I.
- Rutser, Annie M., Lewisham, Muskoka, Ont.
- Simpson, Enid, Bay View, P. E. I.
- Sheppard, Irwin, Bloomingdale, Ont.
- Thompson, Laura, Dunallen, Man.
- Thompson, May, Ma tintown, Man.
- Wood Florence, Alexandria, P. E. I.
- Webster, Ida M., Marie, Lot 40, P. E. I.
- Ward, Harry A., Townsend Center, Ont.
- Zavitz, Evan R., Sherkston, Ont.

Twenty-seven Special Prizes, Recommended by Mr. A. B. Petrie.

Each girl a pair of Hollow-ground Scissors, and each boy a Pocket Knife. Value of each, 60c.

- Bingman, Newton, Breslau, Ont.
- Barrett, Mary M., Head of Millstream, King's Co., C. B.
- Beakon, Freeman, St. Patrick's Channel, Vic. Co., C. B.
- Crouse, Frank, Baker's Sett., Lunenburg Co., N. S.
- Coakley, Harold A., Douglas Harbour, N. B.
- Chambers, Florence E., O'Connor, New Ontario.
- Coates, Lena, Exeter, Ont.
- Duncan, Nellie, Campbellford, Ont.
- Haines, Winnie, Plympton, Man.
- Hildebrand, Jacob, Choritz, Man.
- Jamieson, Rae, Kintail, Huron Co., Ont.
- Kirchner, Anna, Moore Park, Man.
- Landon, Carl A., Bloomfield, N. B.
- Lightbody, Edna, Masstown, Col. Co., N. B.
- Muir, William M., Margaret, Man.
- McDougall, Lillian, Tara, Ont.
- McDonald, Bethlah, MacLeod, Alberta.
- Purcell, Wilbert C., Huntingdon, Quebec.
- Prier, Ethel E., Deepdale, Man.
- Stevenson, I. L. Milner, Frederickton, P. E. I.
- Stewart, Ruth, Hillier, Ont.
- Sands, Treassa L., Fairfax, Man.
- Schuster, Caroline, Lipton, Saskatchewan.
- Stewart, Ella, Bryson, Quebec.
- Truesdale, Levi, Wabash, Ont.
- Tucker, Edna L. M., Dauphin, Man.
- Wiens, Irena I., Winkler, Man.

Our readers will remember that Messrs. Petrie Mfg. Co., of Hamilton, Ont., announced in their advertisement in our last Christmas number that they would, on Feb. 15, give a certain number of cash prizes to boys and girls fulfilling certain conditions. In their advertisement in this issue the addresses of all the prizewinners are given, and we commend the firm for their promptness in this matter.

FOR SALE, or EXCHANGE for a PERCHERON

Good registered OLYDESDALE stallion, 6 years old; kind, sound and sure; an All stock horse; selling for no faults; had him since a colt. Reason: A number of my customers would like to try a Percheron.

J. C. ANDERSON, Morganston, Ontario.

PLEASE MENTION THIS PAPER

Bone Spavin

No matter how old the blemish, how lame the horse, or how many doctors have tried and failed, use

Fleming's Spavin and Ringbone Paste

Use it under our guarantee—your money refunded if it doesn't make the horse go sound. Most cases cured by a single 5-minute application—occasionally two required. Cures Bone Spavin, Ringbone and Sidebone, new and old cases alike. Write for detailed information and a free copy of

Fleming's Vest-Pocket Veterinary Adviser

Ninety-six pages, durably bound, indexed and illustrated. Covers over one hundred veterinary subjects. Read this book before you treat any kind of lameness in horses.

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

OAKLAWN FARM

HEADQUARTERS FOR

PERCHERONS

BELGIANS

FRENCH COACHES

POINTERS FOR BUYERS

Our sales last six months nearly twice those of any similar period in our history. Animals purchased here and shown by their then owners won more championships and first prizes than all purchased elsewhere and similarly shown.

Constant importations. Next one due February 5, 1908. Best animals, lowest prices, safest guarantee. 42 years of honorable business methods. Write immediately to

DUNHAM & FLETCHER
WAYNE, DU PAGE COUNTY, ILLINOIS

Seldom See

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

ABSORBINE

will clean them off without laying the horse up. No blister, no hair gone. \$2.00 per bottle, delivered. Book 8-C free. ABSORBINE, JR., for mankind, \$1.00. Removes Soft Bunches, Cures Varicose Veins, Varicocele, Hydrocele, Ruptured Muscles or Ligaments, Enlarged Glands. Always Pain. Mfd. only by

W. F. YOUNG, P.D.F., 73 Monmouth St., Springfield, Mass.
Canadian Agents: LYMAN BROS. & CO., Montreal.

Free Veterinary Book

Be your own horse doctor. Book enables you to cure all the common ailments, curb, splint, spavin, lameness, etc. Prepared by the makers of

Tuttle's Elixir

The world's greatest horse remedy. \$100 reward for failure to cure above diseases where cure is possible. Write for the book. Postage 2c.

TUTTLE'S ELIXIR CO., 66 Beverly St., Boston, Mass.
Montreal: H. A. Tuttle, Mgr., 22 St. Gabriel St.
Beware of all blisters; only temporary relief, if any.

C. H. R. Crocker, South Farmington, Nova Scotia.

Lame Horses

certainly do need Kendall's Spavin Cure. Whether it's from a Bruise, Cut, Strain, Swelling or Spavin, KENDALL'S will cure the lameness—quickly—completely.

CUPAR, SASK., May 16th '06.

"I have used Kendall's Spavin Cure for 20 years and find it a sure cure."

FRANK E. ADAMS.

Price \$1—6 for \$5. Accept no substitute. The great book—"Treatise on the Horse"—free from dealers or \$3 Dr. R. J. Kendall Co., Enosburg Falls, Vermont, U.S.A.

Young Clydesdale Stallion

For sale, a grand good one, Stonewall (8688), sire Cornerstone (Imp.) (3505) (110/6), thick, strong and healthy, grand disposition, stands well on his feet, clean bone. Inspection invited. Write or call.

JOS. W. HOLMAN, Columbus, Ont.
Myrtle, C.P.R. Oshawa or Brooklin, G.T.R.

QUESTIONS AND ANSWERS.

Miscellaneous.

ENLARGING POLICE VILLAGE.

Can an incorporated police village force all the farm land into it that the village lots are sold off; that is, take in the whole farm? The village only has a population of 350. They have incorporated 600 acres.

A SUBSCRIBER.

Ans.—The Consolidated Municipal Act, 1903, provides (by sec. 714a) that on petition of two-thirds of the ratepayers of a police village, and of the majority of the ratepayers in the territory proposed to be added, the council or councils of the county or counties in which the police village is situated, may, by by-law, enlarge the limits of the police village by adding adjoining lands thereto, and thereafter such adjoining lands so added shall form part of the police village.

NEW RAILWAY ROUTE.

What steps should I take with regard to the route of the — railway, which have just registered their route in our registry office? If we could force them to follow the — railway line, it would cause little or no inconvenience compared with the present route, as one track cuts a farm up bad enough without the second.

2. Also, how deep has the cut to be in order to enforce an over-head bridge? Ontario.

Ans.—1 and 2. These are both matters in respect of which full local knowledge is requisite in order that advice may be given as to your legal rights in the premises and the course it may be advisable for you to take under the circumstances of the case. We would, therefore, just suggest that you see a solicitor personally and consult him regarding the protection of your interests.

FARMERS' RURAL TELEPHONE

We have on — Island about fifty miles of a telephone service, built by mutual agreement among farmers and village people. Now, we find that we cannot control our service. We have annual meetings of shareholders, and levy rates to pay switches and repair line, and then we find we cannot collect, consequently the line is getting into a bad state. Those who wish a better service and to promote the interests of the line, call meetings, and try to get the people to incorporate, but they will not all agree to do so.

1. If the majority vote for it, can we incorporate?
2. In our present condition, can we enforce resolutions passed by directors appointed by the shareholders at annual meetings?
3. If the law will not recognize us in our present state, and we cannot incorporate without the consent of all the shareholders, what would you advise us to do?

4. Are one-half of the men who constructed the line obliged to be at all the expense of operating the line and repairing, and allow the other half the use of it, or else lose what we have invested?
5. Could every shareholder be made to pay his full share or lose what he has invested?

Ontario.

Ans.—1. No.
2. Probably not.
3. Those who are willing to become incorporated should do so, and then get in by purchase, or otherwise, the interests of the others.
4. No, the defaulters are probably liable under the partnership agreement to contribute toward expenses already incurred, and could be sued, if necessary.
5. Hardly that, but, as above indicated, it is likely that is compellable to make payment.

We have just been favored with a catalogue of Messrs. R. & S. Nicholson's sale of Shorthorns, to be held at the farm, five miles south-west of Parkhill, on Wednesday, Feb. 26th. This is the fifth sale they have held in recent years, and they have strictly adhered to the following rule: That no bid was made by or for the proprietors directly or indirectly, and that every animal is to be sold to the highest bidder. See their advertisement on page 324 of this issue.

GOSSIP.

WINNINGS OF CLARENCE KIRK-LEVINGTON.

In a recent issue of "The Farmer's Advocate," I notice your remarks regarding the champion steer, Clarence Kirklevington, at Chicago in 1884. In addition to winning grand champion on foot, this steer also won grand champion on the block. Canada's Pride, the beautiful three-year-old heifer from the same stable, also won champion that year as best cow or heifer, any age or breed. Next year, the two-year-old Shorthorn steer, Chief Brant, also from Bow Park, tied with an Angus for grand champion. This steer was one of the best I have seen of the breed, and for weight and quality of flesh, Clarence Kirklevington and Chief Brant have not, in my estimation, been surpassed by any steers at the International. JAMES SMITH.
Russel Co., Ont.

NO EASY MARK.

The great American humorist, Mark Twain, was the guest of the Pilgrims at the Savoy Hotel, London, England, last Tuesday, and stories concerning the author of "Tom Sawyer" have lately strewn the English periodicals. One of the best of these declares that Mark Twain has a great dislike to what is known as "side," and is never so happy as when taking down conceit in anyone. While dining in a restaurant, he once sat at the next table to two exceedingly self-possessed young men who were putting on a great many airs and graces, and giving the waiters an immense amount of trouble. One of them gave an order, and then in a commanding voice asked the waiter to tell the cook who it was for.

"Yes," said the other, "better tell him my name, too, so as to make certain of having it all right."

Presently came Mark Twain's chance, for when the waiter came to his table, he said, loud enough for everyone to hear:

"Bring me a dozen oysters, and whisper my name to each of them, to make sure it's all right."

In Mr. Kipling's "From Sea to Sea," there is a highly-interesting account of how the young correspondent for the Allahabad "Pioneer" visited Mark Twain at Elmira, New York. He tells with positive veneration of how the latter's hand rested carelessly on his shoulder as the genial humorist bent forward to take a volume from the book case. Little did either dream of the future that awaited the young caller, and of the dinners they would enjoy together in England's capital.

MAKES HIS OWN STOCK FOOD

In interviewing a prominent stock dealer recently, the question of Stock Foods was discussed. He states that for some time he has been making his own stock food, and that the results he had obtained were very satisfactory, that by making it himself he was sure of obtaining only the best and purest of drugs and in the proper proportions, and that the ingredients would not produce the harmful results that he had experienced with many of the preparations now on the market.

As a conditioner and flesh-producer for all kinds of stock, he found nothing that would equal this home mixture, both in economy and results.

He has given this recipe to be published for the benefit of stock owners in general, and is sure that it will be to their advantage to use it.

He found that best results were obtained by using one pound Barnes English Compound and mixing with three pounds of Linseed Meal and six pounds of Corn Meal. Barnes English Compound can be procured from S. G. Amsden, Box 668, Windsor, Ont., who will send a one-pound package, sufficient to make ten pounds of the home mixture, postpaid, on receipt of 50c., money order or stamps.

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's Caustic Balsam

IT HAS NO EQUAL

For the Human Body

It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

REMOVED THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Gombault's Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."
OTTO A. PETER.
Price \$1.50 per bottle. Sold by Druggists, or sent by us express prepaid. Write for booklet R. The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

A Perfectly Safe and Reliable Remedy for

Sore Throat
Chest Cold
Backache
Neuralgia
Sprains
Strains
Lumbago
Diphtheria
Sore Lungs
Rheumatism
and all Stiff Joints

Blair's Pills

Great English Remedy for

Gout & Rheumatism

Safe, Sure, Effective.

All Druggists, 60c and \$1.00

LYMAN, BOW & CO. MONTREAL

HORSE-BREEDERS NOTICE!

Now is the time to treat your brood mares, do not wait till the foal is dead; treat your mare by using **Wilhelm's Blood Mare Special**; it guarantees a good, strong, healthy foal. If your dealer does not keep it, send direct to us. It has been used successfully seven years. Price, \$1.50 per package.

WILHELM & MOORE, SHAKESPEARE, ONT.
J. WILHELM, V. S. G. A. MOORE.
Specialist on Generation. Manager

HORSE ACTION DEVELOPERS

Royal Letters Patent No. 686

FOR PRODUCING AND IMPROVING ACTION IN HORSES

WRITE FOR PARTICULARS.

G. E. GIBSON, OAKHAM, ENGLAND.

High-class Driving Ponies AND DORSET SHEEP.

For sale: Pair matched bay and white ponies 3 years old; piebald gelding, 2 years old; black Shetland mare (Imp.), 5 years old (bred); and others of various ages. Also a few young Dorset ewes in lamb. Apply to:

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New importation of Clydesdales and Hackney Stallions. For sale more Old Country premium and H. and A. Society winners than any other importer. Such horses as **Acme, Monarch, Marquis, Rozelle, Ardethan Goldsmith, King's Seal, Baron's Charm, Baron's Carriok, Abbey Fashion, Medallion** and many others equally good. Thirty six in all. Prices reasonable.

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Clydesdales, Shorthorns and Cotswolds—For richest bred and choicest individuals of above breeds, write me. My new Cotswold and Clydesdale importation will arrive early in the season.

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Clydesdales—Stallions and mares—Lyon MacQueen (8693), 3 reg. dams, Royal Robbie (4274), 4 reg. dams; sure getters. Mares of large size, good quality, regular breeders, at right prices, **JOS. H. MILLARD, Altona, Ont.** Stonyville Sta. G.T.R. Midland Div.

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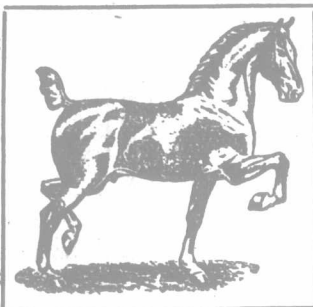
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The Directors of the above Company have not spared anything in the building of this new Horse Exchange. The stables, which are built of cement and brick, will stall between 200 and 300 head of horses and are considered by judges, who have seen them, to be the most sanitary they have yet seen.

We have sold on an average of 100 horses per week since the opening of this great horse market, and now that the success of the horse business is assured, we are in a position to handle Breeders' Stock Sales of all kinds, Cattle, Sheep, and Hogs.

Breeders will find that advertising from a central place like Toronto will be advantageous in many ways, as this is unquestionably the most complete market of its kind in America for both buyer and seller.

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Correspondence solicited as to terms, etc.

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Our new importation has just landed. An exceedingly good lot. Some extra big fellows. They may be seen at our stables, Fraser House, London. Call and see them, or write

MESSRS. DALGETY BROS., GLENCOE, ONT.

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CLYDESDALES and HACKNEYS.

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25 Imported Clydesdale Stallions and Fillies 25

Two Clyde stallions, 1 Hackney stallion, over 20 Clyde mares and fillies, from 1 to 5 years of age. Many high class show animals among this lot. Many winners in Scotland among them. They have size, quality, style, action and breeding. Come and see them. **GEORGE A. BRODIE, Bethesda P. O., Stouffville and Gormley Stations**

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IMPORTED CLYDESDALES Up to over a ton in weight with the very richest of breeding and the best of quality. I think no better shipment of stallions ever left Scotland. I have also nine fillies, without doubt the best lot in Canada. All will be sold cheap and on terms to suit. Long-distance phone. **GEORGE G. STEWART, HOWICK, QUE.**

Clydesdale Stallions! **ROBT HUNTER & SON, Maxville, Ont.**

Now offering that grand quality horse, Baron Colin, imp., [4542] by Baron's mate, dam by Flashwood's Best, four years old; also Kysma, Canadian-bred, imp. sire and dam, a big, grand, good colt, a show animal. Long-distance phone.

QUESTIONS AND ANSWERS.
Miscellaneous.

TURKEY CHOKES.

I have a turkey hen that seems to choke nearly all the time. What would you advise me to do? She feeds well, and seems to be healthy. **A. M.**

Ans.—I would say, from the description, the turkey has canker in the mouth. We find the best cure for this is to keep them out in the open air, and swab the mouth with hydrogen peroxide, and if you have not got this, use silver nitrate, and if neither of these are available, I think coal oil is the next best thing.

O. A. C. W. R. GRAHAM.

SEEKING PAYMENT FOR WIRE FENCING.

A lives on the boundary of two townships. There is a by-law in said townships providing for part pay to farmers putting up wire fence along road where it drifts in winter. A puts up wire fence in fall of 1906, and has understanding from some of the council that he will get so much a rod for same. A puts in bill in January, 1907; but the new council refuse to pay it, and pass a by-law to rescind the previous by-law, doing away with paying for any wire fence put up in township. Is A entitled to payment? Can he collect payment from council? **N. Z. Ontario.**

Ans.—We think that under the circumstances stated A is entitled to payment, and that he would be quite warranted in proceeding for same by action in the Division Court, if necessary.

WHAT BREED OF CHICKENS?

We have some yellow chickens, but I don't know what kind they are. They are about the same size as the Barred Rocks, and have double combs and golden necks, but the rest of their body is of lighter color, especially their breast. Kindly tell me what breed they are. **L. M.**

Ans.—From the description given of the chicken, it is pretty difficult to locate the breed. I would say, off-hand, a Buff Wyandotte. There is no breed of chickens that I know of that have rose combs and red hackles. I understand from your letter that the body is almost white, or you could take the meaning that the hackle feathers were a darker buff color than the balance. I would simply say these are Buff Wyandottes that are running too dark in the hackle. They would be nearly the size of Plymouth Rocks and have rose combs.

W. R. GRAHAM.

RHEUMATISM.

1. I have a young Plymouth Rock rooster, which was all right at night, but in morning had partially lost power of its legs. He would stagger and fall, and could not stand still. That was about eleven days ago, but has got worse, and now has lost use of legs altogether; otherwise, looks healthy; will eat and crow, and is red in head.

2. Two days ago, went out in morning and found a healthy, laying pullet lying under roost with no use of her legs either, but before night she seemed to be all right. The house is warm and dry; has flagstone floor, but is covered well with dry straw for scratching. Feed grain twice a day—mostly wheat; and mangels and clover for noon feed. Buttermilk is given about three times a week, and all the fresh water they want. Have gravel and oyster shells before them all the time. House is kept clean and ventilated. Please tell me what is the trouble, and give remedy. **W. H.**

Ans.—I. I would judge the male bird has rheumatism. Possibly the henhouse is damp. The only thing to be done is to put him in dry quarters.

2. The hen possibly has the same trouble, or, at this season of the year, we frequently get females that have what we call the spring complaint; that is, they usually lose the use of their legs each day until after they lay, after which time they are all right. What is the cause or the cure, I do not know. When I notice birds begin to go this way, we give them Epsom salts quite freely, using one pound to 200 birds, twice a week.

O. A. C. W. R. GRAHAM.

FEED FOR HENS.

What is the best kind of feed to give hens to make them lay? **J. I.**

Ans.—I consider that a hen requires grain food, meat food, vegetable food, exercise, and fresh air. We feed about two pounds of wheat to 20 hens in the morning, one pound of meat or cut bone at noon, about a peck of clover leaves and an ordinary-sized mangel. At night, we feed them all the corn they want to eat. In addition to this, have grit and oyster shells, and this is all I know about making a hen lay, unless to see that she is of a good breed.

W. R. GRAHAM.

LEGAL WEIGHTS OF VEGETABLES.

Kindly advise me as to the standard weight of the following articles, by the bag and bushel: Onions, carrots, parsnips, apples and beets. **A. B. C.**

Ans.—The legal weight in Canada is sixty pounds for a bushel of beets, carrots and parsnips. In 1898, the legal weight of a bushel of onions was changed from sixty to fifty pounds. There is no specified legal weight for a bushel of apples. The standard for a barrel was recently put at ninety-six quarts. There is no legal standard for a bag of these various articles, although a bag is usually made to contain a bushel and a half.

O. A. C. H. L. HUTT.

WATERED STOCK.

Kindly give a clear and simple definition of the term "watered stock," with a few illustrations. **W. R. B. Ontario.**

Ans.—It means shares of stock issued as having been fully paid for, when, as a matter of fact, a part only, or none at all, of the amount of the face value of same has been actually paid. A common instance—probably the most common—is where the stock has been issued in exchange for property, and the latter has been over-valued; the difference between the actual value and that at which the property has been taken over representing the quantity of water. Another method of watering is the allowance of a discount or rebate.

BARLEY VS. EMMER.

Can you tell me which is the most profitable crop to grow, barley at 37 bushels per acre, or emmer at 50 bushels per acre? How does emmer compare with barley as a fattening ration for steers? How does emmer straw compare with other sorts of straw for feed? **A. H. G.**

Ans.—If the yields of barley and emmer were usually as stated by your correspondent, the emmer would have some advantage. Generally speaking, however, the total weight yielded by emmer and barley is very similar, so far as experiments at the College are concerned. Some years emmer has been ahead, and some years barley. It must be remembered that emmer carries about twenty-two per cent. of hull, and weighs about forty pounds to the bushel; whereas barley has about fifteen per cent. of hull and weighs forty-eight pounds to the bushel. These two facts tend to bring the yield of nutritive material comparatively close together, even at the figures stated by your correspondent. Unfortunately, very little experimental work has been carried on in the way of comparing emmer with other classes of grain for stock feeding. Generally speaking, were it not for the hull, emmer resembles wheat very closely. This would cause it to have a somewhat higher feeding value than barley; but, with the addition of the hull, its feeding value is very considerably lessened, so that I should not expect very much difference in the actual feeding value, pound for pound, between barley and emmer; but would rather expect the barley to be worth somewhat more than the emmer, provided, of course, that the barley is fed judiciously. I would never recommend barley to be fed alone as a meal ration for fattening steers, but if it is mixed with a few oats, or even some bran, a very marked improvement in its value will be noticeable. So far as we know, emmer straw is very similar to other kinds of straw in feeding value. There might be differences, it is true, but the difference would be slight in any case.

O. A. C. G. E. DAY.

ADVERTISE IN THE ADVOCATE

GOSSIP.

Wm. Smith, of Columbus, Ont., writes: "Have recently sold to Mr. Geo. Hillebrecht, of Brodhagen, Ont., my herd bull, Lord Clare =59596=. Judging from the youngsters that are now appearing in my herd, by him, is proof that he will be highly valued in his new home at Brodhagen. The bull that now takes his place in the Glengow herd is Royal Clare =66772=, a half-brother of Lord Clare's, purchased from Mr. Arthur Johnston, Greenwood, Ont.; he is by Royal Bruce (imp.) =55038=; dam Clara C. 2nd =54839=, by Count Douglas (imp.).

Royal Clare is a beautiful roan, of grand scale and substance, and covered with that firm but mellow flesh that one does so like to handle. I consider him by far the best bull that has yet headed my herd. Have also sold to Mr. Peter Dick, of Graton, Ont., Strathlmond =65579= and Wedding Gift 38th =76829=, by Ben Lomond (imp.). This is certainly a choice yearling heifer, and should breed some very fine stuff for Mr. Dick. Strathlmond, by Ben Lomond, is a dark red bull, deep, low-set, and belongs to that grand old and reliable family of Strathallans. At the present time I have for sale a bunch of six bulls, and not a bad one in the lot, any one of them fit to head the best of herds, because their breeding is right, and, as individuals, they are hard to beat. Write, or come and see them. The prices are right. My heifers are an exceptionally even lot; most of them sired by that great sire, Ben Lomond (imp.), and are, as he left them all, deep, thick, mellow handlers, and covered with lots of hair."

SHORTHORNS AT AUCTION.

As announced last week, at Toronto Junction Stock-yards, on Friday, March 6th, Mr. Robert Miller, of Stouffville, Ont., and Donald Gunn & Son, of Beaverton, Ont., will sell, without reserve, 40 head of high-class Shorthorn cattle: 30 females, cows and heifers, 15 of which are imported, the balance Canadian-bred, nearly all the get of imported sires and dams; also 10 bulls, 5 of them imported, the others Canadian-bred, the get of high-class sires and dams, nearly all of which are imported. Every bull to be offered is a herd-header of the low-down, thick order. Every female to be offered is guaranteed right in every particular, and among them are many high-class show animals. The Stock-yards, at Toronto Junction, are an ideal place for a sale of this kind, with a mammoth ring and ample seating accommodation in a comfortable building, and this sale being held the day following the mammoth sale of Senator W. C. Edwards, Sir Geo. Drummond and Peter White, K. C., will offer buyers from a distance a wide range from which to choose, with no delay whatever. Below is a short review of the breeding of the bulls that will be sold, which speaks for itself: Spicy King (imp.) 50096 is a red five-year-old; sire the Cruickshank J. bull, Chance Shot; dam Spicy Louisa, a Miss Ramsden, by the Marr Goldie bull, Spicy King; he is a short-legged, thick, smooth bull, and a proven sire of worth. Ravenswood (imp.) is a red four-year-old, by the Augusta bull, Hero; dam Rose Girl, a Marr Roan Lady, by the Diamond bull, Inkerman. Violet's Crown (imp.) is a red twenty-months-old, by the Crocus-bred bull, Royal Crown, acknowledged one of the best sires Scotland ever saw; dam Vinilla 10th, a C. Violet, by Jasper. Dunrobin Lavender 69501 is a white eleven-months-old, by Nonpareil Eclipse 55704; dam Trout Creek Lavender, by Lord Banff (imp.); granddam Lavender Rose 2nd (imp.). Cloudy Morn (imp.) 70133 is a red eleven-months-old, by the great show bull, Cloudy Knight; dam Queen Esther 30th, by the Village-bred bull, Village Archer; granddam by the Missie bull, Musgrave. Dunrobin Roan Boy 69502 is a roan eleven-months-old, by Nonpareil Eclipse, dam Rose Girl (imp.), a Marr Roan Lady, by Inkerman. Braco (imp.) 70132

is a red eleven-months-old, by Damon; dam Roselite, a Campbell Rosebud, by the Clara bull, Count March. Dunrobin Royal 69503 is a roan ten-months-old, by Ardlethen Royal (imp.); dam Minnie Wilfred, by Sir Wilfred Laurier (imp.). Lucky Line 70137 is a red fifteen-months-old, by the Mina bull, Golden Beau (imp.); dam Lovelace 3rd, by the Missie bull, Republican; granddam Lupin (imp.), a Lovelace, by Loris. Royal Jubilee 69813 is a red seven-months-old, by Royal Fancy (imp.); dam Jubilee Maid 2nd (imp.), a C. Butterfly, by Fortunatis. Ten bulls, and all extra good ones, fit to head any herd, while their breeding is all that could be desired along fashionable lines.

Following is a list, by breeds, of the pedigrees recorded in the National Record office, Ottawa, from the time of commencing the sheep records in 1906, to December 31st, 1907:

Shropshires	1,905
Leicesters	2,562
Cotswolds	572
Dorsets	303
Lincolns	189
Hampshires	26
Oxford Downs	308
	5,865

PINE GROVE BERKSHIRES.

Without a doubt, spring and early summer will see an unprecedented demand for brood sows. Owing to the scarcity and high price of feed, but probably as much as anything to the scare, many hundreds of brood sows having been sent to the packing-houses, the inevitable result will be almost impossibility for the packers to get a supply, resulting in record prices being offered for hogs fit for slaughter. Mr. W. W. Brownridge, whose advertisement appears regularly in "The Farmer's Advocate," has on hand about a baker's dozen of high-class Berkshire sows in breeding. Part of that number are imported, bred in the leading herds of England, the balance bred from imported sires and dams. For immediate delivery, he has on hand a large number of both sexes and all ages, boars fit for service and younger ones, sows bred and ready to breed and younger ones, the get of such choice boars as Imp. British Sovereign, Imp. Polgate Duty 2nd and Sally's Ensign. A number of these youngsters are imported in dam. It is needless to say that in his pens are a number of very choice things. Pairs and trios can be supplied not akin. His farm, Pine Grove, lies in Halton County, about midway between Georgetown Station (G. T. R.) and Milton (C. P. R.), six miles from either. His post office is Ashgrove. Intending purchasers would do well to make an early selection, as usually the best go first.

Mr. Robert Miller, of Stouffville, Ont., writes: "I have recently made a few more sales of Shorthorns. Mr. J. J. Hodgins, of Hazeldean, Ont., an old customer of mine, with one of the nicest little herds of Scotch Shorthorns in Eastern Ontario, got the imported calf, Bandar, to place at its head. Bandar =70131= is a short-legged, thick, smooth bull, as straight as a line in every way. He is red all over, was sired by Roving Robin (93181); his dam was Mountain Maid 21st, by Squire Nonpareil (75723), and his granddam was Mountain Maid 17th, by Sportsman (69642), a Duchess of Gloster bull of Mr. Duthie's breeding. The Mountain Maids are a branch of the Cruickshank Matchless family, as bred at Shethin. They are very strong cattle, good milkers, and have been as good individuals as have any of the families imported by me. I also sold to Mr. W. T. Hodgins, Hazeldean, Ont., a nice imported cow and her heifer calf, by Uppermill Omega =64425= (97506). The cow is Minnie =48584=, bred from a good old North Country family, and she has won several first prizes in Canada. She is a big, smooth cow, a good milker and a good breeder. The pair make a nice start for Mr. Hodgins. The brothers have been keeping nothing but good, pure-bred bulls for many years; but Mr. W. T. Hodgins has not had a recorded cow until now."

Come and see the most select lot of

Clydesdale and Hackney

STALLIONS AND MARES
Two to Six Years Old

These horses combine size, weight and quality. All of which are for sale at reasonable prices. Send for illustrated catalogue.

Graham Bros.,
CLAREMONT, ONTARIO.

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Holdenby, Northampton, England,



Have at their American branch, at St. Thomas, Ont., under the management of C. K. Geary, a number of good big stallions, also several very fine fillies coming three years old, and safe in foal to some of England's leading sires. Address all communications to:

C. K. Geary, St. Thomas, Ont.

Shires, Shorthorns and Lincolns.

At present we are offering a very choice consignment of imported stallions, mares and fillies received from the great Shire stud of R. Moore & Sons, Beeston Fields, Nottingham, England. They are a grand lot, and will be sold at right prices.

In Shorthorns we have a number of choice young bulls, three of them show animals; also an excellent lot of females—all ages.
John Gardhouse & Sons, Highfield, Ont.
Toronto, 14 miles. Weston, 2 1/2 miles.



CLYDESDALES

At Columbus, Ont., the home of the winners, this year's importation just arrived. The pick of Scotland's best. For size, style, conformation, quality and royal breeding, they eclipse any former importation we ever made. Look them up in our barn on Exhibition Grounds. Over 30 head to select from.

SMITH & RICHARDSON, COLUMBUS, ONTARIO

Imp. Clydesdales (Stallions and Fillies), Hackneys, Welsh Ponies.

I have now on hand Clydesdale stallions and fillies—Scotland prizewinners and champions; Hackney fillies and Hackney pony; also Welsh ponies. There are no better animals, nor no better bred ones, than I can show. Will be sold cheap and on favorable terms. A. AITCHISON, GUELPH P. O. AND STATION.

SIMCOE LODGE CLYDESDALES

Our stable of imported and Canadian-bred Clydesdale stallions and fillies was never so strong in show stuff as now, although we have had some very strong lots. Call and see what we have before buying elsewhere. HOGKINSON & TISDALE, BEAVERTON, ONT., G. T. & C. N. R. Long-distance phone.

OAK PARK STOCK FARM HACKNEYS!

Four imported and home bred stallions for sale. Ten imported and home bred mares for sale. Among these are prizewinners at Toronto, Chicago and New York. Prices reasonable. Visitors always welcome to inspect stock. JAS. J. BROWN, Manager, BRANTFORD, ONT.

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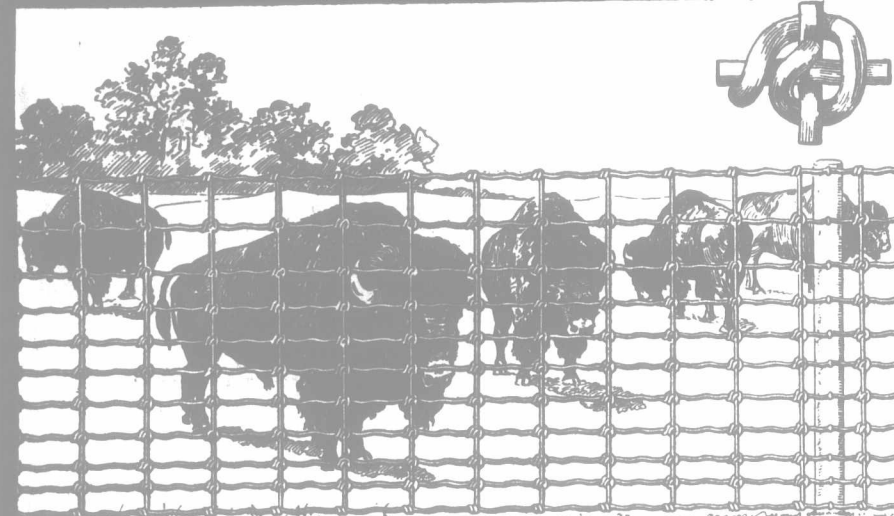


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Ont.,
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DONALD GUNN & SON,
Beaverton,
Ont.,

WILL SELL ON
FRIDAY, MARCH 6th, 1908,
By Auction, at the **TORONTO JUNCTION STOCK YARDS,**
Forty Straigt
Scotch Shorthorns
Consisting of five imported bulls and five home-bred bulls, fifteen imported females, cows and heifers, and fifteen home-bred females, cows and heifers, of highest quality and most fashionably bred, and will positively be sold without reserve. Terms cash, unless previously arranged for.
Catalogues on application to
ROBERT MILLER, Stouffville, Ont.
Hon. W. C. Edwards, Sir Geo. Drummond, and Peter White, K.C., will sell at the same place preceding day.



The fence that restrains the Wild Buffalo at Elk Island (Government) Park, near Ft. Saskatchewan, Alberta, is Lamb Fence. Twenty miles of Lamb Fence around this park, which contains over Four Hundred Wild Buffaloes, the only large herd of Buffaloes in the world.

If Lamb Fence will hold a Wild Buffalo, it surely will hold the most vicious domestic animal.

Lamb Fence is a fence that will go over any hill or through any valley—a fence with a straight, hard steel upright and a knot that never slips—a fence with wires of even length—a fence made of high-grade steel wire—a fence that will continue to be its owner's pride.

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They have a line of fence that sells readily and gives entire satisfaction. They have a firm behind them that treats them right in every way.

The H. R. **LAMB Fence** Co., Ltd.
London Ont.

When Writing Advertisers Kindly Mention "The Farmer's Advocate."

QUESTIONS AND ANSWERS. Veterinary.

SPRAINED FETLOCK.

Mare sprained her fetlock. I applied cold water, liniment and bandages. The swelling decreased, and tenderness disappeared, but the joint is still enlarged on front and inside, and is very hard.

L. B. H.

Ans.—Repeated blistering will reduce the enlargements considerably and cure the lameness. Details for blistering are given in this issue in answer to question by J. M. C.

V.

FEEDING PREGNANT MARE.

Mare will be due to foal on March 25th. She is not working. How should I feed her?

D. J. A.

Ans.—Feed a reasonable amount of hay of first-class quality. Give her three quarts rolled oats and one gallon bran, either dry or moistened with warm water, night and morning, and give a gallon of rolled oats, with a couple of carrots at noon. Add to her night food, twice weekly, a cupful of linseed meal. Give her all the good water she will drink. Give her regular exercise or light work. Regular exercise or light work for pregnant mares is one of the most essential points for successful breeding.

V.

SCROTAL HERNIA.

Colt, foaled in July last, has a rupture the size of a man's fist in his sheath.

A. M.

Ans.—Of course, you mean in the scrotum. In most cases a spontaneous cure takes place by the time the animal is a year or two old. I would advise you to not have him castrated until two years old. If the rupture has not disappeared by that time, get your veterinarian to perform what is called "the covered operation." In the meantime, if you notice that the hernia is increasing in size, have him operated upon. It requires an expert to operate successfully.

V.

Miscellaneous.

SOWING ALFALFA.

I am very much interested in the discussion going on in "The Farmer's Advocate" re the growing of alfalfa for cow feed. As I have never grown it, would you kindly answer the following questions:

1. What nature of soil is best for its cultivation?
2. If I sow in the spring of 1908, when do I get the first harvest? Is it better sown by itself or sown like, say, red clover, along with some other spring crop? If sown with spring crop, what crop is best to sow with it to ensure a good catch?
3. At what stage of growth should it be cut in order to make the most perfect feed?
4. About how many pounds of seed are usually grown to the acre?

J. M. M.

Ans.—1. It is easier to get a catch on mellow loam soil, but the chances of getting a good catch of alfalfa on stiff clay is as good as in the case of red clover. The stand usually lasts longer on clay.

2 and 3. Sown alone in early spring on rich land, with good drainage, that was plowed last fall, you may get one cutting the same season, and we favor seeding it without a nurse crop, as the seed is somewhat expensive, and should be sown at the rate of 20 lbs. per acre. It will, however, do well under favorable conditions with a thin nurse crop of barley, sown not more than five pecks to the acre, in which case the alfalfa may be cut twice in the following year, while if sown alone, it may be cut three times in the second year. The above applies to seeding for cutting for hay, and it should not be pastured short in the fall. If intended for pasture a few pounds less of alfalfa, with a few pounds of red clover and grasses added will tend to make a better bottom and more variety.

3. For hay, the cutting should begin when the alfalfa is about one-tenth in bloom, and should be completed by the time one-third is in bloom. For the sake of the after effects on the plant, it is important that the first cutting be made in the early bloom.

TOWNSHIP TREASURER'S DUTIES.

A is a township treasurer. B is the township collector. C is a ratepayer on the resident roll, which is in B's hands. C moves his family to the West, and does not know who the collector is, and sends his taxes by mail to A, asking a receipt from A.

1. Is A justified in accepting said taxes and entering them in the township cash-book and sending C a receipt?

2. Is A obliged to carry the money to B to be, in turn, handed back to A?

3. Can A lawfully refuse to accept said taxes, they being on B's roll?

4. If A gives B a statement that said taxes have been paid by C, and shows him the entry in cash-book, can B demand anything more?

Ontario. SUBSCRIBER.

Ans.—Legally and strictly your questions must be answered, in the order in which they are stated, as follows:

1. No.

2. Yes.

3. Yes.

4. Yes; B is legally entitled to look for actual payment into his own hands as collector of taxes for the municipality.

APPLE SEEDLINGS IN NURSERY.

Please give best way to grow from seed and care for apple trees in nursery till large enough to plant in orchard. Name book on same. W. L.

Ans.—This question involves the whole practice of growing apple trees in the nursery, and is too large to be satisfactorily dealt with in the space available here. I would advise you to get a copy of the "Nursery Book," by Prof. L. H. Bailey, published by the Macmillan Co.; price \$1; obtained through "The Farmer's Advocate" office. I might say, in brief, however, that the growing of apple seedlings upon which to bud or graft in the nursery is a business in itself. Our nurserymen usually import the young seedlings from France, or some of the Western nurseries, where they are grown in great quantities. These seedlings are either whip-grafted in the nursery cellars during the winter months and transplanted to nursery rows in the spring, or are planted directly into nursery rows in the spring, and budded during the summer with whatever varieties it is desired to grow upon them. These operations are fully described in "The Nursery Book" referred to.
H. L. HUTT.

O. A. C.

PLANTING BLACK LOCUST TREES.

1. Will black locust trees spread from the roots when planted for shade and protection?

2. Would you advise planting black locust in a wood-lot, so as to reclaim it?

3. I understand that the Agricultural Department sends out trees to farmers or others free of charge. How should a letter be addressed to reach the proper Department?

C. B.

Ans.—1. Black locust trees will spread from the roots when planted along fence lines, or about the house, especially in gravelly soil.

2. Black locust is a very suitable tree for planting in the wood-lot. It is a rapid-growing tree, and produces wood which is very durable for fence stakes, vine stakes, and other material necessary to come in contact with the soil. It also has a very high fuel value, which makes it desirable from the farmer's standpoint. In planting this tree in the wood-lot, it could be satisfactorily planted in open places, where there was no shade. It would not be advisable to plant it beneath other trees, as it will not stand shade. In open places in the wood-lot, it should be planted about 6 feet apart each way, and nursery plants should be used.

3. The Forestry Department, of the O. A. C., Guelph, is co-operating with farmers in waste-land planting, and in planting the wood-lot. They are supplying free planting material for work of this kind. Conditions regarding this work may be had upon application to the Forestry Department, O. A. C., Guelph.
E. J. ZAVITZ.

a \$3,000 Stock Book Free

Contains 183 Large Engravings

This book cost us over \$3,000 to produce. The cover is a beautiful live stock picture, lithographed in colors. The book contains 180 pages, size 6 1/4 x 9 1/4, gives history, description and illustration of the various breeds of horses, cattle, sheep, hogs and poultry. Many stockmen say they would not take five dollars for their copy if they could not get another. The finely illustrated veterinary department will save you hundreds of dollars, as it treats of all the ordinary diseases to which stock are subject and tells you how to cure them.

Mailed Free Postage Prepaid

Write for it at once and answer the following questions:

- 1st—Name the paper you saw this offer in.
- 2nd—How many head of stock do you own?

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INTERNATIONAL STOCK FOOD CO.
TORONTO, CANADA

Sole Manufacturers of

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THREE FEEDS FOR ONE CENT

INTERNATIONAL STOCK FOOD, FEEDS FOR ONE CENT, is a purely vegetable MEDICINAL preparation composed of roots, herbs, seeds, barks, etc. It is equally good and very profitable to use with horses, colts, cattle, cows, calves, hogs, pigs, sheep or lambs, because it purifies the blood, tones up and permanently strengthens the entire system, keeps them healthy and generally aids digestion and assimilation, so that each animal obtains more nutrition from the grain eaten. In this way it will save you grain and MAKE YOU LARGE CASH PROFITS. You don't spend money when you feed International Stock Food. You save money because the GRAIN SAVED will pay much more than the cost of the International Stock Food. Refuse all substitutes and get paying results by using only the genuine International Stock Food.

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Largest Stock Food Factories
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- International Stock Food
- International Poultry Food
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- International Foot Remedy
- International Hoof Ointment
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Dan Patch Mailed Free

When you write for Stock Book mentioned above ask for a picture of Dan Patch 1.55, and it will be included free of charge.

INTERNATIONAL STOCK FOOD CO.
TORONTO, CANADA

CHOICE SEED OATS (Sensation)
Second prize in field-grain competition.
Score ninety-two and one-half.
Price, 65 cents per bushel.

ALEX. GOWIE, CALEDONIA, ONTARIO

Subscribe for "Farmer's Advocate"

QUESTIONS AND ANSWERS. Veterinary.

LAME HORSE.

Four-year-old horse goes lame. He is not tender to pressure any place. He stands and walks sound, but after he has been driven about three miles, he goes very lame in one hind leg. He has been this way for about six weeks.

J. M. C.

Ans.—I would advise you to have him examined by a veterinarian when he is going lame. These cases of obscure lameness are very hard to diagnose, even by a personal examination. The symptoms given indicate hip-joint lameness, and if you decide to treat according to my diagnosis, give him as long a rest, in a comfortable box stall, as possible. Clip the hair off the hip joint, and blister. Take 2 drams each of cantharides and biniodide of mercury, and mix with 2 ounces vaseline. Tie so that he cannot bite the part. Rub well with the blister once daily for two days. On the third day wash off and apply sweet oil. Let loose now, and oil every day. As soon as the scale comes off, tie up and blister again, and, after this, blister once every month as long as necessary.

V.

MISCELLANEOUS.

1. Will windgalls on a young horse's legs cause stiffness? He has them on all legs. Give treatment.

2. Is barley straw good food for horses?

3. How should a young team that were worked too hard last fall be fed? I cannot get them fat.

J. J.

Ans.—1. When bursal enlargements at the fetlock joint (commonly called windgalls) are quite large and tense, they cause lameness. Repeated blistering is the most successful treatment. Details for blistering are given in this issue in answer to a question by J. M. C.

2. If the straw is entirely free from the beards, it makes as good food as any straw; but it is very hard to get all the beards out, and if any be present they are very liable to adhere to the cheeks, tongue and under the tongue, and cause great distress and difficulty in eating.

3. Feed reasonable quantities of first-class hay. Give rolled oats, equal in weight to a gallon of whole oats, morning and noon, with a couple of carrots or a turnip at noon, and at night give three quarts oats and one quart barley, boiled and mixed with a cupful of linseed meal. In addition, give a feed of scalded bran before bedtime, twice weekly. Give regular exercise. If they are draft horses, give larger rations than stated.

V.

NAVICULAR DISEASE.

1. How does navicular disease affect the horses' feet?
2. What is the direct cause?
3. What effect does blistering have?

K. E. C.

Ans.—1. Inflammation is set up in the bone, and the flexor tendon that passes over it. The cartilage that covers the bone after a time is destroyed, and there is often a union between bone and tendon. The inflammatory action checks the growth of hoof, and the heat causes a dryness and contraction of same. Of course, the soreness and pain cause lameness.

2. The direct cause is usually concussion; that is, the weight of the animal upon the parts during progression, especially on hard roads; but work on hard roads is not always necessary. Some horses are particularly predisposed to the disease, either from hereditary transmission or conformation, or both, and in such the disease is very easily caused.

3. In the early stages, before alteration of structure has taken place, rest and blistering will sometimes allay the inflammation and effect a cure; but when alteration of structure has resulted, a cure cannot be effected, and then blistering relieves the symptoms to some extent by increasing the growth of horn, thereby increasing the size of the hoof and enlarging the space in which the joint is placed, and giving more room, which eases the pressure when the weight is upon the foot.

V.

Shorthorn Sale

AT

TORONTO, ONTARIO,

Annual "Produce" Sale of the three great combination herds, the property of The W. C. EDWARDS CO., Ltd., Pine Grove, Rockland, Ont.; SIR GEORGE DRUMMOND, K.C., M.G., Huntleywood, Beaconsfield, Que., and PETER WHITE, Pembroke, Ont., at the **New Sale Pavilion, Union Stock Yards, Toronto Junction, on**

Thursday, March 5th, 1908

At one o'clock sharp

20 BULLS.

43 HEIFERS.

Sons and daughters of the greatest sires and the best matrons that money and judgment can buy, and themselves prizewinners at the leading shows.

A good Cruickshank bull to place at the top of your herd, or a few choice Scotch heifers to embellish it.

We are not "making" a sale. We are disposing of the natural increase of our herds.

Auctioneers:

COL. CAREY M. JONES and CAPT. T. E. ROBSON.

FOR CATALOGUES, APPLY TO

JAMES SMITH, Supt.,

Rockland, Ont.

Messrs. Robert Miller and Donald Gunn & Son sell at Stouffville, March 6th.

Ontario Department of Agriculture.

Provincial Auction Sales

OF PURE-BRED CATTLE

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100 Head, Males and Females, of Beef Breeds

will be held at the following points:

QUELPH, MARCH 4;
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All stock inspected before being accepted. Only good representatives of the various breeds will be offered.

Special Inducement to Purchasers in Ontario:

Freight Paid: The freight on any animals purchased at these sales by residents of Ontario shipped to purchaser's station in Ontario, will be paid by the Ontario Department of Agriculture. The original receipted freight bill containing the point of shipment and destination, name and registration number of the animal purchased and shipped, the estimated weight for billing, and the rate charged per cwt., should be sent immediately to the Live-stock Branch, Ontario Department of Agriculture, Toronto.

For catalogues and particulars regarding any of the sales, address the Secretary at the point of sale, or make application to:

Live-stock Branch, Ontario Department of Agriculture, Toronto.



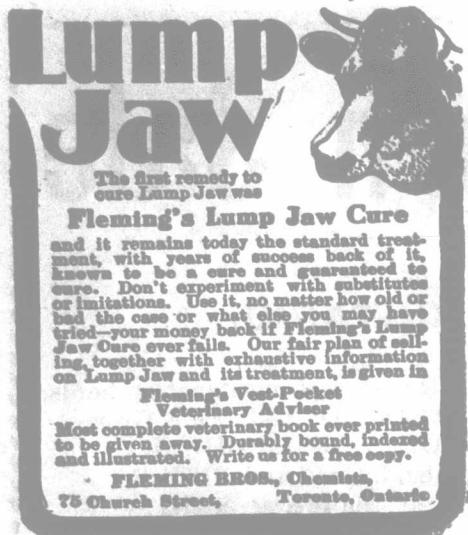
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Over half a century's experience goes in every Tudhope Sleigh. Those at the head of the great Tudhope Works have been brought up in the business and "know how."

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TUDHOPE No. 43
Two beams Democrat Bobs. Body 7 feet 5 inches long. Supplied with one or two seats, pole or shaft, as desired. A splendid family sleigh—excellent for general use. Let us send you a free copy of the Tudhope Sleigh Book. THE TUDHOPE CARRIAGE CO., Ltd. • ONTARIO, Ont.

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The first remedy to cure Lump Jaw was
Fleming's Lump Jaw Cure
and it remains today the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of mailing, together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vest-Pocket Veterinary Adviser. Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy.
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THE GENUINE SMITH STUMP PULLERS
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CATALOG FREE—533 LACROSSE, WIS., U.S.A.

MR. A. I. HICKMAN,
Court Lodge, Egerton, Kent, England,
exports pedigree live stock of every description to all parts of the world. Exported during 1907 more Shetland ponies, more Romney Marsh sheep, and more champion Oxford Downs than any other breeder or exporter, besides large numbers of other breeds of horses, ponies, cattle, sheep and pigs. Correspondence invited. Highest references given.

"GORED BY A BULL"
Many a farmer has been seriously injured by vicious cattle. Don't run risks. Debora yours with the
KEYSTONE DEHORNER.
Quick—easy—humane—makes clean, sharp cut from 4 sides. Costs little. Write for free booklet. R. H. MCKENNA, Lato of Picton, Ont.
219 Robert St., Toronto

W. R. Bowman
MT. FOREST, ONT.,
Is offering Durham bulls and heifers 6 mos. to 15 mos.—reds and roans—sired by Newton Prince (imp.) and Cronje (imp.), for \$50 to \$75. Also heifers in calf, \$75 each. Shropshire ewes, choice ones, at \$25 to \$30 per pair, bred to our Chicago winner, Proflite (imp.). Ram and ewe lambs, \$20 per pair.

Sunnyside Herefords
Present offering: Twenty good breeding cows, yearling heifers, good sappy heifer calves; also some very promising bull calves, the get of Onward and Proctor and 2nd. In car lots or singly. Come and see them, or write and state what you want. Satisfaction guaranteed. **ARTHUR F. O'NEIL,** Maple Grove, Ont., Middlesex Co.

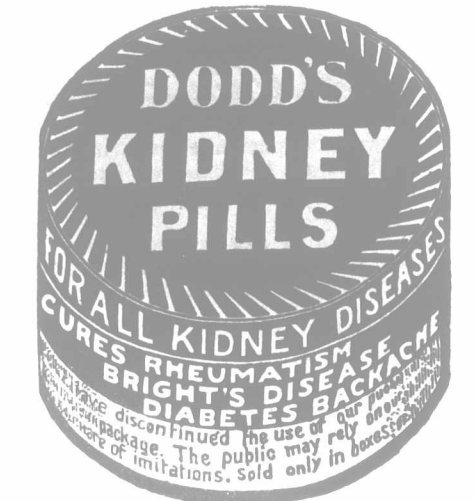
Herefords
We have some choice females for sale—all ages—of the right sort; also a few young bulls fit for service. Correspond with us. We can please you. **J. A. LOVERING,** Coldwater P. O. and Station.

ELM PARK POLLED ANGUS—8 years won the herd prizes at Toronto, the male and female championships, and prizes worth winning at leading exhibitions. For sale are females and bulls, all ages—nearly all winners. Also Suffolk Down sheep. **JAMES BOWMAN,** Auelph, Ont.

ABERDEEN - ANGUS
For sale, 50 head to pick from, males or females by imported sire. Drumbo station.
WALTER HALL, Washington, Ontario.

HYDE PARK HEREFORDS Young stock Cows with calves at side. Cows and heifers bred. Prices right. **THOS. SKIPPON,** Hyde Park, Ont.

Mother.—Remember to-day is Sunday, darling, so don't play in the front yard.
Child.—Well, isn't it Sunday in the back yard, too, mamma?



DODD'S KIDNEY PILLS
FOR ALL KIDNEY DISEASES
CURES RHEUMATISM BRIGHT'S DISEASE DIABETES BACKACHE
The use of any medicine should be discontinued the use of any other medicine should be discontinued. The public may be misled by cheap imitations. Sold only in boxes.

QUESTIONS AND ANSWERS.
Miscellaneous.

A DEFAULTING APPLE-BUYER.

A buys B's apples and packs them, but will not remove them or pay any money on them.

1. Can B sell apples to other parties?
2. Can A hold B responsible for barrels and packing if he sells apples?
3. Should B notify A that he will hold apples a certain time and then dispose of them?
4. A is not in a position that B can get anything if apples are never taken. Kindly advise B's best course.

Ont. **SUBSCRIBER.**
Ans.—1, 3 and 4. We think that under the circumstances stated, B is justified in proceeding in the way suggested, and that it is advisable that he should do so.
2. It is just possible, but B would probably be in a position to counterclaim effectively.

HYDRAULIC POWER.

Could you give information regarding hydraulic power? About what fall would be required to raise water about 20 feet, and what would be the probable cost?

Ans.—I presume this question refers to the raising of water by a hydraulic ram. As little as 18 inches of fall would be sufficient to run one of these machines, but with that fall, raising water 20 feet high, the ram would deliver only 1-20th the amount of water flowing through it, the remainder being lost through the waste valve. With a fall of three feet, raising water 20 feet, 1-10th of the supply would be delivered. If the fall were 6 feet, 1-5th the supply would be delivered. The ram itself is made in various sizes, ranging in price from \$9 or \$10 to \$40; one of medium size would cost about \$15. In addition to this there would be the cost of iron piping. The feed or drive pipe for a medium ram would need to be 1½ inches diameter and 5 times as long as the height of the supply, and would cost 12c. to 15c. a foot. The discharge pipe should be ½ inch in size, and would lead from the ram to the point of discharge, costing about 5c. a foot. The total price of the pipe can thus be arrived at when the distances are known. Besides the outlays already mentioned, there will be the cost of installation, which can only be estimated when the distances are known. The digging of the trench for the pipes would probably cost 3c. or 4c. a foot. **WM. H. DAY,** O. A. C.

PUMPING WATER FROM A DISTANCE.

Our well is 65 feet from barn, and 18 or 20 feet deep. I put pump in barn, with cylinder (3½ inches in diameter) 3½ feet under ground in a dry well, and run 65 feet of 1½-inch pipe to well, and fifteen feet upright pipe in well. I put an air chamber (a 4-foot piece of 1½-inch pipe) along side cylinder, next well, to give pump elasticity of action. I also put a check valve at bottom of well. I did work myself, and cost about \$23. Use large, galvanized pipe. It works well by hand. I send you a plan of the way I want my pump. I will dig a new well, 30 feet deep and 60 feet from barn, with road running between barn and pump. Could you suggest a pump, worked by hand, to send water to barn under the road? I am afraid a suction pump, like one in the 20-foot well, wouldn't work in the 30-foot well without sinking pipes too deep. Could I put a force pump at well to work by hand? **R. J. F.**

Ans.—I see no reason why an ordinary pump, such as used in your present well, will not work in the proposed well. The pipes would run underground at a depth of, say, 3½ feet to escape frost. The sucker would have to be below the pipe, thus bringing it within 20 or 25 feet of the water, which is plenty close enough for satisfactory working. A force pump could, of course, be used, but is not really necessary, unless the water-tough is to be higher than the spout of the pump. **WM. H. DAY,** O. A. C.

GOSSIP.

J. & D. J. Campbell, Fairview Farm, Woodville, Ont., place a new advertisement in this issue; having for a month advertised their not hearing of, or from, a dissatisfied customer who had placed an order the past year, and that without a response, leads them on to start in this year with renewed confidence. Their flock was never in better shape to furnish real good rams and ewes to those wanting choice Shropshires of superior lines of breeding. As their best ones are usually ordered early in the season, it is advisable for intending buyers to scan their advertisement elsewhere in this paper.

THE EDWARDS-DRUMMOND-WHITE SALE OF SHORTHORNS.

The joint sale of Shorthorn bulls and heifers from the noted herds of W. C. Edwards & Co., Rockland, Sir Geo. Drummond, Beaconsfield, Que., and Peter White, Pembroke, Ont., advertised to take place at Toronto Junction, on March 5th, is a coming event of special interest to breeders of Shorthorns and to persons contemplating founding a herd of pure-breds. It is rarely indeed that an offering of the young bulls from three such grand herds are available at one time and place, and this sale is a rarely good opportunity to secure choicely-bred young sires and females of first-class individual excellence. Under present conditions of the market, no fancy prices may be expected, and buyers will doubtless get good bargains, and now is the time to secure foundation stock of the best class, which are always the cheapest in the end, if secured at reasonable prices. The prospect is for higher prices for beef, and the value of Shorthorns will rise in sympathy with the improved market prices for commercial cattle. The public may depend upon receiving good treatment in the conduct of this sale, and the character of the cattle stock of the country will be surely benefited greatly by the distribution of such high-class animals. A bumper attendance of breeders and feeders should encourage the enterprising spirit of the men who contribute to this sale. See the advertisement in this paper, and send for the catalogue, which is full of good things.

TRADE TOPICS.

Recently in England the mind of the public has been much exercised as to the correct pronunciation of the word "Bovril," the name of the well-known preparation of beef. A consensus of opinion has been obtained by the proprietors of the preparation. As many as 90,640 voted for "Bovril," and that seems to have been the favorite pronunciation. A Mrs. Brain, of Shirehampton, near Bristol, secured a prize of £100, by giving the exact number of the majority of persons voting for "Bovril." Whether pronounced "Bovril" or "Bovril," the preparation is very acceptable at this time of year.

FARM IMPLEMENTS.—The well-known Dain Manufacturing Company, of Preston, Ont., ever alive to the requirements of the farmers, are still catering to their wants in the lines of mowers, horse rakes, hay loaders, hay presses, corn shellers, etc., all of the most up-to-date patterns, and of first-class material and finish. If in need of anything in these lines for winter, spring or summer service, write the company for prices and terms, or look up their agent, and see the goods.

The Frost Wire Fence Company, of Hamilton, Ont., and Cleveland, Ohio, are doing a large and constantly-growing business at their Hamilton factory, and are receiving a large share of the patronage of Canadian farmers on the substantial merit of their goods. A two days' convention of their agents, held at Hamilton last week, was an important event, and the report of the addresses and discussions at the sessions of the convention were of much interest, showing that the company fills a large place in the market for wire fencing, now so generally in use and bound to be in constant demand.

LIVER COMPLAINT.

The liver is the largest gland in the body; its office is to take from the blood the properties which form bile. When the liver is torpid and inflamed it cannot furnish bile to the bowels, causing them to become bound and costive. The symptoms are a feeling of fullness or weight in the right side, and shooting pains in the same region, pains between the shoulders, yellowness of the skin and eyes, bowels irregular, coated tongue, bad taste in the morning, etc.

MILBURN'S LAXA-LIVER PILLS

are pleasant and easy to take, do not gripe, weaken or sicken, never fail in their effects, and are by far the safest and quickest remedy for all diseases or disorders of the liver.

Price 25 cents, or 5 bottles for \$1.00, all dealers or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

Molassine Meal
Holds the Field
as a unique and wonderful food for cattle, horses, sheep, pigs and poultry. It keeps them in perfect health, and prevents worms, colic, diarrhoea, cough, and other diseases. Not a condiment, but a food replacing other food stuffs.

Brown Swiss Cattle
FRENCH-CANADIAN HORSES.

We are offering for sale cattle of both sexes and almost any age; the greatest dual-purpose breed alive. Horses of all ages. Stallions, mares and fillies. The best stud in Quebec. Write us for prices. We represent exactly as the animal is. **O. E. STANDISH,** Ayer's Cliff P. O., Trebarthe Farm, Quebec.

CEDARDALE SHORTHORNS
Owing to scarcity of feed, am offering at specially low figures for quick sale: 17 heifers, one to three years old. 4 young bulls from six months to one year old. 16 cows, in calf or with calf at foot. Both beef and deep-milking strains. **T. S. SPOURD, M.P.,** Markdale, Ont.

SUNNYSIDE STOCK FARM
Bulls in service: Queenston Archer = 48898 =, Trout Creek Stamp = 67660 =. A number of first-class young bulls, red and roan, and a few cows and heifers, for sale. Prices right. **JAMES GIBB,** Brookdale, Ont.

SCOTCH SHORTHORNS

My herd is represented by such noted Scotch families as Victoria, Orange Blossom, Duchess of Gloster, Strathallan, Stamford and Lovely. Mostly from imported sire and dams. Write me for prices on what you want.

J. F. MITCHELL, Burlington Jct. Sta. Burlington P. O. and Telegraph.

Scotch Shorthorns—Young bulls and heifers, reds and roans, direct from imp. stock; also herd bull, Good Morning, imp., 4 years old. All stock bull quiet and sure; also one Percheron stallion, 6 years old, black, great weight and action sure to get; sound, quiet, well broken to harness. Prices and terms in favor of buyer. **L. K. WEBER,** Hawksville, Ont.

SHORTHORNS FOR SALE—Four choice bulls, all from imp. sire; two from imp. dams. Females of all ages. Scotland's Fame (imp.) at head of herd for sale or exchange. **ALEX. BURNS,** Rockwood P. O. and G.T.R. Station.

SCOTCH SHORTHORNS!
We now offer four heifer calves 10 and 11 months old. All reds. Bred from imp. sire and dams. Will be sold right. **C. RANKIN & SONS,** Wyebridge P. O., Wyevale Sta.

GREENOCK'S SHORTHORNS.—1 imp. Protector at head of herd. Imp. and Canadian-bred females, Scotch and Scotch-topped. For sale: 7 bulls from 4 to 12 months of age, two of them out of imp. dams; also some choice females. Will be sold at easy prices. Write or come and see them. **JOHN MCFARLANE,** Dutton P. O. P. M. and M.C. Railways.

GOSSIP.

In this issue is advertised by Mr. Jos. W. Holman, Columbus, Ont., a young Clydesdale stallion, Stonewall [6868]. His sire, Cornerstone (11016), was imported by Mr. J. B. Hogate, of Toronto Junction, and is conceded by good judges to be a superior horse; one of the best, if not the best in his locality. Look up the advertisement.

THE AUTOMOBILE AS A KILLER.

According to a count kept by the Chicago Tribune, 1,568 persons were killed or seriously injured by the road locomotives in 1907. Fatalities increased more than 50 per cent., 324 persons having been killed outright, as compared with 200 in 1906. The increase in the number injured was almost equally appalling. Where 851 were severely hurt in 1906, last year's total was 1,244, this count including only those cases reported in the newspapers. Statistics compiled in Massachusetts, show that in three months ending September 21, there were 41 deaths caused by automobiles in that State alone. Statistics recently compiled in England by the Secretary of the Highways Protection League, an organization called into existence by the alarming increase of fatalities on English roads since the introduction of automobiles, show from the figures given in the report of the London Commissioner of Police that the number of licensed horse buses is 2,964 and of motor buses 783, the former thus outnumbering the latter by almost four to one. It shows also that the number of persons killed by the buses in one year was 39, and that the number injured was 1,244. Now, if all buses were equally safe or equally dangerous, the 783 motor buses must have killed about 10 persons and injured about 300, while the horse-drawn would have killed about 29 and injured about 940. But the police report shows that the 783 motor vehicles killed 25 and injured 824, thus doing more than two and one-half times their share of the damage, while the 2,964 horse buses were responsible for but 14 of the 39 deaths and for only 420 of the 1,244 injuries, or a good deal less than one-half their fair allowance. So that whereas there was only one accident for every seven horse buses in use, the number of persons injured by motor buses was greater than the whole number of motor buses licensed.—[Horse World.]

THE HUME FARM AYRSHIRE.

The Hume Farm Ayrshires were never in better condition this time of the year than just now, notwithstanding the general shortness of feed—a tribute to the succulency of ensilage, roots and cut straw as a ration, and to the expert handling and care of the herdsman, Mr. Geo. Retsam. Some 60 head make up the sum total of the herd, 20 of which are imported, a number of others imported in dam, the balance bred from imported stock. This herd ranks among the very best in Canada, both as a herd of typical Ayrshires and as a show herd, and what must surely have been a source of gratification to Mr. Hume during his round of the leading exhibitions last fall was that nearly all his winners were bred on the farm and shown in competition with the best that money would buy in Scotland. Eva of Menie, the grand champion at Toronto and Sherbrooke last year was bred on the farm. In the three-year-old cow class, the first-prize cow at Toronto, Sherbrooke and Ottawa, and her half-sister that won first at London, were both bred on the farm. The second-prize aged herd all around the circuit were all bred here, except the bull and one cow which were imported. The second-prize young herd all around the circuit were all bred here, except the bull, which was imported. Four, the get of one bull, owned and bred by the exhibitor, that won second all around, were all bred on the farm; truly a great record, and one of which Mr. Hume may well be proud. Last summer, on the short pasturage, the milk yield of the herd was 24 to 40 lbs. a day for heifers, and 40 to 54 lbs. a day for developed cows, the test of which varied from 3.6 to 5.4 per cent. The stock bulls in service are: Imp. Lessnessock Oyama's Heir, winner of second prize at Toronto, and Imp. Lessnessock Royal Monarch, winner of second at Toronto, Sherbrooke and Ot-

tawa. Mr. Hume reports the demand for and sales of Ayrshires as exceedingly brisk, having shipped to various parts of the United States and Western Canada. A few of his late sales were: To the Agricultural College, Guelph, an imported cow and bull; to the Agricultural College, Truro, N. S., two cows; to the Washington State Agricultural College, at Pullman, Wash., a heifer calf. Anything in the herd is for sale. In young bulls there are two fit for service, out of the two cows that went to the College, at Truro, one of them sired by Imp. Lessnessock Royal Star, three times winner of first prize at Toronto; the other sired by Scottie, whose dam's milk record is 10,800 lbs. in one year. There are several younger bull calves; one, imported in dam, was sired by Spicy Sam, a champion of Scotland. In heifers, there are a large number from six months to two years of age, both imported and imported in dam. Mr. Hume is also extensively engaged in the breeding of Yorkshire hogs, of which he has a large number of the Large English bacon strain, true to type, and choice representatives of the breed. For sale are a number of sows bred and ready to breed, and others younger. In Clydesdales, there are several registered Canadian-bred mares and a two-year-old imported filly, a daughter of Prince Otto, and a full sister to the champion at Kilmarnock last year. A new importation of Ayrshires will arrive in the early spring.

SALE DATES CLAIMED.

- Feb. 12th.—John E. Disney & Son, Greenwood, Ont., Shorthorns and Clydesdale mares (imported and home-bred).
- Feb. 14th.—R. H. Reid & Sons, Pine River, Ont., Shorthorns.
- Feb. 19th.—At Peterboro, Ont., Clydesdales, Hackneys and Percherons, by T. H. Hassard, Millbrook, Ont.
- Feb. 25th.—Geo. Rice, Tillsonburg, Ont., Holsteins and Yorkshires.
- Feb. 26th.—Stephen Nicholson, Sylvan, Ont., Shorthorns.
- March 3rd.—S. J. Pearson & Son, Meadowvale, and F. A. Gardner, Britannia, Ont., joint sale of Shorthorns.
- March 4th.—Provincial sale of pure-bred cattle, at Guelph.
- March 5th.—Joint sale of Shorthorns, at Toronto Junction, W. C. Edwards & Co., Rockland; Sir Geo. Drummond, Beaconsfield, and Peter White, Pembroke.
- March 6th.—Robert Miller and Donald Gunn & Son, at Stouffville, Ont., Shorthorns.
- March 11th.—Provincial sale of pure-bred cattle, at Port Perry, Ont.
- March 12th.—Donald Gunn & Son, at Dunrobin Farm, Beaverton, Ont., Clydesdale mares and fillies, imported and Canadian-bred.
- March 18th.—N. A. Steen & Sons, Meadowvale, Ont., Shorthorns.

TRADE TOPIC.

A FREE SAMPLE OF AMATITE.—It is so difficult to convince the average farmer that it is really possible to make a roofing which does not have to be painted or coated, that the Barrett Manufacturing Company takes pains to supply every inquirer with a free sample of Amatite, in order to show what the famous mineral surface is like. This real mineral surface is firmly embedded into the top surface of the roofing, and is, of course, practically indestructible by wind or weather, and can be exposed to the elements without fear of damage. An Amatite roof, once laid in position upon a house or barn, will, it is claimed, stay there indefinitely without further care or attention of any kind. This is a vast improvement over the roofings which require a new coat of paint every two or three years; and if Amatite cost more than the other roofings it would still be worth while for this reason alone. Amatite, however, does not, in fact, cost as much as other roofings, and farmers who are preparing to roof any of their buildings should investigate it.

The manufacturers are always ready to send a free sample on request. Address the Barrett Manufacturing Company, New York, Chicago, Philadelphia, St. Louis, Cleveland, Allegheny, Cincinnati, Kansas City, Minneapolis, New Orleans, Boston.

Salem Herd of Shorthorns
J. A. WATT, SALEM P. O.



I will take a very limited number of high-class cows for service to Jilt Victor. I can supply any number of Shorthorns of either sex, or willingly help buyers in making selections elsewhere.

Elora Stns., G. T. R. and G. P. R., 13 miles north of Guelph. Long-distance 'phone.

1054 Maple Lodge Stock Farm 1007

An exceptionally choice lot of heifers and young bulls for sale now. Best milking strains.

A. W. Smith, Maple Lodge P.O., Ont.

Valley Home Shorthorns
AND BERKSHIRES.

Our herd numbers sixty-five head. We are prepared to give bargains to suit all who wish to buy from one animal up to a carload of females, and 13 bulls from 9 to 18 months old. Also 55 Berkshires of prolific strains.

S. J. PEARSON, SON & CO., Meadowvale, Ont. Stations: Meadowvale, C.P.R.; Brampton, G.T.R.

10 IMPORTED BULLS 10

Recently arrived from Scotland in good condition. They are a superior lot. Selected for herd-headers. We also have a number of Canadian-bred bulls of excellent quality, and representing the choicest breeding. Females suitable for show or breeding purposes.

W. G. PETTIT & SONS, FREEMAN, ONTARIO.

Burlington Jct. Sta., G. T. R. Bell telephone at each farm.

Maitland Bank Shorthorns

Five bulls, 13 to 18 months; six bulls, 9 to 12 months, got by Broadhook's Prince (imp.) = 55002 =, and some of them from imp. cows; also cows and heifers, milking sort and right breeding. Lowest prices for quick sale. Come and see them, or write.

DAVID MILNE, Ethel, Ont.

MAPLE GROVE SHORTHORNS

Scotch and dairy bred; up-to-date in type; prize-winners at the local shows. A number of 1 and 2 year old heifers, 1 year old bull, and one 5 months old—the last will make a show bull. Fines bred—will be sold easy.

L. B. POWELL, Wainstein P. O. and Stn. C. P. R.

Six Thick, Thrifty Shorthorn Bull Calves
JUST HOME FROM SCOTLAND.

They are ready to use, and I am going to sell them. Will change for your old imported bulls if good. Will also sell imported cows and heifers and home-bred bulls; also some good Shropshire and Cotswold ewes, bred to great imported sires.

ROBERT MILLER, STOUFFVILLE, ONTARIO, CANADA.

PLEASANT VALLEY SHORTHORNS

For sale: 3 young bulls by Old Lancaster Imp., from imp. dams, including Lancaster Victor, first prize sr. bull calf at Dom at Sherbrooke, second at O. N. E., Toronto. Correspondence solicited. Inspection invited.

Geo. Amos & Son, Moffat Stn. & P.O. C. P. R. Farm 11 miles east of City of Guelph.

Queenston Heights SHORTHORNS

All Scotch. The thick-fleshed, early-maturing sort. Special prices on young stock, either sex. Ask for catalogue with sample pedigrees.

Hudson Usher, Queenston, Ont. Farm three miles north of Niagara Falls.

Winners at the leading shows have been sired by bulls bred here. We can sell you a good bull to head your herd of SHORTHORNS, or for use on your good grade cows. The bull catalogue explains the breeding. Write for it.

John Dryden & Son, Brooklin, Ont.

Stations: Brooklin, G. T. R.; Myrtle, C. P. R. Long-distance telephone.

GREENGILL HERD OF HIGH-CLASS SHORTHORNS.

We offer for sale choice young bulls from 6 to 18 months old, sired by imp. Lord Roseberry, also cows and heifers, with calf at foot or bred, either imp. or Canadian-bred.

R. MITCHELL & SONS, Nelson P. O., Ont., Burlington Jct. Sta.

Brown Lee Shorthorns!

Nonparell Victor = 63307 = at head of herd. Young stock for sale at all times. Prices very reasonable. Ayr. C. P. R.; Drumbo, G. T. R.

DOUGLAS BROWN, Ayr, Ont.

PLEASE MENTION THIS PAPER

BLATCHFORD'S CALF MEAL

Our BOOKLET plainly tells the story of Blatchford's Calf Meal, with convincing testimonials from some of the 90,000 progressive farmers who have had excellent success with this perfect milk substitute. It costs about half as much as milk. It prevents scouring. It is the oldest and best. It is free from mill feed. It is cooked. The Booklet is FREE. Write for it.

J. A. Simmers, Toronto, Ont.
Taylor Bros. Ltd., Carleton Place, Ont.
J. H. Byers, Stratford, Ont.



Gives Surprising Results

No pest is quite as discomfiting to an animal as the common sheep tick—they actually suck the very life blood of the sheep. All sheep have ticks. Why let the tick eat up your profit? Kill him on the spot.

Instant Louse Killer

is guaranteed—your money back if it does not do as we claim.

It is a powder which may be used in *sero weather*, and in less time than it takes to prepare a dip. No slop, no muss, no danger. It is the formula of Dr. Hess (M.D., D.V.S.) and destroys lice on horses and cattle, bugs on cucumbers, squash and melon vines, cabbage worms, rose slugs, etc. It is also a disinfectant and deodorizer. In cans with perforated top. Look for the word "Instant" on the can.

Sold on a written guarantee.

1 lb. 35c. 3 lbs. 85c.

If your dealer cannot supply you send your order to us.

MANUFACTURED BY
DR. HESS & CLARK,
Ashland, Ohio, U. S. A.

SHORTHORNS

For want of stable room will sell cheap 10 heifer calves, 19 yearling heifers, 4 two-year-old heifers in calf, and 3 red bulls about 14 months old. Right good ones. **CLYDESDALES.**—Two-year-old mare in foal, and a good pair 4 and 5 years old. Write, or come and see them.

JAMES McARTHUR,
GOBLES, ONTARIO.

Hawthorn Herd of Deep-milking SHORTHORNS

6 YOUNG BULLS,



by Aberdeen Hero, Imp., =28840=. Also females all ages.

Wm. Grainger & Son,
LONDESBORO P. O.

HERD BULL FOR SALE.

Lord Lieutenant (imported) No. =50060=, five-year-old. All stock bull, quiet and sure. 2 bulls just over 1 year. 2 bulls just under 1 year. Half dozen choice 1 and 2 year old heifers. All from imported sires, and some from imported dams. All are from good milking dams. Visitors always welcome.

SCOTT BROS., Highgate P. O. and Station.
M. C. Ry. and P. M. Ry.

Athelstane Shorthorns!

Three choice bulls from 9 to 12 months and heifers from 1 to 3 years; low-down, thick-fleshed sort, of families: Rosewood, Butterfly, Rosaling, and Countess, and mostly sired by the Bruce Mayflower bull, Star Prince =53900=. Prices very reasonable. **WM. WALDIE,** Stratford, Ont. Box 324.

YOUNG SHORTHORN BULLS!

Am now offering 2 grand ones from Scottish Peer (imp.) Will make show animals. Also Leicester sheep. A number of young breeding ewes to sell. **JAS. SNELL,** Ginton, Ont.

PLEASE MENTION THIS PAPER

QUESTIONS AND ANSWERS.

Miscellaneous.

PORTABLE FENCE.

How may a movable fence for hogs be built? A. D.

Ans.—Lumber is too dear now to be profitably used for portable fencing. We would certainly advise using woven-wire fencing, which can be had of any height desired, and can be stapled to stakes driven in the ground, the end posts only needing to be braced. Pointed stakes can readily be driven even in hard ground, if a hole is punched with a crowbar and water poured in the hole. A couple of staples partially driven in each stake will prevent hogs lifting the fencing, and it may be dragged from place to place by a horse or a team, and will last indefinitely.

TREES FOR WIND-BREAK.

What kind of tree would make the best wind-break, to be planted on clay, being near black muck? J. S. K.

Ans.—In our opinion no tree is more suitable for a wind-break than Norway Spruce, which can be had for a moderate price, according to size, from nursery men. They should be planted when about two feet high; not closer than ten or twelve feet apart, as they spread their limbs wide after a few years. It is a good plan to plow and manure the land in the fall before planting, and mulch the young trees to preserve moisture. Spruce should do well on your land. Do not plant nearer than 40 feet to orchard or house, or they will be too close when full-grown.

TO CURE BALKY HORSE.

Driver, two years old, which I am breaking both double and single, when I hitch her up in a cutter or sleigh will not move, but balks. I have used the whip and all methods I know to get her to go. Sometime she will start off of her own will and trot for miles. What would you suggest?

SUBSCRIBER.

Ans.—Whipping a balky horse is useless and is cruelty. The habit, generally speaking, is not a vice, but a nervous affection, and no fixed rule for treatment can be given, as no two horses can be handled by the same process. Kindness and patience and diplomacy should be used. When she stops, pet her; give her a handful of oats to divert her attention from her trouble. Sometimes simply holding up a fore foot for a while will have the desired effect. A lump of clay or a snowball put into his mouth sometimes has the same effect. Do not check her. When she is disposed, stop, call "Whoa," and let her stand still for a while, and try one or more of the schemes above indicated.

SILO DRAINAGE.

1. Does a cement silo require a drain to carry away the liquid from the bottom of the silo?
2. Which is best, a level cement bottom or one saucer-shaped?
3. Which is it better to put corn in a silo as soon as it is cut or let it stand for two weeks? G. S.

Ans.—1. It is the better for having drainage, though we have known a silo satisfactory with only a gravel floor.
2. With a cement floor, it would be better to have the floor slightly saucer-shaped, and a hole in the center to a drain or pit filled with stone or gravel to let the juice away.
3. If corn is well matured, the grain nearly ripe, it is best to put it in as cut; but if green and sappy better let it stand out for a few days after cutting. Better risk a frost or two than cut corn green and put into silo in that condition.

Veterinary.

CRIPPLED PIGS.

Shoot lost use of hind legs two months ago. He is getting better, but another is going the same way. They are fed ear corn, oats and barley chop. C. B.

Ans.—This crippling is due to high feeding and want of exercise. Purge with two to four ounces Epsom salts. Feed on milk, bran and raw roots, with a little chopped oats with the hulls sifted out, and see that they get regular exercise. V.

IMPORTANT AUCTION SALE

of 15 yearling

SHORTHORN BULLS

on

Wednesday, February 26, 1908,

At **Elmdale Stock Farm**, 1 1/2 miles east of the village of SYLVAN, and 5 miles south-west of the town of Parkhill, a first-class station on the G. T. R., midway between Stratford and Sarnia. Comprising the whole of R. & S. Nicholson's season bulls. The same of Mr. Fred. Rawlings' and the pick of H. K. Fairbairn's, of Thedford. In the lot are four from imported sire and dams, and nearly all from imp. sires. They are an extra good lot. Teams will meet the trains the evening before and morning of the sale. They will return in time for the evening train after the sale.

TERMS: Ten months' credit. Lunch at noon.

Catalogues sent on application.

CAPT. T. E. ROBSON, Auctioneer.

All communications to

STEPHEN NICHOLSON, Sylvan, Ont.

R. & S. NICHOLSON,
H. K. FAIRBAIRN,
FRED. RAWLINGS.



Maple Grove SHORTHORNS.

6 bulls and 2 heifers for sale. Bred from imp. and home-bred stock. A number of young cows safe in calf. Present stock bull, Starry Morning. **C. D. WAGAR,** Enterprise, Ont. Sta. & P. O.

TWO IMPORTED BULLS

Direct from Aberdeenshire, Scotland, of excellent quality, color and breeding, two from imp. sire and dam, and others sired by Joy of Morning (Imp.) =3270=. Prices in Shorthorns and Yorkshires will interest intending purchasers. **GEO. D. FLETCHER,** Binkham P. O., Ont. Erin Sta., C. P. R.

We are offering a very superior lot of SHORTHORN

HOME-BRED BULLS

of the best breeding and quality at attractive prices for the buyer. To see them is all that is necessary. Try to do so if you are in the market. It will pay you.

JNO. CLANCY, Manager.

H. CARGILL & SON, Cargill, Ont.

T. DOUGLAS & SONS

STRATHROY, ONT.



Breeders of Shorthorns and Clydesdales. 15 bulls, 60 cows and heifers, 1 imp. stallion, imp. and home-bred fillies. Write us what you want or come and see our stock. Farm 1 mile north of town.

Shorthorns—Sweepstakes herd at

London, Aylmer, Wallacestown, Rodney, Ridgetown, and Highgate, 1907. We have for sale at reasonable prices 3 choice young bulls, 1 red and 2 roans, of grand type and quality. All sired by the good breeding bull, Ridgewood Marquis =48995=, a son of the old champion, Spicy Marquis. Also a few young cows and heifers. **JNO. LEE & SONS,** Highgate, Ont.

LIVINGSTON'S OIL CAKE MEAL.

OLD PROCESS

Nothing is better for fattening steers quickly and putting them on the market in prime condition than Oil Cake Meal. Thousands of Canadian and English stockmen use Livingston's, and would have no other. It is equally good for milk cows. They give more and better milk when fed Livingston's Oil Cake Meal. Also used for horses, sheep and hogs. Write for information regarding prices, etc., etc., to

DOMINION LINSEED OIL CO., LIMITED
Montreal, Que. Baden, Ont.

SHORTHORNS AND LINCOLN SHEEP.

Two bulls, 11 and 12 months old—a Miss Ramsden and a Bessie, both by the good breeding bull, Proud Gift =50077= (imp.), also cows and heifers in calf by him. Inspection solicited. Always have some choice Lincoln sheep for sale at reasonable prices. **J. T. GIBSON,** DENFIELD, ONTARIO.

A. EDWARD MEYER,

BOX 378, GUELPH, ONT.

BREEDS

Scotch Shorthorns

exclusively. Herd bulls: Scottish Hero (imp.) =56049= (90065), a Shethin Rosemary; Gloster King =68708= 283804, A. H. B., a Cruickshank Duchess of Gloster. Young stock for sale. Long-distance 'phone in house.

Shorthorns!

BELMAR PARC.

John Douglas, Manager.

Peter White, Pembroke, Ont.

Calves for sale by our grand quartette of breeding and show bulls:

Nenpareil Archer, Imp. Proud GR, Imp.

Marigold Sailer. Nenpareil Eclipse.

Females. Imported and from imported stock in calf to these bulls.

An unsurpassed lot of yearling heifers.

EAST BANK HERDS

Shorthorn Cattle, Yorkshire and Berkshire Swine.

As I must leave farm in March, I am offering 40 sows of choice breeding and quality. Prize-winners and the get of prizewinners. Also cows and calves bred, fed and sold right.

IRA L. HOWLETT, KELDON.

Shorthorns!

WOULD EXCHANGE

a few high-class Shorthorns FOR PURE-BRED OR GOOD GRADE SHEEP, Shropshires preferred.

D. Allan Black, Kingston, Ontario

SCOTCH SHORTHORN BULLS

Woodfield Prince, sire the \$3,100 Goldcup, imported, =50035= (86064), dam Trout Creek Missie 90th =65967=; red, little white; calved July 6th, 1906; a show bull. Also four extra bull calves, 8 to 10 months, by the Lavender bull, Trout Creek Wonder =56167= (247861), out of Scotch cows; imported by W. D. Flatt; eligible for American Herdbook. Write for pedigrees. **Gibbs' Woodfield Stock Farm,** St. Catharines, Ontario.

R. H. REID,

Glover Lea Stock Farm, PINE RIVER, ONT.

BREEDER OF SHORTHORN CATTLE
Golden Cross (imp.) at head of herd.

SPRING VALLEY SHORTHORNS

Two young imported bulls of the very best quality and breeding. Six Canadian-bred bulls mostly the get of Bapton Chancellor (imp.) Prices right.

KYLE BROS., AYR, ONTARIO.

QUESTIONS AND ANSWERS. Miscellaneous.

JACK WANTED.

Can you inform me where I could secure a jack, as I am desirous of introducing mules in this district? J. L.

Ans.—Parties handling this class of stock may find it to their interest to advertise in "The Farmer's Advocate."

CURB.

Kindly give me a receipt for blister for a curb. Curb came on last spring, but did not lame the horse until last week. I blistered it last spring, and nearly all went away; but he slipped last week and went lame in half an hour.

BRUCE FARMER.

Ans.—If horse is still lame, give rest and apply hot water for two or three days to allay the inflammation. Follow with blister made of 1 1/2 drams each of biniodide of mercury and cantharides, and mix with two ounces vaseline. Chip the hair off the part; rub well with the blister; tie so he cannot bite the part. In twenty-four hours rub well again with the blister, and in twenty-four hours longer wash off and apply sweet oil. It may be well to get him shod with high-heeled calkins to ease the tension on the legament.

STONE ROOT-HOUSE.

1. Being desirous of building a root-house, what size of building is required to hold, say, 2,000 bushels of turnips and sugar beets?

2. Would a stone wall, 20 inches thick, keep out the frost?

3. How much stone would it take for a building 30 x 15?

I am a new subscriber, and wish to state that I am very much pleased with the paper, and would not care to do without it. T. C.

Ans.—1. A building the size you mention, 30 x 15 feet, inside measurement, would hold 2,000 bushels, if filled to a depth of 8 feet. We would prefer to have roots not more than 6 feet deep, and, at that depth, to hold the quantity desired, the space, inside, would need to be 30 x 20 feet.

2. It would, probably, in ordinary winter weather, as long as well filled up with roots; but in very severe spells the windward sides might need some covering of straw or manure. Much would depend on how deeply into the ground the root-house was dug.

3. For an eight-foot wall about thirteen and a half cords. The rule is that a cord of stone will build six perches or ninety-nine cubic feet of wall. T.

SALTING MANURE—NITRO-CULTURE.

1. Could you give me any information as regards the application of land salt being applied to the barnyard manure at intervals as it is made? What would be its action, beneficial or not, and would it have a tendency to keep it from freezing?

2. Could you give any information about how to apply nitro-culture to the grain, and the benefit per each kind of the following grains, barley, oats, and a mixture of barley, oats and peas? O. B.

Ans.—1. I do not think that land salt would do any particular good to farmyard manure. The tendency of the salt would be to retard the decomposition of the organic matter of the manure. It would be better, if salt is to be used at all, to apply it directly to the land rather than to use it in the barnyard. If it were supplied in sufficient quantities, I presume it would keep the manure from freezing.

2. There are no nitro-cultures used with barley and oats, or, in fact, with any of the cereal grains. A nitro-culture may be used with peas and nearly all the legumes. Some years ago there was a culture placed on the market which was supposed to gather nitrogen from the atmosphere without being particularly associated with any of these plants, but it has not proved a success, and has disappeared from the market. The nitro-cultures and full instructions for their use with legumes may be got from the Bacteriological Department of the Ontario Agricultural College.

R. HARCOURT.

Ontario Agricultural College.

PIGS COUGHING.

Pigs, three or four weeks old, have a cough and are not doing well; have been kept warm and dry. What is the trouble? FARMER.

Ans.—Coughing in young pigs is sometimes due to constipation, which may be corrected by feeding the mother laxative food, such as bran, roots and a little oil-cake meal. A teaspoonful of sulphur in her feed once a day for a week would also help in this respect. When pigs are weaned, if coughing continues, they should have some laxative food. It is a good plan to keep a mixture of salt and sulphur and ashes in a low box in the pen, where the pigs can take it at will. Also to throw a shovelful of earth from the root-house into the pen for pigs to root and pick from.

MISAPPROPRIATION OF LOGS.

A was a timber merchant in Simcoe County, and had his logs all along the river bank, and same had flooded over the country for 100 yards or more from the river. A had a registered stamp on all his logs, and he sold all his stamped logs to B. C and D bought the timber on a certain lot where a great number of A's logs had flooded, and in taking off their own timber have also taken a lot of logs with A's stamp on them.

1. Can B get pay for what logs C and D cut with A's stamp on?

2. If so, who from, C and D or A?

3. Can you give me the address of the Superintendent of the Algonquin Park? Ontario. OLD SUBSCRIBER.

Ans.—1 and 2. He is entitled to same, and from C and D.

3. Write the Minister of Lands, Forests and Mines, Parliament Buildings, Toronto.

IMPORTING AND SILO QUESTIONS.

1. About what would the transportation charges be on three pigs about nine months old from a port in England to a port in Canada?

2. Where is the quarantine station located?

3. How long would these hogs have to be in quarantine?

4. About what would the cost be for their keep while in quarantine?

5. In estimating the capacity of a silo, how many cubic feet are reckoned to make a ton?

6. What is the most serviceable kind of timber to use in making a stave silo, said silo to be built inside of barn?

7. What would be the best width to have staves in silo eleven feet in diameter? SUBSCRIBER.

Ans.—1. About \$12 each.

2. At Levis, opposite the City of Quebec.

3. Fifteen days.

4. About \$5 each. It is necessary to first get a permit from the Minister of Agriculture, Ottawa, to land the hogs. This should accompany shipment papers.

5. Fifty cubic feet.

6. Pine, spruce or fir.

7. Four to six inches.

FISTULOUS WITHERS.

1. Could you tell me a cure for a sore on top of a colt's shoulder; it had been there for nearly nine months, and has not been cured by the many things that have been applied? There is a small hole in sore through which matter is discharged.

2. On page 96 of issue of January 16th, is a recipe for medicine, a cure for rheumatism. Is the recipe an effective one, or is it just an advertisement? G. P.

Ans.—1. This is a case of fistula, due to a Bruise or to some irritating substance left after a wound has healed. It is very rarely that a cure can be effected by any application without the seat of the trouble being opened up to the bottom of the sinuses with the knife, probing first with a goose quill or an instrument to discover which way the hole runs, making an opening large enough to admit the finger for discovery of the cause of irritation, which must be removed, then treat the wound with a solution of carbolic acid to clean it out and encourage healthy healing. We would advise employing a veterinarian to operate. It is not unusual that more than one operation is needed in such cases.

2. It is an advertisement.

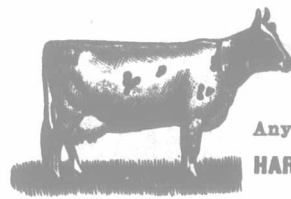
STONECROFT STOCK FARM, St. Anne de Bellevue, Quebec.

(Adjoining the new Macdonald College.)

Breeders and Importers of High-class

Ayrshire Cattle, Glyneddale Horses, Yorkshire Swine and Collie Dogs

Anything for sale. We offer especially a few select young bulls to clear cheap. Orders booked for spring pigs. HAROLD M. MORGAN, Prop. E. BJORKELAND, Manager, Bell 'Phone connection.



Wardend Ayrshires We have only four spring bull calves on hand for sale. Will sell them at reasonable prices. Sired by White Prince of Meale No. 31885, bred by A. Hume, Meale. F. W. TAYLOR, Wellman's Corners, Hoard's Sta., G. T. R.

AYRSHIRES Young bulls from producing dams and same sire, from 7 months up to 2 years. Rare good ones and will speak for themselves. N. DYMENT, Hickory Hill Stock Farm, Glanville, Ont. Dundas Station and Telegraph.

Burnside's Champion Ayrshires



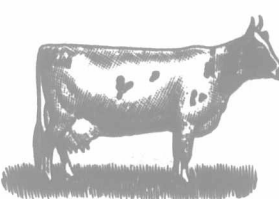
My 1907 importation of 75 head being about all disposed of, I am preparing to import again. Mr. And. Mitchell, the world's most extensive dealer and breeder of Ayrshires, is at present securing for me the best young bulls from the best herds in Scotland. Send in your order now for a choice bull and a female or two. Bulls will be out of quarantine in time for spring service. Correspondence solicited. Long-distance 'phone in house.

R. R. NESS, Howlok, Que.

Glenhurst Ayrshires Oldest-established herd in Ontario. Imp. and Canadian-bred. Average B. F. test for the whole herd, 4.3; milk yield, 40 to 60 lbs. a day. For sale: females of all ages, and several young bulls; all by Imp. sire and some out of Imp. dams. James Benning, Williamstown P. O., Lancaster Stn.

KELSO S. F. AYRSHIRES My winnings at Ottawa this year were: Aired cow in milk, 1st and 2nd; dry cow, 1st; Canadian-bred cow, 4th; Canadian-bred 2-year-old. For sale, anything in herd, both sexes. Extra choice stuff. D. A. McFARLANE, Kelso, Que., Atholstone Sta., G. T. R.

SPRINGHILL AYRSHIRES!



A better lot of young cows and heifers we never had. They have only to be seen to be appreciated. "Deep milkers." "Good testers." Just the kind for foundation stock. Bull calves from best cows. Will leave for Scotland shortly to import. Order a choice yearling or bull calf or a female or two. They will be out of quarantine for spring service. Write for prices. ROBERT HUNTER & SONS, Long-distance 'Phone. MAXVILLE, ONT.

Neldpath Ayrshires A choice lot of bulls ranging in age from 2, 4, 8 and 15 months. All sired by the world's champion, Imp. Douglassdale W. W. Eilantymne, Stratford, Ontario. "Neldpath Farm." Long-distance 'Phone.

STONEHOUSE AYRSHIRES



On hand for sale: A number of Imp. cows and heifers, winners of high honors in Scotland & Canada. 4 young bulls bred from champions and winners themselves. Extra choice offering.

HECTOR GORDON, Howlok P. O. & Sta., Quebec.

SPRING BROOK AYRSHIRES. Produced nearly 7,000 lbs. of milk each, testing 4.3 per cent. butter-fat, during the past three years. 30 head for sale before spring. All ages. Write for prices. W. F. STEPHEN, Box 163, Huntingdon, Que.

BRAMPTON JERSEYS

CANADA'S PREMIER HERD.—Strengthened regularly by importations from United States, England and the Island of Jersey. We have animals of all ages and both sexes for sale, and the largest herd in Canada to choose from. Write for prices and particulars. Long-distance 'phone at farm.

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

Pine Ridge Jerseys 2 Extra Choice Young Bulls For Sale, 2 and 3 months old, grandsons of the great Financial King, out of large, heavy-milking dams. Inquiries solicited. ARTHUR H. TUFTS, Box 111, Tweed, Ont.

Maple Glen Holsteins Herd of 35 head with A. R. O. breeding, backed up by butter tests of over 16 lbs as a two-year old to over 25 lbs. as a cow. A good herd to select from. Two spring bull calves on hand. A R. O. test of one is over 26 lbs. for dam and 8. dam. Come and inspect the herd. Any animal will be offered for sale. G. A. GILROY, GLEN BUELL, ONT.

"THE MAPLES" HOLSTEIN HERD Young bulls fit for service. Bull calves, Also a few choice heifer calves. Waburn Rivers, FOLDEN'S, ONT.

QUEEN CITY HOLSTEINS. 15 young cows due to calve during next 3 mos.; bred to bulls having high official backing. Orders booked for bull calves at moderate prices. A few bulls ready for service. Farm 7 miles north of Toronto, near the Metropolitan Bay. Write: R. F. HICKS, Newton Brook, Ont.

Ridgedale Farm Holsteins—1-yearling bull, 6 bull calves, from one to four mos., by Prince Pauline De Kol 6th, and from rich, heavy-milking dams. Come and see them or write: R. W. WALKER, Union P. O., Ont. Port Perry. G. T. R., or Myrtle, C.F.E., Ontario Co.

HOLSTEINS

large herd. This is a chance of a lifetime to buy good cattle at bargain prices. The best way: arrange to come and look the herd over. If you cannot, we will do our best for you by correspondence. Also a few young bulls. 100 head to select from. Imported Fontaine Mermet, son of Henserveld De Kol, world's greatest sire, head of herd. All leading breeds represented. H. E. GEORGE, Crampton, Ont. Putnam station, near Ingersoll.



Maple Hill Holstein-Friesians

Bull calves from No. 1 dams, sired by bulls with great official backing. Write for prices. G. W. Clemons, St. George, Ont.

LYNDALE HOLSTEINS!

Bull calves for sale out of cows with records of from 18 to 20 lbs., also 3 heifers coming 2, and a number of young cows in Record of Merit, bred to a grandson of Pieterje Henserveld's Count De Kol. BROWN BROS., LYN, ONTARIO.

Glenwood Stock Farm Yorkshires and Holsteins all sold out. Have a few young York shire sows, about 3 months old, for sale cheap. True to type and first-class. Bred from imported stock. THOS. B. CARLAW & SON, Warkworth P. O. Campbellford Stn.

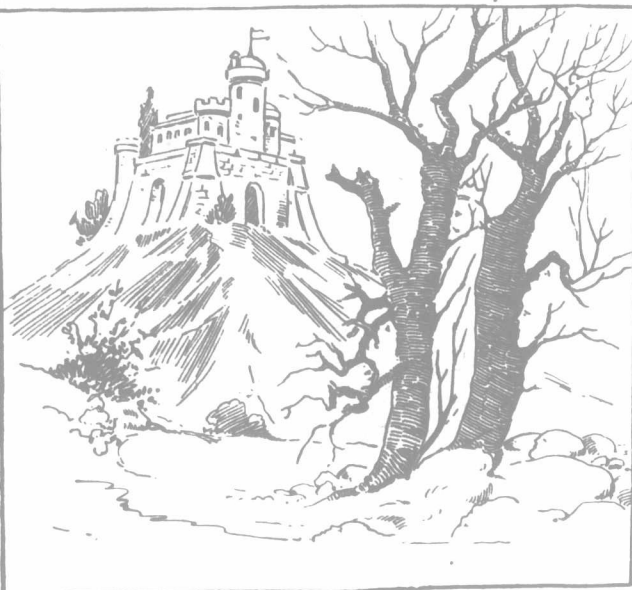
MAPLE GROVE HOLSTEINS.—Every female in the herd is in the Record of Merit. My stock bulls are backed up by heavy record dams. For sale: A few choice young bulls bred from Record sires and dams. H. Boilert, Cassel P.O., Tavistock Sta.

FREE! VALUABLE PREMIUMS GIVEN AWAY FREE!

Herewith will be found the picture of a Castle on a hill and some old trees. At first glance, no one would notice anything else, but by close observation and perseverance two full figures and five faces can be found. The figures are those of a King and a Queen and the five faces are those of the Princes and Princesses.

Can you find them? It is not easy, but by patience and perseverance, you can probably find them all.

If you find them all, you are entitled to your choice of any one of the premiums mentioned below, provided you comply with a simple condition about which we will write you as soon as we have received your solution to the puzzle.



It is not necessary to write us a letter. Simply mark X with a pencil on each one of the full figures and five faces, then write your name and address on the blank below very plainly, cut out the advertisement and return it to us. We will write you at once telling you about the condition that must be adhered to.

The condition mentioned above does not involve the spending of one cent of your money. This is an excellent opportunity to obtain a handsome and useful present. Do not delay, write to-day.

It is possible you may not see this advertisement again. Only one present is given in each locality. So if you wish to have one, be the first to apply.

LIST OF PREMIUMS

- Ladies' or Gents' Gold Finished Watches.
- Ladies' Solid Silver Watches.
- Rogers Silverware Dinner Sets. (Six silver-plated knives and six forks.)

- Rogers Silverware Dessert Sets. Six dessert spoons, six teaspoons, sugar shell, butter knife, etc.)
- China Tea Sets.
- Gold Finished Parlor Clocks.
- Water and Lemonade Sets.

- Photograph Albums.
- Ten Key Hardwood Accordeons.
- Handsome Violins and Bows.
- Toilet Sets.
- Parlor Lamps, etc., etc.

Do not fail to write your name and address very plainly.

DO NOT SEND ANY MONEY,

Address, **BOVEL MAN'G CO'Y.,**
Dept. V, **MONTREAL.**

Name

Address

Are we to address you as Mr., Mrs. or Miss?.....

FAIRVIEW HERD is the place to buy your next bull. I can furnish you with a bull sired by our great herd bull, **PONTIAC KOENDYKE**, who has 19 daughters in the last year's report that made official records from 15 pounds at less than two years old to over 314 pounds at four years, and the whole number averaged over 4 1/2% fat. No other bull in the world has ever made such a showing in one year. I have just tested another of his daughters that made 36.40 pounds butter in seven days with second calf. I have over 50 cows and heifers in calf to him. Come and look my herd over before making your selections elsewhere. **E. H. DeLar, Newcastle, St. Law. Co., N. Y., near Prescott**

RECORD OF MERIT HOLSTEINS

Herd 110 strong. Over 40 head now in the Record of Merit. Two of the richest-bred bulls in Canada at head of the herd. For sale: 18 bulls, from 3 months to 1 year of age, all out of Record of Merit cows and sired by the stock bulls. **P. D. MEE, Oxford Centre P.O., Woodstock Station.**

RIVERSIDE HOLSTEINS

For sale: Eight young bulls from 3 to 8 months old, out of Record of Merit cows, sired by Johanns Bue 4th's Lead and Sir Pieterse Potch DeBoer, whose dam and sire's dam average in official test 35.57 lbs. butter in 7 days, and 87.6 lbs. milk 1 day.

J. W. RICHARDSON, Caledonia, Ont.

LOOK HERE

Have on hand bull calves from choice dams, and sired by son of greatest cow in Canada. Boutsje Q. Pieterse De Kol: 643 lbs. 7 days; 96 lbs. 1 day. His sire's dam and granddam have records averaging over 35 lbs. butter week. Also choice bulls fit for service. Prices right. **FRED ABBOTT, Fairview Stock Farm, Harrietsville, Ont.**

Evergreen Farm Holsteins—FOR SALE: Bull calves 3 months old, from A. R. cows. Dam and sire's dam average from 20.55 lbs. as 3-year olds, to 22.00 lbs. as mature cows in 7 days; also young females bred to Sir Mercens Favorit. **F. C. PETTIT, Burgessville, Ont.**

HILTON STOCK FARM—Holsteins, Cotswolds and Tamworths—Present offering: Some young cows; a nice lot of young pigs; few boars six months old, and sows in pig. **R. O. MORROW & SON, Hilton P.O., Brighton Tel. and Stn.**

Grove Hill Holstein Herd Offers high-class stock at reasonable prices. Only a few youngsters left. Pairs not skis. **F. R. MALLORY, Frankford, Ontario. G. T. R. and C. O. Railway connections**

FOR QUICK SALE—Choice registered Holstein bull calves at \$25.00 each, sired by Prince Gretqui De Kol, whose dam has an official record of over 18 pounds at three years old. Express paid anywhere in Ontario. **W. A. BRYANT, Calngorm, Ont.**

RAW HIDES, SKINS, & C.

CONSIGNMENTS SOLICITED.
Write for LATEST PRICE LIST.

E. T. CARTER & CO., FURS

TORONTO, ONT.

The Largest WOOL, HIDE & FUR HOUSE in Canada

Oxford Down Sheep, Shorthorn Cattle, Yorkshire Hogs.

Present offering: Lambs of either sex. For prices, etc., write to **John Coullis & Sons, Buena Vista Farm, O. Harrietsville, Ont.**

Cattle and Sheep Labels.

Now is the time to get posted. Send your name and address for circular and sample. Write to-day. **F. G. James, Bowmanville, Ont.**

Shropshires and Cotswolds

I am now offering 35 shearing rams and 50 shearing ewes, also an extra good lot of ram and ewe lambs from imported Minton ewes and Buttar ram.

JOHN MILLER, Brougham P.O., Claremont Stn., O.P.R.

FAIRVIEW SHROPSHIRE OFFERINGS

Show rams, show ewes and breeding stock. Of the best of breeding and best in quality. For 25 years the flock is known as the Producer of the highest type of sheep. If you need a choice ram, or a few good ewes, write for circular and tempting prices to **J. & D. J. CAMPBELL, Fairview Farm, Woodville, Ont.**

SHROPSHIRE

Choice breeding ewes for sale at reasonable prices. White Wyandottes at all times. **W. D. MONKMAN, Bondhead, Ont.**

FURS WANTED IN ANY QUANTITY OF ALL KINDS

WRITE FOR PRICE LIST SHIPMENTS SOLICITED

JOHN HALLAM III FRONT ST. EAST TORONTO

The "STAY THERE"
Aluminum Ear Markers
are the best. Being made of aluminum they are brighter, lighter, stronger and more durable than any other. Fit any part of the ear. Nothing to catch on feed trough or other obstacle. Your name, address and any series of numbers on each tag. Sample tag, catalogue and prices mailed free. Ask for them. Address
WILCOX & HARVEY MFG. CO., 104 Lake St., Chicago, Ill.

Southdowns

FOR SALE: 3 imported prizewinning rams, and 60 home-bred and imported ewes. **GOLLIES**—Puppies by champion sire, and out of prizewinning dam.
Robt. McEwen, Byron, Ont.

QUESTIONS AND ANSWERS. Miscellaneous.

FEEDING CALVES.

1. How long would you leave a pure-bred calf suck the mother, if you did not wish to make them something fancy?
2. Is oil cake and oats, with a few grains of barley in it, good for calves sucking the cows?
3. Should oil cake be fed to calves that are on their mothers?
4. Will sheep dip kill lice on cattle?

J. M.
Ans.—1. Eight or nine months.
2. Yes.
3. Yes; if of a beef breed; but not for a calf of a dairy breed.
4. Yes.

MOVING VS. TAKING DOWN BARN FRAME—CORRUGATED ROOFING.

Have a barn 54 x 34 feet which I wish to move in two directions, twenty-two feet each way, that is, north and east, and place it with sixteen feet additional, which I purpose raising on a cement-block foundation; the roof of the present barn to be taken off and made steeper, using longer purline posts and rafters; the present siding to be used for sheeting.

1. Is it cheaper to take the present frame down, as a new piece of sill is to be put in, than to raise with jacks, and move?
2. Is 34 feet in width, with a narrow hall, sufficient for two rows of loose cattle?
3. Is galvanized, corrugated iron meeting with success as a roof for a barn, or are galvanized shingles or cedar shingles a better roof?

A SUBSCRIBER.
Ans.—1. We think so. Much, however, depends on local conditions and prices. Had you not better get estimates from practical men?

2. It would do, though we would prefer wider. Allow a little extra space in the rows.

3. So far as we have heard, galvanized, corrugated iron if giving satisfaction for barn roofs, though, of course, it is dearer than wooden shingles. See answer to F. L., Jan. 30th issue, page 186. **T.**

GRASS SEED FOR HAY CROP.

In selecting a suitable grass-seed mixture for a two-year hay crop for a twenty-two-acre field, part of which is rather high and dry, and the balance rather low-lying, and inclining to swamp muck, mixed with sandy loam, the higher part being very light land, but well manured with barnyard manure last fall. Have had some experience with orchard grass; I am delighted with it as a pasture. What I want to know is would you advise mixing orchard grass with red clover and timothy, or would the orchard grass be too early a plant for the red clover to cut for hay? We always start to cut our red clover and timothy about June 25th here. Would you recommend tall oat grass for a hay mixture? Kindly suggest a suitable mixture. **J. E. J.**

Ans.—Although orchard grass is an abundant yielder and generally thrives well on a variety of soils, I would hesitate in recommending you to sow twenty acres with orchard grass and common red clover until you have had greater experience with the grass. It is apt to grow a little coarse, and if allowed to become too far advanced before it is cut the stems of the plant become rather harsh, and are not very well relished by animals. You might experiment by sowing a portion of the field with the following: Common red clover, 6 lbs.; timothy, 2 lbs., and orchard grass, 12 lbs. per acre, thus making a mixture of 20 lbs. of seed per acre. The orchard grass and red clover would be ready for cutting for hay about the same time, and I should aim to cut a little on the early side, and cure the crop as carefully as possible. If the crop is handled in the best form you will likely get a large yield of hay of very good quality. The orchard grass would afterwards make an excellent pasture in the autumn of the year. The seed of the tall oat grass is quite expensive, and I would not, at present, recommend it strongly for hay production for a period of two years. **C. A. ZAVITZ, O. A. C.**

GOSSIP.

THE GARDNER-PEARSON SHORT-HORN SALE.

In our last issue appeared a resume of the bulls to be sold at the F. A. Gardner, S. J. Pearson, Son & Co.'s Short-horn sale, to be held at the farm of Mr. Gardner, near Streetsville Junction Station (C. P. R.), on Tuesday, March 3rd. Following is a brief synopsis of the breeding of the females, a perusal of which will show anyone familiar with Shorthorn lore that they are an exceptionally well-bred lot, and among them are a number that have won leading honors at several county shows in strong company. Mr. Gardner's offering is as follows: Scotch Thistle (imp.) 43660, by Prince Cruickshank; dam Scotch, by Merry Mason; she is a very large, thick, red cow, eight years old, and a wonderful breeder, a very valuable cow to anyone breeding Shorthorns. Scotch Thistle 2nd 48692 (imp. in dam) is a red five-year-old daughter of hers, by the great Missie bull, Luxury; here is a show cow that, if in show condition, would weigh up toward a ton. Scotch Thistle 3rd 81662 is her half-sister, by Gold Mine (imp.); she is a red yearling, a good one. Scotch Thistle 4th 81658 is a red yearling, out of Scotch Thistle 2nd, and got by Gold Mine; another nice, thick heifer. Scotch Thistle 5th 81661 is a red yearling, by Gold Mine, and out of the old cow. Scotch Thistle 6th 81659 is a red-roan junior yearling, by Gold Mine; dam Scotch Thistle 2nd; a splendid lot of this good-doing strain. Mysie Maid 72210 is a red two-year-old Mysie, by Imp. Joy of Morning; a thick, good heifer. Lovely May is a roan two-year-old, by Imp. Scottish Prince; she is a Lovely-bred heifer, and a good one. Indian Lady 4th 81657 is a white yearling, of the same tribe as the Floras; she is by Gold Mine. Others of this strain are a roan yearling and a red yearling, by Gold Mine, and another by McKay 4th. Cecelia Bud is a white year-old Cecelia, by Imp. Scottish Prince; dam by Imp. British Statesman. Lovely Rose is another white yearling, a Lovely, by Imp. Prince of Archers. Loretta, Vol. 21, is a roan four-year-old, by Imp. Prince Louis; dam by Imp. Scotland's Fame. Hilda Gem is a red yearling, by Imp. Deeside King; dam by Imp. Scottish Prince, an extra good lot of young things that should find ready buyers. The Valley Home Farm consignment of Messrs. S. J. Pearson, Son & Co. are a representative lot of their noted herd. All the heifers old enough will be bred to Royal Luxury 65622, by Royal Diamond 2nd; dam Glosterina 9th (imp.), by Luxury; he is a rare good type of a bull, low-down, thick and even. The females to be sold are: Marchioness 16th = 76866, a red two-year-old, by Royal Scot; dam by Imp. Scotland's Fame; is a big, thick heifer. Nonpareil 64th 76865 is a red two-year-old, by Royal Scot. Both these heifers are in calf to Royal Luxury. Rosebud 12th 76868 is a red two-year-old, by Royal Scot, in calf to Royal Luxury. Rosebud 10th, Vol. 20, is a roan four-year-old, by Trout Creek Banff; she has a calf at foot. Rosebud 5th 52289 is a red six-year-old, by Favorite 30955; she is in calf to Royal Diamond. Mina Maid 8th 57721 is a roan five-year-old, by Gladstone 36816; soon due to calve to Royal Diamond. Then, there are several of the great dairy strain, the Lady Brants, a strain that is in great demand on account of their heavy-milking qualities, the whole making a choice offering of up-to-date Shorthorns. Catalogues may be secured by writing F. A. Gardner, Britannia P. O., or S. J. Pearson, Son & Co., Meadowdale P. O., Ont.

TRADE TOPIC.

HOW ABOUT YOUR ROOF?—Many farmers had to postpone their roofing last spring because by the time the weather was suitable for such work, they found their hands full with the usual preparations for a busy season of plowing and planting. Why not take advantage of your slack time now, and lay your plans for getting new roofs on next year? Write The Metallic Roofing Co., Toronto or Winnipeg, whose advertisement you'll find in this paper, and get some information about their goods.

QUESTIONS AND ANSWERS. Miscellaneous.

BREEDER OF ALBERT VICTOR.

Who was the breeder of the Shorthorn bull, Albert Victor (imp.) =6315= (55250)? Was he a very large bull, and who owned him? A. F. B.

Ans.—He was calved in 1887; bred by S. Campbell, Kinellar, Aberdeenshire; imported by Arthur Johnston, Greenwood, Ont.; owned by H. Cargill & Son, Cargill, Ont. He was a medium-sized, low-set bull; sired by Gravesend, who was a very large bull.

MAKING A STONE ROAD.

As the Township of Grantham has undertaken the construction of better roads leading to our beautiful city, we, as subscribers, would like to see in your paper more reading on that line of work.

1. Where has the tile draining been tried, on or under the roads, and with what success?

2. What would be the best way to construct a stone road after underdraining has been done? J. A. S.

Ans.—We have been pleased to comply with the above requests. In our Feb. 6th issue the subject of tile draining was quite fully treated. The application of stone and gravel has been repeatedly discussed in our Farm Dept., but the following brief directions, especially prepared for us by Mr. A. W. Campbell, Deputy Minister of Public Works, will be of value:

Road construction is not a matter of one prescription for all cases, if the best results are to be reached at a reasonable cost. The civil engineer has been defined as one who utilizes the powers and resources of nature for the benefit and convenience of man, and there is no field that offers greater variety in this regard, than does road building.

Commencing with an ordinary clay road, the usual plan is to first grade and crown the earth road, providing surface drainage that must carry water to the lowest points of the road, where it is discharged into free outlets. Next lay tile drains as the situation requires. Then roll down the earth sub-grade. Then spread over the earth, and to the required width (usually 7 or 8 feet), a layer of coarse stone. Over this sprinkle a layer of screenings, and roll until it is fairly compact. On this spread a layer of fine stone, not exceeding 1 1/2 inches in diameter. Over this spread a layer of screenings, then wet thoroughly, and roll until solid and unyielding. The total depth of stone should be not less than six inches for a clay subsoil, and, if a clay loam, more is needed.

In carrying out the work, local conditions will influence methods. For instance, in place of a first layer of coarse stone, a bed of gravel might be used; or quarry stone, averaging a foot in size, might be laid on the flat, corners broken off, and the small pieces wedged into the voids between the stone. The latter can be used only where the drainage is thorough. If a road roller is not available, it is frequently possible to let the newly-graded road settle for a time; and, just before putting on new stone, to lightly restore the surface with a grading machine or split-log drag; afterward keeping the metal raked into place, and the wheel-tracks full, until the road is consolidated by traffic. Scores of variations can be profitably introduced into road construction, suited to varying local conditions, if the builder has a thorough knowledge of the principles of drainage and the materials he is using.

An experienced road superintendent is essential, if good roads are to be built and maintained at a reasonable cost. A capable road superintendent must be a practical man with a knowledge of road-making machinery, and having the ability to manage men. Every municipality should engage such a man, and keep him permanently in office, for he can be of more value and is more necessary than is a permanent clerk or treasurer. If an experienced man cannot be found, an active and energetic man should be selected, but the ratepayers must expect for some time that he will gain experience at their expense. No directions as to roadmaking are complete without reference to a permanent and capable road superintendent or commissioner.

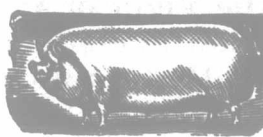
Elmhurst Berkshires

We have a number of choice young boars ready for service. Some imported, others imported in dam—also from imp. sire and dam—which we will price right for quick sale. Write us for what you want.

H. M. VANDERLIP,

Importer and Breeder, CAINSVILLE P. O., BRANT CO.

YORKSHIRES of choicest Type and Breeding.



I have on hand 75 brood sows of Princess Fame, Cinderella, Clara, Minnie, Lady Frost and Queen Bess strains. My stock boars are true to type and richest breeding. For sale are a large number of sows bred and ready to breed, boars fit for service, and younger ones of both sexes. Pairs and trios not skin. J. W. BOYLE, P. O. Box 563, Woodstock, Ont.

CHESTER WHITE HOGS

The largest herd of bacon-type Chester White hogs in Canada. Strictly high-class have won highest awards. Young stock of both sexes always on hand. Satisfaction guaranteed.

ROBERT CLARKE, 41 Cooper Street, Ottawa, Ont.

Glenburn Herd of Yorkshires

Winner of gold medal three years in succession. 6 young boars from 6 to 9 months; also 75 young sows, from 6 to 12 weeks old.

David Barr, Jr., Box 3, Renfrew, Ont.

Large English Berkshires

For sale from imported stock. Sows with pig and pigs for sale. All ages. At reasonable prices. Guarantee satisfaction. Boars and sows delivered at Woodstock station, C. P. R. or G. T. R.

JOSHUA LAWRENCE, Oxford Center, Ont.

Cedar Lodge Yorkshires

100 head brood sows (imp.) and the product of imp. stock, weighing from 500 to 600 lbs. each. Stock hogs by imp. sires and dams, very large and full of quality. Young stock of both sexes constantly on hand for sale. Pairs not skin. Satisfaction guaranteed.

P. O. COLLINS, Bowesville P. O., Ont. Manotick Sta., C.P.R.

For Sale—Ohio Improved Chester Whites, the largest strain, oldest established registered herd in Canada; young sows in farrow; choice young pigs, six weeks to six months old; pairs not skin; express charges prepaid; pedigree and safe delivery guaranteed. Address E. G. GEORGE, Putnam, Ont.

MOUNT PLEASANT HERD OF TAMWORTHS AND HOLSTEINS.—For sale: Pigs of either sexes from 6 weeks to 3 years; also 12 bull and heifer calves from 1 week to 1 year old. Phone in residence. BERTRAM HOSKIN, The Gully P. O.

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.



Large White Yorkshires!

Am offering at the present time a choice lot of boars ready for service, from imported stock; also young pigs of both sexes, not skin. Prices right, and quality of breeding unexcelled. Write or call on

H. J. DAVIS, WOODSTOCK, ONT.

Newcastle Tamworths and Shorthorns

For Sale: 100 pigs, both sexes, all ages. Sows from 10 months to 3 years, bred to Imp. Chelerton Golden Secret, all descendants of Colwill's Choice and Newcastle Warrior, both Toronto champions. Also two choice Shorthorn bulls, ready for service, from choice milking dams, and sired by a son of Imp. Joy of Morning. A. A. COLWILL, NEWCASTLE, ONT.

MOUNT PLEASANT HERD OF Tamworths and Holsteins.—For sale: Pigs of either sexes, from 6 weeks to 7 months; pairs not skin; also bull and heifer calves under 6 months. Phone in residence. BERTRAM HOSKIN, The Gully P. O.

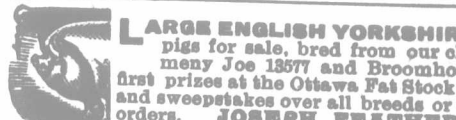


OAKDALE BERKSHIRES

Largest Berkshire herd in Ontario. Stock boars and several brood sows imported. For sale: Sows bred and ready to breed, boars ready for service, and younger ones, all ages, richly bred on prize-winning lines and true to type. Everything guaranteed as represented. Long distance phone. L. E. MORGAN, Milliken P. O., Co. of York.

Meadowbrook Yorkshires.

Young stock of both sexes. A number of sows old enough to breed, all sired by Imp. Dalmeny Topman. Everything guaranteed as represented. J. H. SNELL, Hageraville P. O. & Station.



LARGE ENGLISH YORKSHIRES.

We have a limited number of choice young pigs for sale, bred from our choicest sows and got by the imported boars, Dalmeny Joe 12577 and Broomhouse Beau 14514. Pigs from the latter won all the first prizes at the Ottawa Fat Stock Show last March for the best dressed carcasses, and sweepstakes over all breeds or grades. We guarantee satisfaction in all mail orders. JOSEPH FEATHERSTON & SON, STREETSVILLE, ONT.

SUNNYMOUNT BERKSHIRES!

Boars fit for service, sows safely in pig, young sows 4 months old, young sows and boars 3 months old, imported in dam. JOHN McLEOD, Importer and breeder, Milton P. O. and Sta., C. P. R. & G. T. R.

Willowdale Berkshires

are unsurpassed for quality and breeding. Young stock, all ages, for sale reasonable. Satisfaction guaranteed. Long distance telephone in residence. J. J. WILSON, Importer and Breeder, Milton P. O. and Station, G. T. R. and C. P. R. When Writing Mention this Paper.



FAIRVIEW BERKSHIRES

Bred from imported and Canadian-bred sires and dams, and bred on prize-winning lines. My brood sows are large, choice animals. Young stock of both sexes. Some sows bred to imp. boars. HENRY MASON, SCARBORO P. O. Street cars pass the door.

Duroc-Jerseys Boars fit for service. Sows ready to breed. Several sows in pig, also younger ones. Imported Canadian Boy 19997 heads our herd. MAC CAMPBELL & SONS, Harwich, Ont.

Yorkshires—Boars ready for service; sows ready to breed, and bred; young pigs just weaned and ready to wean. Cotswold and Shropshire rams, yearlings and lambs, registered. GEO. M. SMITH, Haysville, Ont.

NEW LIFE AND ENERGY

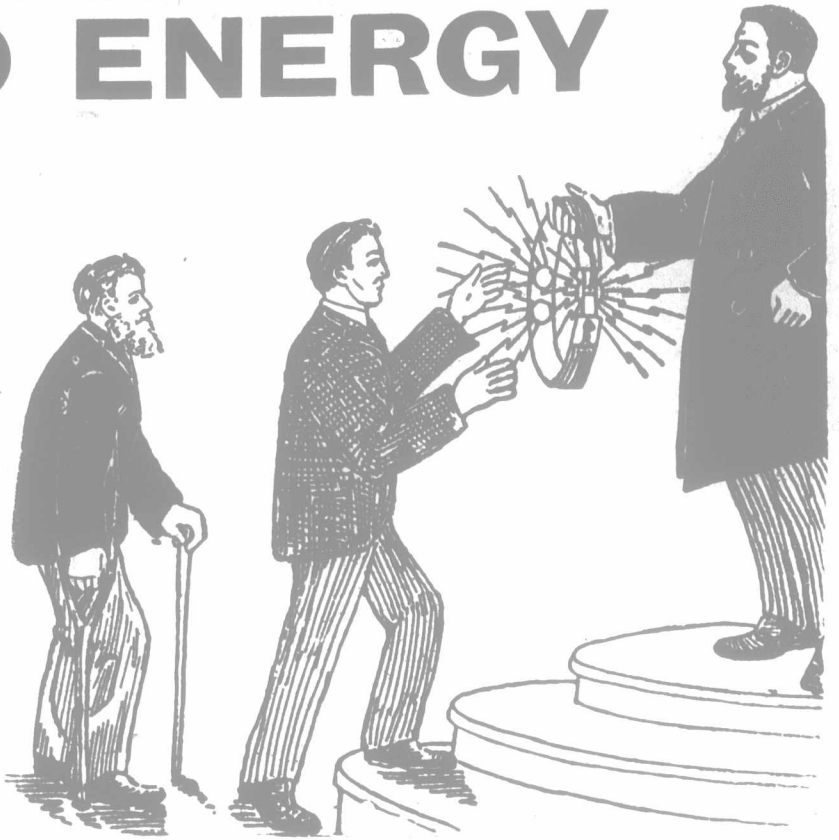
MEN, LOOK HERE!

Even Until Old Age You May Feel the Vigor of Youth, with its Light Heart, Elastic Step, Courage and Tireless Energy, You May Be Free from Pains and Defy Your Years.

Varicocele, Spermatorrhœa, Losses and Drains, and All Ailments Which Destroy Manhood's Vigor, are Cured by Dr. McLaughlin's Electric Belt.

Free With Electric Suspensory for Weak Men.

Sends the current to the prostate gland, the seat of all weakness. It develops and expands weak organs and checks losses. No case of weakness can resist it. **FREE WITH BELTS FOR WEAK MEN.**



Let any man who is weak, broken down, old and decrepit in physical weakness, full of pains and aches, gloomy, despondent and cheerless—any man who wants to be stronger and younger than he feels—let him come and tell me how he feels, and if I say that I can cure him he can depend upon it. This is to men who are afflicted with nervous debility, who get up tired in the morning, have Backache, Rheumatism, Stomach, Liver, Bladder and Kidney Trouble, who are constipated, or suffering from nerve or muscle weakness or some forms of Paralysis and Locomotor Ataxia. I don't want money that I don't earn. I don't need it, and am not after it. But I am after the dollars that are now going wrong in the quest of health. Look at all the poor wrecks of humanity that are spending all they earn on drugs—drugs that is paralyzing their vital organs—that have spent all they have earned for years without gaining a pound of strength for the hundreds of dollars wasted.

That is the money that I am after, because for every dollar I take I can give a thousand per cent. interest to the man who invests it. I have cured so many cases right here that I can prove my claims to you, but if that proof is not enough I'll give you the names of men right near you—where you are. Is that fair?

Most of the belts that I am selling now are to men who have been sent here by their friends whom I have cured. I think that is the best evidence that my business is a success from the standpoint of cures, as well as on the dollar side.

Just lately I have received letters of praise from these men who have used my

DR. McLAUGHLIN'S ELECTRIC BELT.

"I have not had a touch of rheumatism after one week's use of your Belt."
J. C. JAMIESON, Elmside, Que.

Dear Sir,—The trouble for which I purchased your Belt has entirely disappeared. It was only after a great deal of hesitancy and enquiry from your patients that I bought one of your Belts, and I am now glad that I did. My back is perfectly well, and I never was so strong or felt as well as I do now.
GEO. A. STARK, Owen Sound, Ont.

Dear Sir,—I write to let you know that your Belt has cured me, and I am entirely satisfied with your treatment. I then gave it to my sister to wear, and she, too, was entirely cured, after being treated by many different doctors, and also being told that she would have to go under an operation, to which she would not consent. She used your Belt and was entirely cured.
JOHN W. THIBAUT, Bruce Mines, Ont.

I don't want your money without giving you value for it. I know it will cure in any case that I undertake. If I can't cure, I'll tell you frankly. You have nothing to lose, for if you wish you can use the Belt entirely at my risk, and if it doesn't cure you it will not cost you one cent. The only condition I impose is that you give me security for the Belt while you are using it, as evidence of good faith on your part.

Give me a man (or woman, for that matter) who has been sick and suffering for years, and taken medicine until the system is all run down and debilitated, the stomach unable to digest the food, and the nerves shattered. My Electric Belt will give new life to every organ, drive out disease and restore health.

I have the grandest invention of the age for weak men; the surest and easiest cure for all nervous and chronic diseases. Its wonderful power is directed to the seat of the nervous system, through which its vitalized strength penetrates into all parts of the body, carrying new life to every function which has been weakened by excess or dissipation, restoring energy to the brain and power to the vital organs. No weak man, no delicate or sickly woman will ever regret a fair trial of my Belt.

Send for My Book To-day.

Do you want to feel big, husky and powerful, with your veins full of youthful fire, your eye clear, and your muscles strong and active? If you do, fill out this coupon and send it to me and I will send you a book which will inspire you with the courage to help yourself. It is full of the things that make people feel like being strong and healthy, and tells of others like yourself who were just as weak once, but are now among nature's best specimens of strong and healthy human beings. Cut out the coupon and send it to-day, and get this book, free, sealed, by return mail. Call for free consultation. Office Hours, 9 a. m. to 6 p. m. Wednesday and Saturday till 8.30 p. m.

CUT THIS OUT.

DR. M. S. McLAUGHLIN,
112 Yonge St., Toronto, Can.

Please send me your book for men, sealed, free.

Name

Address

SEND TO-TODAY.

GOSSIP.

WHY NOT MORE SHEEP?

Probably the main reason more farmers do not keep sheep is because they do not understand them. You ask them why, and one will say sheep will not pay on high-priced land; another will say cattle and hogs will make more profit; another, they require too much fencing, and still another will aver that they are too much bother. Are all these objections well grounded? Ask the man who has been raising sheep for the last five years. He will tell you that sheep will yield as good if not better profit than any other class of live stock, considering the expense one is to in getting started and for care.

Sheep bring in profits from two sources; namely, lambs and wool. Not only are they valuable in that way, but there is no other class of live stock that will return such a large amount of fertility to the soil. They have fitly been termed "the golden hoof that enriches the soil." As to the high-priced land proposition, if they did not pay it is not probable they would be kept continuously on some of the highest-priced farms in England.

While the profits from sheep-raising are not always constant, and will at times cease to be a profit, the same is true with other classes of live stock. At present the prices of sheep and lambs on our markets are not as good as they were a few months ago, but the man who is in the business to stay will undoubtedly see better conditions in the not far-distant future. High prices for feed are somewhat of a handicap to feeders

of all kinds of live stock, and this may be one of the years when the profits are not so big. But it is the man who keeps at it who makes the money.

Good management will count for as much if not more with the flock as with the herd of cattle or drove of hogs. The flocks that do not pay are the neglected ones—the ones kept by men who do not understand sheep. With the least trouble of any farm stock, the sheep with its two-fold source of income will build up the depleted farm, and make the productive one grow bigger crops.—[Drovers' Journal.

Mr. A. A. Colwill, Newcastle, Ont., breeder of Tamworth hogs and Shorthorn cattle, whose advertisement runs in "The Farmer's Advocate" writes: "The fall pigs I am offering now will be ready for the spring and summer trade.

They are a grand lot, all sired by my imported boar, Cholderton Golden Secret. He is proving himself a capital stock-getter. I have a few extra choice sows of show-ring quality bred to him that will be well worth looking after. The bulls I am offering are splendid quality, and are descendants of a choice milking strain of Shorthorns. These, also, are well worth looking after, as they will be sold reasonably. My sales have been very good during the winter. I sold three nice sows, bred to my imported boar before shipment, to North Carolina, to be fed upon peanuts by their present owner, who is starting a large herd of Tamworths. I have shipped several to Manitoba and two to British Columbia in the fall, besides many nice shipments to Ontario purchasers during the last three months, and still have some choice stock to fill orders with at only reasonable prices."