

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

J. H. Griedale
Exp. Farm June 1

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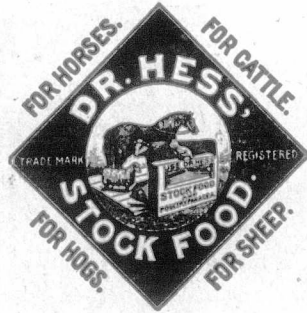
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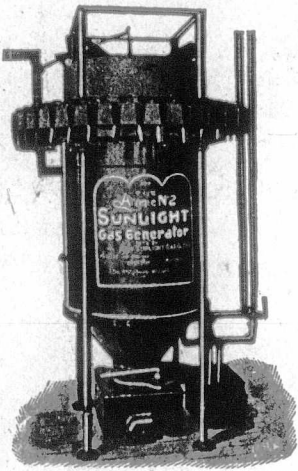
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VOL. XXXVI.

LONDON, ONT., AND WINNIPEG, MAN., MARCH 1, 1901.

No. 521

EDITORIAL.

The Horse Breeding Outlook.

Horse-breeders who have growing or breeding stock are feeling well over the increasing prosperity of their business. While greater pains are being taken to fit horses for the market, buyers lament that first-rate animals are becoming more and more difficult to secure. These circumstances are having the effect of stiffening the price for such classes of horses as are especially in demand, which are confined to more definite types than the market demanded a few years ago. To be sure, the plug or the nondescript will sell for something if he can pull, but he is wanted only by the cheap buyer, so that he will not pay for raising. One commendable result of the passing of the horse car was the effect it had on removing the market for the cheap horse, and with that went the services of the scrub stallion, so that he should no longer be a menace to the trade. So surely is this felt by the horse-breeders, as was evidenced at the meetings in Toronto the second week in February, it was generally contended that the service fees for good horses should be raised in order to guard against excessive service, and also to warrant men in securing high-priced stallions. During the depression of the trade a few years ago, fees went deplorably low, and now the business has become prosperous the old charges for service should be reinstated. Besides that, it is felt by many horse-owners that for the benefit of the industry unsound or inferior stallions should not be allowed to serve mares, and to this end the inspection and licensing of stallions was strongly advocated by several members of the Horse Breeders' Association. It is not likely, however, that such an act will soon be passed, as it would be difficult to enforce, and is of doubtful necessity, since the produce of such horses is becoming less and less in demand.

Horse-breeding, from a farmer's standpoint, may be considered to have settled down to three main classes, the draft horse, the carriage horse, and the army remount. A high-class carriage horse, hunter or roadster will sell well, but their production is expensive and uncertain, while either the remount or draft horse can be raised with less skill, and therefore less risk of failure. The experience we have had in supplying remounts, and the reputation they have won in active service for the Canadian horse, should give us confidence in catering to that demand. The horses that stood the hardships of long marches on little food were built much on the pony pattern, with good middles and stout limbs, most of them coming from the farms of Ontario. They stood the task much better than the finer-bred English horses, but for mobility in an engagement, such horses are not sufficiently fleet and spirited to overtake the enemy, so that the remount horse is not confined to a steed that might be strictly termed a saddle horse. He should, however, according to Major Dent, who has purchased many remounts in Canada during the last year, have saddle-horse blood, and the more the better of the English or Irish Thoroughbred, if strong enough, as then he has the spirit, endurance and activity of a good soldier. Major Dent strongly condemns the Standard-bred sire and just as forcibly recommends the Thoroughbred for this purpose. Horses with long backs, weak back ribs, and small bones below the knee, are looked upon by him as entirely unfit for army purposes, and these weaknesses in many Canadian horses he attributes to the Standard-bred trotting sire. The Hackney, however, has a place in the army supply, as was shown at the last Canadian Horse Show, when both pure-bred and grade Hackneys won good premiums

in the cavalry, infantry and artillery classes. It is probable that British remount purchase stations will be established in various parts of Canada before long, as it is known that we can produce the right class of horses that will be so much needed as time goes on. Since the commencement of the Boer war, Canada has supplied some 3,750 horses, and the United States 21,000, so that Canada could easily have supplied more to this trade had she been in a position to do so. Now, if purchasing centers are established, they will be supplied from those of our horse-breeders that produce the right class of stock, so it behooves our farmers with mares fit to be dams of remounts to consider well the sort of stallion chosen for the other parent of the offspring.

The high-class harness or carriage horse is, however, the money-maker of the present day, provided he comes up to a good standard of excellence in conformation and action. It needs few faults to take him out of the high-class trade, but with these he may make a useful animal in many lines of life. Having a clean-limbed, active mare of handsome type and good size, it is quite safe to breed her with a carriage-horse offspring in view, for if she yields a good one, the price received for it may be more than two or three times that of an ordinary animal, even a remount. Mares with draft blood, or those inclined to pace, are not likely to turn out famous carriage offspring. Good results are being obtained from dams possessing English Coach, German Coach, Cleveland Bay, Standard-bred (if big enough), and Thoroughbred blood, when crossed with the Hackney especially, or any of these mentioned breeds, if good enough, in proper character. We have it on good authority that the offspring of the well-known Hackney stallion, Jubilee Chief, when from fairly good carriage mares, invariably sell for high prices. The same is true of the gets of other good Hackneys, and occasionally a German Coach is equally successful if possessed of the proper metal.

The draft-horse men learned their lesson years ago as to the proper sort of stock to raise. While size and weight is an essential for long prices, quality is equally necessary. Where the thick-legged, short-pasterned horse could find a field years ago, his trade has gone, and few of this class ever start out on a route. In fact, such horses are shunned by every experienced draft-horse man. The coming season promises well for the draft class of horses, and as many good ones have been imported into Canada from Great Britain during the past year, there is little excuse for coupling a good mare of draft pattern with anything but a suitable stallion of Clydesdale or Shire breeding. In sections where a good stallion is needed by the farmers, and no one man or firm can afford to secure a registered stallion, the Canadian Horse Breeders' Association has set apart a portion of their funds to stimulate local agricultural societies to secure selected stallions for the purpose of serving in their district. The plan is practically the same as has done good service in Britain, where district societies pay certain premiums, usually from £200 to £500, and guarantee a certain number of mares at a specified rate, in order to secure the horse they want. Now the Canadian Horse Breeders' Association are undertaking to encourage this system from their funds, which have been swelled by the Government grant given them for educational purposes. Only a small number of societies can be aided this year, enough, however, to test the merits of the plan, and it is felt that if it proves successful the Government will willingly increase its grant to the Association. Viewing the industry from all standpoints, horse-breeders may feel assured that the outlook for their business is indeed propitious.

Use Only Pure-bred Sires of Good Quality.

The importance of using only high-class pure-bred sires in breeding all classes of farm stock has been so often and persistently advocated and urged in these columns that we realize the danger of its reiteration becoming wearisome to some of our readers; but, even at the risk of this result, we deem the subject of such vital interest to the success and upbuilding of the live stock of Canada—which is, by all odds, the leading industry of the country—that we venture a repetition of the injunction that mainly through the means of breeding from superior sires can our horses, cattle, sheep, swine and poultry take and hold a prominent and paying place in the markets—home and foreign—either as breeding stock or for consumption as meat; or, in the case of horses, as good sellers for the purpose of work or army remounts. There is not a doubt in our minds that the selling value of the great bulk of the live stock in the Dominion could be increased by fifty per cent. inside of three years were only pure-bred males of a good class used on all our farms for that period. The complaint comes constantly from buyers, dealers and shippers, that lack of good breeding and quality is the bane of the business, and that our people need to wake up to the fact that they are in large measure wasting food by feeding it to ill-bred, rough and scrawny stock.

There is now no reasonable excuse for this state of things, as there are plenty of pure-bred sires, of all the breeds and classes, held for sale or for service to supply all the needs of the country in this respect. It is only necessary to scan the advertising-columns of the *ADVOCATE* to see that there are large numbers of such stock in the hands of breeders waiting for buyers, most of them being young and which can be bought at very moderate prices by private contract or by competition at the bidder's own price at public sale, a number of which are announced in this issue, and which will be worth nearly if not quite as much after the usual term of service in a herd, stud or flock as the original cost, so that the improvement made by their use will be practically pure gain. We invite and urge farmers to read and study the advertisements in this paper, and to avail themselves—to some extent at least, and to as great an extent as their circumstances will allow—of the use of the best males whose services they can command either by purchase or the payment of a fee, and thus advance their own interests and help to build up the reputation of the country for a good class of stock.

Dairying and pork-production is proving a profitable combination for the farmer under winter conditions, with the prices prevailing for butter and bacon hogs. The cow and the sow constitute potent factors in keeping the farm accounts with a balance on the right side, and if there is a mortgage to be reduced, will wear it out as rapidly as any other influence that we know of. It is fortunate, when current prices for grain on the market are comparatively low, that the products can be sold to advantage when transformed into meat and milk, and at the same time the fertility of the farm kept up by the manure which is made from feeding stock. When to the product of the cow and the sow is added that of "the business hen," which also works in well with dairying, we have a trinity of powers which can hardly be excelled as a combination in the hands of men of moderate means, in not only "keeping the pot boiling" and holding what they have, but of making a little headway safely. And after all, it is perhaps better to be slow and sure than to take large risks, and by making haste to be rich, to run chances of overdoing the effort.

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Gift to the Ontario Agricultural College.

The trustees of the H. A. Massey estate, C. D. Massey, W. E. H. Massey, and Lillian Massey-Treble, have offered a gift of \$40,000 for the construction and furnishing of a new building at the Ontario Agricultural College, Guelph, to be used for convocation hall and library purposes, and to be known as "Massey Hall and Library," to become the property of the Government unconditionally, in order to further the best interests of the institution. In their letter to Hon. Geo. W. Ross, Premier of the Province, the trustees take cognizance of the growing needs of Ontario from an agricultural point of view, particularly in the direction of scientific investigation and education. As is well known, the dormitory accommodation has become wholly inadequate, large numbers of students being compelled to board out through the town. This difficulty will now be overcome. In addition to the above handsome gift, the Provincial estimates, which have just been submitted to the Legislature, contain an item of \$34,500 for capital expenditure at the College. This will be laid out in providing additional buildings for laboratory and museum purposes, and to overhaul the main college buildings, to afford accommodation for from 60 to 80 additional students. The late Hart A. Massey was in his earlier days a farmer, and through the industries which he established, continued in close touch with agriculture. Mr. W. E. H. Massey, his son, and one of the executors of his estate, is now personally engaged on a large scale in agriculture, stock-breeding and dairying, and, along with the other trustees, feels that the offer now made is an effective way of carrying out the wishes of the late Mr. Massey, and that in this way the building will constitute a suitable memorial. The example is one that other men of means would do well to emulate, and thus place within reach of the growing youth of the land the means of superior education of a practical character, and provide more complete facilities for thorough inquiry into the newer problems that are continually confronting the agriculturist.

In this connection we might also mention that the Ontario estimates contain a grant of \$25,000 for travelling libraries for remote rural areas.

The Test Again Condemned.

At the recent annual meeting of the Canadian Ayrshire Breeders' Association, held in Montreal, an emphatic resolution was placed upon record pointing out that the cattle-breeding industry is seriously menaced by the tuberculin test as applied to animals purchased for importation or export; that it is misleading as a diagnostic agent, and of no real value. They therefore respectfully and reasonably asked that the Dominion Minister of Agriculture, so far as lies within his powers, order the discontinuance of its use. The proposition of the Ayrshire breeders is one that must commend itself to the judgment of fair-minded men who have given this grave question due consideration. They represent the interests of one of the most important and widely-distributed breeds of dairy cattle in this country—one that has deservedly gained high favor among dairy farmers from a thoroughly utilitarian point of view. Like the rest of our cattle, grades as well as pure-breeds, they present every appearance and possess all the tangible evidences of good health as do the herds of Great Britain, from whence they have largely sprung. That this unreliable and damaging test system should be fastened upon the industry by a little coterie of U. S. and Canadian officials passes comprehension. Those who own the cattle are most vitally interested in having healthy stock, and if they believed the test to be trustworthy and of any benefit, they would make use of it, but such is not the case. Even its exponent before the recent Ottawa Tuberculosis Conference quoted some authorities admitting a percentage of unreliability, and the results of the inquiry made by the British Board of Agriculture showed it to be unreliable to the extent of nearly 18 per cent. Hence, by no stretch of charity can it be called a scientific test, and, therefore, even five per cent. of error should rule it out of court. Think for a moment of the position of our breeders who, for the improvement of their herds, find it necessary to import fresh blood. They select the best they can find in Britain, for example, and pay, perhaps, \$1,000 for a single animal. It has every evidence of thrift and good health, but by these regulations it is subjected to the test and quarantined. After crossing the Atlantic, it is liable to another dose, and if its temperature happens to rise is condemned. Losses to the extent of thousands of dollars have already been inflicted upon our breeders, and as the Ayrshire men point out, the test stands as a serious menace to the industry.

That there is much to learn about the ailment in cattle would appear from the case of the reacting animals referred to at the Ottawa conference, reported elsewhere in this issue. None of them had failed nor become emaciated; in fact, they seemed to be just as sleek and good-conditioned as those that did not respond to the test. The casual observer could not wonder: To what purpose, then, was all this vexatious and costly testing and segregating and isolating?

It is certainly of no benefit to the cattle, but, on the other hand, not a few cases of serious injury are recorded, and there is no pretence that it is a protection to human beings from consumption. Even at the recent tuberculosis conference in Ottawa it was not contended by the medical men and others present that bovine tuberculosis and human consumption were identical, nor that the latter was traceable to animals. The Dominion Veterinarian reported having tested several thousand suspected cattle, and only found that one or two per cent. gave reactions (rise in temperature) supposed to indicate tuberculosis. The 8,000 people who are annually dying from consumption, then, do not take it from cattle. The dying off of the Indian race from tuberculosis till now only a fragment remains, as referred to by Dr. Fraser, of Brandon, sheds light on this point also. They have not been a cattle-keeping people, and, therefore, did not contract the disease from that source. In fact, it would rather seem that they have been perishing from want of milk and other good nourishing foods. The alarmist crusade against cattle is not needed for the benefit of the animals themselves, and has no justification in so far as human beings are concerned.

From a U. S. quarter comes the suggestion of a Commission to investigate the test in all its bearings. It would doubtless be a good thing for the Commissioners, who would certainly learn something; but the immediate and pressing need is the suspension of the present regulations, which, while accomplishing no good purpose, are every day working damage, and to leave them in force, waiting indefinitely for the final verdict of a Royal Commission, would simply mean a form of lingering death to the cattle-rearing industry.

The Ottawa Tuberculosis Conference.

EDITORIAL CORRESPONDENCE BY A MEMBER OF OUR STAFF.

1st. Consumption is a contagious disease communicated from one person to another by means of germs.

2nd. It is not hereditary, but the weak and poorly nourished offer less resistance to its attack.

3rd. Germs are conveyed from diseased lungs in moist particles expelled in breathing and in the matter (sputa) cast off in coughing, which, when dried, floats like dust particles in the air.

4th. Its spread can be checked by separating the diseased from the healthy, and preventing the spread of the germs.

5th. In its earlier stages it is curable.

6th. The best preventive and remedial measures for the individual are pure air, sunlight and ample nourishment.

7th. The immediate needs in the crusade against consumption are to educate the people on the foregoing six points, and provide sanatoria for cases in earlier stages and hospitals for advanced cases.

The foregoing are the practical deductions drawn from the papers, addresses and discussions at the conference for the prevention of tuberculosis, on February 14th, in the Ottawa Normal School, to all of which we attentively listened. Exclusive of the Normal School students in the galleries, over one hundred persons were present, representing all the Provinces of Canada, though the bulk were from the Ottawa and Montreal districts, and mainly medical and professional men. To the Rev. Dr. Eby, formerly a well-known Methodist missionary, is chiefly due the credit of the conference, which one enthusiastic physician declared at its close to be the most important event in Canada since Confederation. At the inaugural session, His Excellency the Governor-General, Earl Minto, who has given it his cordial support, delivered the opening address, wishing the movement godspeed. Sir James A. Grant, M. D., Ottawa, ably discharged the duties of chairman. The various printed resolutions were introduced by papers or prearranged addresses. The lack of sufficient opportunity for questioning speakers on doubtful points was regrettable, though it saved time, but it would have been preferable to have covered fewer points and done it more thoroughly.

The first motion cited the magnitude of the disease, causing probably one-fifth of the deaths in the Dominion, or 8,000 per year, which, estimated, as some have coldly put it, said Dr. A. J. Richer, of Montreal, at \$1,000 each, means an annual aggregate loss of \$8,000,000. Hence the need and demand for individual and organized effort, and for aid from governments and municipalities. A great deal was said about how the microscopic germs are spread. Sleeping-cars, in which so many consumptives travel, were especially denounced by several as a prolific source of disease. Consumptives occupying the same rooms with others; indiscriminate spitting in homes, on the street, in public halls, hotels, etc., and carelessness regarding the sputum, which should go into spittoons containing antiseptics or be burned; bank bills carried the germs, and the long trains ladies wear, and street-railway sweepers, whirl them about. There was unanimity that the disease was not hereditary, but contagious, and curable in the early stages. It was not confined to lungs, but appeared in bowels, liver, bones, and even on the lip. Nearly every man who spoke bore testimony to the remedial efficacy of pure air, sunlight and wholesome food, and one declared that the day of remedies like Scott's Emulsion had passed away.

Again and again the appalling fact was disclosed that practically every hospital in the country has shut its doors upon the tuberculous patient, so that the very first and most important work this new organization can do is to devise plans for sanatoria of moderate cost, and get individual, municipal and government machinery at work to provide for their erection.

Sir William Hingston, M. D., Senator, Montreal, pointed out that the disease was less prevalent in the country than in the cities, and discredited the idea of people sending their friends to Florida or other distant places to die.

Dr. Lofferty, of Calgary, said Alberta was being thronged in places with consumptives from other provinces, attracted by the superior climate. Hence the Dominion Government should aid in the erection and control of sanatoria there.

Hon. Dr. Guerin, of Quebec, said the autopsies made in a long hospital practice demonstrated to him that consumption was actually curable. The lungs of patients dying of other diseases showed that the former had been arrested and cured. Great corporations should be compelled to take better sanitary care of their employees, and insurance companies would benefit by helping the present movement.

James Stewart, M. D., Professor of Medicine in McGill University, declared his faith in the spread of knowledge in the press of the nature of the disease, but protested against the publication of quack advertisements. Sanatorium treatment was the best, and had proved wonderfully successful in Germany. Cures were effected in about three months, 75 per cent. of workers being able to resume their work. Insurance companies there treat their tuberculous insured in sanatoria.

Hon. Dr. Borden, Minister of Militia, insisted

a campaign of educating the people, beginning with teachers who are to train the youth.

Hon. Sydney Fisher, Minister of Agriculture, suggested to the convention the wisdom of following the line of least resistance, by informing the public mind and creating a sound public opinion, in advance of which authorities could not safely proceed. It was also necessary to bear in mind that there were great interests at stake in the country which should not be needlessly antagonized by drastic legislation, but rather their co-operation secured. Furthermore, the Act of Confederation defined the respective duties of Federal and Provincial Governments, relegating the control of health matters mainly to the provinces, so that there was danger of conflicting interests. So far as the stock-keepers were concerned, he had, by means of bulletins, lectures, etc., diffused useful knowledge, and distributed to teachers, physicians, etc., 50,000 copies of the report on the Berlin Tuberculosis Conference, by the late Dr. Farrel, of Halifax, whom he had sent there. [NOTE.—Several speakers bore testimony to the immense value of this pamphlet, which should be still more widely circulated.] The duty of the Federal Government was to check disease coming into the country. When the Minister sat down, a delegate behind the writer observed that he considered his speech the best of the morning.

Dr. Dube supported the non-hereditary theory by saying that in 350 post-mortems of infants which he made in a Montreal foundling hospital, only two were tuberculous, while very many of the mothers were; and in 150 autopsies of adults he found many cases of cures.

Dr. A. L. Smith proposed printing facts about the disease and its prevention, on cards, to be read once a month by teachers to pupils. Others proposed having the subject taught in the schools, and one speaker proposed that ministers take it up in the churches.

The second resolution dealt with compulsory notification, cleansing of public buildings, inspection of places where work-people assemble, danger from milk and meat, aid to sanatoria or "homes," and was aimed chiefly at provincial and municipal authorities. All were not in favor of compulsory notification, as that is liable to cause friction between the physician and patient's family. Some thought it might better be left with the medical profession.

Dr. Hamilton, of Montreal, proposed cards of instruction for the guidance of tuberculous patients.

Dr. T. G. Roddick, M. P., proposed the cremation of those who died from tuberculosis, the killing of cattle showing clinical evidence of bovine tuberculosis, with compensation to owners, and the examination of emigrants for the disease.

Dr. A. P. Reid, Halifax—"Make them pass the tuberculin test." (Laughter.)

Dr. McDonald pointed out the terrible danger of the present overcrowded condition of nearly all hospitals and asylums.

AN AWAKENING SPEECH.

Mr. David McCrae, of Guelph, Ont., the well-known farmer and breeder, and chairman of a local Board of Health, brought a lively ripple to the placid surface of the conference. A great deal had been said about the need of education. He said it ought to begin right in this convention. He was only a plain farmer, but would like to learn from the doctors why consumption was increasing in Canada, as they stated, but decreasing rapidly in the crowded localities of Great Britain and the United States, once hot-beds of it? Why do we hear nothing about the inspection of the dwellings where consumptives live and die? At what stage does a consumptive become dangerous to his fellows? (No answers.) A great hue and cry is raised about cattle, but one of the most eminent living authorities to-day asserts that the danger of infection from milk is a mere possibility, and from meat, practically no danger whatever. By this time the conference began to wake up, and demanded the name of the authority. "Who? Who? Who?" Mr. McCrae caught the enquiry, stopped, and quietly replied: "William Osler, of Johns Hopkins University." He was not checked again, and, as a farmer and breeder, assured the conference that that great fraternity is willing and anxious to take any intelligent steps necessary to promote the health of their animals, for it is in their interest to do so, but the cattle-breeding industry was being done infinite harm by unfair statements about the

alleged dangers from meat and milk. Men were being alarmed and driven out of business. Acts had been done under the pretence of eradicating tuberculosis which have occasioned a loss of thousands of dollars to breeders without doing a particle of good. Another thing: there was upon the statute books a law, that would be a disgrace to the dark ages, prohibiting the sale of hides of tuberculous animals and imposing a penalty of \$200.

[NOTE.—The Minister of Agriculture has since promised to wipe out this absurd statute.

It must further be admitted that while several speakers seemed to take it for granted that there was danger from meat and milk, no evidence in support of that notion was presented. It was also said that tuberculosis appeared in sheep, hogs, dogs, cats, rats, and hens, but no light was shed on the question as to whether the disease in animals corresponded to that in man.]

Dr. Fraser, Brandon, cited the fact that the Indians were a dying race from tuberculosis and a menace to the whites. The Federal Government should look after them. In his observation, about 95 per cent. of their sickness was due to tuberculosis. [NOTE.—As the Indians are not a cattle-keeping people, they have not contracted the disease from that source, and have doubtless died off largely for want of milk, meat and other wholesome foods.]

Dr. O'Reilly, of the Toronto General Hospital, complimented Mr. McCrae upon his speech, and suggested plans for building small hospitals that could be enlarged as needed for consumptives. Patients were coming to him every day with medical certificates that they had diabetes, Bright's disease, general debility, etc., but it was consumption, and he had to turn them away.

Dr. Powell, of Ottawa, condemned the monstrous Ontario law that prevented a hospital for in-

disease would they stop the emigrant—when the man was just about to die or in the very first stage? Would the child of the family be sent back and the parent admitted? If stopped at our seaports, they would come in through the States, and we would have to have officers and inspection at every steamboat landing, frontier railway crossing and wagon road from the Atlantic to the Pacific. We can't go much farther than the U. S. Canada is not an island. Personally, he looked forward to the time when something in the way of supervision might be done with emigrants at the port of departure, but he could not see his way clear to make any further recommendation than he had already done.

Despite what Dr. Montizambert pointed out, the conference passed *holus bolus* the cut-and-dried resolution.

Dr. McEachran, Dominion Veterinarian, held that there was a close relation between tuberculosis in animals and man, and bore testimony to the good health of Canadian cattle. The Dominion Minister of Agriculture provides free tuberculin testing on request of owners, and in three years out of over 41,000 tested in suspected herds only 1,200 reacted indicating a tuberculous condition. [NOTE.—As the Government does not require slaughter, we presume these cattle are still living, unless some of them have been sold for beef.]

The Doctor still cherishes the idea that for a small outlay he could rid the country of bovine tuberculosis, and quoted several experts in favor of the tuberculin test, which, if properly used, was held to be reliable except in a small percentage of cases. He alleged that 50% of the pure-bred herds of Britain were tuberculous, but there were sound herds and breeders of integrity there who could guarantee their stock, and Canadians should buy

from them instead of speculative agents. He favored having all imported cattle tuberculin-tested before leaving quarantine. In conclusion, he offered a resolution to further enforce the test, making its use illegal, with penalties, expect in the hands of qualified veterinarians, and asking the Government to offer prizes for importations of pure-bred cattle. The propositions were not seconded nor put to the meeting.

Dr. H. H. Chown, Winnipeg, doubted the reliability of Dr. McEachran's figures; said the disease was very prevalent in Winnipeg and Manitoba Province, and increasing among farmers, whom, he thought, did not know about the Government testing. With the pure, germless air of prairies to start with, and their healthy settlers, he asked dramatically, where did the disease come from if not from cattle? It must have come from them, was his logic, though, unfortunately, the records do not sustain him. Our own observation is that cases of consumption among farmers are

very much more rare now than in former times. Mr. Calvin, M. P., representing the Kingston General Hospital, presented a resolution from the Medical and Surgical Society of that city, favoring a sanatoria in one of the high altitudes of Eastern Ontario.

THE EXPERIENCE OF MR. EDWARDS.

Mr. W. C. Edwards, M. P., by request of the chairman, gave his experience as a breeder with bovine tuberculosis. A good many years ago he began the establishment of a first-class herd of Shorthorn cattle. Three years ago tuberculosis was discovered among them. The opportunity was embraced to gain information that might prove not only of value to himself, but to the industry generally, and to the whole country. Through the Dominion Minister of Agriculture, he had the service of one of its staff of veterinaries, who tested the herd with the tuberculin test, and those diseased as indicated by the reaction he separated and isolated from the rest of the herd, which was a large and exceedingly valuable one. He had had all his cattle tested twice a year, and, during the three years had grown but one animal that responded to the test. Except in case of the healthy cows, the calves are raised on sterilized milk or sound nurse cows. The calves of the tuberculous cows are separated from their mothers at birth, according to the Bangs system, and fed as above. As a further experiment, he had allowed six calves to take the milk of tuberculous dams, but not to run with them, and of these but one became diseased. The udder of the cow did not appear involved, but may have been diseased. He



CLOTH OF GOLD 8962.

Clydesdale stallion, 4 years old. Owned by Alex. Galbraith, Janesville, Wisconsin.

fectious diseases being erected within 450 feet of any other structure.

The second resolution was adopted, with a clause demanding the creation of a new Dominion Department of Public Health.

The third resolution proposed the exclusion of tuberculous emigrants and cattle, Federal health statistics, experimental sanatoria, and annual grants of money from the Federal Government.

Prof. J. G. Adami, M. D., of McGill University, held that tuberculosis was communicable from man to man, from animal to animal, and from one species to another. As it was infectious and preventable, why not prevent it? Only one or two per cent. of cattle in Canada were tuberculous, and a small sum would practically stamp it out. Killing and compensation was not necessary unless the obviously diseased. With the cheerful optimism of the scientist, he said all the farmers and stockmen had to do was to segregate and isolate infected animals. [NOTE.—This means separate stabling, yarding and pastures.] He took issue with Hon. Mr. Fisher regarding Federal powers, and laid down principles for the guidance of the minister, and wanted greater powers conferred on the officials of the live-stock inspection department.

Dr. Montizambert, Dominion Director of Public Health, said theory was easy, but rules and regulations difficult. If tuberculous emigrants were to be shut out, where would they draw the line? What would be the test? How could they hold the ship while its 800 emigrants were all subjected to an individual examination and microscopic examination of the sputa? At what degree of

was led to believe that a large proportion of the calves from that portion of the herd could be raised perfectly sound. He had gone to a very great expense in carrying out this experiment, but was disposed to differ with the scientists as to the absolute necessity for isolating the reacting animals. He believed that the stockman and farmer, where separation was not possible, could achieve successful results by thorough ventilation and ample sunlight in the stables and care as to the water supply and feeding. On another farm he had eradicated the disease without separation. Had used the tuberculin test on animals of various ages and at all stages and had noticed no bad results. He learned that there was a great diminution of tuberculosis among the dairy herds of Glasgow and elsewhere during recent years. With regard to the disease in man, he supposed the conditions would be about the same as with cattle. Regarding what Dr. Chown had said about Manitoba, he could not believe that consumption there was due to animals, but had spread from one person to another much the same as in other localities. Referring again to his own herd, he said that he had twenty-four head isolated.

Rev. Mr. Hannington asked if they were much worse than at first—were they much emaciated? Mr. Edwards replied that they were not. In the three years not one animal among them had broken down or become emaciated; in fact, if they would visit his herd they would probably conclude that these animals were the best conditioned and sleekest looking of the whole herd. He had had several of the reacting animals killed, but the traces of disease found were very slight indeed in some of them.

The above very frank statement by Mr. Edwards rather staggered some of the delegates, who were naturally expecting to hear of results among those presumably diseased animals corresponding to what occurs in cases of human tuberculosis. They could not but conclude that it was a very harmless brand of ailment. There is evidently much to be learned on this point yet. Mr. Edwards' efforts have been directed towards elucidating these problems. One old and learned physician remarked at the opening of the conference, if they wished to hear what he knew about the subject he could not tell them much, but if it was what he did not know, he could say a very great deal. If any stock-raiser does not feel disposed to put his trust in the tuberculin test, he can discard any animal that, by a careful physical examination, is diseased, and give the whole herd the incalculable benefits of fresh air, secured by a proper system of ventilation and an ample supply of germ-killing sunlight, coupled with plenty of good food, pure water, and all-round cleanliness. Under such conditions we are disposed to think that tuberculosis will trouble the Canadian stockmen even less in the future than it has in the past.

At the closing session a constitution was adopted and the organization was styled the "Canadian Association for the Prevention of Tuberculosis." Life patrons will be those who contribute \$100 to the fund, life members \$50, and ordinary members \$1.00 per year. The Governor-General was elected Honorary President; Sir James Grant, President; General Organizing Secretary, Rev. Dr. Eby; Secretary, Dr. Richer; Treasurer, Dr. Small; with a large representative executive committee. Ottawa will be its headquarters, and the next annual meeting will be held there during the next session of Parliament. The conference closed with "three cheers and a tiger" for the King, proposed by Mr. Edwards.

STOCK.

Cows -- Good and Bad.

Dairy farmers frequently commit the mistake of supposing that so long as the cow is a good milker it is of very little consequence to them how her milk is disposed of. As illustrative of the fallacy of reasoning in this way, a very suggestive case is cited by Mr. E. Matthews, in the course of an article which he contributed to the "Agricultural Handbook and Diary" for 1901. Mr. Matthews in this instance selects for his purpose two Shorthorn cows which were entered for the milk and butter tests brought in connection with the last Tring show. One of these cows gave 47 lbs. of milk, and this milk, upon being converted into butter, produced 1 lb. 6 ozs.—or at the rate of 1 lb. to every 33 lbs. of milk. The other cow gave 44 lbs. 11 ozs. of milk, which made 2 lbs. 12 ozs. of butter, thus showing a butter ratio of 1 lb. to a little over 16 lbs. of milk. Estimating the value of the milk at 7d. per gallon, the butter 1s. 3d. per lb., and the separated milk at 1d. per gallon, the amounts obtainable from the disposal of the produce of these cows would work out as under:—

No. 1—47 lbs. of milk—gallons at 7d.	s. d.
1 lb. 6 ozs. butter at 1s. 3d.	1 8
4 gallons of separated milk at 1d.	4 0
Showing the loss per day by converting the milk into butter of	0 8
No. 2—44 lbs. 11 ozs. of milk—4 gallons at 7d.	s. d.
2 lbs. 12 ozs. of butter at 1s. 3d.	3 5
4 gallons of separated milk at 1d.	4 0
Showing a gain by converting the milk into butter of	1 4

—Farmer's Gazette.

Our Scottish Letter.

Since I last wrote, but one event has filled the minds of the citizens of the British Empire. The death of Queen Victoria will bring many changes, and no doubt the interests which are paramount in the agricultural community will share in these. Her Majesty was a loyal and hearty supporter of agriculture in all its branches, and took a personal interest in the stock of her many farms. She knew all that went on, and encouraged her overseers and other servants in every possible way. No doubt the lively attachment to rural pursuits evinced by H. R. H. the Prince Consort had much to do with the prolonged and growing liking for agriculture which characterized the Queen's reign. The first exhibit was made from the Royal farms at the Royal Agricultural Society's Show in 1843, and there has been few years, if any, since in which Royal exhibits were not seen at all the principal shows. A very foolish jealousy sprang up about ten or twelve years ago on account of the notable successes of the Queen's exhibits, and with customary tact Her Majesty disarmed the antagonism by giving instructions that only animals bred in the Royal herds should be shown. The result was surprising. Most of the greatest victories of modern years were secured by such animals, and probably in no season did the Queen's exhibits prove more successful than in 1900. Alike at the Royal, the Highland and the Smithfield Club Shows, Her Majesty carried off a large share of the best prizes. She kept a Shorthorn herd at the Prince Consort's Shaw Farm, Windsor; Hereford and Devon herds at the Flemish Farm, Windsor; an Aberdeen-Angus herd at Abergeldie Mains, in Aberdeenshire; and a small Clydesdale stud at Windsor, Osborne, and Abergeldie Mains. She won the Clydesdale championship at the Royal, Warwick, in 1892, and at the Royal, Windsor, in 1899, she won the leading prize in the two-year-old class, although the championship went to Prince of Albion 6178. The best yearling filly of 1900, Pomona, owned by Lord Roseberry, was bred by the Queen, and in every way Her late Majesty showed her liking for Scotland and Scottish stock.

During the earlier sixties, when the late Mr. Henry Tait was farm manager at Windsor, he frequently purchased for the Queen a lot of good young cross bullocks out of which Smithfield winners might be got. A cattle dealer in Perthshire had a commission to look out for such, and on one occasion he purchased a lot of six from a breeder in Perth or Forfar. They were of a superior class, and the breeder was not prepared to sell except at a stiffish price. The dealer's client was unknown to the seller, and to soften him a little the former said he would need to be as easy as possible as they (the cattle) "were for a widow." The bargain was eventually concluded and the cattle despatched, unknown to the seller, to Windsor. About eighteen months afterwards the Smithfield Show came round, and the dealer proposed to his friend the farmer that they might take a trip to London. As the farmer had never been there, he acquiesced, and in due course both arrived at the Show. Going the round of the stalls, the farmer came on certain prime bullocks which rather took his fancy, and he seemed to recognize them. Looking up his catalogue, he read: "Her Majesty the Queen, Prince Consort's Shaw Farm, Windsor," with the description of the animals and his own name as breeder. Turning to his dealer friend, he burst out: "You and your widow! If I had ken't she was your customer, you would hae paid different for them!" The day of mourning, Saturday, 2nd February, would doubtless be faithfully observed throughout the Dominion, and in this country servants had an opportunity of showing their respect for the deceased Monarch by getting the idle day as well as the others. Fortunately, all the public houses were closed, and the day was spent in a more or less worthy fashion. Such a universal cessation from business was probably never before known in the civilized world.

THE GLASGOW STALLION SHOW.

The event of the week closing 9th February has been the Scottish Stallion Show, at Glasgow, on Wednesday, 6th inst. This, used to be one of the greatest days in the draft horse owners' calendar, but many changes have taken place in recent years, and there is neither the large entry nor the crowded attendance formerly associated with the Show. I have seen as many as 130 three-year-old horses alone, with, perhaps, 80 or 90 aged horses. This year there were only between 70 and 80 stallions in the field, upwards of 70 of the best known horses having been hired before the Show, and therefore not exhibited. In spite of this, however, there was on Wednesday a very good show of horses and a large attendance of the public, and the weather being favorable, the event proved quite successful. The best class was that for three-year-old stallions, in which two sons of the great Hiawatha 10067, which himself led the aged class and secured the championship, were first and second. These were, respectively, Marcellus (11110) and Labori (10791). The former is owned by Mr. Matthew Marshall, Stranraer, and the latter by Mr. A. B. Matthews, Newton-Stewart. Both were bred in the Rhins of Galloway, where Hiawatha was located in 1897, and the show of the old horse and his two sons when competing for the Cawdor cup was well worth going a long way to see. The sire was awarded the cup for the third time, viz., in 1898, 1899, and 1901, a very remarkable feat, and if he does not win it again, Marcellus may be

trusted to maintain the family reputation. In some respects he is a better horse than his sire, and he is certainly a better horse at the age than ever Hiawatha was. He stands better on his fore legs and has better action. Fanciers of the grosser Shire breed cannot understand Hiawatha and his type at all, but if they would reflect on the quality of his limbs and the soundness of his feet, at nine years old, they would understand why Clydesdale men prefer quality any day, and are willing to wait for quantity. Labori is a horse of somewhat different type from his sire. He greatly resembles him in head and neck, but he is not so long in his quarters or so splendidly set up at the withers. He has rare quality of bone and good action, but although he won the Glasgow premium, his half-brother, Marcellus, rightly enough took precedence of him in the open class, which was well filled with a number of choice young horses, some of them up to great weight and substance, others not so heavy, but showing grand quality.

In the open class for aged horses, two sons of the famous Baron's Pride 9122 stood second and third after Hiawatha. The second was Mr. John Crawford's Casabianca 10523, a massive, weighty horse, which won in 1899 at both the February and the April shows, taking the championship at the latter. He is one of the heaviest horses got by his renowned sire, and has all the appearance of making what the experts call a "breeding horse." The third horse was Mr. Herbert Webster's Baron Kitchener 10490, which last year was first at Ayr and Glasgow and second at the Highland. He is a much gayer horse than Casabianca, carrying a magnificent head and neck, and moving very well. He lacks the substance of Mr. Crawford's horse, and although, we dare say, some would have approved his beating Casabianca, on the whole the judge's award has most to be said for it. Two very big horses followed in Mr. Renwick's Gartly Squire 10350 and Mr. Scott's Prince Murat 10027, respectively. These are great cart horses, and worth big seasons in districts where the cart gelding market is aimed at. A very sweet, typical Clydesdale horse, Mr. William Park's Prince of Brunstane 9977, was sixth, and another of the same class, Mr. W. S. Park's Clan Chattan 10527, was seventh. The third three-year-old horse was Mr. Wm. Dunlop's Sylvander 10933, a horse with rare quality of bone and uncommonly well bred. He was got by Montrave Mac 9958, out of the champion mare, Mary Kerr 13412, and it is worth observing that his dam and the dams of the first, second and third two-year-old colts were all got by the champion horse, Prince Alexander 8899. The first two-year-old was Mr. Kilpatrick's Lord Dundonald 11094, which last year was only once beaten. After him came Mr. St. Clair Cunningham's Alexander Everard, a very stylish colt, and the third was Mr. David Mitchell's Baronson 10981, a son of Baron's Pride, with great breadth and quality of bone. Mr. Wm. Clark had a thick-bodied colt named Golden Prince 11053 for fourth. "SCOTLAND YET."

Evolution of the Southdown Breed of Sheep.

To the Editor FARMER'S ADVOCATE:

SIR,—I was interested by an article in your Christmas number on Senator Drummond's Southdowns, also an article on Sir Tatton Sykes and his Times, and with regard to Southdowns, my interest was hereditary, being a descendant of, I may almost say, the originator of the breed. In 1753 (or just one hundred years before the writer's birth) was born John Ellman, at Hartfield, in the County of Sussex, England, who subsequently moved to Glynde, in the same county, with his father. On taking up the farm, he devoted himself to the improvement of the Southdown breed of sheep, and so well succeeded, that from a rough hill breed he evolved the fine-bred Southdown as we have it now, and obtained for this breed a world-wide reputation. This was in the latter years of the eighteenth century. He, with the Duke of Bedford and Mr. Astley, originated the Smithfield Cattle Show. A great friendship always existed between Lord Chichester and Mr. Ellman, while the Duke of Bedford was a constant visitor at Glynde, and in 1779 King George III. presented him with ten Merino ewes and two rams.

In 1820 he retired from active life, and was presented by the farmers of the county with a massive silver soup tureen, surmounted with a figure of a Southdown sheep, "as a token of regret and a tribute to his great merit, especially in improving and extending throughout the British Empire the breed of Southdown sheep." This piece of plate is in possession of Frederic Boys Ellman, of St. Leonard's-on-Sea, Sussex, who is a descendant in the fourth generation from the John Ellman, of Glynde, who died Nov. 22nd, 1832, and who was succeeded by his son, John Ellman, to whom in July, when about to retire from the Glynde farm to Sandport, near Lewis, an elegant silver candelabrum was presented as "a token of esteem and gratitude for public services, from his numerous friends," and in reply to the speech presenting the same, he says: "My father was the person who first brought the Southdown sheep into notice, and if I succeeded in carrying out his views and preserving for them at Glynde the reputation which he left them, I was perfectly satisfied." This John Ellman died on March 11th, 1867, and was the grandfather of the writer.

Elgin Co., Ont.

JOHN H. ELLMAN.

Care and Management of a Breeding Stud During Winter Months.

To have stock of any kind winter well, it is very important that they should go into their winter quarters in good condition. I do not mean that it is necessary for them to carry much flesh, but be healthy and vigorous.

Very frequently in going through the country, in the fall of the year, one may see many young horses and some brood mares that are not required for farm work running out all the time.

I do not find any fault with this, as long as the weather is dry and there is enough for them to eat, but when the fall rains set in, no animals should be left out all the time, but should have shelter from rain and chilling winds, at least at night, and on cold, wet days should not be left out long enough to become chilled.

Young horses are able to endure a great deal of cold without any injurious effect, as long as the air is clear and dry, but when they get their coats wet to the skin, and are exposed to the chilling winds, they often contract colds, which if not looked after at once are liable to lead to other complications, which weakens the constitution, and every time any epidemic, such as distemper, and many other ailments come their way they are victims, and frequently the veterinary has to be called in or you have a disordered lot all winter. A little care at the right time will prevent all this; and animals going into winter quarters in proper condition will thrive on less feed than the others that are merely living on. Let me say again, take good care of the youngsters in the fall.

The next important thing is that our stables be suitable; it is not necessary that they be costly, but they must be light and dry, and be well ventilated. As for temperature, horses will do well in most any temperature, but care must be taken not to have any drafts over them. However, we prefer a moderately warm stable, just warm enough to keep out frost.

If possible have loose boxes for all young horses and brood mares. If you cannot give a box to a brood mare, give as large a stall as you can.

Stables should be kept clean. Where horses are tied, stables should be cleaned every day, and twice a day will do no harm. Box stalls should not be left more than a week or ten days, and if not properly bedded, should be cleaned every day.

It is also very important that brood mares and young horses have plenty of outdoor exercise; it is immaterial how it is given, so long as they get enough and not overworked.

I cannot do better than give the system we have been following the past fifteen or twenty years. We do not always feed the same materials or the same quantities, but our general system of management has been the same all through.

We feed three times a day. First thing in the morning the work horses and brood mares are given a pail of water each, if they will take it, and they usually do; they are then given their morning feed; then at about eight or nine o'clock they are all turned out and go to water at a trough at a little distance from the stable; they are left out till noon in fine weather (in a large paddock and the farm lane giving them ample room for exercise), in cold stormy days they are put in as soon as they come back from water.

The past few years we have had from fifteen to twenty brood mares and young things running together; in this way the youngsters keep moving and also bother the mares and keep them from standing still, which in-foal mares will frequently do; of course large yards should be provided so that they cannot well corner each other.

The noon feed is given at twelve o'clock, and when the weather is fine they are turned out again as soon as they have finished their dinner, or at about two o'clock, and all left till about five or six. When the weather is cold and wet, they are not let out till about five o'clock, when they are taken to the water, outside, and put in stable as soon as they come back of their own accord.

When a number are turned out together, it is very important that some reliable person go with them to the trough (especially in cold weather), as frequently some of the stronger ones will stand at the trough and keep others from getting a drink. It is very important that horses have water regularly, especially in-foal mares; if they do not they are liable to take too much at one time. I believe this is sometimes the cause of the loss of a foal.

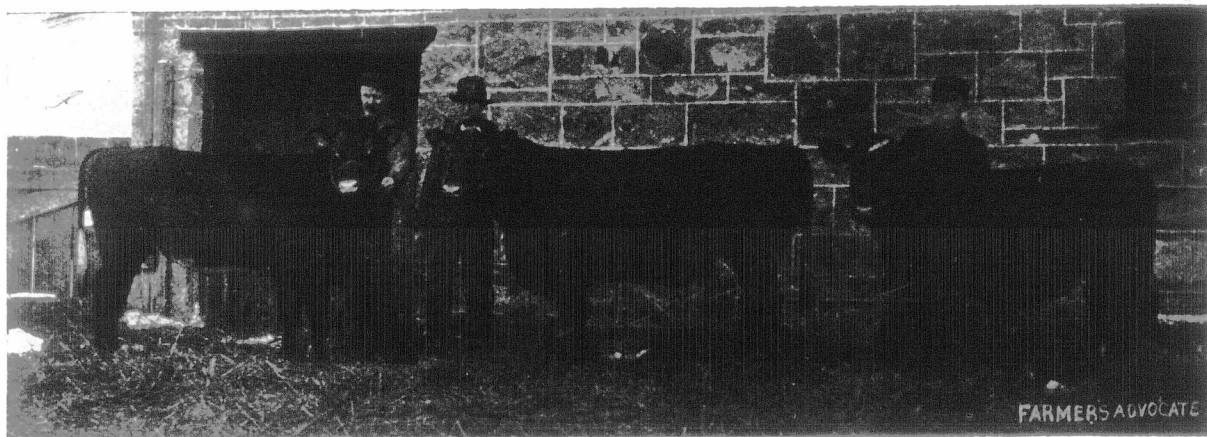
Now a word about feeding. I don't think that we in Canada should be bound to any system of feeding, or yet to any one kind of feed, as we have a variety of suitable grains and fodders; the most suitable are oats, bran, clover hay, corn ensilage, and roots. We are feeding our horses this winter, in the morning at six o'clock (after giving water), crushed oats, 1½ pounds; bran, 1 pound, to each of

the brood mares. The young things are given from 2 to 3 pounds of oats and 1 pound of bran. Every feeder must, however, determine the quantity each animal requires to keep him growing nicely, and see that he gets enough to keep him growing. Along with this, they get all the well-cured mixed clover and timothy hay they will eat up clean. We prefer clover when we can get it. At noon we feed cut feed, composed of a mixture as follows: 80 pounds corn ensilage, 40 pounds cut straw, and 30 pounds crushed oats. In mixing, dampen straw, and salt a little; mix thoroughly and let stand a few hours.

This quantity is given to 21 head as follows: one matured stallion, nine brood mares, three two-year-olds, one two-year-old stallion, three yearling stallions, two weanlings, and two road colts, the roadsters and weanlings not getting quite as much as the others. To the mature stallion's feed is added about 2 pounds of bran, and to the young stallions and the weanlings about 1 pound of oats and 1 pound of bran is added to feed in manger. The night feed is same as morning, making in all a daily grain ration of 4½ pounds oats and 2 pounds bran for brood mares, and the young fellows from 5 to 7 pounds of oats, with from 2 to 3 pounds of bran, with about 4 pounds of ensilage and 2 pounds of cut straw. We do not always weigh our feed, but in preparing this article I weighed all the material, and have given the quantities each animal gets, as near as possible.

I might say our horses are wintering well, and the youngsters are developing great bone and muscle.

While I have given the exact quantities of the different foods used, I do not think the same quantities suitable to all conditions. Our stables are very comfortable. If stables are cold more grain would be required. While this method may be safely followed, it is not perhaps suited to the different conditions that exist in all Canada, nor yet in all of our own Province. Thus every feeder must determine for himself what quantities his animals require, and also what materials are at his disposal.



MATTIE M., 2 YEARS. RUBY 2ND, 7 YEARS. MAID OF IVAN, 1 YEAR.
THREE SHORTHORN FEMALES, TO BE SOLD AT D. A. GRAHAM'S SALE, APRIL 3, 1901.
See Gossip, page 167.

Our present stock horse, Grandeur II., is one of the largest of Clydesdales, weighing 2,200 pounds, but is a smooth, evenly-built horse, and a good disposition.

He is kept in a good roomy box stall with a clay bottom and a good large window, on the south-east side of the barn; he is always in sight of other horses when they are in the stable, and when they go out they pass by his window. I think it bad policy to have a stallion put in a stall away from all other horses. We have no yard in connection with stall, but give daily exercise, from two to four miles, when the weather is not too bad. We have been feeding altogether on dry feed so far this winter, about 4 pounds bran and 1½ pounds of oats morning and evening, and at noon his cut feed, with the rest, making in all about 4½ pounds oats and 10 pounds bran a day, and as much hay as he will eat up clean. We always water before feeding.

I think the important part of wintering a stallion is keeping him strong and healthy, and to keep him strong it is necessary to exercise freely in the open air. A horse wintered in this way will require very little extra fitting in the spring to prepare him for making a season. A little more feed, and a good long walk every day, say from four to six miles, will soon harden him for a reasonable season's work. We like to see our horses gain a little when they start on the road, and if properly wintered, they will usually do so, and come in at the close of the season as heavy as they left the stable, if they are well cared for during the season.

We work our brood mares during winter whenever there is any work to be done on the farm, such as drawing manure or wood, or any kind of slow work, but care should be taken not to overload or get them in deep snow or slippery places.
Halton Co., Ont. M. E. DEVITT.

HARRY JOHNSTON, Inistoge, Ont.:—"I am very much pleased with the FARMER'S ADVOCATE. I would not be without it. I think I am gaining knowledge for the future. The girls are much interested in some parts of it, too."

Object Lessons in Stockers and Feeders in Chicago Stock Yards.

BY D. E. SMITH.

Nothing makes a more lasting impression on the mind than the ideas obtained by means of the sight. They are usually simple and instructive. So it is with all object-lesson teaching. This is emphasized when it is applied to the seeing of all classes of stock either on the market or in the showing, and comes still more forcibly to us when we have animals to exhibit or to buy or sell. Some of the lessons we thus learn tend to spur us on to better effort. In the few lines that I here write I hope that they may be the means of leading us all to make a strong effort in favor of breeding, rearing and feeding a better class of stock. In conversation with several of the largest and most successful dealers in stockers and feeders in Chicago, I frequently asked the question, "What are the most important points in selecting them?" And the answer I always received was quality—"Quality is everything." From observation and experience, I know this to be the case. In proof of this statement, I wish to give a few examples that came under my own observation during the past few weeks, and make comparisons in regard to price and quality.

In making these comparisons, I will begin at the lowest grade and then proceed to the medium and choice. The first bunch I wish to mention contained 16 yearling steers of very ordinary quality. These, from their appearance, evidently had very common or even hard treatment, as they were very thin, and a mean lot in every respect; yet they seemed to be healthy and strong. In referring to their quality, I cannot too strongly condemn the custom of haphazard breeding. These were inferior specimens of the dairy breeds, together with a few inferior grades of other breeds. To see them was to say you did not want them. Finally a purchaser was found, who gave \$2.35 a hundred for them. They weighed 490 pounds each. To anyone who has fed steers it is patent that it would require considerable food and time to get

them in condition fit for the feed lot, and after having consumed a large quantity of food, would only bring a low price at best, and when slaughtered would make a very common and mean carcass of beef. The next bunch that came under my observation contained 44 yearling steers of fair to good quality. These were smooth, of good color, and even in size. They averaged 840 pounds, and were in good condition. This lot showed considerable quality and breeding, and most of them were grades of the beef breeds. The demand for this class of stock was good, and they brought \$3.65 a hundred.

Next I would like to mention a fancy bunch of yearling grades. The 27 head that made up this bunch were all of one color, and the quality was choice. Their appearance showed that they were bred from the best quality of stock. They were in good condition and weighed 880 pounds on an average. They found ready sale at \$4.55 a hundred. The cost of production, feed and care and marketing of these three bunches was practically the same, but what about the price obtained? The first bunch brought \$11.51 a head, the second \$30.66 a head, and the third \$40.04 a head. The lessons to be learned from these three examples are self-evident, and similar examples may be seen almost any time on the Chicago market.

There is scarcely any doubt that the most important element in agricultural prosperity to-day is the live-stock industry, and those districts and States where first-class stock-raising and farming have been carried on together have shown the greatest progress in wealth, education and population. The stocker and feeder industry is undoubtedly the foundation of the beef trade, and therefore it is most important that it should receive the most careful consideration.

During 1900, the value of all cattle sold on the Chicago market was \$136,452,300. These all at one time were stockers or feeders. If all these had been of choice quality, the prices obtained and the value would have been very much greater. The improvement in prices during the past ten years has been largely due to improvement in quality, whilst there has been at the same time considerable progress made in feeding.

The careful selection of males is the first step to successful stock-raising and also to beef-production. The bull is by far the most important animal in the herd. Systematic breeding up has been found to be inexpensive and quite satisfactory, but with it goes the careful weeding out of inferior breeding cows.

In place of raising stockers and feeders for sale, some prefer to fatten their stock and bring it to market as yearlings, and it seems to be a paying practice. Only the other day a bunch of 19 heifers

of excellent quality—and they certainly were ripe—were offered for sale here. They brought \$5.15 a hundred, and weighed 900 pounds, or an average of \$46.35 a head. These were high-bred grades. The tendency here in the West and out on the ranges has been towards an improvement in the quality of stock, and the result has been an increase in price.

The Lambing Season.

Owners of pure-bred flocks of sheep as a rule mate the ewes with the rams in the fall at a date which will bring the lambs due in March and April. Generally speaking, it is found that in well-fed flocks the early lambs come stronger and go on better than do those coming in the later spring months. This is probably in part due to the amount of exercise the mother gets in the late fall and early winter months, which tends to the healthy development of the fetus; while the ewes lambing late have been confined to the pen, perhaps necessarily, on account of the land being deeply covered with snow.

If the ewes have not been generously fed through the winter, they should have a little extra feed for the last month before parturition. A few turnips or other roots and a light ration of oats and bran once or twice a day will serve to give them strength and to provide milk for the lambs when they come. To this end, if a record of service has been kept and it is known which ewes are first due to lamb, it is a good plan, where the pen is roomy enough to be divided, to separate them, so that these may be fed more generously than the others. If this is not practicable, then give all a little better keep. It is well to provide a number of low short hurdles with which to make pens for single ewes when they lamb, for a few days, especially in the case of twins or a weak lamb not being able to follow its mother. We do not, however, advise keeping the ewe caged longer than is really necessary for herself and her lamb to become acquainted, which is generally a couple of days. There is always danger of over-feeding a single ewe and causing trouble in her udder, or her lamb getting too much milk for its good. The exercise which both ewe and lamb get in moving around in the flock is conducive to their health and thrift. After a few ewes have lambed, it is desirable to separate them from the flock and feed them liberally with roots and bran and oats, in addition to good clover hay if it is in store. When the lambs are two or three weeks old they will begin to pick a little feed, and to give them the best chance, a space in the pen should be enclosed with hurdles with a "creep" or gate, with spaces through which the lambs can go and the ewes cannot follow. In this a low rack and trough should be provided, in which the lambs may be fed hay, meal and bran, and later sliced roots also. With this provision, they will grow and thrive, and will not draw so heavily upon their dams as if always hungry.

As a preparation for the lambing season it is well to have the ewes trimmed with the shears, their tails being squared and any dirt-locks in the twist cut away, as well as some of the longest locks around the udder and flanks, as lambs are apt to gather wool into their mouths when seeking the teat, which finds its way into the stomach, forming wool balls, which cause indigestion and sometimes death.

Usually when ewes are in good thrifty condition, not too fat nor too poor, there is little difficulty attending the birth of the lambs, and if the presentation is normal there is seldom any need of assistance. A ewe may be uneasy for hours and give the signs of approaching labor, but generally it is best to give her good time, and she will work out her own deliverance. If the delay is abnormal, it is well to make an examination, and if the presentation is not as it should be, the oiled hand should be gently introduced and the fetus put into proper position, when the ewe may be given a little more time and, if necessary, some assistance in her delivery, but always with gentleness. Many ewes, we fear, are ruined by too much haste on the part of the attendant.

After the birth of the lamb, the ewe should be allowed to lick it dry, and in about half or three-quarters of an hour, if the lamb does not succeed in sucking, it should have assistance in getting its first meal, which had better not be a heavy one. Little and often is nature's plan, and there is no better way for the safety of the youngster. When once a lamb gets dried, and some mother's milk into it, it will stand a good deal of cold without suffering. In cases of false presentation and very severe labor, it is well after the birth of the lamb to pour a weak solution of carbolic acid into the vagina from a bottle, say one part of carbolic acid to fifty or sixty of warm water, and in the case of prolapsus of the uterus, the parts should be washed with warm water and afterwards with the carbolic solution and returned to place, and the locks of wool tied across the bearing to prevent the expulsion of the womb again. In this case, also, a dose of raw linseed oil with a little laudanum in it will prevent or allay inflammation and serve to keep the ewe quiet. A drink of bran tea and sloppy feed for a day or two, and bran, oats and roots, with hay for roughage, will be found the safest and best feeding after lambing, the quantity being increased as the lambs grow older and require more nourishment.

At the age of two to three weeks, the lambs' tails should be docked about two inches from the rump. This may be done with a sharp knife, cut-

ting upwards from the lower side of the tail at a joint, as the lamb stands, or the lamb may be held by an assistant with its back down, and the tail severed by a downward cut with the knife. Docking shears, such as are used for trimming sheep's hoofs, are sometimes used for *de-tailing* the lambs. If in any case bleeding continues too long, it may be stopped by tying a soft cord around the stump for a few hours. Castration of the ram lambs should be attended to at the same time, if they are not to be kept for breeding purposes. This operation should precede the docking, else the bleeding of the tail stump would make it disagreeable to the operator. Many United States shepherds practice clipping off the scrotum and its contents with the shears when the lambs are not more than two weeks old, and claim that it is perfectly safe. The general practice of English shepherds is to cut off the end of the scrotum and draw the testicles, one at a time, casings and all, with the teeth or with a pair of forceps, holding in either case one hand tightly upon the lamb's belly while drawing them out. There is very little risk attending the operation at this age, and it is very important in the case of grade lambs intended for the butcher that docking and castration be attended to without fail, as ram lambs are a nuisance in the fall, and have to be sold at a much lower price than wethers and ewe lambs on this account.

Calf Feeding.

"The Rearing of Heifer Calves for the Dairy" was the subject of an address given at a recent meeting of the Northumberland Dairy Farmers' Society by Principal Lawrence, of the County Council School at Newton Rigg. The report of the address published in an Old Country exchange makes interesting reading. We reproduce what is as applicable to calf feeding here as in England. As every one knows, upon the feeding of the calf its future usefulness depends in very large measure, whether it be as beef steer or dairy cow, and the cheapest way to feed the calf is to feed to produce the most valuable animal. It is not so much the cost of food required by the calf that the average farmer grudges as the time and attention required to have the calf make the most out of the food consumed.

Mr. Lawrence, in four years, had bred 86 calves, with the loss of but one. His experience, therefore, should be valuable. He said:—

"It was of the utmost importance to keep the different calves separate from each other until they were two months old, as many losses occurred among young calves through being allowed to run together and to suck each other. At Newton Rigg, a calf was taken to a pen away from the cow-house as soon as it was born, got a good rub down with straw, and was well bedded and covered with the same material. In the course of half an hour or so the calf was fed with about a pint of its mother's first milk at blood heat. No medicine was given, the first milk containing all that is necessary both for feeding and as an aperient. Afterwards the following rules of feeding were observed:

First week.—Its own mother's milk warm three times a day, commencing with about a pint and a half at a time, and increasing to two quarts on the fourth day.

Second week.—Two quarts of warm new milk, not necessarily its own mother's, three times a day.

Third week.—Two quarts of warm milk, half new and half skim or separated, three times a day, with a half pint of linseed soup to each quart of skim milk.

Fourth week.—Same as third, with a handful of sweet meadow hay to nibble at.

Fifth week.—Two and a half quarts of warm skim milk three times a day, a half-pint of linseed soup to each quart, and a little sweet meadow hay after morning and evening meals; to be continued, with gradually increasing quantities of hay, till the end of the eighth week.

Ninth week.—Omit the linseed soup, and after the midday milk give a single handful of broken linseed cake and a little pulped swedes; grass instead of swedes in summer; hay as before.

Twelfth week.—Omit midday milk, and give three-quarters pound of mixed linseed cake and crushed oats, and half a gallon of pulped swedes (grass in summer) at midday, continuing morning and evening skim milk and hay as before.

If necessary, milk may be entirely discontinued at five months old, and one pound a day of mixed linseed cake and crushed oats may be given to each calf, with increasing quantities of hay and roots, sliced or whole; but if skim milk be plentiful, it cannot be put to better use than giving the calves one or two drinks of it each day up to the age of eight or nine months.

To prepare linseed soup, put two pints of linseed to soak over night in four gallons of water, boil and stir the next day for half an hour, and five minutes before the boiling is finished add half a pound of flour (previously mixed with enough water to prevent it being lumpy) to counteract the laxative tendency of the linseed.

Side by side with linseed soup, cod-liver oil has been tried as a substitute for the removed cream, and it has answered admirably—quite as well as the boiled linseed. Where the cow's first milk is not available for newly-born calves, ordinary new milk may be made to closely resemble it by adding the white of an egg and a teaspoonful of castor oil previously whipped in a little warm water to about two quarts of the milk.

Reply to Mr. J. Campbell re Fat Stock Show, Doings.

To the Editor FARMER'S ADVOCATE:

Noticing, in your issue of Feb. 1st., a letter entitled "More Strange Doings at the Fat Stock Show," in which the writer challenges contradiction, it is upon those grounds I wish to lay before the public a few facts which may be of interest.

In statement No. 2, Mr. Campbell says that it was at Mr. R. Gibson's special request that Mr. Hanmer was appointed judge, etc. I wish to say that in my presence father informed Mr. Campbell that Mr. Hanmer had been appointed on grades, and he raised no objection whatever.

In No. 3 he says Sec. 4 was called out of order, being called before Sec. 3, "which was one move in the game." I admit that. It was at Mr. Campbell's and my request of the judges' director to have them so called, but Mr. Campbell forgot to tell you that before, and, as he expected to have the winning lamb, you can understand why he wanted the classes so called. So you see, there were two moving in the game.

4th. Mr. Campbell says J. T. Gibson was 1st and R. Gibson nowhere. Now, Mr. Campbell knew differently, as the lamb we showed and won with was shown at Chicago, and stood next his in pen of 5 there, and I have letters in my possession which prove the lamb was ours since Nov. 2nd last, and is still ours, and if he has luck will appear next year as a short-wool grade, not as a short-wool in the fall and a long-wool in the winter.

5th. Mr. Campbell says: In judging pens of 3 wether lambs, which should have been done previously, Mr. Hanmer was so determined to have Mr. Gibson's pen win that a referee had to make the award. Was Mr. Hanmer alone in this? Did not another judge think Gibson's pen entitled to win? If not, why call in a referee? I might say further that it was the ringside opinion our pen would win, and also of one of America's exporters, Mr. W. H. Beattie (a man whom Mr. Campbell admits to be among the leading judges in America). So you can probably see why Mr. Hanmer stood out for our pen. In justice to my father, I will say that he knew nothing of what I was showing, nor what was entered for Guelph. So any attack to be made, I am the person to whom it should be directed.

I agree with Mr. Campbell that it is high time fair play should prevail. Regarding pet judges, I never knew there were such things, but probably Mr. Campbell knows some, and we have yet to write to the appointed judges for prices on their sheep. I know some that have done so, but will mention no names.

H. NOEL GIBSON.
Middlesex Co., Ont.

An Error in the Prize List.

To the Editor FARMER'S ADVOCATE:

In your issue of Feb. 1st, I notice in Mr. John Campbell's letter he makes the statement that I won in class 28, sec. 4, grade wether under one year, at the late Fat Stock Show at Guelph. If Mr. Campbell is right, I am out the \$8. A breeder of long-wool sheep had a very slim chance of winning in that class with four short-wool judges and one long-wool judge, as Mr. Campbell puts it. It was R. Gibson first, and J. T. Gibson nowhere. I was not in it. Through some mistake you have me down for first in this class. Had you not better make the correction? Mr. Westervelt can say which got the money.

J. T. GIBSON.
Denfield, Feb. 14th.

[The prize list published in the FARMER'S ADVOCATE was the official list, supplied by the secretary.—Ed.]

Cost of Feeding Light vs. Heavy Milkers.

At a milking trial held in connection with one of the recent summer shows in England the cow which was awarded the first prize produced over 6 gallons of milk in the day, and her milk was so rich in quality that it produced over 4 pounds of butter. At the same show there were on exhibition other cows of the same breed and practically the same size and weight which produced only 2 to 3 gallons of milk and barely 1 pound of butter. It would be a mistake to suppose that the feeding of one of the last named would cost as much as the six-gallon cow, because, as a rule, the better milker a cow is the more food will she consume. It is only natural that a cow yielding 6 gallons of milk should require a much more liberal food ration than one producing less than half that quantity. The difference in the cost of feeding the cows in question would not, however, be anything like so marked as their relative milk yields would suggest. In practice it is found that cows producing only 1½ gallons to 2 gallons—that is, 6 to 8 quarts—per day cost as much to keep as those yielding double that quantity. It is only when calculations of this kind are gone into that the difference between good and bad milkers can be properly estimated. At least occasional tests should be made of the milk which all the cows in a herd are producing, and a similar test should be made of the food which they are consuming, and if it is found, as it is to be feared will be only too frequently the case, that the animals are not giving a sufficient return for the cost of the food which they are disposing of, they should be got rid of at the first opportunity, and their places filled by others capable of giving a better return for the food.—*Farmer's Gazette.*

Abortion and Carbolic Acid Again.

To the Editor FARMER'S ADVOCATE:

SIR,—I am at a loss to know what your correspondent, "Semper Paratus," hopes to accomplish by his late tirade under the above head. Here I have letters from a number of breeders stating they have trouble from abortion with nearly all their cows, and they would be much more pleased to receive helpful information than to have this senseless criticism and baseless insinuations; for if S. P. does not happen to know that carbolic acid has given relief, there are many that do. Now, this Mr. Watson whose success I have quoted was well known to Western breeders and readers of the *Breeder's Gazette*, and he was so successful with stock, and especially in combating the dreaded abortion, that he was called to take charge of several different herds, and no less a paper than the *Breeder's Gazette* considered his communications of first importance, and this paper, upon his death, some time ago, honored him (and thereby itself too) by a fitting obituary recognizing his worth. I have myself received much help from his writing, consequently feel like giving honor to whom honor is due. It is from his teachings I first learned to give carbolic acid for retention of afterbirth, and found it efficacious as described in every case. One of my veterinary friends says he gives thirty-drop doses for this in his practice, with the best results. It does not take much intelligence to see, from referring to the original article, page 681, Dec. issue, that this critic's first quotation was not written by me at all, but by one of the staff of the F. A.

Next, he quotes me right as saying I have not had any great experience with abortion. Then he turns around and says that I say I have had no experience with abortion, which I have never said anywhere in my letters.

Mr. Watson had more experience; therefore, I gave his method. Mine has been comparatively small, but so far as it goes it substantiates the statements of Mr. Watson.

Now, I treated a cow that had aborted twice. First, before breeding I dosed her with carbolic, then after a time bred her, and she got with calf, and I gave that cow doses of carbolic acid every month, between her sixth and eighth month at intervals. I can't say for sure that it prevented abortion, but I do say that this cow, that had aborted twice, carried her calf full time and had a vigorous living calf, and has bred all right since. Take another case: A cow last winter discharged some blood when about five months gone with calf, and acted so unusual as to indicate something wrong. I feared abortion, and dosed her with carbolic several times. She went full time and had a strong calf, and is now carrying another calf. This cow may not have aborted; again, she may have done so if not "dosed," and hence I say, "Giving a cow a few drops of carbolic acid does no harm, and may do a world of good"; because, "It is a poor time to lock the stable door after the horse is stolen."

Now, if my critic had but made one more quotation from my letters, I would be better satisfied. He insinuates that I recommend carbolic for my neighbors' cattle, but do not give it to my own. When I said in the first letter that I had given every cow that had freshened a dose before and after calving, to prevent milk fever, I know from experience that no harm results from this treatment, because my herd to-day is in the best of health and fine condition. I do not propose to be run out of business by disease germs; and carbolic is an efficient germicide.

I presume everyone knows that carbolic is poison, same as aconite and laudanum, also given internally, but of different action. Carbolic acid has this characteristic, that when pure and undiluted it burns flesh, but when diluted it becomes harmless in this way, and is then a powerful antiseptic. I got the nail forced off my finger, and simply wrapped it up and put carbolic on it, diluted one to ten. Even this strong it did not injure the sensitive flesh, but acted as an antiseptic. It kept the sore free from germs, and nature did the rest. The finger was "able to be out" in a week. When carbolic is diluted 1 to 500 or 1,000, as directed for internal use, there is no danger whatever. I have found none in several years' use of it internally on cattle. But there is danger when an animal has aborted and nothing done to purify the system of these disease germs. This putrid stuff will destroy the procreative organs; hence, the sooner the animal is treated and the more thorough the treatment the better it will be. The parties with so many abortions in the herd have a difficult task, but they must face it, else cease operations. The germs of disease will continue to lurk around buildings, etc., and call for a free use of germicides. I stand by all I have written on this subject, and assure my enquirers that the treatment is perfectly safe.

GEO. RICE.

Soda and Lard for Ringworm.

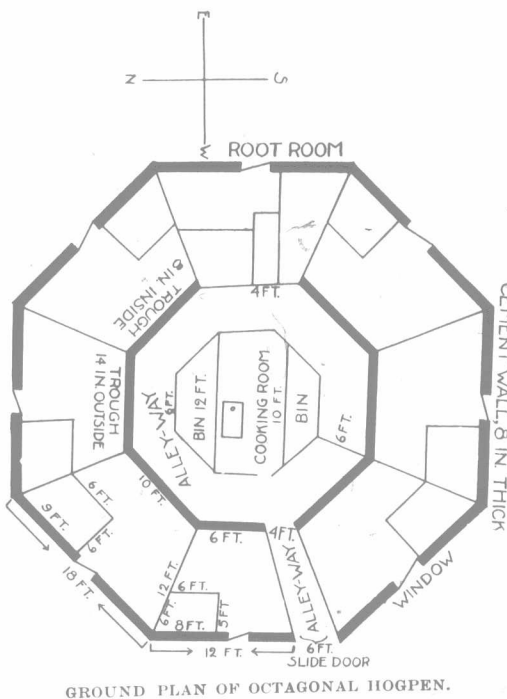
W. J. P., Dromore, asks for a cure for ringworm on cattle. I use successfully equal quantity of baking soda and lard. Rub on part affected. One application is all that is needed on man or beast.

D. CAMPABLE.

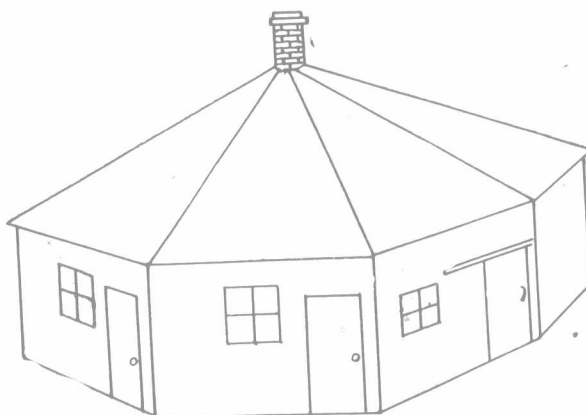
Inverness Co., N. S.

A Modern Hogpen.

One of the modern things to take into consideration in building a hogpen is the cost, and when that is settled, one can form the plan easier. The pen which I describe below costs about \$350, providing that material can easily be procured, and the owner is a good worker. Below is the ground plan and outside view of this pen. The pen is built in octagonal shape, and the walls are of cement, being nine feet high and eight inches thick. The entrance to the alleyway is at the west side, and the alleyway is six feet wide. I run a small car in the alleyway to carry the chop into the interior, where the bins are. These bins are on each side of the cooking room, and there are openings from the cooking room into the bins, so that the chop for cooking may easily be procured. I have a boiler in this cooking room, and I always cook my feed.



In the east end of the cooking room is a door which is opposite the door of the root room. This root room has a short alleyway and three bins. The roots are put in from the outside and the openings are then securely closed, so that in the room it never freezes in the coldest weather. Between the alleyway and root room on the south side are three pens, each 18 feet by 12 feet by 10 feet. On the north side are four pens, three of which are of the same area as those on the other side, and the other one is 12 feet on three sides and 6 feet at the trough. In each of these pens is a sleeping pen, which is made of wood and is raised about six inches above the cement floor. Pigs should not sleep on cement, as it is too cold. The area of sleeping pens is six feet on three sides and nine feet on the other, excepting the one in the small pen, which is eight feet by five feet, and two sides of six feet. In this small pen I usually keep my young pigs and their mother until they are old



ELEVATION VIEW OF OCTAGONAL HOGPEN.

enough to wean. Then they are placed into one of the other pens, which, of course, have small yards outside, and they are kept in this pen until they are ready for market. The troughs are made of cement, and are, therefore, indestructible.

The ventilation of a hogpen is one of its chief features, and hogs should have plenty of fresh air, as they vitiate more air than any other kind of farm stock. There is a ventilation pipe in each pen and four large pipes near the center to let out hot and foul air. This hogpen gives me seven good pens, besides a root room, cook room, and chop bins. It is the handiest pen any farmer can build, and it also costs less than a four-sided pen of the same inside area. Its handiness alone is worth much to the farmer, and anyone who builds one of this kind will never regret it. There are several more such pens in this vicinity, and their owners state that they would never build any other kind.

J. R. B.

Where Are We?

The following particulars of a tuberculin-test case are sent us this week by a large shipper of live stock, well known to us, who asks us not to publish the names of the animals, but can vouch for the accuracy of the statements:

1. A pair of valuable young bulls were shipped by him to South America last year.
2. Both were accompanied by certificates showing that they had passed the test applied by well-known veterinaries here.
3. Both looked the picture of health at the time of shipment.
4. Both have (from intelligence received by last week's mail) been slaughtered by the authorities, as they are said to have reacted on the other side.
5. Both were fully insured, but this premium and the whole cost of the bulls and their transport will be lost, as they were slaughtered.
6. Learned professors say tuberculosis is not hereditary.

Query:—

- A. What was the use of the heavy expense of testing them in England?
- B. If they were healthy when they left here, and if it is true that they were affected when they got there, where did they take it?—in quarantine?—or did testing bring on the complaint?—*English Live Stock Journal*.

Ventilation in Dairy Stable--Sub-earth Duct Recommended.

To the Editor FARMER'S ADVOCATE:

At your request, I take pleasure in submitting a few notes on the question of ventilation for dairy cow stables. I may say at the outset, that our stables at the College are not properly ventilated. This we hope to remedy in the dairy department during the coming season. The first thing when building a stable or overhauling a stable is to be sure and provide air space for each animal. Each animal should have from 500 to 800 cubic feet of air space. For 26 cows in single stalls, they would require a stable 32 ft. wide and 60 ft. long, inside measurement. This would also make allowance for two box stalls and a meal bin in the stable. The silo should be conveniently located at the end of the feeding passage, with a room of sufficient size in which to mix cut hay and silage, connecting the stable proper with the circular silo. The height of the ceiling should be about eight feet. A stable 32x60x8 would furnish about 600 cubic feet of air space per cow for 26 cows.

In ventilation the two points to aim at are: (1) to bring pure air into the stable at a temperature above freezing, and in such a manner that no draft is created upon the cows; (2) that the foul air be quickly removed from all parts of the stable—from the floor as well as from the ceiling. In order to bring fresh air into the stable, I would recommend the use of sub-earth duct, such as is used for cooling and ventilating curing-rooms. I would build the duct out of two rows of ordinary tile (10 in.) placed at least six feet in the ground. The in-take pipe should be above all surrounding trees and buildings, and have a cowl which would turn easily, so as to face the wind from all directions. The air should enter the stable near the ceiling, and for this purpose I would recommend two boxes about one foot square, connected with the duct. These boxes should run along the ceiling on each side of the stable, about eight feet from the side walls. They should have slides about every six feet on both sides, in order to allow a distribution of the fresh air into the warm air of the stable near the ceiling, and thus prevent a cold air upon the animals. In very cold weather these slides could be closed partially or altogether, if it were found that the temperature was likely to be too low; but with a proper sub-earth duct, the air coming in would be warm at all times, or at least be above freezing temperature.

For removing the foul air, I would suggest having, first, about three ventilators about one foot square in the ceiling at convenient distances above the center passage, these to be connected with a ventilator placed on the top of the stable or barn. These ventilators should be made in such a way that they could be closed in cold weather, otherwise they cause a draft to come down upon the animals. These ventilators would remove the warm air from the ceiling and from the center of the stable. For taking the foul air from the floor, I would suggest wooden or brick chimneys along each side of the stable, about six inches square inside, with a ventilator six inches from the stable floor. This would take the foul air from the lower parts of the stable. There should also be another opening near the ceiling, in each of these chimneys, to take warm foul air from the upper part of the stable and along the stable walls. If it was thought that chimneys would be too expensive, these ventilators along the side might be connected in the loft with the center ventilators. Thus the expense in connection with the chimneys would to a large extent be saved, although I do not think that this would give such good satisfaction as wooden or brick chimneys of such a height that there would be an upward draft at all times.

To sum up the whole question of ventilation, we need to give the cows fresh air without draft; and we should also remove the foul air as rapidly as possible from all parts of the stable.

I may further add that we have recently put in

a system of water troughs in our dairy stables made of heavy galvanized iron, placed at a convenient height above the manger, that the cows may reach the water whenever they wish; and they are so made that they may be cleaned as readily as any other part of the stable. The whole expense for thirty cows will not be over \$18. We have had this system in use since the 1st of February, and it is yet too soon to speak definitely of results, but I am satisfied that our cows will give more milk by supplying them with pure water whenever they wish it, and I think that we can also keep these water troughs clean. The difficulty of cleaning the water boxes is the chief objection to all the automatic systems now in use.

O. A. College, Guelph, Ont.

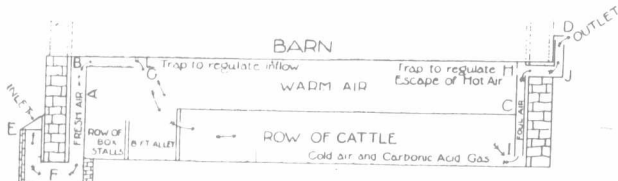
H. H. DEAN.

Ventilation for Stock Barns.

To the Editor FARMER'S ADVOCATE:

SIR,—As is the case in too many other cattle barns built some years ago, the ventilation has been practically nil in our main cattle barn. After a careful consideration of the conditions here, what might be called a "force-draft system" was introduced last summer (1900), and is proving quite effective. The farm stable is similar in character with many other bank-barn stables in Canada, and the system working here could be cheaply introduced and would undoubtedly work well in any stable. The accompanying diagram will make clear to anyone interested the general features of the system, and might serve as a guide in the introduction of this or some similar method of effective ventilation, so necessary to the health of our farm animals.

That part of the basement used as a cattle stable is about 100x45 feet, with a 10-foot ceiling. It is at present occupied by 90 cattle, including calves. The air is always in good condition and the temperature is usually 50° F., or higher. The walls and ceiling are free from "sweat" or moisture, with one exception, which I shall mention later. The diagram is a cross-section of the stable at the point where the air passes under the walls. The whole volume of air admitted enters by one inlet (marked E on the left of the diagram); the air passes under the wall at F and then ascends a shaft (F A B) inside the stable and is conducted along the ceiling by means of a tube extending in either direction from B almost the whole length of the stable. At intervals are short shafts (B G) extending inwards to a



CROSS SECTION OF VENTILATION SYSTEM USED IN MAIN CATTLE BARN AT CENTRAL EXPERIMENTAL FARM, OTTAWA.

point over the middle of the aisle or alley indicated in the diagram. The openings at G are supplied with trapdoors which may be opened or closed at will, and are so hinged as to throw and scatter the current of air along the alley rather than over the cattle standing tied or towards those loose in the box stalls. The column of air in the tube E F A B G is in contact with the cold air at E, but that part of it from F to G is surrounded by warmer air (½-inch lumber was used in building this shaft for this purpose) and, of course, is rarified and driven up and out at G, by the heavier external air; that is, by means of the shaft a column of fresh air is forced into the stable. The foul air (in cold weather, entirely; in warm weather, partly) is taken from the floor, where the same principle is applied as was used in securing an inflow. The tube I C H extends to within 8 inches of the floor, and so the coldest air in the stable is carried off. When the temperature rises too high, the traps at H may be opened and the warm air allowed to pass out. During the present severe winter this had to be done but seldom. The main inlet necessary for 100 cattle would be about 2 ft. by 3 ft. The number, position and size of the traps would depend upon the arrangement of the stable. The horizontal shaft extending along the ceiling may, of course, be reduced in size the further they extend from the main vertical shaft. These shafts, being constructed of thin material and filled with cold air, are covered with moisture, "sweat," and this is the one objectionable feature of the system. Where a new building was being put up, these shafts might be in the wall and this objection be removed. The outlets for such a stable as mentioned above would need to be, say, 7 or 8 in number, and should be about 8 inches square. They should be provided with an upturned outlet, as J D, with a roof to exclude rain. Were the inlet E F situated some distance from the building, connected therewith by means of drain tile and provided with a cowl, an, if possible, even more effective circulation would be insured.

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

Word from Pennsylvania.

S. S. PRATT, Hydetown, Penna.: "I have taken a good many farm papers, but like the FARMER'S ADVOCATE the best."

Agricultural Exhibitions, their Use and Abuse.

From an able address recently delivered before the Gilmourton Mutual Improvement Association, by Mr. James Hamilton, of Uddington, and published in full in the *Scottish Farmer*, Glasgow, we make the following selections, which we think will be of interest to not a few of our readers:

In speaking first of the use of agricultural exhibitions, it is not to be forgotten that a goodly section of successful farmers will admit no good whatever arising from them. They will, in fact, tell you of farmer after farmer who have run amuck through their attempts to occupy leading positions in the prize list, and expatiate on how much better they would have been had they stayed at home and wrought their farm, etc.; and, while I grant there may be much truth in this, it is not that the blame lay with the shows, but with the lack of common sense on the part of the exhibitor. If it be a man is determined

SIMPLY TO WIN PRIZES,

and to do so, if he is willing to beg, borrow, or buy at prices he cannot afford to pay, all for the glory of the tickets, then his showing to him is an evil; but the blame rests with him and not with the society, for there is no gainsaying the fact that competition in this respect, duty exercised in a rational way, has been of enormous advantage to agriculture at large, and, what is more, a goodly number of exhibitors who have not prospered—who, in fact, have passed through the bankruptcy court, wholly owing to their mania for shows—have left a rich legacy to agriculture in the strain of stock they have left throughout the land; but like many an inventive genius in other lines, they have failed to reap the fruits of their own labors, and this even in the case of many of those whom their more prosperous neighbors point to as failures. While their share of the world's goods may have been a meager one, still they may have done more lasting good in their line than many others whose main object was simply the fattening of their bones and the feathering of their own nests. In thus endeavoring to prove that agricultural exhibitions are of real use, it naturally follows that I should point out the good purposes that, I hold, they serve, and in doing so I would first claim for them, if judiciously managed, that they are educative in a pre-eminent degree. To all enthusiastic and observant farmers anxious to learn, such exhibitions offer a threefold advantage. First, they show them what good stock really is; second, they afford them the best opportunity of learning how such has been produced; and third, they give them an impetus and also an insight as to how to still further improve the breed; and if these were the only purposes they did serve, they would amply justify the existence and encouragement of agricultural exhibitions. Regarding the first, however, I may be met with the statement that I have often heard, namely, that the farmer who has to attend shows to acquire his knowledge of what is really good stock can never be a judge, as many strongly maintain that it is a born gift, and unless natural it cannot be acquired. To this I can only reply that, while I admit that a certain natural idea of proportion is undoubtedly a necessity, still, in my humble opinion, nine-tenths of those born judges are neither more nor less than born idiots, so far as up-to-date ideas are, nor could it be otherwise. Your born judge has based his ideas on the lines and shapes of his father's or perhaps his grandfather's stock, and nowadays with the march of the times it would be necessary for him to be born again oftener than the most red-hot Baptist would think requisite for that higher order of things. No, the judge of the age is the man who keeps a shrewd eye on the showing, who bases his ideas on no unchangeable lines, but who can follow and if at all possible anticipate the demands of the times. True, it may seem a fickle thing to be swayed by fashions in matters agricultural, but if there is any line of life a short cut and a sure road to the poor-house door, it is by

KICKING AGAINST THE PRICKS

and striving to stand up in antagonism to the dictates of the fashions of the age. Therefore, I say to all young farmers, their place at all high-class shows is at the side of the judging-ring of the stock in which they are commercially interested. It is beyond question an education that will repay them even although they never put an animal into the ring, and what is more, it is an education that is an absolute necessity if they mean to keep to the fore-front with their stock, for it matters not how expert judges they may be, they will fall out of date unless they keep well posted up to the trend of the times, and that can nowhere be better done than by attendance at our leading agricultural exhibitions. However, when at the judging-ring, there is one important point I wish especially to put forward, namely, let them be particular about the company they keep and to whose opinion they are listening. It must be borne in mind that it is not the fluent speakers nor the loudest talkers who are safe guides; in fact, one is safe to assume that a large proportion of those around may be no more qualified to speak on the merits or demerits of the animals than himself; while another section—by

far the most unreliable—are those who are qualified to speak, but who are so biased for or against, according as the animals are of their own type or breeding, or otherwise, that they can either admit no faults or no good points, just as it best suits their book to do so. These are the men to avoid. Outside the ring, to novices they are dangerous as guides, and to experts they are an intolerable nuisance; while inside the ring to an exhibitor, when such men are appointed as judges, they are simply a delusion and a snare. My own opinion is, if a young farmer is prepared to spend his time during the judging mainly by himself with his catalogue, he will derive greater benefit and gain more knowledge than in any other way. With many the catalogue is only used to ascertain the exhibitors' names and to mark the prizes, but I am safe to say that in nine cases out of ten, with really successful exhibitors, the catalogue has played a very different part. I think you will mostly admit that showing for showing's sake is not a profitable thing, and buying noted winners to show again is a ruinous or at least an extravagant course to pursue; but if by yourself you can put your private mark against the number of an animal in your catalogue that you have spotted as not being in form, or not well brought out, and perhaps at some future period secure either it or some of its strain at a commercial figure, if your foresight has been sound there you will have a practical test, not only of the utility of shows, but also of the desirability of a quiet study of the animals and the catalogue by the side of the judging-ring. True, your marks to begin with may be all wrong, but even then they serve the purpose of proving to you that you are on mistaken lines, and by-and-by, as your catalogues accumulate, if you have studied the matter wisely and well, they will serve you the double purpose of warning you what to avoid as well as what to buy. Having said this much on the self-acquisition of knowledge of this kind, it is not to be supposed that I am against information to be had from men of experience. This I certainly am not, only as a stranger may walk the streets of London for weeks with a guide, and still be a stranger so far as his knowledge of that city is concerned, so a man may attend shows for a lifetime and be guided by others of far less natural ability than himself if only he had thought out his own course. In addition, however, to doing so, let him have all he can learn from others, still to begin with, let him see that he takes it from those whose views are broad and whose hearts are big enough to admit of them seeing faults in their own stock and qualities in that of their competitors, even although they have not been bred by themselves nor got by some of their stud animals or their descendants.

Coming now to the abuse in the competition, I will be brief. In showing there is a peculiar mania apt to develop in the competitor, namely, to secure tickets, and in this lies the danger with a farmer. Showing for showing's sake is not a profitable thing, and while men with business outside of agriculture may be willing to squander money on this hobby, I do not see that a farmer can be justified in permitting a leakage of this kind in his legitimate business, unless he has an ulterior object in view, and here lies the secret of it. If he does enter the ring at all, let him see that it is in the section he is mainly interested in commercially, and, further, let him take heed that he runs it on the soundest of business lines with a view to secure a name for his stock or his produce, and thereby make best prices for same on the market. That, I hold, is competition on sound lines, but when it comes to be that a farmer sets himself to secure the honors in certain classes, and to do so has to purchase an animal or animals at prices beyond their commercial value, and stands to lose on putting them out even though he is successful, with no ulterior object to be gained, then I say that is an abuse of the system and ought not to be encouraged. True, some may say that a farmer has as much right as an outsider to spend some money on his hobby, but from this I beg to differ, for I hold that neither farmer nor any other should indulge in any hobby in their legitimate business that means a certain loss. The

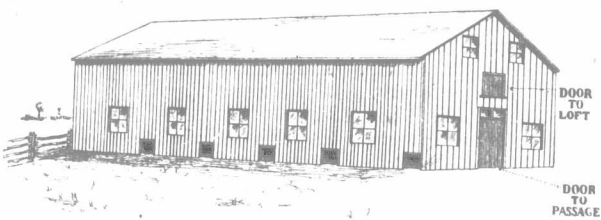
PRINCIPLE IS BAD,

and it matters not what line a man may be engaged in, it ought always to be run on the soundest commercial principles, and if he wishes a spending hobby let him by all means make sure that it is outside his business. To be a successful exhibitor means time, attention, and money; and putting the whole thing in a nutshell, I would say if it is only a case of losing battles, gathering straws in the shape of red tickets and plated pots, then I say to the competitor, "stop it," but if it is a matter of throwing sprats to catch herrings in the shape of better prices all around for stock and produce, then I say, "go on and prosper." In conclusion, I am a strong advocate of agricultural exhibitions. As I have endeavored to prove, judiciously managed and taken advantage of, they have done and will continue to do great good to agriculture, and aside altogether from the practical purposes they serve, they are institutions richly deserving of encouragement from all interested in that great industry. Combining as they do amusement, entertainment and edification for all with the least objectionable element of almost any gathering in the land, it is not to be wondered at that they should be regarded as gala days by the agricultural world from the bare-footed herd laddie up to the lord of the manor.

Hundred Dollar Pen for One Hundred Pigs.

To the Editor FARMER'S ADVOCATE:

SIR,—Re S. E. Fuller's request for plan for pigpen: Location, a nice sloping ground, at least 2 feet lower at one end of the pen, the low end at the south side. Foundation, small stones, to within 3 inches of the level of the walls. Floor, cement, to be perfectly level with the top of outside foundation walls. Building, frame (2x4 scantling), 12 feet high (7 feet for pen, and 5 feet above for straw),



END AND SIDE VIEW OF \$100 HOGPEN, 50x20 FEET.

double boarded inside and out, with tar paper between. This makes both a warm and dry pen. The pen is 50 feet long by 20 feet wide. This gives ten pens, 8x10, and a passage 4 feet wide the whole length. There is a door out of each pen into the passage, and a swing door from each pen into the yard. I like V troughs the best, with a swinging door for each one for feeding. If plenty of bedding is used, the cement floor is as good as plank. It is a great convenience to have a supply of water in the pen. The cost will vary in different localities. One hundred dollars should be a fair figure, not counting board or teaming, hauling stone, etc. Three things absolutely necessary are plenty of light, plenty of room, and as free from damp as possible. This pen will hold from 70 to 100 pigs.

BRUCE CO. FARMER.

[NOTE.—This pen would be much more convenient for feeding by having one or two of the pens set apart for storing chop, roots, etc., and preparing the food one or two meals ahead. We would also recommend elevated sleeping pens having board floors. They may be only a few inches or about 3 feet high, as desired; the latter gives more room in the pens, and are invariably kept drier by the pigs.—EDITOR F. A.]

"Treatment of Sows Near Farrowing."

During the whole period of pregnancy, sows should be moderately fed, so as not to produce much fatness, as this would be the means of reducing the number of the litter, or endanger them being smothered by their dam laying on them. As farrowing approaches, the food should be semi-liquid or somewhat laxative. Sufficient exercise is always beneficial to all pregnant animals, and for this reason the pen should be roomy or the sow turned out daily for exercise. It is best to keep the sow from other pigs, when near farrowing time. The pen should be airy and clean, and until the last day or two of pregnancy should be littered with straw. As the time approaches, or when uneasiness is shown, the pen should be comfortably littered with chaff only. This is necessary to prevent smothering, especially if the sow be large and fat. Remove the pigs till after the afterbirth has passed. In all cases remove the afterbirth at once, for if allowed to be devoured by the sow it will increase a desire to devour her offspring. Only swill and bran should be fed the sow for a few days. As soon as the secretion of milk is freely established, the diet should be increased gradually, till in ten days it should be abundant, soft and laxative. The pen should be kept clean. The litter of chaff should be of a limited amount for a week, until the pigs are better able to protect themselves.

Elgin Co.

CLAUDE W. BLAKE.

An Experiment in Dehorning.

During last winter an experiment was made on the Experimental Farm at Brandon, to ascertain whether the operation of dehorning when performed on fattening steers was beneficial or not. Fifteen Shorthorn grade steers were selected for this purpose: three of them were three years past and the balance two years old. They were divided as evenly as possible into three groups of five each. One lot was dehorned and tied in stalls with chains. The second group were also dehorned, but were fed together in a loose pen 10x28 feet in size. The horns were left on the third lot, and they were tied up in stalls.

The dehorning was accomplished in the following manner. A strong stanchion was built and the animal firmly fastened in, the head was then pulled down to a ring in the floor, and the horns were then removed close to the base with a saw; they all

bled freely, but the wounds soon healed without any offensive odor.

All were fed six months on identically the same food, and each lot of five made the following gains in that period:

Horns left on—gained in six months.....	968 pounds.
Dehorned—fed in loose stall—do.....	964 pounds.
Dehorned and tied up in stall—do.....	950 pounds.

As the greatest difference between the gains of any of the above groups is 18 pounds, the result of this test would lead us to the conclusion that neither dehorning nor feeding in a loose pen has any advantage over the usual plan of feeding steers in stalls, with the horns on. This experiment will be repeated during the present winter, and at its close the result will be published.

S. A. BEDFORD.

FARM.

The Beet Sugar Industry.

The promotion of the beet-sugar industry has recently been brought prominently before the Ontario and the Ottawa Governments, deputations representing the Ontario Beet Sugar Association claiming that the annual consumption of sugar in Ontario amounts to some 300,000,000 pounds, all of which is imported, and the greater part of it produced from beets; that this sugar might well be produced in our own country, the farmers supplying the raw material, and the manufacturers reaping whatever profit there is above the cost of the production when placed upon the market in competition with imported sugars; that the soil of large areas of the Province of Ontario is well adapted to the production of the sugar beet in satisfactory quantity and quality, and that in order to

those of any other country in producing maximum yields, and there are doubtless large areas of the Province of Ontario, and some of the other provinces of the Dominion also, on which large crops of beets of high-testing quality may be grown, and there is the possibility that both prices and yields may in some years run much higher than those quoted. This, however, can only be proven by actual test, as it is not positively safe to conclude that even lands which will produce large crops of mangels or of sugar beets for feed, will produce beets testing a sufficiently high content of sugar to make the crop a paying one, as it is understood that those testing less than 12 per cent. are not generally profitable, and those showing as low as 10 per cent. are not wanted. Past analyses of sugar beets grown in Ontario have shown that fully one-third of each year's crop contains less than 12 per cent. of sugar, a percentage too low for factory use, and to avoid this difficulty it is very important that experiments on a limited scale in the cultivation of the crop be made for a year or two as a test. Experience will doubtless teach growers which is the best variety and what the best cultivation to ensure high quality and tonnage combined. Clover is said to be an excellent crop to precede beets, and a rotation is necessary in order to maintain the fertility of the soil, together with liberal manuring, in which good stable manure is regarded as the fundamental, with the addition of commercial fertilizers where beets are grown in quick succession. An Illinois grower, however, states that the most satisfactory results are obtained by growing beets on the same land every five years. It is recommended that the barnyard manure should be applied in the fall and plowed under.

Treatment for Smut in Oats.

One of the most serious losses we have on the farm in Ontario is the loss from smut in oats, but, thanks to our Experimental Stations, we now have within our reach a remedy which can be applied without serious loss of time in the busy time of seeding. If the seed treated has been very smutty, there may be an occasional head of smut in the following crop, but the percentage will be so small that the loss will be scarcely worth considering. Take 4½ ounces of formalin, mix with 10 Imperial gallons of water. Stir the solution to thoroughly mix the formalin with the water. Immerse the seed in the solution for five to ten minutes. If the seed has been bad with smut and is good plump grain of good vitality, from eight to ten minutes will be about the right length of time to leave the seed in the solution, the seed to be entirely covered in the liquid. Perhaps the most convenient way will be to take a half barrel and put the mixture into it, then use open-fibered sacks (twine sacks will do) to put the seed into, just putting as much in them as the mixture will cover in the barrel. Set two broad boards with one end on the half barrel and the other end raised higher by block or stool. Set your treated grain in sacks on these boards for a minute or two, while the drainage runs into barrel; then empty to dry by spreading in the sun, with an occasional stirring. By this means, a man with three sacks, can treat eight to ten bushels per hour. The seed should be treated just before sowing. If treated several days before sowing, it may be somewhat slow to germinate. One pound of formalin will treat sufficient seed for the average farmer. It would be convenient to have for a measure, say, a six-ounce bottle, with the upper side of the label even with the 4½ ounces in the bottle. Buy the formula in pound bottles. Formalin is a liquid, and the fumes, if inhaled, irritate the respiratory organs. It sells for about 75 cents per pound. The grain treated may be fed in moderate quantities if not required for sowing. I have used this remedy with splendid results.

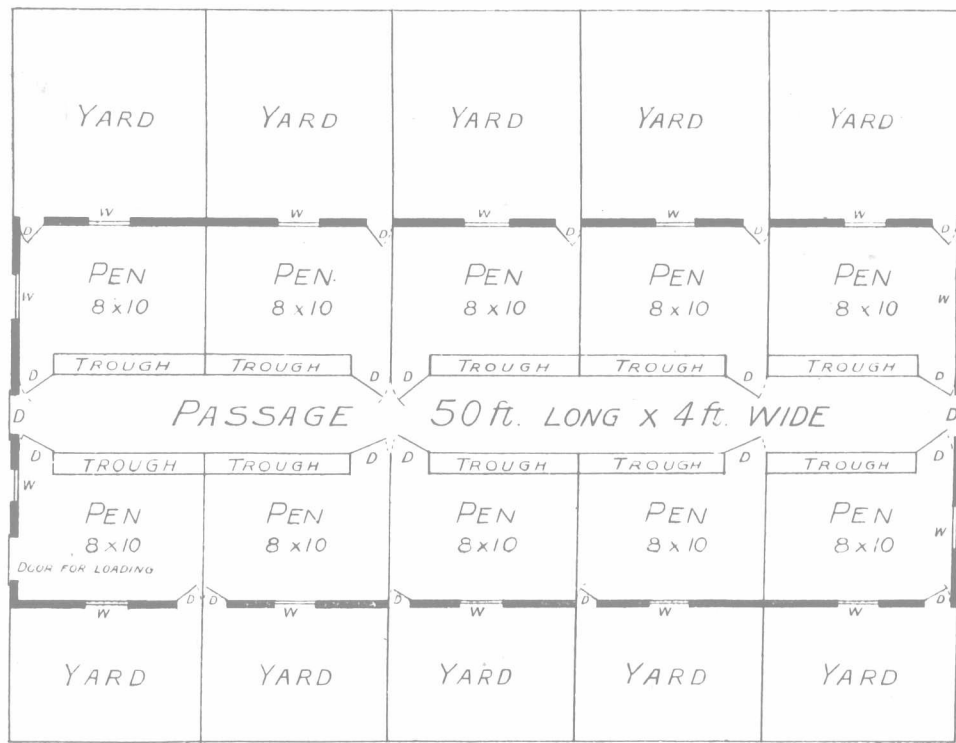
Huron Co., Ont. ROBT. B. MCLEAN.

Cheap at Any Price.

EDWARD CAIN, Campbell's Bay, Que.—"Please find enclosed \$1.00, renewal subscription to the FARMER'S ADVOCATE for 1901. We cannot compliment you too highly. There is some very instructive reading in your paper. We think very highly of your valuable paper, which we have taken for four years, and would not be without it at any cost."

As Necessary as Bread.

R. L. WILLS, Goulais Bay, Ont.—"Enclosed please find the sum of one dollar (\$1.00). Continue sending the FARMER'S ADVOCATE. I believe your paper is the best farm journal in Canada. I wrote you two weeks ago to discontinue it, but find I cannot do without it."



GROUND PLAN OF \$100 HOGPEN, 50x20 FEET, AND YARDS.

encourage the enterprise, assistance should be granted the promoters in the establishment of the industry. It is represented that while sufficient capital might readily be secured to build and equip factories, some support is needed to tide over the period whenever there may be doubt as to whether the farmers will supply the beets in sufficient quantity to work them to something like their full capacity. Premier Ross has stated that as the result of investigations by a commission sent by the Government to enquire into the success and standing of the industry in Michigan, and in response to the representations of the petitioners, the Government has concluded to grant assistance to the amount of \$75,000 a year in establishing the industry in the Province, the bounty to take the form of a payment of so much per pound of the output of the factories, and a bill for that purpose has been laid before the Ontario House. It is not proposed that the bounty shall extend beyond three years, and the bill provides that the factories receiving the bounty shall pay to the farmers supplying the beets a uniform rate of four dollars per ton for the beets purchased by them for the first year, without regard to the percentage of sugar content; after the first year, the beets, to secure the flat price, must contain 12 per cent. of sugar, and a premium will be paid on beets containing more than 12 per cent., the premium to be graded according to the excess contained. It was claimed by one of the deputations, a farmer, that on the Ontario side of the River St. Clair, in the township of Sombra, 800 acres of beets were sown in April last year, and the product shipped to a Michigan factory, the average crop being 15 tons per acre, which even at \$4 per ton, it is claimed, would leave a good margin of profit, as the cost of production is estimated at not more than \$30 an acre. Of course, it would not be safe to count upon this as an average crop, but with the experience of Canadian farmers in root culture, we have no doubt they could hold their own with

Thirty Years' Experience in Growing Seed Grain.

I first commenced raising seed grain that Mr. Wm. Weld imported—the Scott fall wheat—which proved to be one of our best wheats for several years, and have been dealing with him and his successors ever since, buying and selling seed grain—fall wheat, spring wheat, barley, oats, peas and other seeds. I have bought hundreds of bushels and sold them thousands within that time, and always got the credit of delivering some of the cleanest grain that went into their store. I generally bought new varieties the first year they were imported, if I thought they were worthy of a trial. Many of them proved a success, but a few of them proved a failure, or nearly so. Among the best wheats were the Democrat, Manchester, Red Clawson, Volunteer and Early Arcadian, and some are sowing them up to the present time. But, of course, some grain grows better in some sections than in others.

I sowed ten acres of the Longberry Clawson last fall, but I fear it will be a failure on account of the Hessian fly, although I took the precaution of sowing it late.

I consider the first essential in raising seed grain—or, in fact, any other kind of crop—is to have rich, clean, well-cultivated land; secondly, get the best variety of its kind, clean and pure, sow it in its proper time, and do not be afraid to give a little extra labor in harrowing and rolling; and, thirdly, when harvest time comes, let the grain get well matured and housed in proper condition. At threshing time, when changing from one kind of grain to another, always sweep and clean out the machine well, letting it run idle for a few minutes; then put through some two or three bags of the grain before putting by for seed. When cleaning (if wheat), put twice through the mill, and sometimes the third time, using the best possible arrangement of sieves and screens to remove all foreign, shrunken or light grain. Give light shake, feed slow and put on all the wind the grain will bear without blowing the best over, and if some does go over behind, what matter, so long as the sample is all right? In this way I have often taken in the second cleaning from a sixth to a fourth, and especially if I am cleaning grain for my own sowing—for I contend it is a false idea to think that a small, shrunken, immature grain can bring forth a strong, healthy plant; besides, sowing the best of the grain all the time, it is a great help to keep it from deteriorating. Another way to help keep it from deteriorating is, when I have a good variety that I like, when it came a year to grow a good sample, I clean up well a few bags and put by in a dry, airy place where vermin can't get at them. Stand them on end and so they don't crowd each other, and in the heat of summer turn them upside down two or three times. I have eight bags now, that was grown in 1898, of Russian White spring wheat, weighing 62 lbs. to the bushel. The sample is just as good as the seed of it was 22 years ago. I have also Genesee Giant four year old that I sowed a sample of last fall and it grew all right. Be sure to put it in good new cotton bags, that there has been no flour or meal in, so that meal worms or insects will not get in to eat the eyes out of the grain.

I have had three years' experience in raising Ligowo oats. I got three pounds from Ottawa in 1898. I lost fully one-quarter of the proceeds from mice shelling and in cleaning out the threshing machine so as to keep the sample pure. Sowed what was saved in 1899. Had 106 bushels, weighing 38 pounds to the measured bushel. I kept enough to sow 11 acres, and took the rest to my old seed house. Last harvest I had a very good crop of them, and now I have disposed of a good many to the same seed house, weighing 39½ lbs. to the bushel. They are an early white oat, having spreading head, thin hull, large kernel, and stiff straw.

Now, I am not a believer, nor never was, in wheat turning to chess, for I have tested too long. When I sowed chess among wheat I was sure to reap it; but when I sowed perfectly clean seed on clean ground I never reaped chess.

I do believe to a great extent it is the farmer's own fault to raise smutty grain. In the first place, never sow smutty grain if you know it and can avoid it. In the second place, do not sow half-ripe grain and not half cleaned; and, in the last place, never put seed grain in flour or meal bags.

Now is the time to prepare seed for the spring, or, if you have to buy, look out in time while there is a chance for a choice, and not leave it till the last day and then get disappointed. I have had people come to me for seed the very day they wanted to sow, when the very kind they wanted had been shipped to the seed store two or three months before.

Now is the time to be looking over tools and implements to see if they want sharpening or repairing, and not leave it till the day they ought to be working in the field. How much easier will a bright tool or implement work than a dull, rusty one?

JOSHUA BOBIER.

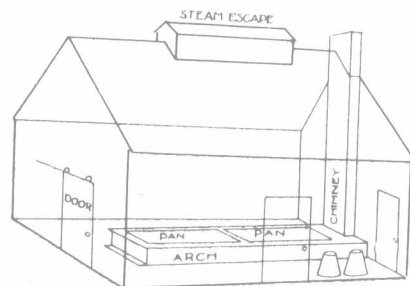
ROBERT WILSON, Wilstead, Ont.: "I think I am one of your first subscribers to the ADVOCATE, and I have taken it every year since. Not only taken it, but have read it carefully, and I have received much information from it, so you may depend on me as a subscriber to your valuable paper. I will do all I can to get others to take it."

Hints on Syrup and Sugar Making.

Among the many luxuries which the farmer may enjoy, none is more generally appreciated, especially by the younger members of the family, than the products of the sugar maple. Who of the readers of the FARMER'S ADVOCATE, that has lived from childhood on the farm, has not some recollections of the old times in the sugar bush? Although you may be living in a city now, you doubtless can look back to many pleasant hours spent in your father's or grandfather's sugar camp. How the coming of spring was hailed with delight in joyful anticipation of the good things to come. When the time came to tap the trees, then the troughs were made ready, the kettles moved to the camp, a supply of wood was cut, new spiles made, and the old woods where silence had reigned all winter now rang with the sound of the farmer's axe and his tapping gouge, and the shouts and merry laughter of the boys, who always regard the sugarmaking as one of the most enjoyable seasons of the year. Then followed the boiling and sugaring-off, when they all had all the taffy they could eat. I may say right here, I think the girls enjoy the sport as much as the boys; and here I may say again, that those who never visited a sugar camp, or were never present at a sugaring-off or taffy party, have missed a most enjoyable treat. I often think the sugar maple does not get its full share of credit. I regard it as the most useful tree we have. As a timber tree it makes beautiful furniture, which takes a smooth, fine finish, and the grain is hard to equal, and its great strength makes it valuable for axles of wagons and heavy trucks. It is the surest, the hardest and most beautiful of our native shade trees, and it makes the best fuel of any of our forest trees; and last, but by no means least, the syrup and sugar it yields are not equalled by any other product in the world, of this kind.

And now I will try, with some hints from my husband, to give the readers of the ADVOCATE some suggestions on the manufacture of syrup and sugar, that, I hope, may prove interesting and helpful.

As in every other branch of the farming industry, great improvements have been made in the



PLAN OF MAPLE-SUGAR HOUSE.

methods used in this industry. Of course, there are some farmers who still cling to the old ways, but their antiquated methods are out of place in this twentieth century. We learn from our forefathers that the first makers of maple sugar were the Indians, who, for want of kettles, boiled the sap in vessels of birch bark, by heating stones and plunging them while red-hot into the sap. This was an old and very slow process. Kettles came into use with the advent of the white man, and, of course, the product was improved. But the old methods have again given place to the new and better ones. Instead of making a great unsightly gash in the tree with an axe and then driving in a gouge and a long spile, we use a bit only nine-sixteenths in diameter, bore a hole about an inch deep and drive in a patent spile. The spiles are of metal, about three inches long, with a small opening in the center where they enter the tree to let out the sap, which runs down a groove and into the buckets. Very little of the spile comes into contact with the wood of the tree, as there is a shoulder on the spile, which only allows it to penetrate about half an inch. Around the shoulder and close to the tree is a wire hook on which to hang the bucket. The trees are not injured; the incisions, being protected from the sun and weather, do not dry up so quickly, and, taking the season through, more sap is produced than was obtained by the old way; besides, every drop is saved; while by the old way there was always a great amount of leakage. The wounds made by tapping are so small that they heal quickly, and under this system a bush of maples should last a lifetime. Tin buckets have succeeded the old clumsy troughs, which were always a source of trouble and waste. The cost of tin buckets is about 10 cents each, and the patent spiles about one and a quarter to one and a half cents each.

Instead of the old-fashioned kettle, we use an evaporator six feet long, three feet wide and nine inches deep, made of galvanized iron. This is set on a furnace with just about a quarter of an inch lap on each side, so as to expose the whole of the bottom to the heat. I have seen pans advertised across it, with holes through each partition at opposite corners so as to give the sap a zigzag course, and a spout is placed at the back end to let the syrup out. After boiling quite a while, the

syrup begins to get strong at the back end and there is a constant stream of sap running in at the front, it being arranged so that where the cold sap runs in it is the hottest. Then when the syrup is thick enough to draw off, the tap at the back is opened and a tiny stream of syrup, about as thick as a straw, runs into a vessel placed there for the purpose; while a stream of sap as thick as a pipe-stem runs in at the front, and this process is kept up all day, or as long as the syrup lasts. This plan must be a great improvement on the common one without the partition.

After the sap is boiled into syrup, it should be strained while still hot, then allowed to settle. It is then put into a small finishing pan or kettles on the stove to finish up. A small quantity of milk or whites of eggs is put in to cleanse it, which forms a scum as soon as it starts to boil, which is skimmed off and thus removes anything that the strainer failed to take out. After removing the scum, a few minutes' boiling brings it to the proper thickness (which many now determine with the saccharimeter) to can, and, if properly done, you have a lovely amber-colored syrup, through which the light will clearly penetrate.

If you wish to make sugar, boil it till it will crack when put on snow like rock candy. Some experience and skill are required to finish it into sugar, for if you boil it a minute too long or take it off too soon you spoil it.

I think that on the farm where the sugar maple will grow a grove of them should be planted, or, if they are there, never cut down. I know of a grove of second-growth maples, that have grown up with the present generation, that will soon be fit to tap. It is the most beautiful spot on the farm.

Let those who have no bushes on their farm plant one. Their boys will grow up and enjoy the products obtained from them.

Let us plant trees around our farms, along our roads, around our village lots—everywhere where they will be useful and ornamental. We cannot find any more suitable tree than the maple, the leaf of which is our national emblem, as the dear boys and girls of Canada know.

FARMER'S WIFE.

DAIRY.

A Good Working Dairy Herd.

My method of improving my dairy herd is to raise all my own heifers. I very seldom buy a cow now. When we started our dairy we bought from one of the most prominent breeders some pure-bred cows, and have now got our herd nearly all pure-bred. We raise all the heifers, have them come in at two years or two years and three months old, and discard all that do not appear very promising. As a result of this system we made last year by actual churn test 300 pounds of butter per cow, four of these being two-year-olds with their first calves, and five three years old with their second calves.

I have a very good run of pasture, with splendid shade, so I let them run out in summer, preferring that to stabling. Do not feed anything while pasture is flush, but feed some grain, oats and peas ground, as soon as you think they need it. When pasture begins to fail, I feed clover hay till corn time comes, and then there is no lack. I stable as soon as it gets frosty in the fall, as it does not pay to let them lie out on cold nights. The feed for winter is one bushel of silage night and morning, with peas and oats ground as a grain ration, with about fifteen pounds of sugar beets at noon and all the oat straw and chaff they can eat. What they leave makes bedding. As I am badly off for water at the barn, we turn the cattle out and take them to the creek on the farm, about 100 rods from the barn. I think the exercise is very good for them, except on very cold, stormy days. We use currycomb and brush to keep them clean, as I do not like to milk a dirty cow. Our stable is plenty warm. Our cows seem healthy under this treatment, not having had a vet. at the barn for over three years.

We use our skim milk in raising calves, of which we raised twelve last year. What is left after feeding calves goes to feed pigs. As we use a separator, our milk is warm, and that is the right way to feed it. We feed milk by itself (sweet) and grain by itself.

I think, for calves, flaxseed meal or oil-cake meal with ground oats is a good equivalent for the fat taken from milk by the separator. I feed dry in a clean box. When a month old they learn to eat it, with some clover hay.

I let my cows go dry six or seven weeks before coming in fresh; in fact, I have made up my mind to make them do so if I have to put them on a straw ration for a few days to do so. As we make butter, we have our cows come in at any time we can get them. As we have plenty of feed, it does not matter when, and our supply of butter is more even—that is, a more equal quantity all the time.

Now I will tell you how we did with our herd of fourteen cows last year. We realized from butter sold \$810 in cash. We used in the family 375 pounds of butter and all the cream and milk we needed for our family of eight and a little extra help. We sold veal calves for \$20, and raised nine heifer and two bull calves, all of which we will register, as they are pure-bred, and a nice lot they are.

WILLIAM WILLIS & SON.

York Co., Ont.

Convention of Dairy School Students and Patrons.

Once a month the superintendent of the Western Dairy School, at Strathroy, Ont., Mr. Arch'd Smith, calls together the patrons supplying milk, and the students of the school, to listen to addresses, and to discuss subjects bearing on dairying and dairy farming. The third meeting this season was held on Feb. 13th, when Messrs. J. A. James, Nilestown; Dr. Stevenson, London; and H. White and J. W. Steinhoff, Stratford, delivered addresses. The first address was on

GROWING CORN AND FEEDING SILAGE.

In the preparation of the soil for corn, we must take into consideration that this plant is, to a certain extent, semi-tropical, and is better adapted to a warmer climate than ours. However, by preparing the soil with a view to keeping it warm during the growing season, we may expect good results. In the first place, the land (a well-rotted clover sod preferred) must be naturally or artificially drained and thoroughly cultivated and manured the previous fall, if possible. If the land is manured during the winter, and the manure is too long to work into the soil with a cultivator, it will be necessary first, in the spring, either to plow or gang-plow it shallow, say three or four inches deep, so as to incorporate the manure into the surface soil, then harrow and cultivate thoroughly before sowing. In our section we try to get the corn in from the 15th to the 24th of May. There are many varieties to choose from in making a selection. Every farmer will have to be governed according to soil and locality. With us here in Southern Ontario, a later and larger variety can be grown than could be further north. It is useless to grow a variety for silage which will not be in a firm dough state by the 15th or 20th of September. The Leaming or the Butler's Dent is a good variety through this southern district, and will yield a good crop, from 14 to 20 tons per acre. For cutting and feeding green, the sweet varieties are considered preferable. Mammoth Sweet is one of the heaviest yielders, and is of fair quality.

There are several methods of growing corn, each of which has advantages under certain conditions. When the land is fairly free from weeds, corn can be sown with an ordinary grain drill, stopping all the spouts but two. A careful driver should make the drills perfectly straight and even, and sow 9 to 12 acres per day. Some sow 15 lbs. per acre; I prefer half a bushel per acre. As soon as sown, the land should be crossed with a light harrow, then on an angle, and again crossed until the corn is up. It will not hurt the corn, but will do it good, to harrow after it is up. When the corn is a few inches high, I put in the two-horse cultivator, using the narrow points first, so as to loosen the soil several inches deep. This is followed up with shallower cultivation, not only to kill weeds, but to assist the bacteria to act on the humus and make it available for plant food. We use the cultivator till the corn is too high to work over, then I use one-horse cultivator to pulverize the surface.

The time to harvest corn for silage is when it is in the firm dough state. My mode of harvesting in the last three years is with the corn harvester. We start the day previous to filling the silo, so as to have plenty cut ahead. It costs from 40 to 50 cents per acre for twine. My belief is that by tying the corn it can be handled easier and faster. I use four teams to draw from the field, four men in the field for loading, and two men at the cutting box, also two men in the silo spreading and tramping. My silo is built of cement concrete, 20 feet square and 25 feet high, with a cement wall through the center. It will hold 172 tons after it is packed down even to the top of the walls.

After filling the silo, it is well to tramp over every day for six or seven days, and throw a few pails of water over the surface. I also sow about four or five pecks of oats on top, and dampen well that they may grow and make a good coating, which helps to make it air-tight. The time to start to feed depends on how soon you require the feed. In the year 1899 I started in a few days after filling silo, as I was short of pasture. I want to emphasize the idea that silage alone will not give a large flow of milk, by feeding it alone. It requires something else to make a good ration, say 40 lbs. silage, 5 lbs. oat chop, 2 lbs. corn meal, 1 lb. pea meal. This makes a good ration, or 40 lbs. silage, 5 lbs. wheat bran, 4 lbs. chopped oats, from 1 to 2 lbs. of cotton-seed meal, with a good feed of clover hay at noon, about 5 or 6 lbs., according to size of the animal.

FEEDING AND CARE OF HOGS.

The speaker on this subject has made money out of hogs. He does not breed them as a rule, but buys them at about three months old. The finishing of bacon hogs at six months old was pronounced to be wrong. In order to have them right for the market, at proper weights, they should be from seven to eight months old. Those finished up to 200 pounds at six months old are invariably too fat for the trade. If all hog-raisers in Canada persisted in forcing their pigs to the finishing point at six months old, Canadian bacon would never have become popular in the markets of Great Britain. In

feeding hogs, their comfort must be considered, so that they will make the best possible use of their feed. They should have a comfortable frame pen, with cement floor and elevated sleeping-beds. A pig will keep itself clean and dry if it has a chance. The right and the wrong forms of hogs for the bacon trade were described. The perfect bacon hog has the following characteristics:

Head—Long, straight, wide between the ears.
Ears—Thin, fringed with fine hairs.
Jowl—Small and light.
Neck—Long and muscular.
Chest—Wide and well let down.
Shoulders—Slanting and narrow on top.
Girth—Large around the heart.
Sides—Deep.
Ribs—Well sprung.
Loin—Wide and strong, not drooping.
Belly—Full and thick, straight underline, and for a breeding sow 12 teats.
Flank—Thick and well let down.
Quarters—Wide and straight from hip to tail.
Hams—Broad, full, and meaty to the hocks.
Tail—Set on high, not coarse.
Legs—Straight, with flinty, flat bone.
Ankles—Long and compact.
Pasterns—Strong and yet springy.
Feet—Firm and strong, not splayed.
Evenness—Freedom from wrinkles.
Coat—Long, straight and silky.
Action—Free and clean.

Objectionable points in bacon hogs were given as follows:

Forehead—Narrow.
Ears—Thick and coarse.
Jowl—Fat and full.
Neck—Short and very thick and fat.
Chest—Narrow, with both fore legs apparently coming from almost the same point.
Shoulders—Coarse, heavy or wide, and open on the top.
Girth—Light around the heart, and foreflank light.
Back—Weak and hollow when pig is standing at rest.
Sides—Shallow, not well let down between the forelegs.
Ribs—Flat or short-curved, light back rib.
Loin—Narrow and weak.
Belly—Flabby and wanting muscle.
Flank—Thin and not well let down.
Quarters—Short and narrow or drooping.
Hams—Narrow, wanting in depth.
Tail—Coarse and set on low.
Legs—Crooked, with round and coarse bone.
Ankles—Large, round and weak.
Feet—Flat, splayed, extra wide or large.
Evenness—Wrinkled on sides, neck or shoulders.
Coat—Coarse, bristly, fringed along top of neck and shoulders.
Action—Sluggish and clumsy.

The serious mistake of weaning pigs too young was dwelt upon at considerable length. The best-doing litters frequently wean themselves at from 8 to 10 weeks old. Young pigs at 10 days old have very sharp teeth, which should be nipped off with pincers, otherwise they torture their dams by cutting the udder, as well as their own mouth and tongue. The best feed for hogs consists of shorts, coarse bran, and ground barley, oats and peas. Milk and whey are valuable to mix with the grains mentioned, but whey should never be fed sour; in fact, sour feed was strongly condemned, as it does not satisfy the pigs, but causes an unnatural craving for more. The feed should always be given wet. A pig should never be rung in the center of the nose, but always a little to the sides, as a ring in the center seems to penetrate a prominent nerve. Always remove rings when the pigs are housed for finishing. A pig ready for market is large and muscular, rather than short and fat, and weighs about 220 pounds. When pigs are to be shipped, they should be fasted 12 hours previously. Hogs full of feed will weigh less at the end of a few miles' haul than will those fasted for 12 hours, and the full pigs are more liable to die.

The speaker spoke of a common complaint in hogs indicated by a cough. It is due to a small lung worm. The best treatment is spirits of turpentine, one ounce to a full-grown hog, mixed with the feed. It may be given as a drench mixed with raw linseed oil. In drenching a pig, do not pour the medicine down the throat, but draw out the skin of the cheek and pour it in there. He will then stop squealing and swallow the draft without choking.

Most hogs are troubled with hog lice. They should be sprayed twice, about a week apart, with coal oil and water one to five.

Swine plague made its appearance in the speaker's herd of hogs on one or two occasions. It differs from hog cholera in being a lung instead of a bowel disease. The following mixture in teaspoon doses was given as a cure: Arsenic, half pound; Cape aloes, half pound; blue vitriol, quarter pound; black antimony, 1 ounce. Grind and mix well before using. Feed nothing but dry feed, but no water, only the slops containing the remedy. When they refuse to eat, turn them on their backs, and with a long-handled spoon put dry medicine down their throats. For large hogs, one teaspoonful three times a day, then miss one day, and repeat the amount until cured. Smaller pigs in proportion. One teaspoonful once a week will keep them in health. These medicines are all poisonous to other classes of stock.

THE DAIRY INTERESTS.

Mr. Steinhoff gave a general talk on this subject. He urged patrons to meet together occasionally to discuss their business for their mutual benefit. Some patrons make as high as \$48 profit per cow, while others make as low as \$18 per cow. If these two men discuss their business, the less successful one can learn much that will help him, and the more successful man will be led to give his business still more study and consideration. The importance of co-operation was strongly emphasized, not only among patrons, but makers and dealers as well. The market is practically one for all, so that all are equally interested in producing goods of one class of excellence. Our progress has been largely along the line of quantity, whereas a general improvement in quality is needed in order to maintain our hold on the markets of the world. We need more bacteriological research in order to locate, identify and control the causes of defective flavors and other objectionable features. A dairy bacteriological laboratory for the Province was recommended. The old unsanitary factory, with poor curing-room, should be a thing of the past, and the dirty maker should no longer be allowed to make cheese or butter. Makers of cheese and butter should possess a knowledge of dairying, and this is most easily obtained at a dairy school.

BACTERIOLOGY IN RELATION TO DAIRYING.

Dr. Stevenson, who gives two lectures per week to the students of the dairy school, endeavored to make clear to his attentive audience the nature and functions of bacteria. It was explained that bacteria belong to the lowest forms of vegetable life. If a blade of grass or a leaf lies on the ground detached, it is at once attacked by bacteria, which gradually cause it to return to the original soil from which it came. The function of bacteria is to cause changes either for better or for worse, and therefore needs to be controlled. It therefore stands between the successful and unsuccessful dairyman. The careless, unsuccessful dairyman allows milk vessels and milk to become contaminated with filth, and along with it bacteria that produce evil results. All pails, pans and cans should be thoroughly scoured and scalded after containing milk and before receiving more milk, else bacteria will rapidly multiply in the unclean vessels and seed the next milk that goes into them. Much harmful bacteria enters the milk-pail from the udders and sides of dirty cows, in dirty, badly-kept stables. Bacteria produced in foul surroundings will produce foul conditions in whatever it enters. Cheese made from milk that stood in a hogpen over night developed a strong hogpen odor, that increased with the age of the cheese, until it was unfit for use. There are, however, beneficial classes of bacteria, without which milk, cream or cheese could not be ripened, because upon these the changes depend. These sorts accompany clean surroundings, free from putrefactions of any sort. These varieties can be separated and propagated by the bacteriologist, and when introduced into pasteurized milk, produce certain definite desirable results.

THE DAIRY SCHOOL.

The Western Dairy School is increasing its patronage each year. So far this year 40 students have attended, and so helpful do they find the work that most of them are remaining throughout the winter. They come from all parts of the Province of Ontario, and also from Quebec. They consist chiefly of men that have put in one or more years in factories, and are energetic, earnest fellows. Principal Arch'd Smith has a strong staff of able assistants, who have had years of successful practical work in factories, so that all factory conditions are met. The milk received comes direct from patrons, and cream is sent in from a skimming station, so that students have cream to deal with under the two creamery systems in vogue in Ontario. The milk received runs about 6,000 pounds per day, all of which is used for buttermaking except 600 pounds for cheesemaking. A few farmers' sons and daughters are taking the short farm-dairy course, which is well directed. More of these students could be accommodated, and it is surprising that such opportunities are not more largely taken advantage of. The school is doing good work, and deserves support.

A Successful Factory Patron's Methods.

To improve my herd of cows for milking, I always raise the best heifer calves of the very best cows that will test the highest and give the highest number of pounds of milk. I feed in the morning at 6 o'clock, cut straw, oatmeal hulls and mangels, and a little oil cake. Then, after breakfast, the same ration again. They are watered at noon, and left in the yard for a short time. I give them straw and put them in again, and feed the same ration in the evening as in the morning. I think that my stock generally looks very well.

The best use to make of skimmed milk is to give to calves when sweet and warmed, and after souring, give it to the pigs. When calves are a month old, I begin to feed a little pea chop, bran and oil cake, and I find that they do very well, as they always come in for breeding early. Of course, they get good hay, as much as they want.

A dairy cow should be dry two months before calving, and I like the cows coming in about February and March. The calves are early and growing up before the milk is going to the factory, when they can do on skimmed milk and some other feed. Perth Co., Ont. WILLIAM SUHRING.

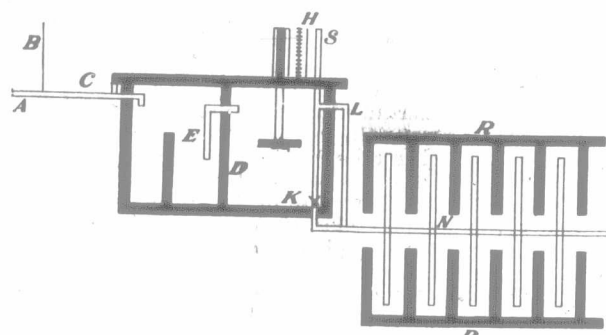
Sub-surface Sewerage for Cheese Factories.

To the Editor FARMER'S ADVOCATE:

Sir, — I would now like to direct your readers' attention to the sub-surface system of disposing of the sewerage at factories which was recommended to the Association by Dr. Bryce, of the Provincial Board of Health, and which has been in operation at the experimental station with satisfactory results. The question of disposing of the washings and sewerage at factories is one of the most important in connection with the Dairy Industry and deserves more attention than it receives. On the sanitation of the factory depends to a great extent the quality of the cheese and butter and the reputation of the factory and maker as well as the health of those living in the immediate vicinity. We are all well aware of the conditions existing at the average cheese factory and how easy it is to locate many of them before coming very close to them. These conditions need not and should not exist.

At some factories the washings are allowed to run into the whey tank. This lessens the feeding value of the whey, and injures the quality of the milk which has to be carried in the same cans. Others drain it into a creek or river. But this oftentimes makes the water unfit for cattle to drink. At other factories it is allowed to run away in open ditches which become breeding grounds for foul smells and injurious germs. I cannot understand how a factory man can expect to exercise an influence for good over his patrons, when the conditions surrounding his factory are not in accordance with his teaching, for "Example is better than precept."

The method of disposing of the sewerage by the sub-surface system is both effective and economical. It also enriches the soil through which it is drained and prevents any foul smell from developing. It enables the maker to keep the factory and surroundings in a good sanitary condition, which is absolutely essential if satisfactory results are to be obtained.



SEWERAGE BOX AND FILTER BED.

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|------------------------------|--------------------------------|
| A.—Pipe from factory to box. | H.—Indicator. |
| B.—Ventilator. | K.—Plug. |
| C.—Goose-neck pipe. | S.—Plug handle. |
| D.—Partition. | N.—Filter bed. |
| E.—Overflow pipe. | L.—Ventilator from filter bed. |
| F.—Float. | R.—Underdrain. |

First a box is made with a partition through the centre, forming two boxes, one of which is large enough to hold the washings from a factory for a single day. It may be situated near the factory or at a distance away, as conditions permit. If the factory is elevated sufficiently the box may be sunk in the ground and covered with earth, but if it has to remain on top of the ground it is preferable to build it of brick and cover the top lightly to prevent the escape of noxious gases which form within it.

In laying the drain from the factory it is advisable to use sewer pipe, especially if it is situated near the well, or if there is any danger of injuring the water supply, otherwise ordinary field tile will do and will be somewhat cheaper. The drain must be provided with a trap to prevent gases or foul smells from returning to the factory. Then attach a vent pipe (2 in. galvanized) to the drain between the factory and the box, and allow it to extend above the "Building." This will carry off the gases formed in the box or drain; or, the box is provided with a small goose-neck pipe which admits fresh air and forms a draught for the ventilator. The box you will notice has a partition in the centre with a pipe through it near the top and extending down about the centre. When the first box becomes full the water is allowed to filter through into the second, and on account of its being taken from below the surface nothing but the liquid matter flows through. The solid matter is all retained in the first box, and is quickly decomposed or oxidized by the different forms of bacteria at work in it. A filter bed is then provided by laying a sufficient number of 4 in. tile to hold the amount of water contained in the second box from 10 in. to 12 in. beneath the surface of the ground they being perfectly level and having no outlet. The sewerage can be disposed of in a very small space of ground, if desired, by constructing one long drain and a number of branch drains about 10 ft. apart leading from it. When the second box becomes full the plug or valve is fitted and the water allowed to run out quickly, carrying any sediment there may be with it and distributing

evenly throughout the filterbed. It is necessary to have one or two ventilators in the filterbed to allow the air to escape while the water is running in. The outlet of the box is then closed tightly, and by the time the box is refilled the water in the tile has been absorbed by the soil and any solid matter left therein will be decomposed by the action of the bacteria. It is necessary that the outlet of the box be closed tightly, otherwise the filterbed will not work satisfactorily.

The soil around some factories may be of such a nature that it would not readily absorb all the water used. It would then be necessary to under-drain the filter bed, which would carry off the surplus moisture and give the filter bed greater capacity. Instead of putting the deep drains directly under the filter bed, I would advise putting a long drain along each side and then extending branch drains from those just half way between the branch drains of the filter bed. The water would then drain through 4 or 5 feet of ground to the under drain, which would render it free from solid matter, and it would then run off quite clear.

The system in operation at the illustration and experiment station consists of an ordinary tile drain leading from the factory to the box having a trap on the end and a vent pipe between the trap and the box. The box is 9 ft. long by 2½ ft. deep by 3 ft. 5 in. wide and holding 500 gallons. It has a partition in the centre, making two boxes of 250 gallon capacity each. 250 gallons is supposed to be about the amount of water used at the average factory in a day. Then 500 4 inch tile which hold 250 gallons were laid perfectly level in the ground and having no outlet. This plan worked well for about eight weeks, when there came a few days of very wet weather. As the soil was a very heavy clay the water began to come to the top. We then put in two under drains which carried off the surplus water. Afterwards there was no further trouble, and the sewerage system worked satisfactorily. On opening the box at the end of the season we found that the first box was nearly half full of solid matter. The second box was fairly clean and there was a slight coating of greyish matter on the inside of the tile in the filter bed.

ARCH'D SMITH.

Milverton Cheese Factory Exp. Station.

GARDEN AND ORCHARD.

Requirements for Success.

BY JOHN B. PETTIT.

It is astonishing how few men appear to carefully consider the necessary requirements for success in the great and rapidly increasing fruit industry before they enter into the business. It seems to be the opinion among many men who have not followed the work, that any one can make a success at it financially, and that those who are connected with it already are getting rich by leaps and bounds. Each succeeding year we see many men of this stamp leaving other lines of labor and putting their savings into nursery stock and setting out large plantations, in many instances only to meet with disappointment, and in the end—failure. That is one of the main reasons one in passing through the country sees so many plantations all gone to ruin, the trees a mass of thick, stunted brushwood and the soil become a stiff mat of weeds and sod.

There was a time when the requirements for success in the industry were not so numerous as at present. In the time of small plantations, and consequently light yields and good prices; close markets and great demand; newer and more fertile soil, and absence of insect pests, the fruit-grower had a comparatively easy task, and those who exercised a reasonable amount of care succeeded and made a good thing out of the business. But it is vastly different now. In these years of enormous plantations in different sections of the country, and annual heavy yields, a great change has come about, and to-day the industry is reduced to almost a science. In order to be successful we must have a thorough understanding of the nature and requirements of the business, and educate ourselves along certain systematic, scientific and practical lines. There are great problems facing the practical fruit-growers of the present day, and unless these are dealt with carefully in the immediate future, the industry cannot help but suffer as a consequence. *Cold storage, cheaper transportation, co-operation, proper distribution and foreign markets* are the questions that the present growers have to deal with, and are causing continued study night and day.

But there are minor problems, just as important in themselves, that have to be settled by the beginner if he hopes for success in the future. Taking for granted that he understands the work in connection with the industry, he should be very careful how he enters upon his work. In the outset, what kind of fruit should he plant? In order to answer this properly we should know something about his prospective market. Has he a good market at hand? That is, is his plantation near by a city or large towns that can be reached in a short time by truck, or, if necessary, by express? If such is the case, then it would be advisable to go into berries quite extensively, as they have been quite profitable in the past and, with the exception of a year once in a while, will be in the future. Of course it must be understood that the soil must be of suitable nature for these fruits. But if the

market is at a distance, then the larger fruits must be utilized, as express charges on a long journey would eat up all profit, and this fruit can never be shipped by freight. If the beginner goes into large fruits, what kind will he plant most extensively? This question also hinges upon the market. He must first decide what market he is going to cater to, and then set about with a determination to produce the very best sample of fruit for that market.

From experiments made we have learned that there is a great demand for some of our larger fruits in England and other foreign countries. All we, as growers, need to do is to meet certain requirements. The fruit sent must be of excellent quality, carefully and honestly packed, and presented on the markets in a neat and sound condition. This we believe it is the privilege of any careful, honest grower to do. It has been demonstrated that we can get high prices for many of our apples and pears, and we believe that before long some of our grapes will be wanted, and that we will be able to get some varieties of peaches to foreign markets in perfect condition. As for plums, they seem destined to stay at home unless we work up a demand for them in the canned and evaporated state. But in planting these for home markets we must select only those that have proved good keepers and shippers.

As stated before, we should know where our market is before we plant. This would greatly assist us in selecting varieties. We know that in Europe red apples are in far greater demand than green or russet apples. We also know that some varieties of "reds" sell more quickly than do others, and at a considerable advance in price. The same thing is true in connection with our pears. Select varieties, then, that are most likely to be in demand. One thing we must remember,—the best, brought to proper maturity, is generally sure to sell.

In the future let us have a definite end in view, and exert every effort at all times to accomplish that end. This determination, with careful labor and management, is most sure to bring us success.

Wentworth Co., Ont.

Onion Culture.

In the first place, select suitable land, a deep rich loam, nearly level, free from stones and grasses or weeds, not shady, and well cultivated and manured the preceding year or two, and continued to be so manured each year, soon after the crop is removed. Onions thrive best when grown on the same ground for many successive years. Give it twenty-five or thirty loads of well-rotted manure per acre, according to the fertility of the land. Hogpen manure is the best, then stable, next barnyard, all well rotted—to prevent weed seeds from growing—and evenly spread; plow under deep and harrow well. This being done, soon as possible after the crop is removed apply another coat of fine manure, say, barnyard scrapings, eight loads. Later on spread, plow under shallow, and let lie till spring, in order that the frost may pulverize the land. In spring, as soon as dry and fit, give two or three strokes of harrow, roll, and apply three to five load of wood ashes evenly over the surface. Harrow again, and if not fine and clean, hand rake, giving the last stroke across the way it is to be sown. Now it is ready for the seed.

Be sure to procure good seed—not only that will grow, but of the right kind. This is the most important item yet touched upon. Deal with an honest, reliable seedsman—pay three prices rather than sow inferior seed. When placed in water it should sink. We consider two and a half to three pounds of seed to the acre about right. The Yellow Danvers variety is a good hardy onion, of a beautiful globe shape, a good grower and a good keeper, also the kind sought for by the market. Sow in drills or hills, fourteen or sixteen inches apart, with a drill made for the purpose, which sows, covers, rolls, and marks for the next drill all at the same time. Make a straight, even start, and keep the rows so for appearance and convenience. A man accustomed to this work will sow two acres a day. Sow in April, or soon as the land is dry and fit in spring. Some try the hotbed system, transplanting, etc., but it is not satisfactory. To shape the land to our liking, when not exceeding an acre, we make it six times as long as broad.

To succeed with this business requires patience, ambition and consideration. Four or five weeks after sowing, hoeing and weeding begin. As soon as you can plainly see the rows, use the hand cultivator or the onion hoe. The boys are best at weeding; let them follow the hoes, crawling along on their hands and knees with weeder in hand. After the first weeding, or early in June, sow a bag of salt on the bed; it helps the onions and helps to do away with worms or grubs in the ground. Watch the weeds and keep them down. "A stitch in time saves nine," and apply it here. As a rule, four hoeings and weedings will do; however, this depends largely on the weather, the condition of the ground, and how well the work is done each time. If the surface is stirred every ten days, all the better. After the first hoeing and weeding, if well done, the after-weeding is a pleasure, rather than a task. As a rule, hoeing is pretty well over by the first of July.

About the last of August the onions lose their lively green color and soon fall over, except the scallions and a few others. Where two-thirds or more fall over, pull them, by hand, hoe, or a wooden rake, handling with care. Allow them to

lie on the ground for three or four days, then gather into little heaps, about three bushels in each, without dew or wet. In fifteen days open them, giving frequent airings for three bright drying days, then house them, in a perfectly dry condition, in an open, airy place. The floor must be open and the air allowed to circulate all around. A slight frost does not hurt if not removed in that condition. If many are grown it is wise to sell the greater part early and look out for the balance, as it is difficult to keep them in the right temperature from either growing or freezing.

J. W. M.
Middlesex Co., Ont.

The Island Fruit Growers, Farmers and Dairymen.

FRUIT GROWERS MEET.

The P. E. Island Fruit Growers' Association held their annual meeting in Charlottetown on February 7th and 8th. The attendance was fairly good, and there was a good programme.

Rev. Father Burke read an excellent paper on "Forestry," which gave rise to an animated discussion, the consensus of opinion being that forests do not attract much rain from the atmosphere, but are a great factor in helping to retain moisture in the soil, as they keep the high winds from drying it out. Tree-planting along the roadsides and about the farm buildings and for shelter for orchards was strongly emphasized in the paper, and as well in the discussion. The President's address was an intelligent discussion of our fruit interests. He spoke of the great good the Association was doing in arousing an interest in this important industry and educating the people in the matter of proper cultivation and suitable kinds.

Prof. Macoun, of the Experimental Farm, Ottawa, was present and delivered an excellent and instructive address on "Apple-growing." He said that the apples shown at the meeting were as good as could be found in Canada. He had never seen better samples of Ben Davis and Stark apples. His address covered the whole of fruit-growing, from the setting out of the trees to the landing of the apples in the English market.

R. Robertson, Superintendent of the Experimental Farm at Nappan, N. S., spoke of the success that had followed their efforts in fruit-growing at that station. Premier Farquarson expressed his sympathy with the objects of the Association, and said that he believed that ere long fruit-growing would be one of our leading industries. He promised that his Government would do everything in their power to encourage horticulture.

Sir Louis Davies gave as his opinion that we had an excellent fruit country here, and all that was needed to make fruit-growing a success was education in the matter and a determination to grow only suitable varieties and honestly pack them for shipment. No Society had more of his sympathy than this one, and he expected before long to see fruit-growing as important an industry here as dairying now is.

John Johnston read a very interesting paper on "My Experience in Apple-growing." This was a very helpful paper, giving as it did, in detail, the experience of one of our practical and successful fruit-growers.

There was a very fine show of winter apples in the building. Besides the Stark and Ben Davis, we noticed excellent specimens of American Baldwin, Talman's Sweet, Fameuse, Northern Spy, Ribston Pippin, Golden Pippin, and Guard's Seedling. The specimen of the latter apple on exhibition was a year and a half old, and still it looked as fresh and had the bloom of an apple just picked from the tree. It had been kept all this time in a cool cellar, wrapped in tissue paper and covered with ashes. This apple which gives so much promise is a seedling originated at Southport, in the vicinity of Charlottetown, by Thomas F. Guard. It will likely soon become a great favorite here on account of its good keeping qualities.

The officers elected for the ensuing year are:—President, Edward Bayfield, Esq., Charlottetown; Vice-President, D. P. Irving, M. P. P., Vernon River; Secretary, Peter McCourt, Charlottetown; Treasurer, Thomas F. Guard, Southport.

The fruit crop here this year was large, and is selling now for good prices.

FARMERS AND DAIRYMEN MEET.

The Farmers' and Dairymen's Associations held their semi-annual meeting at Middleton, Prince County, on the 8th of February. The attendance was not large, as the country roads were blocked up by a continuation of storms. The meeting opened with an address by the President, Walter Simpson, of Bay View, on "The Higher Education of Farmers." This address pointed out the necessity there was to-day for farmers to thoroughly understand the underlying principles of agriculture in order that they might be successful in their business and be able to build up their farms, which have been depleted of their fertility through bad agricultural practices. The speaker noted the great discoveries that had been made along agricultural lines of study during the last half of the 19th century, which enabled us to farm more intelligently and successfully. One notable discovery, that the clover plant possessed such powers in taking nitrogen from the atmosphere and storing it in the soil, the speaker said had added millions to the wealth of the agriculturists. A very interesting and instructive paper on the Argentine Republic as a competitor with Canada in the production of

meats and dairy produce was read by Capt. Joseph Read, M. P. P. Capt. Read was well acquainted with the country whose capabilities he was discussing, having visited it often. This paper gave us an idea of the vast resources of the Argentine and of the great rate those resources were being developed along lines of production of beef and butter, and the writer warned Canadians that if they did not keep the quality of their products up to the standard required by the English market, the Argentines would yet take the trade from us in butter and cheese. A very interesting discussion followed this paper, which brought out much information with regard to South American countries and their products.

A paper from J. S. Clark, Bay View, entitled, "Schools for the People," was principally a discussion of the Farmers' Institute system of Ontario, which the writer advocated for adoption here. This paper called for further information respecting the working of this system. Information on the matter was given by R. Robertson, Nappan; Prof. Macoun, Ottawa, and the President. After the subject had been discussed at some length, a resolution favoring the adoption of the Farmers' Institute system of Ontario was submitted and carried unanimously. The weather became so stormy in the evening that the other meetings had to be called off. Our new Commissioner of Agriculture is, we believe, at work on a scheme for the reorganization of our agricultural interests. In this he expects to have the help of Mr. F. W. Hodson, Live Stock Commissioner, who so successfully organized the farmers of Ontario.

WALTER SIMPSON.

Forty Years' Experience With an Apple Orchard.

To the Editor FARMER'S ADVOCATE:

SIR,—In looking back over a life of nearly seventy years, I think I may claim to have been generally successful in my undertakings; yet in some things I can see where I have made mistakes through a lack of knowledge. In no direction do I see this more clearly than in the raising of my orchard—for I have succeeded in raising one, in spite of some errors. But I now see that with my present knowledge of the subject I could make four dollars where I have made one under the same circumstances; but there is no going back over the journey of life—many things that we do we can do but once. What I have lost, therefore, cannot be regained by me. My experience, however, may be of use to others who now stand where I stood forty years ago.

Some may think that knowledge of this kind has become more general on this subject now than it was forty years ago. I hope so, and yet I notice as I pass through the country that many attempts are still ending in failure, and there is not one orchard in ten that I could not improve. First, let me say to anyone contemplating planting an orchard, remember the old adage: "Whatever is worth doing is worth doing well." Nowhere is this doctrine of more importance than in orcharding. Better put out six trees of the right kind, and plant them in the best possible manner, than sixty trees put out in a slipshod fashion, and in twenty years the former will be getting more fruit than the latter. About thirty years ago a neighbor said to me: "I see that you are succeeding well in raising an orchard. I wish you would give me a leaf out of your book, as I am about to try my hand at the same thing." "With all my heart," I replied. "Where do you purpose to have your orchard?" "Just here south of the house," he said. "That land is not naturally well adapted to the purpose," I said; "however, it could be made all right by extra labor; you will underdrain it, of course." "Oh, no," he said, "I think it will do without that." "Well," I said, "the next best thing would be to raise your lands in the center as high as you can with the plow, then get two loads of good rich earth from some other part of the farm and spread the two loads of earth over about twelve foot of space in every place where you intend to put a tree." "Oh," he said, "that will require a great deal of labor for one hundred trees; I could not well afford that." The land in question was a piece of hard clay without natural drainage. "Well," I said, "I only have one other bit of advice: don't buy your trees from a tree peddler." He said, "I have bought them from a peddler already." The sequel: My friend got his trees and planted them his own way, but he has no orchard worthy of the name to-day. I would not give him the product of two of my trees for all his crop in any one year.

1st. Let me say in choosing a spot for your orchard, choose the high land in preference to the low. Many erroneously think that because the low land has rich black earth that would be the place for the orchard. No! Lowlands are usually wet lands. Apple trees will withstand many hardships, but they will not grow with their roots more than half the time standing in water.

2nd. When you have chosen or made a good location, before you get your trees be sure to put a good reliable fence around it. In passing through the country it is surprising the number of failures you will see, evidently from this cause. One may easily imagine the vexation and disappointment of

the farmer who gets up in the morning and finds all his cattle and horses in his young orchard. I will not attempt to describe the destruction and devastation wrought. And were it not for the reflection, that is all the result of his own mismanagement and punishment, therefore I would say that such a man would be justified in using language that at any other time would be absolutely wicked. This will surely be the experience of the man who tries to raise an orchard without first insuring it by the protection of a good fence.

3rd. Your ground being fully prepared, your fence finished, go to the nursery for your trees. Make up your mind before you go that you are going to get good stout, healthy, home-grown trees, not less than four or five years old from the graft. If you do not find them at the first nursery, go elsewhere until you do find them. It will pay you better to go five hundred miles and pay twice as much for them than to buy much of the imported stuff from the "States." I have always had the best results by going to the place where the trees are growing and choosing my own trees from the row. You go to some nurseries and they will tell you their trees are all home-grown, but they had to clear the ground for another crop; hence you find them all in trenches. Take all such stories with a grain of salt. The objection to imported trees is they are too young and small; then being brought from the south of us, where it is warmer, many will die the first winter, and others become stunted. With such stuff you may expect to see your first specimens of fruit in from ten to fifteen years, while I have taken trees from home nurseries and have had a few welcome specimens of fruit the second year, and in seven years enough to supply my own wants, and after that, apples to sell.

4th. What kind of apples to get? Here I made my first great mistake. I went to many fruit shows to find out the handsomest and finest-flavored apples. The consequence was that more than half my trees were fall fruit. Beautiful, luscious fruit, but, alas! almost worthless to a farmer, who at that time of year cannot think of leaving the pressing work of the farm to go to the city with a few baskets of apples, while Gravensteins, Fall Pippins, St. Lawrence, Sweet Bough, Duchess, and many other sorts equally good, lie on the ground rotting or being fed to hogs. A market gardener might make something out of such varieties; a farmer don't need more than one or two trees of them for his own use. What kinds would you recommend? Northern Spy, King of Tompkins, Baldwin, Greening and English Golden Russet are the most profitable that I know of for Ontario.

One other mistake I made was in pruning. For a few years after my orchard came into bearing, I could sweep the stakes at many shows. Then I began to fall behind. My apples began to get smaller and smaller every year. I could not understand what was the matter. In the meantime I had started to graft over my fall fruit trees with winter varieties. Some of the new grafts came into bearing, and I was delighted to find that the fruit on the new growths was just as good as at the first, when the trees came into bearing. Also the mystery was solved as to what was the matter with my trees. I had been cutting out all the new growths, considering them as "suckers" and only a nuisance. But Dame Nature took her revenge for my stupidity. When I wanted new growths I found many of my trees much reduced in vitality; in fact, so discouraged were they by my cruel treatment of many years, they refused to supply any more new wood. I found the only way was to cut off about half the branches. That started them out afresh. But it was a costly lesson; many years had been wasted by my ignorance. My orchard has recovered from the effects of my treatment, and I am in a position to make money from it as never before. But my days are speedily drawing to a close; it is too late for me to profit by my past errors in this matter.

I would like to have said more on the important subject of "Pruning," but suffice it here to say that an apple tree should never be permitted to cover more than twenty-four feet of ground and never allowed to grow over sixteen feet high, and this would be far too much on poor land. The wood of such a tree would carry all the fruit that one set of roots can supply.

JOHN EDMONDS.
Halton Co., Ont.

Growing Early Potatoes.

It is not worth while growing potatoes in small gardens unless they can be had early and a maximum crop produced. To obtain these advantages, the earliest and best-cropping varieties must be used and planted in rich, fairly free soil, and thorough cultivation given till the ground is covered with vines, and it is also necessary to have the potatoes sprouted before planting. To sprout potatoes, place the required quantity of sound, medium-sized tubers on end in a warm, light room for from four to six weeks, and by that time strong, vigorous shoots will have started, and a day before planting cut the potatoes so that there will be one or two shoots in each set. The ground, which should have been deeply dug and heavily manured the previous autumn, should again be carefully dug over. No earthing-up is necessary, only carefully cultivate the ground between the rows and frequently rake the soil to prevent it crusting and keep it entirely free from weeds is all that is necessary to produce a full crop of smooth, sound potatoes.

POULTRY.

Hints on Turkey Raising.

BY THOS. F. SHORE.

Breeding and finishing turkeys for the English markets has become a profitable industry, our climate being particularly suitable, this country being the original home of the wild birds.

Prices have advanced each year, as more buyers have entered the field, proving that commission men are also sharing in the profits. Turkeys for the export trade are shipped early in December, and in order to obtain weights at this early date, only the best selection of breeding birds will produce turkeys of sufficient weight to give the most profitable results.

Of the six varieties named in the standard, the Bronze is the most suitable, and, therefore, is the most popular, not only because of its much greater size, but owing to this variety being more hardy and faster growing.

The turkey, it must be borne in mind, is of a semi-wild nature, and requires to be treated accordingly; and for this reason one should not expect to raise this breed to advantage where confined to as limited space as would be ample for any variety of chickens.

Although young turkeys are exceedingly delicate, the mature birds are particularly hardy, and I have found that, left to themselves to roost out of doors, entirely without shelter, they are not only more vigorous and healthy, but through this treatment the hen turkeys will lay earlier than those confined during the winter months. In this way there may be more trouble with the hens laying away from the buildings, but this may be guarded against by keeping watch on them when they first begin to seek for nests. The matings do not usually exceed five or six hens on one farm, although it is estimated that one male is sufficient for twelve or fifteen hens, but when breeding for commercial purposes is the object, and the latter number of hens kept, two male birds would be a safer allowance, these to be let out in their turn day about, thus insuring a larger percentage of fertile eggs.

As good turkey hens are valuable, the aim is to obtain as many eggs as possible from each hen; therefore, when she first becomes broody, by breaking up the nest she generally begins to lay a second batch at an early date, and for this reason the first eggs are often set under a common hen, but when this is done, and there are a number of turkey hens, one of these should be also set at the same date, that she may take charge of the young poults when these are sufficiently old to go out to range the fields, as young turkeys raised with a common hen appear to lose the faculty of foraging for themselves, and, therefore, seldom attain anything like the size of those brought up by their natural mother. This, too, is the chief cause of much of the disease in partly-grown poults, as they mope about the buildings where the ground is saturated with disease germs, while those that forage far afield escape this difficulty, attain plenty of vigor, and grow accordingly.

It will be found a great advantage to get the hen turkeys as tame and quiet as possible through the latter part of the winter and early spring, as by so doing they are much easier handled, both on the nest and while tending the young brood.

[TO BE CONTINUED.]

Middlesex Co., Ont.

A Season's Experience With the Incubator.

BY MRS. JOSEPH YUILL.

On the 5th of April I received a Cyprus Incubator with a capacity of 120 eggs. I raised the temperature to 102°, and filled it with eggs from our own flock, and they being large, it only held 112. The temperature went down to 90°; by the third day it was up to 102°, where we kept it as near as possible until the eggs commenced to pip, then we raised it gradually to 105°. All the chickens that came out on the 20th day were strong and vigorous, those that had to be helped out on the 21st day did not appear to be so strong, and I supposed were from eggs laid by hens which had laid all winter.

I then prepared the brooder. Had the temperature at 90°, covered the bottom an inch deep with sand, put in the chickens, and allowed them to remain for 12 hours without food; then steeped some bread in fresh milk, pressed out the milk, crumbled it down, and fed very sparingly for the first few days. Sometimes I mixed a little pinhead oatmeal with the bread. On the third day, I give an ounce fresh ground meat to every forty chickens, and seeing they were so fond of it, I fed them meat every day, increasing the quantity until they were big enough to look for earthworms. When they were almost three weeks old, I set the brooder where a pile of wood stood the preceding year, and every morning dug up a small piece of earth to allow them to pick a breakfast of earthworms. When they were two weeks old, I mixed 1 part oatmeal, 1 part shorts, 2 parts corn meal, and a little salt, scald with boiling water, let stand to cool, then crumbled fine and fed. I had some mangels which had kept very well. I put a few through the meat-grinder every day and fed them. By the time they were six weeks old, I fed cracked corn for supper, for breakfast 1 part barley to 3 parts oats. After they are eight weeks old, I fed them all the oats

they would eat at night, and that is all the food they got.

It being my first experience with an incubator, I set three hens; should the incubator fail, I thought I would have these to depend on. The incubator hatched in one day less than the hens. The chickens were all fed the same kind of food. By the time they were two weeks old, we could notice that the incubator chickens were growing faster than the hen chickens; the reason, I think, must be the regularity of the heat in the brooder.

On the 10th of August we shipped twenty-eight chickens to the Canada Produce Co., Toronto. In selecting them we found that the incubator chickens weighed about 1 pound 2 ounces each more than the hen chickens. Letter from Canada Produce Co.:

"It gives us great pleasure to report upon your shipment of spring chickens last August 11th. Though so long ago, and we have had many thousands since, still we can remember the arrival of your grateful, for we had expected something good, but the chickens were well above our best hopes. There were twenty-eight well-bred Plymouth Rocks, every one well fed and in good condition, and weighed 101 pounds, which at that season of the year was very good weight, some of them going 5 pounds each. We might say that these are the ideal birds, and the ones we want for export, and, moreover, the only kind it pays to raise and sell, for, as you know, we paid you 11 cents per pound live weight, or about 80 cents per pair, etc."

Yours sincerely, CANADA PRODUCE CO.

We hatched another incubatorful in May, and were still more successful. Out of 112 eggs we had 96 live chicks. In June we hatched another lot, and out of 112 eggs had 102 chicks. The June lot that hatched so well were eggs from hens that did not lay any all winter until the month of April.

We have had good demand for our surplus stock. We sold 16 pullets and 1 cockerel to Mr. Cockburn, of Smith's Falls, for fifty dollars, and all the rest of the good pullets and cockerels at one dollar each, for breeding purposes, also all that were not desirable birds for breeding purposes we fattened and sent to Montreal. We dressed them the same as the ones we sent to the British market last year. The pullets which were hatched on the 20th of April commenced to lay in October, and the eggs we did not sell for hatching purposes we sent to Montreal. The cost of coal oil for incubator and brooder for last year was 9 gallons at 22 cents per gallon. This year I started my incubator on January 12th, and will be pleased to let you know results later.

Lanark Co., Ont.

QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail, in cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

Veterinary.

IMPACTION OF THE RUMEN IN COW.

S. H. C., Colchester Co., N. S.:—"A fine cow, due to calve in May, took very sick last October. I was feeding her mangels-tops at the time. She was some swollen, had no passage for two days, and did not eat or drink for three or four days. I supposed she had indigestion, and gave her soda water and afterwards a dose of paint oil. She got better and was all right again, and doing nicely until the 15th of January, when she took sick again very much the same as before, went dry very suddenly. I have been feeding mangels and hay all winter. I gave her more oil, and in about three days she began to eat, but she did not seem very well, and February 2nd she was worse. I did not give her anything, and the third day some worms came from her, about twelve feet in three pieces, one of which was six feet long and as big around as my thumb. On the 5th she began to eat again, and still seems well and has a very good appetite."

"What was the matter with the cow? Is she likely to have a return of this sickness?"

"What treatment would you advise if she takes sick again?"

"What kind of worm was this? Was it tape-worm, and if so, was that six feet only one joint?"

[1. Your cow had impaction of the rumen (paunch, or first stomach), and she, of course, is liable to have a recurrence of the trouble. It is due to indigestible food, too much food, a change of food or water, etc., and in many cases to a weakness of the digestive organs.

2. The best treatment is to give a purgative of, say, 2 pounds Epsom salts, dissolved in a couple of quarts of warm water, and allow nothing to eat except a little bran mash until the purgative acts. If there be bloating, give a pint of raw linseed oil and 2 ounces oil of turpentine. Feed carefully for some time after an attack, and be very careful when making a change of food.

3. The worms you describe are peculiar; a tape-worm is thin and flat with fine segments or joints, several to the inch. You state that the six-foot-long worm was the size of your thumb. I have never seen nor heard of round worms of that length. Good treatment for either tape or round worms in cattle, is to starve the animal for about fifteen hours, then give, say, 3 ounces oil of turpentine in a pint of raw linseed oil, and in about twelve hours give a purgative.

J. H. REED, V. S.]

ENTERITIS IN MARE.

FARMER, Bruce Co., Ont.:—"Mare 10 years old took suddenly sick. Would roll up on her back and throw herself violently down. I drenched her with soda and ginger with a little turpentine. This did not seem to relieve her. I sent for a vet.; he gave her a dose and left two more to be given in every half hour, but before the first half hour was up she was dead. In about three hours after I opened her and found her bowels in a bloody, fluid-like state, with the lining black in spots. She was in a good healthy state. Did not work all winter. She was getting oat straw, chopped oats night and morning, with roots for noon. When let out for water night and morning, she was left out about half an hour, when she had access to a pea-straw stack, as she had all winter. 1. What was the trouble? 2. What caused it, and what should I have done for her?"

[1st. Your mare died from enteritis (inflammation of the bowels).

2nd. Changes of food, indigestible food, exposure to cold, water of poor quality, etc., etc., will cause it, and it frequently occurs without any well-marked cause. In your case it may have been the pea straw.

3rd. You did the best you could, but probably not soon enough, viz., sent for a veterinarian. The soda, ginger and turpentine you gave is a fairly good drench for acute indigestion when there is bloating, but rather injurious in cases of enteritis. When you were going to give anything it should have been opium, say 2 drs. of powdered opium or 2 ozs. laudanum, repeated every hour. The difficulty in nonprofessional men treating acute diseases is, they are not able to discriminate between diseases, especially intestinal diseases, as the symptoms of so many simulate each other, and the treatment should be different, and in all acute diseases it is better to call in skilled assistance at once. Enteritis is often fatal under the most skillful treatment.

J. H. REED, V. S.]

FISTULA IN HORSE'S SHOULDER.

SUBSCRIBER, Que.:—"Have a horse whose shoulder, in the line of the trace, was injured through heavy plowing the past season. It swelled up, broke out and became a running sore. All efforts I have made have failed to heal it. Have washed it regularly and applied creolin, but to no purpose. Am convinced the horse's blood requires treatment, as any scratch or bruise on any part of the body is very hard to heal. What treatment would you advise?"

[The continual discharge from your horse's shoulder is due to what is called a fistula (a fibrous tube running from the surface to a more or less deep-seated point and conveying the pus to the surface), and not to an altered condition of the blood. This fistula will have to be destroyed in order that the parts may heal. It will either have to be operated on by opening up with a knife to its bottom, dissecting the fibrous walls of pipe out, and then treating as an ordinary wound; or else by the use of caustics. A few grains (say 5 to 10, according to the depth of the fistula) of corrosive sublimate rolled up in tissue paper and inserted into the pipe will in a few days corrode the walls of the pipe, with a small amount of surrounding tissue, and you will be able to draw out with your fingers the corroded parts, probably about the thickness of your finger; then treat as an ordinary wound. You must, of course, be careful in using corrosive sublimate. It would probably be better to get a veterinarian to attend to it.

J. H. REED, V. S.]

WASHY HORSE.

SUBSCRIBER, Bruce Co., Ont.:—"Have horse five years old; scours bad when driving; is in good health every way. Oblige by giving a remedy in next issue?"

[Your's is what is called a washy horse, one with congenitally weak digestive organs. He can be helped by careful feeding. Do not feed any roots or sloppy food. Avoid, as far as possible, driving soon after feeding or allowing large quantities of water shortly before or during a journey. Better to feed in small quantities and often, and allow a little water often. You will probably find benefit from feeding a little ginger, commencing with a teaspoonful and gradually increasing to a tablespoonful twice daily in his oats (may be fed in dry oats). This drug will not injure his constitution even though you feed it constantly, and it is an excellent stomachic; that is, it tones the digestive glands of the stomach.

J. H. REED, V. S.]

CORNS ON HORSE'S FOOT.

WM. MAW, Ontario Co., Ont.:—"I have a horse which appears to have corns. Please let me know, through your paper, if there is any cure for it, and oblige?"

[Corns are bruises of the sensitive sole, caused usually by faulty shoeing, leaving shoes on too long, and bruises. Barefooted horses seldom have corns. The lameness increases as the animal is worked. If the shoe is removed, and the sole pared, the surface will be noticed to be reddened, and, in some cases, pus may be found, always a serious condition. Removal of the shoe, paring out of the seat of the corn, and a poultice to the foot, will invariably remove the lameness. Shoe carefully with a bar shoe, avoiding pressure on the afflicted parts. Pack the sole and space beneath the shoe with tow soaked with pine tar.]

CONTAGIOUS ABORTION IN COWS.

J. A., Stormont Co., Ont.:—"I have a stock of thirty-five cows, mostly all young, coming three years old. I have them tied around the neck with chains. They are beginning to drop their calves about two months before their time. I have had five of them already, some about as large as a cat, and the last two were quite large, with hair all on. Cows seem hearty before and after calving. They eat as if there was nothing wrong. I feed them ensilage and straw. They seem to milk well. I had two bulls with them last summer, and my stable is a new one, with a stone floor; but I keep plenty of straw under cows. These cows have never calved before, except one of them. What is the trouble, and what can I do to stop it?"

[You certainly have contagious abortion in your herd. This grave, annoying and costly trouble is due to a microbe, and it is a tedious and troublesome disease to deal with. Half-measures are of no use; a man must go about it with determination, and must be thorough in his methods. All aborted animals must be removed from the healthy, the fetuses and all discharges and excrement carefully removed and burned. The stalls in which the cows have stood must be thoroughly disinfected by washing very thoroughly with a solution of crude carbolic acid, say one part acid to forty parts water. Disinfection must be thorough. All cracks and crevices must be attended to in order to destroy all bacteria that may have gained lodgment there. It is good practice, after washing as above, to give the stable a good coat of lime wash (whitewash) applied hot. All stable utensils, pails, clothing, etc., that may have come in contact with the aborted animals or their excretions or discharges must also be disinfected. You will then need a solution of corrosive sublimate 1 part to 1,000 parts water. This solution in a case like yours will be used in large quantities, so it will be better to keep a good supply on hand. In cases of this kind I have usually had it by the barrelful. Add 1 1/2 drs. corrosive sublimate to a gallon of water, which will make about the proper strength. If any of the aborted cows have not expelled the afterbirth, it should be removed by hand if it has not decomposed by this time. This is a point that should be attended to. If the afterbirth be not expelled in 24 to 48 hours after abortion, it should be removed. The womb should be flushed out once daily with the solution, made lukewarm, until it (the womb) contracts so that the nozzle of the injection pump will not enter, after which a little of the solution should be injected into the vagina once daily and the lips of the vulva washed off with the same, until all discharge ceases. All aborted cows should also be given about twenty drops carbolic, shaken with a pint of water and given as a drench three times daily until all discharge ceases. The person who is attending the diseased animals should not come near the healthy, but if sufficient help be not on hand to allow of this, he must change his clothes and thoroughly disinfect his hands (by washing in the solution) after attending to the diseased, before going to the healthy. All pregnant animals that have in any way come in contact with the diseased should have a little of the solution injected into the vagina and the lips of the vulva bathed daily, in order to destroy any microbes that may be making their way into the genital organs to cause trouble. The aborted cows must not be allowed with the healthy ones until all discharges from vulva have ceased. Neither should an aborted cow be bred until nine to twelve months after abortion. The bull that has served these cows may be responsible for the trouble, as a cow will receive the infection from a bull, or vice versa; hence, the bulls you mention require attention. The sheath should be injected full of the solution already mentioned (of course, made lukewarm) about twice weekly for a couple of months, or longer, and not allowed to go to a cow in the meantime. As I stated at first, it is both troublesome and expensive to observe all these measures; but the disease is hard to eradicate from a herd, and if allowed to continue, a few calves may be reared, but comparatively very few. J. H. REED, V. S.]

FATALITY IN YOUNG PIGS.

E. McL.:—"We have a lot of pigs, about 2 months old, which have been fed well and have a good pen. Four of them have died very suddenly. They will eat all right at night and be dead in the morning. They seem to be all right. They have a terrible appetite, but look bad. They are not scoured. Their hair is very rough, and their ears lopped. They have been fed sweet milk and boiled potatoes, mixed with wheat and corn chop. For a while they were fed on oat chop. They have ashes, sulphur and salt all the time. They keep biting and eating the trough all the time and will soon have it eaten up."

[Not having given post-mortem appearances of the pigs that have died, and nothing definite as to ante-mortem symptoms, it is hard to arrive at the cause of death. I am of the opinion it is digestive trouble, and would advise a change of food, omitting, at all events, the potatoes for a time. Give each animal sufficient Epsom salts or raw linseed oil to cause purgation, say about 4 ozs. of either, and if in about 18 hours that has failed to act, repeat the dose. See that they get exercise, and a good clean, dry and warm place to sleep. After their bowels have been acted on as above, give a little of the following mixture daily in their food: Equal parts of Epsom salts, sulphur and powdered charcoal. The cause of them eating the troughs is probably due to a want of phosphates. This could be supplied by feeding cut or powdered bone or the phosphate of lime. J. H. REED, V. S.]

CANKER IN DOG'S EAR.

F. H., Peel Co., Ont.:—"Will you please inform me what is the matter with my dog? About every month his ears break out and run matter which smells bad. I am afraid that he will have to be killed."

[Canker is most frequently seen in water-dogs, spaniels of all kinds, although most breeds of dogs have been under our care for this very troublesome affection. It is a low type of inflammation of the wax glands of the internal ear, the swollen skin blocking up the opening, which at last breaks through periodically. Patience, care, regular dressing, and keeping the parts clean, will ensure a cure. If not, deafness results and the animal becomes incurable. Treatment: The first object is to reduce the inflammation of the internal ear and prevent the dog flapping the external ears by shaking his head. Well foment the external ears and wash clean with a solution of creolin; afterwards, apply the following lotion: *Recipe*—Acetate of lead, 2 ounces; tincture of opium, 1/2 ounce; glycerine, 2 ounces; distilled water, 6 ounces. Place a small quantity into the palm of the hand before placing in the dog's ear, so as to take the chill from the lotion before dropping into the animal's internal ear. DR. WM. MOLE, M. R. C. V. S.]

OBSTRUCTION OF TEAT IN COW.

A. L. S., Grey Co., Ont.:—"I have a cow which dropped her calf yesterday. In milking her this morning, one teat was closed entirely by what seems to be a growth about half-way up the teat in the passage. She was all right when dried up last fall. What is the cause and remedy?"

G. R. M., Renfrew Co., Ont.:—"Could you please let me know through your valuable paper the cause of those lumps which come in the passage of a cow's udder? I have two cows troubled in this way. They have one or more teats useless."

[The obstruction is caused by a little fibrous growth in the milk duct, and the only way in which a satisfactory cure can be effected is by an operation with an instrument called a concealed bistoury, in the hands of an expert. The milk can be drawn off with a teat siphon for a few days in order to prevent inflammation of the gland from engorgement with milk. This can be done until the quarter becomes inactive. I always consider it better to fit an animal with a blind quarter for the butcher, as, if bred, at the next calving the quarter will again trouble, and probably another teat become affected. J. H. REED, V. S.]

Miscellaneous.

PROBABLY ROUP.

NOVA SCOTIAN:—"My hens are troubled with sore eyes; they seem to close and the hens can hardly open them. Would you please answer through your paper the cause and cure of this disease?"

E. MCINTYRE, Elgin Co., Ont.:—"We would like to know, through your valuable paper, what is the matter with our hens. They are in nice condition, have a good pen, but they swell up around the eyes, generally one eye; the eye keeps frothing all the time, and later on closes up. Some of them have a lump on their nostril below the eye. We had some at a barn; they have died with the same thing. We have a turkey with the same thing. Is it unsafe to handle them?"

[From your mere description I cannot positively say what is the trouble, but it has one of the symptoms of roup. In any case, it would be well for you to isolate the affected birds, and to feed them mostly on soft food, in which there is at least 15 per cent. of raw onion that has been previously cut into small pieces. A little coal oil put up the nostril is usually a fair treatment. I would suggest that you get a package of Conkey's Roup Cure and use as per directions. If you cannot get this in your Province, it may be had from C. J. Daniels, 221 River St., Toronto. I think it would also be advisable to bathe the eyes of the affected birds with lukewarm salted water. If there are only one or two birds affected, your best plan is to kill them at once and burn the bodies. This would avoid any spread of the disease, in all probability. O. A. C., Guelph. W. R. GRAHAM.]

LEG WEAKNESS IN FOWL.

G. G. B., Lambton Co., Ont.:—"We have a rooster which has lost the use of his legs, although he seems bright enough in other ways and eats well. We thought first it was rheumatism, but we have had him in the furnace room for a week and he is not improving. The father of this bird was troubled slightly in the same way last winter, but got better and was all right until this fall, when he lost the use of his legs entirely: took diarrhea with it and died. Would it be constitutional weakness?"

[I am inclined to believe that the leg weakness is hereditary. Under no consideration whatever would I breed from a bird that did not stand straight on his legs, and, further, that the legs be placed well apart, and no indication whatever of the knees knocking together. Where you get a bird with legs well apart, knees straight, and a good, broad, well-curved beak, with a fairly active eye, you will in most cases have a bird that has a good constitution. This is one of the points that many breeders have previously overlooked. I think it would be useless for you to treat the bird, as it would in no case be advisable to breed from him. If you have no others in the flock affected, except the sire of this bird, it is a strong indication of hereditary weakness. W. R. GRAHAM.]

PASTURING SHEEP IN WINTER.

G. M., Perth Co., Ont.:—"When there comes a thaw this time of the year, is it advisable to let sheep out on the grass, or to keep them shut up in a yard?"

[Sheep enjoy liberty, and greatly relish a change of diet. Provided they are not allowed to graze the fields when hungry, there is no danger from turning them out; in fact, they will receive benefit from it.]

SHEEP FOR ONE HUNDRED ACRES.

M. V., Bruce Co., Ont.:—"As I have been a subscriber to your valuable paper for some years, and can say that I am highly pleased with it, and as I considered it worth many times its price, I would like to ask a few questions concerning sheep-raising:

"1. How many sheep (with their lambs) on 100 acres (pastured and wintered) of good clay loam land, where no other animals and where it is good pasture land?"

"2. What is the cheapest and best winter fodder for them?"

"3. Is peas cut a little on the green side, and fed unthreshed, good feed with a little clover hay?"

"4. Will an open shed facing the south and protected on the west with stacks do for the winter?"

"5. Are roots necessary, providing lambs do not come till the grass?"

"6. On such land, is Oxford Downs a profitable sheep?"

[1. The size of flock would depend on many circumstances, such as the condition of the soil, the nature of the pasture, the time of year the lambs would be sold, etc. While the farm may carry one hundred ewes and their lambs till well on in the following winter, we would not advise commencing with that number; in fact, seventy-five ewes would make a safe flock to begin with. It would be an easy matter to buy in a bunch of lambs in the fall if necessary, to consume surplus feed. A year or two with a flock of seventy-five ewes would teach some lessons valuable for one to know in handling a larger number. The flock could then be increased as desired.

2-3. A few roots fed all through the winter keep the flock in good thrift, but since they require much work to grow them, they can be done without, especially for the ewes. If the lambs are fattened in the winter, roots serve a good purpose in promoting growth. Clover hay is the best fodder we know of for sheep. If this were fed morning and evening, and peas cut on the green side and fed at noon, the sheep should do exceedingly well. A few oats with bran is suitable grain for sheep.

4. An open shed, closed draft-proof on the north side and east and west ends, will answer very well for a shelter for ewes that do not lamb till grass comes.

5. Provided ewes have access to good water, roots are not necessary. We would recommend a light feed of bran and oats daily for a month before the lambs come, but it is not a necessity. We have wintered ewes very successfully on unthreshed peas, fed sparingly twice a day, with no other feed.

6. Provided the Oxford Downs are well selected, having wide, deep bodies rather near the ground, and generally compact and vigorous, they should do well on this farm. It is well to remember in all sheep farming that the flock should for best results be divided into lots not over twenty-five or thirty together. They should have frequent changes of pasture; even from a better to a worse field is often advantageous.]

WHAT SORT OF ROOTS FOR COWS?

I. C. B., Middlesex Co., Ont.:—"As I shall have a number of cows milking next winter, I should like to know the best feed to give in way of roots. Can you give me a table showing the relative values as milk-producers of (1) turnips, (2) mangels, (3) sugar beets?"

[The estimated yield of digestible nutrients per acre in root crops grown at the Ontario Agricultural College is reported as follows:

	Tons.	Dry Matter. Lbs.	Protein. Lbs.	Carbo-hydrates. Lbs.	Fat. Lbs.
Turnips.....	20	4,560	400	3,240	80
Mangels.....	21	4,368	528	2,502	48
Sugar beets.....	17	4,500	374	3,468	34

Turnips are objectionable for milk cows, since they impart an objectionable flavor to the milk. Mangels are most watery of all roots, but their yield per acre is large, and the crop is easily harvested. Sugar beets grow largely below ground, and are, therefore, difficult to harvest. Of the three crops for dairy cows, mangels are most popular.]

WINDMILL AND TANK FOR WATERING LAWN.

A SUBSCRIBER, Lambton Co.:—"Would you kindly give me a plan, through your valuable paper, for watering a large lawn where there is no power? Would an elevated hogshead with a hose attached to bottom be preferable?"

[An elevated tank supplied with water by windmill power is frequently used to irrigate lawns and garden plots. An ordinary rubber hose with nozzle attached will serve well as a distributor of the water.]

ROOTS FOR STOCK—ROOT HOUSE WANTED.

D. C., Pontiac Co., Que.:—"1. Which is best to feed cattle to keep them in good shape and flesh, also to keep them growing: Swedish turnips, mangels, or sugar beets? What is a fair yield per acre of each?"

"2. Could you and some of the readers of the *Advocate* give me some good points on how to build a good root house; also the best kind of material to use in its construction? I could put it on a sidehill, where we could cover the sides with earth, about an acre from our stables. I have a building up to the end of the stables where I could keep the root pulper, and bring a sleigh load or two of roots from the house on the bank into it for using. How many bushels would a house 20x30 ft., 8 feet high, hold? Do you think I would do better to build it of cedar logs or brick? The bricks are worth here about \$5.00 per M. for soft and \$7.00 per M. for the good veneering ones. Kindly give me good clear advice on the building of one. We have no basement building here, all overground. If of brick, how many thick would it require to make a job that there would be no danger of frost getting in; also how to fix at the roof?"

[1. For growing cattle or sheep, our choice is turnips. In our experience, greater gains are made when turnips are fed than either mangels or sugar beets. For cows giving milk, beets or mangels are preferable, since they impart no bad flavor to the milk, as do turnips. Pigs also do better on beets and mangels than on turnips. They relish them more. A good average crop of the largest varieties of mangels is about 28 tons per acre; of sugar beets, 25 tons, and of turnips, 20 tons. The results would differ on varying soils.

2. The fact that D. C. has all his stables above ground is not sufficient reason why he should choose a bank a considerable distance from the stables in which to construct his root house. The fact is, very few stables are now built below the ground-level in the more advanced parts of Canada, but set right on top, with an elevation at the back, if convenient, for driving into the barn above. A few years ago the writer had occasion to build a root house adjoining a frame stable. The walls were constructed of 2- by 6-inch studding, boarded and batted outside and lined with inch lumber, with the six-inch space filled with dry sawdust. Above the root house was a loft with double floor, which was used for storing hay and straw. The six-inch space for sawdust opened into the loft, so that it could be refilled each fall or when necessary. Since then lumber has become much dearer, and as it is of only short duration, we would now construct such a building of cement or brick, the former preferred, and draw earth to bank it or line with studding and boards inside. Where a loft is not needed above, it would be well to put on a tight ceiling below the roof and cover it with several inches of sawdust to keep out frost. We leave this question for fellow farmers to deal with. A root house 30 by 20 by 8 feet would hold nearly 2,000 bushels of roots. We would point out, however, that 20 feet is too wide for a root house, since it contains too deep a bulk of roots to prevent heating. From 14 to 16 feet, or less, is the usual width of the modern root house in Ontario.]

STARTER IN FARM BUTTERMILKING.

BUTTERMAKER:—"I have seen a good deal from time to time in the *Advocate* and many other dairy papers about 'Starters for Cream,' but have never seen anything which I thought of practical use in a small dairy. Now we use a cream separator, and make about 40 lbs. of butter per week, and in cold weather often experience considerable difficulty in getting the cream ripe for churning without allowing it to stand too long and thus impair the flavor of the butter. If a starter could be used in so small a quantity, I would like you to inform me through your columns how I can procure the material and how it should be used, or would it be safe and practical?"

[A starter may consist of some sour cream, sour milk or buttermilk. The main point is, that it be of a clean, pleasant acid taste and smell. By sending ten cents to Prof. Harrison, Bacteriologist, O. A. C. Guelph, a small bottle of pure culture will be forwarded with directions how to use. A good starter is often made by filling a sterilized gem jar with clean, good milk (from a cow fresh in milk preferred) and holding at about 70° until perfect coagulation takes place. Skim off the top, stir well, and add to the sweet cream. If you are making fine-flavored butter, it is a good plan, and one I would recommend for general use, to take a pint of your sour cream, put it into the empty, well-cleaned cream can, and add to it your first skimming. In winter it is safe to add the separator cream so as to slightly raise the temperature, thus hastening the ripening process. Stir the cream well each time fresh is added. Without the aid of a starter a bitter flavor is apt to be found in butter made from cream held for a length of time at a low temperature. This is caused by the growth of a yeast plant. A starter may be successfully used in the farm dairy, and is of great benefit in assisting ripening and controlling flavors.

O. A. C. Dairy School.

DEFECTIVE BULL.

E. C., Ontario Co., Ont.:—"Please inform me if a bull with one testicle will prove favorable as a stock-getter?"

[As a rule, a bull showing but one testicle will prove a reasonably good stock-getter, but will be liable to leave some of his sons similarly deficient, though this does not always follow. Some leave none defective, others a small proportion.

DRAIN FROM BATHROOM—LICE ON CATTLE.

Z., Simcoe Co., Ont.:—"We were thinking of putting bathroom and water closet in house, about 110 feet higher than creek and about one-half mile from it. There is a gradual slope to it. Would the ordinary tile do for carrying away the sewage, and would you recommend putting it all the way to the creek, or would you advise digging a cess-pool? A number of cattle get water from the creek. Would the sewage affect the flowing water to a very great extent?"

"2. Is trying a woolen string saturated with blue ointment around the neck of a cow an effectual way of killing lice? A number of my neighbors have adopted it, and they claim, with good success."

[1. We have used bath and water closet in our house for eight years with entire satisfaction. Sewage is carried 300 yards in four-inch tile. One-third is sewer-pipe tile, and balance is common field tile, laid three feet deep in the ground, with thirty feet of fall. Sewage is deposited on the land 150 yards from creek. We find no bad effects from sewage, which from an ordinary farmhouse is not much. We are careful in not allowing too much paper used in the closet, and well flush out drain occasionally. One-half mile is too far to carry sewage, unless you have an abundant supply of water to keep the drain flushed out continuously, for in dry, warm weather the liquid would be absorbed before it reached half a mile, and the solid matter would dry up and clog the tile. If the soil is open or gravelly, the tile should be laid in cement, especially close to the house, to prevent water in wells from being contaminated.

M. RICHARDSON & SON, Haldimand Co., Ont.

2. We have little faith in the anointed-string treatment for lice. We have heard that the blue ointment catches the big lice on their way to the nose of the animal for a drink. Here is a field for the economic entomologist. For lice on cattle we would recommend thoroughly dusting the skin with Parisian Insect Powder, or washing the animals well with one or other of the dips advertised in our columns. They are reliable if applied as the manufacturers direct.]

COW PEAS FOR ONTARIO.

A. L., York Co., Ont.:—"A number of farmers would like to know more about cow peas. It seems to be taking the place largely, in the States, of clover for both feed and a fertilizer, being a surer crop and giving quicker returns. Do you know if it is suitable to the Ontario climate? I believe it had a trial at the Experimental Farm, but we do not know of its success. If it be possible to put full particulars in your valuable paper next issue, or as soon as you can, it would be information to your readers; giving the full benefits of the cow pea, and if the climate is suitable, and oblige."

[Cow peas are extensively grown in the Southern States as a green manure and for fodder. A few of the earlier kinds have been grown in the Northern States, and have been tested at Guelph Experiment Station during each of the past nine years. It has been found, however, that nearly all varieties are too late for the climate of Ontario, unless it is in some instances for producing a green crop for plowing under. They seldom grow to a height exceeding ten or twelve inches, although an average height of twenty-five inches was made by the Black Eye variety of cow peas in 1899. New Era and Whip-poor-Will proved to be earliest, but neither of these have produced an average of more than about one and one-half tons of green crop per acre during several years. In 1899, the first yield of mature peas was harvested, which was, however, a very light crop—a little over two bushels per acre. Mr. Zavitz says, in his 1899 report, that he is at present unable to recommend any of the varieties as being suitable for the Ontario climate.]

PROBABLY CANCER IN FOWLS.

H. G., Waterloo Co., Ont.:—"Several of my pullets some time ago became similarly affected, each with a swelling on the back of the neck. These swellings increased in size till about the size of an egg, and afterwards burst open, forming large black scabs which seemed to extend in to the bones. The scabs soon got dry and fell off, leaving the parts under much as any scab would. The birds are much emaciated, and may die. Can you name and explain the trouble and suggest treatment, in case any more become affected?"

[I am of the opinion that the disease is a cancer, as I have never met with anything of a similar nature except in cancer. Where you describe the disease as extending to the bone would be quite characteristic of a cancer. There would be no cure, and it would be advisable to kill and burn all affected birds. This is only a suggestion, and I may be entirely wrong, but the above is the opinion I have of the disease at the present time. I would be pleased to hear from Subscriber whether he has many birds infected, and if the disease is contagious or hereditary?

W. R. GRAHAM, Poultry Manager, O. A. C.]

WANTED. INFORMATION ABOUT TREAD POWERS.
W. McL., Durham Co., Ont.:—"I am more than pleased with the Xmas number of your valuable paper. I really believe that there are some issues that are worth the whole year's subscription. If you could give me any information about tread powers, I would be more than pleased."

[Will readers who are using tread powers write us about their good and bad points, also the best width of platform, and other points that will interest and help W. McL. and others who need a farm power.]

BEST FALL WHEAT FOR BREAD—DEMOCRAT SEED WANTED.

R. S., Durham Co., Ont.:—"1st. Can you tell me what is the best fall wheat for making bread flour grown in Ontario? What are the other characteristics of this particular kind with regard to soil, yield, etc.?"

"2nd. Where can I procure five bushels of pure, clean Democrat fall wheat for seed?"

[From the results of a number of baking tests we have made with flour from the more commonly grown fall wheats, I would place Michigan Amber first, both as for quality and quantity of bread; the old Scott wheat has given equally good results. The Treadwell and Soules have not been baked, but from other work done with them I think they will give as good, if not better, results than the Michigan Amber. A comparatively new variety, the Turkey Red, which has been grown on the College experimental plots for a number of years, and which the millers of Western Ontario imported in large quantities for seed purposes last fall, makes a flour which is undoubtedly much superior to any other winter variety grown in Ontario for bread-making purposes.

Regarding the question of yield of wheat per acre, the locality, the condition of the soil, and the season, all have such marked effect that it is difficult to make any exact comparison. It can, however, be taken as a general rule that the harder the wheat the weaker the straw and the lower the yield of grain per acre. Of course, there are exceptions to this rule, and it is the object of experimental work to find a wheat which will have all the good qualities combined in one. The Amber varieties are of medium hardness, and in many sections give nearly as heavy a yield as the softer varieties. The Turkey Red has been grown in but two sections of Ontario as yet, consequently we cannot speak positively as to what returns it will give per acre.

So far as characteristics of soils are concerned, I do not think we are yet in a position to say what kind of soils are best adapted to different varieties of wheat.

R. HARCOURT, Asst. Chemist.

O. A. C., Guelph.

2. Will those who have pure, clean Democrat seed for sale advertise it in the *FARMER'S ADVOCATE* and thus find a ready demand for it.]

ORCHARD GRASS AND CLOVER—ROUP IN TURKEYS—BOILED GRAIN FOR COWS.

W. K., Simcoe Co.:—"1. Would orchard grass and red clover combined produce a profitable hay crop, and would the orchard grass be a hindrance in taking off a second crop of the clover for seed?"

"2. I have a flock of turkeys affected with swelling on sides of head. Some are quite blind. Is this a serious disease, and can it be cured?"

"3. Is boiled grain preferable to chop for fattening old cows?"

"4. Will galvanized iron piping, under ground, rust in time?"

[1. Orchard grass and red clover make a better mixture for hay than clover and timothy, the ordinary mixture, as the two former head out early and at about the same dates. The orchard grass will not produce sufficient aftermath to stand in the way of a crop of clover seed; but we would not expect a large yield of clover seed with this mixture, as the orchard grass will occupy the most of the ground if sown as thickly as it should be.

2. The turkeys have roup. See treatment for that trouble in this issue.

3. Experiments have been repeatedly conducted to ascertain the value of boiling grain for cows, and the conclusions arrived at are that dry chopped grain, fed with roots, ensilage, or cut feed, give so little advantage in quantity of milk, with no improvement in quality, that the returns do not pay for the labor involved.

4. Galvanized iron piping is calculated to be rust-proof, which we believe to be the case when the piping and galvanizing are of good quality. What have readers to say?]

STACKING CORN FODDER—SOILING CROP.

B. R., Drummond Co., Que.:—"1. I want to raise a lot of fodder corn. Not having a silo, what is the best way to stack it in the field to prevent it freezing together? If put on barn floors it moulds, and the rats eat corn off."

"2. I have a field three miles from barn. I want to raise a crop to be cured for hay. What is the best material? Peas and oats are apt to lodge."

[1. The best method we know of for storing dry corn fodder is to stack it in small round stacks. First set a 16-foot pole in the ground at the center of where the stack is to stand. To build the stack, lay the sheaves or bundles of corn with the tops all to the center, passing the pole about two feet. Keep on building around and around until the pole is covered. The builder requires to keep hold of the pole with his left hand as the building proceeds, in order to keep from sliding off, as the top of the stack becomes very steep. When the corn is all on, tie the tops of the last layer firmly to the pole. Corn that is dried in the shock before being hauled will keep well in stacks of this sort till well on in March.

2. Millet and Hungarian grass in equal parts, sown about three pecks per acre, early in June, should yield a good bulk of suitable crop for hay. It should be mown before the seeds commence to fill in the heads, and cured in the same manner as ordinary hay.]

SOWING MILLET—SEEDING DOWN LAND— VARIETY OF OATS.

NEW SUBSCRIBER, Grey Co., Ont.:—"I have just received the first copies of the *ADVOCATE*, and am much pleased with them.

"1. Would you recommend the sowing of Japanese millet in this section (North Grey), and what kind of soil and cultivation does it require? Is it superior to the ordinary millet.

"2. I have a piece of low, swampy land near my buildings, which I intend to seed out this spring. Would you advise orchard grass and tall oat grass, instead of the usual clover and timothy, the land being in good condition for any crop?

"3. Would you consider the New Zealand oat superior to the Banner on very light soil?"

[1. Japanese millet should do well in North Grey, on rich, finely-cultivated, loamy soil. An excess of either clay or sand in the soil is objectionable. Millet plants feed near the surface, and therefore require plant-food that is easily accessible. It should not be sown before June 1st in North Grey, as warmth is necessary for its growth. The land should be prepared several weeks before seeding time and kept moist and loose by cultivation. Sow about 4 pecks of seed per acre. Japanese millet grows a coarser and heavier crop than common millet, and is therefore more troublesome to cure for hay.

2. Clover could not be expected to live long in low, swampy land, nor is timothy a first-rate crop to sow alone on such soil. Orchard grass is a luxuriant grower, that comes early in spring and lasts well throughout the season. It should therefore do well in this situation. Tall oat grass is a later grass, but a bulky yielder, and would do well in a mixture. We would recommend orchard grass, 6 pounds; tall oat grass, 4 pounds, and timothy, 3 pounds per acre.

3. The New Zealand variety of oats is somewhat later than the Banner and produces a grain much lighter per measured bushel. It produces greater bulk of straw than the Banner, and may on that account have the preference for light land. We would recommend the Siberian sort before either of them, as it grows a heavy yield of both straw and grain.]

MORE BARN PLANS WANTED.

N. McP., Ontario Co., Ont.:—"Would you kindly give illustration of stables of bank barn, 40 feet square, and showing best location for silo?"

[Will some reader who has a 40x40-foot barn, or one nearly that size, kindly send us a plan of it, with any suggestions for improvement?]

MARKETS.

FARM GOSSIP.

A New Binder Twine Factory.

At a largely-attended meeting, called at Chatham, Ont., by Mayor Sulman, the promoters of our proposed binder twine factory fully explained their position, intentions, etc. It was decided to start a factory at once, under the name of "The Chatham Binder Twine Co., Ltd." The provisional directors of the company are: President, W. J. Wilson, ex-Reeve of Harwich; Vice-Pres., D. Hutchison, a retired farmer; Sec.-Treas., A. Smith; Directors—A. McKay, Sam'l Bullis, and L. Howard. They are all men of good business ability. The capital stock is to be \$125,000, divided into 12,500 shares of \$10 each. When \$25,000 has been subscribed, the company will apply for a charter and make a call of 25 per cent. upon the shareholders for incidental expenses and part payment upon the machinery. When \$40,000 has been subscribed, a payment of \$5,000 will be made upon the machinery, upon which there will be no more payments made until the plant is finished and found satisfactory by the Board of Directors. As soon as the necessary capital is subscribed, building operations will begin at once, and the building will be ready for machinery by 15th May and completed by June 15th. The capacity of the factory will be 3 tons per day of 10 hours, with the machinery heavy enough to increase the output to 5 tons per day. Canadian firms have the contract for all machinery except the breakers, ballers and spinners. The factory will employ about fifty hands in the beginning, mostly boys and girls. The \$25,000 required to obtain the charter has been subscribed in Chatham and a small radius of surrounding country, and as the charter is for Essex, Kent and Lambton counties, there is no doubt that the balance, \$100,000, will be easily obtained in that much territory. It is to be sincerely hoped that the new industry will prove a success, as the three counties named above are heavy users of twine, and by owning their own factory, farmers should be able to get twine at bottom prices. W. A. McGEACHY.

Perth County, Ont.

A company in St. Mary's are preparing to sink a gas well, so we expect soon to have fire and light without work. Most kinds of stock are doing well, and there seems to be a better supply of fat cattle than usual, with the price varying from 4c. to 5c. There are few auction sales billed yet, but most of those who are selling intend to "go West," and their land is generally acquired by some neighbor, who seeds down and stocks it. Consequently, the tendency seems rather to extensive, rather than intensive, farming here just now. Following are the market quotations: Wheat, 62c. to 64c.; barley, 30c. to 35c.; oats, 26c. to 27c.; peas, 57c.; potatoes, per bag, 35c. to 50c.; hay, per ton, \$7 to \$8; chop, \$17 to \$20; bran, \$14; shorts, \$16; roller flour, per cwt., \$1.85 to \$2.00; Manitoba flour, \$2.25 to \$2.50; butter, 15c. to 16c.; eggs, per doz., 15c.; chickens, per lb., 5c. to 6c.; ducks, 6c. to 7c.; geese, 4c. to 5c.; turkeys, 8c. to 9c.; hides, per 100 lbs., \$5 to \$5.50; live hogs, \$6.10; hard wood, \$4.50 to \$5.00 per cord; soft wood, \$2 to \$2.75. Feb. 23rd. J. H. B.

Over a Dollar Per Cwt. for Milk.

We have been keeping from 20 to 30 cows. We have no silo; I think we are behind in that. We feed cut corn and straw, pulped turnips, bran and hay in winter. We send our milk to the creamery, and it is manufactured into butter and skimmed cheese, which is dried and ground up in Woodstock, and prepared into wood filling. From September we received over \$1 per cwt. for our milk. We turn our cows out once a day for water, they are out from 20 to 30 minutes. We are raising chiefly our own cows, which are of the Durham grade. We have one extra fine Durham bull rising two year old. Oxford Co., Ont. F. HUNSLEY.

P. E. Island.

There has been a very heavy snowfall here this winter, and no thaws. Snow is a foot deep all over the fields. There has been a very heavy coat of ice on the trees for the last two weeks. Fruit trees will be considerably injured, it is feared. It is impossible to work in the woods, on account of the ice on the trees. Coal is exceedingly scarce here, and worth about double what it was last year. The farmers are, in consequence, trying to get wood for fuel, and are drawing it a long distance. Hay is scarce and high in price, it being worth about \$11 per ton. Straw is also scarce, as much of it was destroyed by the bad weather last harvest. A good root crop and cheap grain will help the stockmen through. Our Provincial Government have created a new officer, whom they call "Commissioner of Agriculture," and are going to develop a new and vigorous agricultural policy. Very little has ever been done here by our local authorities in the encouragement of this our only industry, but our people are waking up and are demanding education in their business. The Government, in response to this demand, are considering the organizing of Farmers' Institutes after the Ontario plan, which has been so successful and useful in that Province. We hope for great improvement along agricultural lines in the near future if this policy is carried out as it has been in Ontario, altogether apart from politics.

The make of butter will not be so large here as was anticipated, on account of shortage in hay. Some factories have closed, and will not open again till spring. The dairy stations have all published their statements of the cheese business of the last season. The average price received for cheese during the season was about 10.10 cents, and the net average per hundred pounds for milk to patrons ranged from 76 to 80 cents. The Stanley Bridge Dairying Co., with which the writer is connected, received 2,529,586 pounds of milk, and made of it 236,549 pounds of cheese, making a pound of cheese out of 10.69 pounds of milk. The average of butter-fat in the milk was 3.67, and the cost per 100 pounds to the patron for manufacturing and milk-drawing altogether was \$1.60, while shareholders in the Company received a dividend of 8 per cent. This, we think, is cheap manufacturing, as it includes an expenditure for enlarging the factory, as well as adding to the plant. A lot of beef and pork in carcass has been shipped to the Sydney (C. B.) market, but during the last 20 days none has gone forward, as both of our winter steamers are stopped by the ice-pack in the Straits. W. S. February 19th, 1901.

A Good Farm Well Conducted.

SIR,—We keep from twelve to fifteen head of fairly well bred Durham grades. Our plan has been to pasture in the fields in the summer and feed plentifully in the winter on straw, hay, roots, mangels and turnips, with chop and mill feed to those that are milking in the winter. We have a cheese and butter factory near our place that runs the year 'round, so am not very particular as to what time of the year the cows come in, but prefer the spring. Nearly all our cattle (about thirty head) have descended from one good Durham grade cow that I

more were some other sources of income. We sold about \$100 worth of wood off the farm, and I have done other work off the farm which has helped to swell our income. WILLIAM SCHELL. Oxford Co., Ont.

Chatty Stock Letter from Chicago.

FROM OUR OWN CORRESPONDENT.

Top prices for various grades of stock, with comparisons, were:

	Past Week.	Previous Week.	Year Ago.
Cattle.			
1500 lbs. up.....	\$ 5 65	\$ 5 95	\$ 5 75
1350 to 1500 lbs.....	5 80	5 90	5 75
1200 to 1350 lbs.....	5 30	6 00	5 75
1050 to 1200 lbs.....	4 75	6 00	5 30
900 to 1050 lbs.....	4 65	5 50	4 90
Feeders.....	4 50	4 65	4 90
Bulls.....	4 50	4 50	4 50
Calves.....	6 50	6 50	8 00
Hogs.			
Mixed and butchers....	5 57½	5 47½	5 10
Heavy.....	5 60	5 50	5 10
Light.....	5 55	5 45	4 97½
Sheep.			
Fat wethers.....	5 00	4 50	5 80
Ewes.....	4 05	4 00	5 30
Yearlings.....	5 00	5 15	6 40
Native lambs.....	5 25	5 30	7 25
Western lambs.....	5 20	5 30	7 10

The situation in the cattle market is a very peculiar one. There are not enough good cattle to fill the demand. There have been orders here for two weeks for prime cattle, with buyers more than willing to pay up to \$6, and no cattle good enough. At the same time the market has been flooded with the half-fat and low-grade cattle, that were of little value as marketers. Many of these cattle, however, would be very valuable in the feed lots.

The feeling is that a good many unfinished cattle are being needlessly sacrificed, and that there will be a period in a few weeks after the dumping is pretty well over when the dumpers will feel like hiring a kicking-ma to be that corn is too high to feed, and yet experienced men say that the most money they ever made in feeding was when corn was worth a good deal more.

Corn is not high enough to justify the present slaughter of short-fed cattle. The hog market is very strong, and now that prices have broken over the \$5.50 point the bulls feel stronger than ever.

The argument is advanced that the holders who wanted \$5 in the country have mostly let go and that a majority of those who are left have higher ideas. The fact that late receipts, who are left have higher ideas. The fact that late receipts, the largest of the year, were taken at the highest average price since last April, \$5.40, together with the fact that the Eastern shipping demand is materially increasing, were among the bullish arguments.

The sheep market is the least satisfactory. Sheep are selling at a little better prices, and so are lambs,

but as compared with a year ago there is a great decline. This, in the face of light feeding, except in Colorado, and the great export demand, is a little puzzling to the trade.

A man sold some 66-lb. lambs at \$5.15, and had some 81-lb. lambs that he thought ought to have been worth 25c. more, that were harder to sell at the same price.

Exporters are buying a good many sheep at \$4.40 to \$4.60, lambs at \$5 and yearlings at \$4.50 to \$4.75. They are having delivered to them, on contracts made some time ago, sheep at \$4.75 to \$5.00, and yearlings lately contracted at \$4.75.

Toronto Markets.

The outside buyers sustained the markets of the last two weeks. Montreal has taken a large number of the poor class of cattle, but the prices are positively worse than a month ago. Hogs again advanced to \$6.75 per cwt., and steady.

Export Cattle.—Very little change in the prices of export cattle, the bulk selling from \$4.50 to \$4.80, while \$5 was the top price paid to-day. Choice loads of export cattle at from \$4.50 to \$4.80 per cwt. Export light, at from \$4.25 to \$4.50 per cwt. Mr. Joseph Gould bought two loads of export cattle, 1,340 lbs. average, at \$5 per cwt.; these were the pick of the market. Messrs. Lunness & Halligan received seven carloads of Chicago cattle for export; 117 very choice steers were unloaded and rested previous to shipment. Mr. A. Zollner bought three loads of exporters at \$4.90 per cwt.

Butchers' Cattle.—Choice butchers' cattle sold well; those weighing from 1,000 to 1,100 lbs. were in good request; equal in quality to exporters, sold at \$4.25 to \$4.35 per cwt. Good butchers' cattle are worth \$3.50 to \$5.65 per cwt. Common to inferior rough cows sold at \$2.25 to \$2.50 per cwt. Too many poor and medium grade cattle were on sale; they dragged and finally sold at prices scarcely sufficient to pay freight and expenses; many left over from last Tuesday made the market slow.

Bulls.—For export bulls there was a good demand; the supply small; prices firmer, at from \$3.85 to \$4.25 per cwt. Light export bulls sold at \$3.40 to \$3.60. Yearling bulls sold at from \$2 to \$2.25 per cwt., average weights 600 to 900 lbs.

Feeders.—Good well-bred steers weighing from 1,000 to 1,250 lbs. are in demand; the best sold to-day at \$3.60 to \$3.80 per cwt. Poor quality same weights, sold down to \$3.40 per cwt. Light steers weighing 800 lbs. sold at from \$3 to \$3.35 per cwt. Mr. John Thompson, of Cannington, sold eight steers, 1,050 lbs. each, at \$3.70 per cwt.

Stockers.—Yearling steers, 500 to 800 lbs. average, sold at \$3 to \$3.25. Off colors, black, white, and those of inferior quality, sold at \$2 to \$2.25 per cwt. The firm of Messrs. Whaley, Royce & Co., of Buffalo, have opened an office on this market as cattle exporters.

Sheep.—The run of sheep was small, the demand good, and prices a little firmer, all on offer taken at the quotations: \$3 to \$3.50 for ewes, and \$2.50 to \$3 for bucks.

Lambs.—Grain-fed spring lambs sold at \$4.25 to \$4.75 per cwt. Barnyard lambs were 25c. lower, at from \$3.75 to \$4.25 per cwt. Mr. Wesley Dunn bought 400 lambs at an average of \$4.65 per cwt.

Calves.—Twenty calves at from \$3 to \$10 per head. Choice veal calves in demand, but the poor-quality scrubs keep the prices at a very low figure; only one calf reached \$10. There is a steady demand for good veal calves.

Milk Cows.—About twelve milk cows on offer, of very poor quality, at prices ranging from \$25 to \$45 per head.

Hogs.—The continued shortage of hogs keeps up the price; drovers report hogs scarce from all districts. As foreshadowed in our last report, the price advanced very rapidly in two weeks—50c. per cwt. Prospects are good for a further advance, from \$6.50 to \$6.75, for next two weeks. Best select bacon hogs, not less than 160 to 200 lbs. top weight, are now quoted at \$6.75 per cwt.; light and thick fat at \$6.25 per cwt.

Unculled car lots, unfed or watered, are quoted at \$6.60 per cwt. We have not seen many crippled hogs this season, no doubt the improved methods of feeding and exercise have been the cause of their absence. About 1,500 on offer; 6,000 the week's supply. The market is steady and prospects good for next week.

Dressed Hogs.—Over 250 dressed hogs sold at \$8.25 to \$8.75 per cwt. Mr. Wm. Harris, Jr., purchased 500 dressed hogs at an average of \$8.50 per cwt. Several small lots of bright porkers sold to butchers at \$8.75 per cwt.

Hay.—The improvement in the roads and milder weather induced a large attendance of farmers on the hay market. Twenty-five loads sold at \$14 to \$15 per ton; baled hay, \$10 to \$10.50 for No. 1, and \$9.50 for No. 2, in car lots on track.

Straw in demand and price higher, at \$9.50 per ton; baled straw, \$5 per ton, in car lots on track.

Wheat.—1,000 bushels of wheat sold at 69c. for white, 68c. for red, and 65c. for goose wheat per bushel.

Barley.—Over 400 bushels sold at 46c. to 47c. per bushel; price steady.

Oats.—About 300 bushels sold at 33c. to 33½c. per bushel.

Butter.—The offerings from farmers' wagons were large; the demand for choice butter very keen. Choice pound rolls sold readily at 22c. to 23c. per lb.; other sorts at prices ranging from 18c. to 20c. per lb. An old lady informed us the cream won't churn in cold weather. Our reply was: Had she ever asked the reason of the *FARMER'S ADVOCATE* newspaper? "The butter trade in Manchester is very brisk; all colonial stocks cleared up; the market closed clean and firm, with a good demand for shipment. Under present demand and the absence of Canadian supplies, United States exports of second-ary sorts are stimulated. This is much to be regretted, as the home consumption is excellent at full prices, with no supplies in sight. The immediate outlook is one of good trade, with firmness for the coming season."—*Manchester Courier.*

Eggs.—In better supply; demand good; prices easy, at 22c. to 25c. per dozen; strictly new-laid, fresh eggs at 25c. per dozen.

Cheese.—The lowering of values will cause increased demand. The trade quotes 10c. to 10½c. for choice makes. Dealers will not report as to stocks in hand, which are supposed to be large.

Poultry.—Deliveries fair; prices fair on all good quality: turkeys, 11c. to 13c. per lb.; geese, 8c. to 9c. per lb.; ducks, 80c. to \$1 per pair; chickens, 80c. to 90c. per pair.

Dressed Beef.—Beef fore quarters, \$4.25 to \$4.50 per cwt.; beef hind quarters, \$6 to \$7.50 per cwt.; lamb, per lb., 7½c. to 8c.; mutton, per lb., 5c. to 7c.; veal, per cwt., \$7.50.

	Comparative prices to-day.	2 weeks ago.	Same date last year.
	Feb. 26, 1901.	Feb. 12, 1901.	Feb. 26, 1900.
Export cattle.....	\$ 5 00	\$ 5 00	\$ 5 00
Butchers' cattle.....	4 40	4 40	4 80
Bulls.....	4 50	4 25	4 40
Stockers.....	3 15	3 25	3 50
Feeders.....	4 25	3 90	4 00
Sheep.....	3 50	3 25	3 75
Hogs.....	6 75	6 25	5 37½
Lambs, each.....	4 75	4 50	5 50
Milk cows.....	50 00	48 00	45 00

Seeds.—Alsike, choice, \$6.80 per bush.; alsike, No. 2, \$6.25 per bush.; red clover, \$6.60 per bush.; timothy, \$2.25 per bush.

Hides.—No. 1 green, per lb., 7½c.; No. 1 steers, per lb., 8½c.; cured, per lb., 8½c.; calfskins, per lb., 8c.; sheepskins, each \$1.

Wool.—Fleece, per lb., 16c.; unwashed, per lb., 10c.; pulled, per lb., 18c.; pulled, extra, per lb., 21c.

Dressed Beef for England.

On Monday, Feb. 25th, Messrs. Wm. Harris & Co., of Toronto, sent off their initial shipment of Canadian dressed beef to England, consisting of four carloads, representing 164 head of cattle, and was consigned to W. R. Fletcher & Co., one of the largest dealers of meat in Britain. The shipment went over the G. T. R. to St. John, N. B., where it would be placed in the cold-air compartments on the steamer, Manchester City. Mr. Thos. Hays, who has been here representing Messrs. Fletcher, was delighted with the quality of the beef, which he pronounces superior to Argentine meat and equal to Western States beef. He thinks 10,000 quarters per week could be sold if produced.



THE BRAKEMAN AT CHURCH.

The Burlington *Hawkeye* gets off the following good thing on "The Brakeman at Church":

On the road once more, with Lebanon fading away in the distance, the fat passenger drumming idly on the window-pane, the cross passenger sound asleep, and the tall, thin passenger reading "Gen. Grant's Tour Around the World." To me comes the brakeman, and seating himself on the arm of the seat, says:

"I went to church yesterday."
 "Yes?" I said, with that interested inflection that asks for more. "And what church did you attend?"
 "Which do you guess?" he asked.
 "Some union mission church," I hazarded.
 "No," he said, "I don't like to run on these branch roads very much. I don't often go to church, and when I do, I want to run on the main line, where your run is regular and you go on schedule time, and don't have to wait on connections. I don't like to run on a branch. Good enough, but I don't like it."
 "Episcopal?" I guessed.

"Limited express," he said, "all palace cars, and two dollars extra for a seat, fast time, and only stop at the big stations. Nice line, but too exhaustive for a brakeman. All trainmen in uniform, conductor's punch and lantern silver plated, and no train boys allowed. Then, the passengers are allowed to talk back to the conductor, and it makes them too free and easy. No, I couldn't stand the palace cars. Rich road, though. Don't often hear of a receiver being appointed for that line. Some mighty nice people travel on it, too."
 "Universalist?" I suggested.

"Broad gauge," said the brakeman, "does too much complimentary business. Everybody travels on a pass. Conductor doesn't get a fare once in fifty miles. Stops at all flag stations, and won't run into anything but a union depot. No smoking car on the train. Train orders are rather vague, though, and the trainmen don't get along well with the passengers. No, I don't go to the Universalist, though I know some awfully good men who run on that road."
 "Presbyterian?" I asked.

"Narrow gauge, eh?" said the brakeman, "pretty track, straight as a rule; tunnel right through a mountain rather than go around it; spirit-level grade; passengers have to show their tickets before they get on the train. Mighty strict road, but the cars are a little narrow; have to sit one in a seat and no room in the aisle to dance. Then there is no stop-over tickets allowed; got to go straight through to the station you're ticketed for, or you can't get on at all. When the car's full, no extra coaches; cars are built at the shops to hold just so many, and nobody else allowed on. But you don't often hear of an accident on that road. It's run right up to the rules."
 "Maybe you joined the Free-Thinkers?" I said.

"Scrub road," said the brakeman, "dirt road-bed and no ballast, no time-card and no train despatcher. All trains run wild, and every engineer makes his own time, just as he pleases. Smoke if you want to; kind of a go-as-you-please road. Too many side tracks, and every switch wide open all the time, with the switchman sound asleep and the target-lamp dead out. Get on as you please and off when you want to. Don't have to show your tickets and the conductor isn't expected to do anything but amuse the passengers. No, sir, I was offered a pass, but I don't like the line. I don't like to travel on a road that has no terminus. Do you know, sir, I asked a division superintendent where that road run to, and he said he hoped to die if he knew. I asked him if the general superintendent could tell me, and he said he didn't believe they had a general superintendent, and if they had, he didn't know anything more about the road than the passengers. I asked him who he reported to, and he said, 'Nobody.' I asked a conductor who he got his orders from, and he said he 'didn't take orders from any living man or dead ghost.' And when I asked the engineer who he got his orders from, he said 'he'd like to see anybody give him orders; he'd run that train to suit himself, or he'd run her in the ditch.' Now you see, sir, I'm a railroad man, and I don't care to run on a road that has no time, nor makes no connections, runs nowhere, and has no superintendent. It may be all right, but I've railroaded too long to understand it."

"Maybe you went to the Congregational Church?" I said.
 "Popular road," said the brakeman, "an old road, too; one of the very oldest in this country. Good road-bed and comfortable cars. Well-managed road, too; directors don't interfere with division superintendents and train orders. Roads mighty popular, but it's pretty independent, too. Yes, didn't one of the division superintendents down East discontinue one of the oldest stations on this line two or three years ago? But it's a mighty pleasant road to travel on. Always has such a splendid class of passengers."
 "Did you try the Methodist?" I said.

"Now you're shouting!" he said with some enthusiasm.
 "Nice road, eh? Fast time and plenty of passengers. Engines carry a power of steam, and don't you forget it; steam gauge shows a hundred and enough all the time. Lively road; when the conductor shouts 'all aboard,' you can hear him to the next station. Every train-light shines like a headlight. Stop-over checks are given on all through tickets; passenger can drop off the train as often as he likes, do the station two or three times and hop on the next revival train that comes thundering along. Good, whole-souled, companionable conductors; ain't a road in the country where the passengers feel more at home. No passes; every passenger pays full traffic rates for his ticket. Wesleyan air-brakes on all trains, too; pretty safe road, but I didn't ride over it yesterday."
 "Perhaps you tried the Baptist?" I guessed once more.

"Ah! ah!" said the brakeman, "she's a daisy, ain't she? River road, beautiful curves; sweeps around anything to keep close to the river, but it's all steel rail and rock ballast, single track all the way and not a side track from the roundhouse to the terminus. It takes a heap of water to run it through; double tanks at every station, and there isn't an engine in the shops that can pull a pound or run a mile with less than two gauges. But it runs through a lovely country; these river roads always do; river on one side and hills on the other, and it's a steady climb up the grade all the way till the run ends where the fountainhead of the river begins. Yes, sir, I'll take the river road every time for a lovely trip, sure connections and good time, and no prairie dust blowing in at the windows. And yesterday, when the conductor came around for the tickets with a little basket punch, I didn't ask him to pass me; but I paid my fare like a little man; twenty-five cents for an hour's run and a little concert by the passengers assembled. I tell you, Pilgrim, you take the river and when you want —"
 But just here the loud whistle from the engine announced a station and the brakeman hurried to the door shouting:—
 "Zionsville! This train makes no stops between here and Indianapolis!"—Robert J. Burdette.

A Scottish farmer one morning, while crossing the farmyard, called out to the cow-boy—"Jock, come awa in for your parritch; the fleas are a' drownin' in the milk." "Nae fear o' that," says Jock, "they'll a' wade through." "What? Dae ye mean tae say ye dinna get enouch milk?" "On ay, plenty for the parritch."

A Woman's Answer.

Do you know you have asked for the costliest thing
 Ever made by Hand above—
 A woman's heart, and a woman's life,
 And a woman's wonderful love?
 Do you know you have asked for this priceless thing
 As a child might have asked for a toy—
 Demanding what others died to win,
 With the reckless dash of a boy?

You have written my lessons of duty out,
 Man-like you have questioned me;
 Now stand at the bar of my woman's soul
 Until I have questioned thee!
 You require your bread shall be always good,
 Your socks and your shirts should be whole;
 I require your heart shall be as true as God's stars,
 And pure as heaven your soul!

You require a cook for your mutton and beef—
 I require a far better thing;
 A seamstress you're wanting for stockings and shirt—
 I want a man and a king!
 A king for the beautiful realm called home.
 And a man that the Maker, God,
 Shall look upon as he did the first,
 And say, it is very good!

I am fair and young, but the rose will fade
 From the soft young cheek one day;
 Will you love me then 'mid the falling leaves
 As you did 'mid the bloom of May?
 Is your heart an ocean so strong and deep
 I may launch my all on its tide?
 A loving woman finds heaven or hell
 On the day she is made a bride!

I require all things that are good and true,
 All things that a man should be;
 If you give this all, I would stake my life
 To be all you demand of me.
 If you cannot do this—a laundress, or cook,
 You can hire with little to pay;
 But a woman's heart and a woman's life
 Are not to be won that way.

—E. B. Browning.

THE CHILDREN'S CORNER.

A Mute Appeal.

Photographed by Mr. W. M. Donnelly, Fort Collins.

This picture has been sent to us—
 A snap-shot true to life—
 For cats and dogs, as we may see,
 Too often find they can't agree.
 Except in aimless strife.

But pussy gets the best of it,
 Nine cases out of ten,
 For she can scratch and growl and swear,
 'Till no poor dog would ever dare
 To rouse her wrath again.

Pathetic is this mute appeal,
 Yet it is wasted quite.
 The beggar with uplifted paws
 Can never change the feline laws
 Which claim that "Might is right."

C. D.

PRIZE STORY—CLASS IV.

Two Little Rogues.

The best place to go for a good time, is Grandma's. Robby and Helen went to their grandma's last summer. She lives on a farm, so they tumbled on the hay, gathered apples and cracked butternuts. Sometimes they got into mischief, and came into the house covered with bruises and scratches. One day they were in the orchard, and Robby saw the girl bring out the churn and set it up to dry against the side of the house. Up jumped Robby. "Oh, I've thought of such fun, Helen," said he. "Let's put kitty in the churn, and roll her down that little hill at the side of the house. You wait here while I get my little pig grandma gave me."

They put the pig and kitten into the churn. Kitty tried to climb up the side and had to be pushed down three times before they could get the cover on. They tipped the churn over, and began to roll it down the hill.

Poor little kitty! Poor little piggy! How they did squeal and mew as they were rolled over and over, shut up in that churn! But just as they got to the bottom of the hill the cover came off. Kitty flew away with a bound, and piggy ran off with a little squeal. Robby and Helen laughed till their little faces were red. Then they carried up the churn all again. But kitty and piggy could

not be coaxed back, and it was no fun to roll the churn with nothing in it. What was to be done?

Then Helen said, "Oh, Wobby, oo det in and me'll woll oo down!"

Robby said that would be "heaps of fun!" So he crept into the churn, feet first, with his head out so as to see the fun. Alas, for Robby! he had enough fun for that day. It was very nice until he got to the hill and began to roll down. Jolt and bump! Jolt and bump! He thought he never would stop, but at last he got to the bottom. He crawled out, but was too dizzy to stand. Everything seemed to go round and round, and his face turned so very white that little Helen ran for grandma. Poor Robby! He had tostay in bed all the rest of the day. When he got better he tried to tell kitty and piggy how sorry he was for being so cruel to them, but they wouldn't listen to him or let him come near them. ADA GRAHAM (aged 8 years).

The Lookout Regiment.

Our old friend Jemmie Matchet writes:

DEAR GENERAL,—
 I am sending the names of two more recruits, and stamps for badges. They are Eva Violet Stephens and Ruth Gibbens. * * * * * How would an essay on Her Majesty Victoria the Good do for the next contest—the competitors to be divided into three classes as before? Here is a kind act a little girl did. She gave her brother a little silk handkerchief she had given her for a birthday present, because he wanted it.
 With best wishes, (that tiresome)
 JEMMIE MATCHET.

P. S.—Please let me know if I take up too much of your time with my letters!—J. M.

Your letters are very welcome, Jemmie, and so are the two new recruits. As for the next competition, you will have already discovered that "great minds think alike," as the very subject you suggest was in print when your letter arrived. I hope you got my dispatch containing your commission and enclosing the three badges. I am glad to announce that Captain Matchet is now in command of "B" Company, Saltoun, Assa, N.-W. T.
 COUSIN DOROTHY.

Look Out for the Wolves.

You never need fear, little children, to meet
 A wolf in the garden, the wood, or the street;
 Red Riding Hood's story is only a fable;
 I'll give you its moral as well as I'm able.
 "Bad Temper" 's a wolf we meet every where;
 Beware of that wolf, little children, beware!

I know of a boy, neither gentle nor wise;
 If you tell him a fault he gives saucy replies;
 If not having his way, in a fury he flies,
 Ah! "Passion" 's the wolf with the very large eyes,
 So ready to snap, to trample, and tear;
 Beware of this wolf, little children, beware!

I know of a girl always trying to learn
 About things of which she should have no concern;
 Such mean Curiosity really appears
 To me like the wolf with very large ears,
 All pricked up to listen, each secret to share;
 Beware of this wolf, little children, beware!

My Angel.

If I were to take my pencil
 As I sit in the dim firelight,
 And draw for you here the picture
 That I see in the flames to-night,
 'T would not be a stately angel,
 With form that is full of grace,
 But a bent and toil-worn woman
 With a grave and tender face.

No rosy wings should enfold her,
 Nor golden her locks and fair;
 But the face of my Angel of Pity
 Is framed in snowy hair.
 Her hands are not white and slender,
 But withered by work and woe;
 By carrying others' burdens,
 And soothing the tears that flow.

No halo of light surrounds her,
 No wondrous power she hath;
 Yet many and many a blessing
 Is spoken about her path.
 And you may portray your angels
 With faces and forms of grace,
 But my gentle Angel of Pity
 Has my mother's careworn face.

—Nora Holland.

It is Well to Remember That

Too small a figure in wall paper destroys the effect.

A bread cloth should always be sweet and clean, and never used for any other purpose.

Spots and dirt may be removed from paintings and chromos by using a cup of warm water to which a few drops of ammonia has been added.

It pays well to do the mending before the article goes into the wash, since the processes to which it is there subjected materially enlarge the holes, and it is better and more agreeable to wear if the washing follows the mending.

An Address to the Queen.

On page 130 of our last issue, the attention of our readers was called to the proposed Royal address of the women of Canada to Her Majesty Queen Alexandra. Single signatures or groups of signatures, with two cents each to assist in the necessary expenses, can be sent direct to Miss Wilson, 71 Brunswick Ave., Toronto, Ont., who will have them transcribed for binding in the handsome and appropriate volume which will at an early date be presented to the Queen Consort. The small fees can be remitted in postage. Volunteers are asked to receive and forward names to Miss Wilson at as early a date as possible.

THE QUIET HOUR.

Ideals.

"Of all the myriad moods of mind
That through the soul come thronging,
Which one was e'er so dear, so kind,
So beautiful, as longing?
The thing we long for, that we are,
For one transcendent moment,
Before the present, poor and bare,
Can make its sneering comment.
Longing is God's fresh, heavenward will,
With our poor earthward striving.
We quench it, that we may be still
Content with merely living.
But would we learn that heart's full scope,
Which we are hourly wronging,
Our lives must climb from hope to hope,
And realize our longing."

"One of the fads of fashionable people just now is having ideals; every person who is rich enough sets up an ideal." I read these words in the paper the other day, and they rather mystified me. If it is fashionable to have an ideal, do let us be fashionable! But what have riches to do with the question? I thought an ideal was a luxury—or shall we say a necessity?—within the reach of the poorest. We all fret and chafe at the tedium of a commonplace existence: we all, in youth at least, would like to live an ideal life. Do we always go the right way about it? It is not necessary to change our surroundings, or even our work; an ideal life may be lived anywhere. The ideal life, the life that has been the light of the world for nearly two thousand years, blossomed into perfect beauty in the shop of a poor village carpenter. Poverty, terrible poverty of soul, may be found in the grandest palace; and riches, the only riches that can buy real happiness, are within the reach of all.

"Wasted and all in rags his starved soul went,
And opulently paupered,
he grew old,
And stood with loaded hands and heart forspent,
A beggar, with a million bits of gold."

We have no right to be "content with merely living." We have no right even to fix our minds so intently on the next life as to miss the true beauty of this. St. Paul's ideal was contained in four words, "To live is Christ," and they transformed his whole life. He did not think anything too insignificant to be brought under this rule. Even such a commonplace matter as eating or drinking should be done to the glory of God. Even slaves, who were bought and sold like cattle, were encouraged to make their enforced labor a voluntary service, and so to idealize it—"with good will doing service, as to the Lord, and not to men." If the life of a slave could be made an ideal life, surely none of us need submit tamely to a commonplace existence. We all know, in theory at least, that doing things for God "makes drudgery divine"; but it is quite another thing to bring this theory into everyday practice. This is the inner sunlight that can brighten the most dismal surroundings; this is the magic touch that can turn everything to gold. Try it, and see! Drummond tells of a young girl whose beauty of character was the wonder of all who knew her. She always wore a gold locket, which no one was permitted to open. One day, as a special favor, a companion was allowed to look inside. The locket contained nothing but these words: "Whom having not seen, I love." This was her ideal, and, like a mirror, her life reflected the perfect beauty on which she constantly gazed.

Does your actual life lag far behind your ideal? That sounds discouraging, so we will reverse the question. Is your ideal far higher and grander than your actual? Then, be very thankful. One great mistake of the Pharisee in the parable was that he had realized his ideal. He aimed too low, and was quite satisfied with his attainments. Of course, he stopped short there, because he didn't want to go any higher. God lures us on by holding before our eager eyes the great prize of holiness. The garment of perfect righteousness is intended to fit us; if our souls are too small for it yet, there is no one to be discouraged—we can grow.

"As one who walks with slow, impeded step,
Because of garments large and old,
So walks my spirit through this world of time,
With life wrapt round it fold on fold."

"God must have known the expanding spirit's need
When He life's vesture on me lay,
A mother makes too large the garments of her child,
That he may grow to them some day."

"Then onward I will press with patient feet,
Nearing each day the spirit's goal,
Somewhere life's folded garment I may find
Was made to fit a full-grown soul."

It has been said that the record of some lives is simply the date of a birth, the date of a death, with an awfully significant blank between. Those are lives lived only for self. They are not entirely without high ideals, for man is made in the image of God, and must have within him some tokens of his divine lineage; but the ideals have been theory only, and have grown faint and powerless from want of practice.

Under the most humdrum, commonplace exterior God sees the infinite thirst which only He can satisfy. Don't let us crush our ideals, nor let them die for want of encouragement. It is almost worse to cherish them as idle dreams of a possible future. Make your life beautiful now—to-day and to-morrow and the day after. You can do this if you will take the trouble.

"There were strange soul-depths, restless, vast and broad,
Unfathomed as the sea;
An infinite craving for some infinite stilling;
But now Thy perfect love is perfect filling!
Lord Jesus Christ, my Lord, my God,
Thou, Thou art enough for me!"

HOPE.

may hit it. Meanwhile, the time lost by the sewers is well compensated by the fun they are having at the expense of their awkward friend.

Signor Moradei has given us a thoroughly characteristic scene. The good-natured raillery on the countenances of the girls and the serio-comic look of the man are rendered with rare truth and spirit.

Ingle Nook Chats.

MY DEAR GUESTS,—

"Gather ye roses while ye may,
Old time is still a-flying,
And this same flower that blooms to-day,
To-morrow may be dying."

So sang the poet, Robt. Herrick, and, while it is not bad advice, I think it would be better were "scatter" substituted for "gather," as the surest way to achieve that by-all-desired end, happiness, is to help others to be happy. This may be accomplished in many ways, but a certain "open sesame" which leads to the treasure is *kindness*. It is kindness that prompts us to lend a hand to our overburdened neighbor; kindness suggests that we try to cheer up a friend who is shut-in by illness; and many other such acts, all of them easy of accomplishment, are we reminded of by this gentle monitor. The truest form of kindness, and also the hardest to attain, is kind words. I do not mean the kind words that naturally spring to our lips when all goes pleasantly with us, but the

speaking kindly when the tide is against us and every touch seems but to ruffle us more. It is said that clever people find it harder to speak kindly than do their less-favored brothers, because the temptation to say clever things (which are very seldom kind things) is too much for the average mortal.

But there! I am off moralizing again, while I am sure you would prefer something less sombre; but what shall we talk about? That is for the Guests to decide, for the Nook has been established for them. Our aim is mutual interest, and our motto: "All for each and each for all." It is not necessary to compete in any contest in order to enter our circle—if the Nook interests you, if you have any comments to make upon the articles that appear therein, or suggestions to offer, write and tell us about it. Many good public institutions are said to have failed more from want of approbation than from lack of pecuniary aid, so if you have a kind word to say for us, it will cheer us much to hear it; if a criticism to offer, we shall accept

and try to profit by it. In order to cater to the tastes of our readers we require to know what those tastes are.

MARGARETA.—I am so glad to hear from you again. Do take your big brother's advice and enter the competitions. "Opposition is the life of trade," you know.

By the way, "GREAT SCOTT!" "Why don't you speak for yourself, John?" Many thanks to you and "POSS" for kind remembrances. I think "Infelice" the best of Mrs. Wilson's works—at least, of those I have read.

EUREKA.—You are the right sort of boy, not to stop after paying us one visit. One cannot win every time, but each one's presence gives encouragement to others. I am glad your prize pleased you; some of the winners forget to acknowledge theirs. Contest VIII., announced last issue, will be along the line you wish for.

JENNIE M.—I like to get letters from the competitors, and thank you for yours. I hope the Regiment will be successful in all its aims.

OUR COMPETITIONS.

The time limit for Contests VI. and VII. will have expired ere this issue reaches many of you, but do not forget Contest VIII., which is something new in our column. See Feb. 15th number for full particulars. Do not forget to state in which class you compete, and write on one side only of paper; that is, as far as work for competition is concerned. Anything not meant for publication may be written on both sides if desired.

THE HOSTESS.
Ingle Nook Chats, Pakenham, Ont.



"A DIFFICULT TASK."

"A Difficult Task."

By a common instinct, persons who excel in any work or accomplishment are prone to make light of those who are awkward in the same. A sort of professional pride pervades the whole range of arts, fine and common, and the professionals always have a superior feeling toward the untrained laity. Life itself is a great art and success—therein is a strong temptation to arrogance and superciliousness. But this all-embracing art is divided into numberless tributary arts; every industry or trade or regular employment becomes an art. Thus, housekeeping is an art, as new beginners often find out at serious cost. Sewing also is an art, and an essential feature of this art is needle-threading. If the latter is not in itself an art, most assuredly there is considerable art in it. Now, the great majority of the gentle sex have training enough in this delicate task to be more or less skilled in it; but men, for the most part, are, for want of practice, sufficiently awkward to excite the derision of the feminine expert.

The good-natured man in our picture has rashly allowed himself to be drawn into the service of threading a needle for one of this pair of mischievous girls; or perhaps he recklessly accepted their challenge to essay the task. In any case, we behold him in the midst of the trying ordeal. The girls give him such encouragement as may be derived from tantalizing comments and mocking applause at his painstaking failures. But he keeps his temper and is apparently resolved to succeed at all hazards. He is now drawing a most careful, though rather long-ranged, sight upon the needle's eye, and seems to feel hopeful that this time he

A True Bear Story.

During the fall of '88 my grandfather brought his young wife to Westmoreland's fair lands, where they decided to build their log cabin and make a start in life.

In a few years Grandpa had made a large clearing, and also had several sturdy youngsters around him, and among them was a small fellow whom I call father now. One evening an event happened which caused a big commotion in the cabin.

They had all retired as usual, with Jumbo, the faithful old dog, sleeping in the kitchen; when about ten o'clock Grandpa was awakened by the dog barking furiously; and feeling that something unusual was taking place downstairs, got up and in his excitement forgot to dress.

He rushed down the steps, and finding nothing in the kitchen, unbarred the outside door and stepped out into the darkness. What he then saw made his hair stand on end, for before him, not three feet away, stood a large black bear. The good old dog rushed to the attack. This relieved Grandpa for a moment, who seized a club and went out to aid the dog in driving away the uninvited guest.

By this time Grandma was roused from her slumbers by the noise, and now she came downstairs, holding the candle over her head. She stood amazed in the doorway and did her best to hold the light so its rays would fall on the queer-looking trio.

From time to time she called out, "John, John! Do be careful—don't let him bite you!" "Whit, John! Do be encouraging tone, "I hit him, Kate—the dog is giving it to him! My gracious, he almost nabbed me!"

By this time the bear had gone round the house several times, in the kitchen door and out of the woodhouse once. Grandma was speechless with terror for fear he would take a notion in his head to go up-stairs, where her darlings were resting sweetly, all unconscious of the danger. But the bear passed on.

All this time John had been vigorously using the club and shouting as loud as his lungs would allow, while Jumbo was worrying bruin's heels in an unmerciful manner. After a great deal of shouting and threatening, the bear retreated into the darkness of the night.

Grandpa called Jumbo off, and at last entered the house again, to retire after a prayer of praise and a song of thanksgiving for their spared lives and property. You may rest assured Grandpa and the family were up early the next morning, and great was the surprise and consternation of the children when they learned that dear papa might have been eaten up alive.

After an early breakfast Grandpa started in pursuit of the bear: this time armed with a double-barrelled gun. As he went along he called for the neighbors, and soon he had enough meef of the forest to tackle old bruin. There was light snow on the ground, and Mr. Bear was soon traced to his lair. It was under the branches of a tree in the graveyard.

One bullet from Grandpa's gun put the bear in his death agony. Judging from what transpired, bruin must have thought it was the tree that had hurt him, for he seized it in his dying struggle and tore it up by the roots. The tree was seven inches in diameter and was strong and thrifty.

The men now dragged the bear up to the schoolhouse near by, and persuaded the schoolmistress to have a short recess in order that the children might look at it. At first they were very much frightened when one of the men told them he (the bear) would bite, but they soon discovered the truth, and Grandpa was the man of the day.

While the exhibition of the bear was going on, someone had gone home after a horse and sled. They now arrived, and in due time the bear was taken to Grandpa's barn and skinned. In the evening there was a large social gathering at John Fawcett's, and a roast out of the bear's hind quarters was sliced liberally around, and everybody pronounced it prime.

The skin, which measured nine feet from end to end, was stretched on the wall. The poor bear's body showed evident signs of the beating and biting he had received the night before. After some time Grandpa got the skin made into a coat, and he can assure you it keeps him warm nowadays in his old age.

Grandpa now has a dozen or so of grandchildren, and nothing pleases him more than to have all around him, their smiling faces showing evident pleasure in the true bear story he is telling as only grandfathers can.

C. F. F.

Grandma's Glasses.

"Freddie, dear, have you seen my spectacles anywhere?" asks the old lady.

"Your gold-rimmed glasses, grandma?"

"Yes."

"What you wear on your nose and see through, grandma?"

"Yes; where are they?"

"The glasses that grandpa gave you?"

"Yes."

"For a Christmas present?"

"Yes; tell me where they are."

"Are they the glasses that you read the Bible with, grandma?"

"Yes, yes! I'm getting impatient, Freddie. Get them for me."

"The glasses that you read about David and Geriah with, and the three children in the fiery furnace?"

"Yes, yes; the same glasses. Tell me where they are at once, Freddie, and quit asking so many questions."

"And do you want to read with them now, grandma?"

"No; I want to sew."

"What are you going to sew, grandma?"

"I want to hem a few handkerchiefs."

"For me?"

"No; for grandpa. Where are those glasses, you little torment?"

"You can't sew with the glasses, can you, grandma?"

"Why, of course I can. I can't sew without them."

"I thought you sewed with a sewing-machine, grandma."

"Oh, you aggravating boy! Look right at me! Now tell me where those glasses are!"

"Dunno!"

"Haven't you seen them lately?"

"No'm."

The End of the Whole Matter.

When the Earth's last picture is painted, when the tubes are twisted and dried,
When the oldest colors have vanished, and the youngest critic has died,
We shall rest (and, faith, we shall need it), lie down for an hour or two.
Till the Master of all good workmen shall set us to work anew.
And those that are good shall be happy; they shall sit in a golden chair
And splash at a ten-league canvas with brushes of camel's hair;
They shall have real saints to draw from, Magdalene, Peter and Paul;
They shall work for a year at a sitting and never get tired at all.

And only the Master shall praise us, and only the Master shall blame,
And no one shall work for money, and no one shall work for fame,
But all for the joy of the working, and each in his separate star,
Shall paint the thing as he sees it for the God of Things as they are.

—Rudyard Kipling.

A few days ago a sawyer happened to get one of his hands badly cut, and was taken to the nearest doctor to get it dressed. The doctor found it necessary to put in a few stitches in the wound. In the course of the operation the patient said to the doctor, "My goodness, but you are a rough tailor." "Yes," replied the doctor, "but you are a rougher cutter."

Somebody's Baby.

BY WALDRON W. ANDERSON.

I see each morning as I pass
A tiny house that's on my way
A picture through the glass,
A face that haunts me through the day.

'Tis someone's baby there who crows
And stretches out his hands to me;
He thinks I'm someone that he knows,
I'm not, but I should like to be.

I'm not the only man who goes
Along that street and glances in,
But I'm the only one he shows
The very slightest interest in.

He's taught me one thing that I'd missed,
His winning ways a seed have sown,
I'd give my freedom to be kissed
By such a baby of my own.

A Little Dutch Garden.

I passed by a garden, a little Dutch garden,
Where useful and pretty things grew—
Heartsease and tomatoes
And pinks and potatoes
And lilies and onions and rue.

I saw in that garden, that little Dutch garden,
A chubby Dutch man with a spade,
And a rosy Dutch frau
With a shoe like a scow,
And a flaxen-haired little Dutch maid.

There grew in that garden, that little Dutch garden,
Blue flag flowers, lovely and tall,
And early blush roses
And little pink posies—
But Gretchen was fairer than all.

My heart's in that garden, that little Dutch garden;
It tumbled right in as I passed,
Mid' wildering mazes
Of spinach and daisies,
And Gretchen is holding it fast!

—Hattie Whitney.

Our Daughter's Salary.

Acting upon a suggestion made to me recently, I write this paragraph for the benefit of those parents who, being quite able to afford the expense of a servant, prefer to do without—the bulk of the household duties being performed by their daughter. This is to be commended under certain circumstances, and while certain conditions are observed. But it is scarcely just to expect your daughter to do all the work—both menial and fine duties—without adequate remuneration. A few shillings are given occasionally, or money for a new dress, when absolutely necessary, is handed over, perhaps at an inconvenient time; or when paterfamilias is not in a genial mood; and it is only natural that the hard-working daughter gets a wee bit disheartened and envies those of her companions who, being employed at office or shop, are in receipt of a regular salary—even if small. My idea, encouraged by my friend's remarks, is that the daughter, if willing to do the work which a servant would otherwise perform, is entitled to the same wage or salary. It should be arranged as a matter of business, and the salary paid with the same punctuality as it would be in the case of the servant's wages. The advantages of this plan are manifold. The girl will work with greater zest, and taking more interest in domestic matters, will make a well-managing housewife in the future. She will be able to keep herself neatly and appropriately dressed for her work, and will have, if she be a careful girl, a little sum in hand. It will teach her, also, to value each article she purchases, and to lay out her income to the best advantage—a matter of no small moment in the future, when she has the welfare of husband and children to consider.

True Rest.

Rest is not quitting
The busy career;
Rest is the fitting
Of self to one's sphere.

'Tis the brook's motion,
Clear, without strife,
Fleeing to ocean
After this life.

'Tis loving and serving
The highest and best;
'Tis onward, unswerving,
And this is true rest.

Don't growl
About the weather,
For easier 'tis you'll find
To make your mind to weather
Than weather to your mind.

Don't growl
About the sermon,
And show your lack of wit,
For, like a boot, a sermon hurts
The closer it doth fit.

Don't growl
About your neighbor,
For in your neighbor's view
His neighbor is not faultless
That neighbor being you.

Good Manners.

Good manners are a social obligation, and young men take note, if you would be popular with the gentler sex, to never make light of them nor pass them over as unworthy of notice. To be good-mannered generally means to have consideration for women of every rank, and that is a quality which young men cannot possess too strongly. Of course, I do not mean the extreme manners of the fop, which I think both silly and unnecessary, and which every sensible girl would resent.

The Sense of Proportion as Applied to Housework.

Once in conversation with a fellow-worker, we spoke of a third—a woman who had accomplished much that was of merit along the lines of literary and club work, but had been obliged to give it all up or break down entirely. She had given of her time and strength in this work to such an extent that there was no alternative. Expressing my regret that the public should lose so intelligent a worker, my companion responded by saying, "The trouble with Mrs. — was that she had no sense of proportion. She would expend as much thought and nervous force over the most trifling thing which she had to do as she would over the most important. With such demands upon her, no wonder she broke down."

I have often applied this idea to the women I have seen wearing themselves out over trifling things, leaving themselves no reserve with which to meet those of greater importance.

Of course there is a grand standard, a heroic standpoint, from which we can argue in a general way, that whatever is worth doing at all is worth doing well, and that no duty, however small or insignificant it may be, should be slighted in its performance. But I know that from the depths of their hearts many women will agree that if they had their lives to live over again, there would be many things relegated to the background that in their younger days they considered of the greatest importance. When work and cares have multiplied, as the family grew larger, absolute inability to find time to do some things has shown that they were not necessary.

I have seen a woman stand at an ironing-table on a hot summer day and iron ruffled dresses for her little girls when I knew every bone in her body ached, and every nerve was at its highest tension, when just outside the door the little girls swung in lazy, shady comfort in a hammock. If this mother had even a rudimentary sense of proportion, those dresses would have been made without tuck or ruffle, and she would have been using her time, wasted in ironing, out with the children giving herself a restful hour, which was only her just due.

Other women will refuse to use a harmless washing fluid, and fairly rub the clothes to rags, because they say such things make the clothes wear out sooner, never seeming to take into consideration their own inevitable wearing out. No importance is attached to this until too late, when used up tissues can never be replaced, and the lines graven in the countenance by overtaxing the strength can never be effaced.

Has a woman who does her own work, with never any time for recreation, any sense of proportion who will load her sideboard with plated ware, and then spend hours polishing it, or bewail its tarnished appearance, when china or glass can be washed to a point of brilliancy in a quarter the time, and also fill the bill in every respect of beauty and daintiness?

Has she any discrimination as to "values" when she will buy some dust-catching, useless ornament, when the tea-kettle leaks, and her array of cooking utensils, by their appearance, easily betray their ancient origin?

The woman with a sense of justice, which is only another way of putting it, rightly argues that what is best for her—for her comfort and strength—is best for her family, and that if she cheats herself of the one and wears out the other, she is doing a wrong to others, that no so-called self-sacrifice on her part can offset.

Impatient words, the offspring of irritated, overstrained nerves, can never be counteracted by an extra fine lot of pastry—neither can harshness be got of utter weariness be antidoted by the most immaculate order in the house.

Let the girls do with one less feather in their hats, using the money for stockings, allowing mother the time spent in darning and re-darning those very useful but too-much-worn articles, for a little trip to town, or walk afield, where she may "consider the lilies," etc., and follow their example in toiling not, for a brief restful space.

MARY SARGENT HOPKINS.

The Bostonian's Revenge.

A gentleman in Boston received a telegram, the other day, from a friend who had, some time before, gone to California on business. Expecting it to contain important news, he paid the charges—for it came "collect"—and hastily tore it open, to read the words "I am quite well," with his friend's signature.

Annoyed at the trick that had been played upon him, he secured a good-sized block of granite, packed it in a case, and sent it by express to the traveller's address in San Francisco—charges not prepaid. The latter, never doubting that the heavy package contained something of value, paid several dollars to have it delivered at his office. When he opened it he read, upon a label attached to the stone: "This is the load of which my mind was relieved when I received the news you sent me as to the condition of your health."

Humorous.

Two countrymen who had not seen each other for a long time met at a fair. They had a lot to tell each other. "Sure, it's married I am," said O'Brien. "You don't tell me so!" said Blake. "Faith, yes," said O'Brien, "an I've got a fine healthy boy, who the neighbors say is the very picture of me." Blake looked for a moment at O'Brien, who was not, to say the least, remarkable for his good looks, and then said—"Och, well, what's the harm so long as the child's healthy?"

One day a county gentleman, being late for the train, took a near cut across a turnip field, where the farmer was working. The gentleman was accosted by the farmer, who, none too politely, told him "to git out o' his neeps." "How dare you talk to me like that, sir?" replied the gentleman, haughtily. "Are you aware that I am one of the Faulds (pronounce Falls) of Cargill?" "I'm no carin' tho' yer the Falls o' Niagara; git out o' my neeps."

GOSSIP.

MR. D. A. GRAHAM'S DISPERSION SALE OF SHORTHORNS AND GRADES.

Another favorable opportunity of securing useful and well-bred registered Shorthorn cattle and Shorthorn grades of good feeding and good milking sorts is announced in the advertisement in this issue, of the dispersion sale, on April 3rd, of the entire herd of Mr. D. A. Graham, of Ivan, Ont., 6 miles from Iderton station, on the Huron and Bruce branch of the G. T. R., and about 14 miles from London. Mr. Graham's registered Shorthorns have been bred from sound foundation stock, upon which a more than usually good class of up-to-date Scotch-bred bulls have been used for 20 years or more. Being located in close proximity to such noted herds as those of Capt. T. E. Robson and C. M. Simmons, he has had for many years the advantage of the use of the high-class stock bulls in service in those herds, and his cattle show the benefit of it in their uniform type and quality, being smooth in form, short-legged, and of good constitution, while the cows, descended from good-milking families, have generally kept up that quality to a degree quite beyond the average of the breed. The first cow in the catalogue, Ruby 2nd, in her seven-year-old form, illustrated in the group of three on another page of this issue, is an excellent representative of the standard family known as the Syme stock, descended from the imported Scotch cow, Miss Syme, bred in Aberdeenshire, and imported by the late George Miller, Markham, a family which has produced probably as many prizewinners at Provincial Exhibitions as any in Canada, and to which belongs the champion female at the great International Exposition at Chicago in December last. Bred as she is, she could hardly fail to be a good one, as her sire, the Scotch-bred Mina Chief, son of the great Cruickshank Victoria bull, imp. Indian Chief, was noted as the sire of the splendid quartette of heifer calves which swept the prize list at Toronto in '94, and the first-prize bull calf at the same show, and these went on as winners in subsequent years, some of them proving champions. Back of this bull in the pedigree is Prince Albert, a championship winner at Provincial shows, and son of the illustrious Barmpton Hero, himself a champion and sire of many champions. Imp. Knight of Warlab and his splendid son, The Baron, a better than his sire, are back of this, and every bull named in the pedigree ranked high as individuals and getters, while the excellence of their breeding is beyond dispute first-class. There are a half dozen of this excellent family, equally well bred and of uniform character. Of the Elvira family, which made such a grand record in producing prize-winners in the herd of Mr. Simmons, there are also a half dozen. These have produced a large proportion of heavy milkers as well, and the long line of good bulls showing in their pedigrees have been well calculated to keep up the quality and character of the family. Of these, the red five-year-old Red Rose is a very thick, short-legged and well-proportioned cow, sired by Barmpton M., a first-prize Toronto winner of the favorite Kinellar Mysie family, and got by the noted Barmpton Hero. Her dam was by the choice show bull, Sir Christopher, of the popular Kinellar Ury tribe, and won first prize and championship at Toronto as a three-year-old, while back of these were the choice bulls, Lord Strathallan and imp. Duke of Guelders. Mattie M., the beautiful, thick-fleshed red two-year-old in the engraving, is a daughter of this fine cow by Summerhill Duke, son of Duke of Ivan, whose dam, a deep-milking cow, tested 164 lbs. butter in one week in winter. The handsome red yearling, Maid of Ivan, in the picture, is also of the Elvira tribe, and was sired by Wilfred King, another son of the 164-lb. cow, by the Golden Drop bull, Defiance, by Royal Saxon. There are five females of the useful dual-purpose family descended from imp. Lily, by Warden, and sired by such excellent bulls as imp. Duke of Salisbury, Lorne King, by the richly-bred Golden Robe, so successfully used by Capt. Robson in breeding prizewinners, and sire of the first-prize steer calf at Chicago, and the first-prize yearling steer at the Guelph Fat Stock Show in December last, in the hands of Mr. Groff, of Alma.

There are in the sale four useful young bulls from six months to two years old, two of them being of serviceable age, and all bred from the families named, and sired by such well-bred bulls as Lorne King and Sir Malcolm, by Defiance, out of Crimson Mary, by Crimson Knight, of the favorite Kenellar Crimson Flower family.

The Shorthorn grades in the sale, 38 head, are an exceptionally good and well-bred lot, many of them being bred direct from deep-milking families that were recorded in the Canadian Herdbook, and are as purely-bred as the best in the land, only pure-bred bulls having been used in the herd. This is a class of general-purpose cattle that the farmers of this country need for beef and milk combined, and which will make as good an investment as anything in the stock line which they can handle. The winter will be well over at the date of this sale, and the place and terms are favorable to buyers. Parties interested will do well to apply for a catalogue.

D. Alexander, Bridgen, Ont., advertises 2 excellent roan Shorthorn bulls 16 months old. He breeds good ones and feeds them well, and has well-bred stock to breed from.

A small farm with first-class buildings, near the City of London, is wanted to rent as a home for a herd of registered dairy cattle, as per advertisement in this issue.

DEATH OF MR. J. H. PICKRELL.

We regret to record the death, on Feb. 12th, at the age of 67 years, of Mr. James Henry Pickrell, who for the last 17 years has been the efficient secretary of the American Shorthorn Breeders' Association, and editor of the American Shorthorn Herdbook. Along in the sixties and seventies of the last century Mr. Pickrell was a conspicuous figure in Shorthorn circles as importer, breeder and successful exhibitor at Western State fairs, and in breeders' conventions he took a prominent part, being elected the first president of the American Association, in the organization of which he was largely instrumental. He was a genuine lover of a good Shorthorn, a genial, generous and kindly man, and had a host of friends, who trusted and admired him.

W. N. Haskett, Markdale, Ont., offers two choice Jersey bulls in this issue.

The six S. H. bulls advertised by Shore Bros., White Oak, in this issue include an extra fine red nearly two years old, three about twelve months, and two calves about eight months. They are all reds, of the best Scotch families, and are in nice growing condition. The heifers include roans and reds, and are from Buchan Lassie, Mina and Canadian Duchess of Gloster cows. See Messrs. Shore Bros.' advertisement, and write them for particulars.

Mr. John D. MacLeay, who for eight years managed Annandale Farm for its proprietor, Mr. E. D. Tillson, Tilsonburg, has received the appointment of manager at Long Meadow Farm, near Syracuse, N. Y. Mr. MacLeay made an earnest and careful study of the Annandale herd, and was largely instrumental in bringing it up to its present excellent standing, being probably the best grade dairy herd in Canada. Long Meadows is a very fine dairy farm of clay loam, having 200 head, mostly pure-bred Holsteins and Shorthorns. Mr. MacLeay will find an excellent field for his ability in his new charge, as he has been given full control of the business.

A. W. Smith, Maple Lodge, Ont., writes: "A short time since we sold to Mr. J. W. Miller, Peterborough Co., the handsome cow for which we were awarded first prize in dairy show, Guelph, giving about 103 lbs. milk in two days. She is a grand breeder also, and we have some of her daughters and granddaughters in the herd that are no disgrace to her. We have several better milkers, and a number of heifers and young bulls of the same family for sale. We sold a very complete young bull in character and general make-up as well as breeding, an English Lady, closely related to Mr. Watt's first-prize calf of 1900, to Messrs. Bateman, of Guelph. There are not many better ones. Mr. Miller also secured a good, thick-set bull by Abbotsford, and from another of our good-milking families."

D. H. Rusnell, Stouffville, Ont., writes: "Our stock is wintering very nicely, although we have fed practically no hay and very little corn. Our cattle came in the stable thinner than usual last fall, on account of the exceedingly dry season we had in this section. The demand for Shorthorns and Shropshires has been good so far this season. Have made a number of important sales the last few months. I might say, last week I sold a nice pair of Shropshire lambs (ram and ewe) to Mr. H. W. Weigman, Holt, Mich., also six shearing ewes to Mr. John A. Turner, Balgreggan Stud Farm, Millarville, Alberta, N. W. T., and a fine bull calf to Mr. G. C. Smyth, South River. This bull should improve Mr. Smyth's herd, for his breeding is good, and is one of the best animals I have. I still have some heifers with calf I am offering cheap, and some bull calves under one year left."

T. Douglas & Sons, Strathroy, Ont., write: "Our stock are wintering well. We have a good crop of strong, lusty calves, by imported Diamond Jubilee - 28861 -; he is a looking well, and continuing growing. Visitors tell us he is a better animal than the picture in Xmas number shows him to be. The fourteen bulls we are offering are an attractive lot, smooth, strong, vigorous fellows, with grand coats of hair of good color. Nine of them are from our present stock bull, and are very much like him; the rest are from our last stock bull, Valkyrie - 21806 -. Although our fall and winter sales have been heavy, we can still count over one hundred head in the herd, so can spare a few more cows and heifers. Our sales are: One bull and two cows to S. K. Parkhurst, Reed City, Mich.; two cows to M. Campbell, Chatham; bull to A. W. Smith, Maple Lodge; bull to Richards Bros., McLaren's Depot; bull to R. V. Southan, Delaware. E. & C. Parkinson, Thornbury, Ont., selected one bull and three (in calf) Valkyrie heifers to strengthen their herd. One bull to Wm. Semple, Tiverton. Wm. Donaldson, South Zorra, selected Valkyrie Prince (from Wanetta, full brother to Roan Girl) to head his Shorthorn herd. A. Thompson, Chesley, secured Maple Bank Reliance. T. S. Pierce, Wallace-town, selected a fine red bull from a deep-milking dam for his lot. F. Henderson, Fingal; Reid Bros., Walter's Falls, and P. Conkey, Arkona, each one bull. Messrs. Hodson & Westervelt secured six heifers of the useful type for their British Columbia shipment, and have booked two orders for bulls from the N. W. T.

W. T. Bowman, Mt. Forest, Ont., writes: "During the past few weeks we have found the demand for stock very keen. Our Suffolk lambs are coming very strong, and the ewes all coming through the winter in good condition. Our herd of Polled-Angus cattle now number about 20. We have a nice pair of Shropshire lambs from our stock bull, Elm Park Prince. He is from the same dam as Kyma's Heir, the sweepstakes bull at Toronto for 3 years. So far we have found a very keen demand for bulls and heifers, both from Canada and the States. Our stock bull, Summerhill Pioneer 7th - 1907 -, which we purchased from D. C. Platt & Son, at Toronto Exhibition, has done exceedingly well. His litters are coming strong in numbers and quality. Since last writing you we have sold: One Yorkshire sow to Thos. Brett, Bosworth; one sow to W. H. Walker, Bosworth; one boar to N. P. McNeil, Lansdowne; one boar to F. Helzer, Rothsay; one sow to And. Furtney, Listowel; two sows to A. W. McEwing, Harlock; one boar to T. A. Manning, Bradford; one boar to Geo. Wishman, Hopeville; two sows to E. W. Bradwin, Litterbreen; one sow to R. Cowan, Moorfield; one sow to Geo. Bruce, Grand Valley; one sow to Thos. Hinton, Bowling Green; one sow to David East, Grand Valley; one sow to Armstrong Bros., Hopeville; one sow to D. McQueen, Cedarville; one sow to G. H. Benson, Port Hope; two sows and one boar to T. J. Snell, Minto; one sow to H. J. Crawford, Hawkstone; one boar to Thos. Newbigging, Atwood; one sow to Jno. Hinton, Bowling Green; one sow to Thos. Simpson, Campania; one sow to Edward Henderson, Dromore; one sow to Jno. Denmore, Grand Valley, and quite a number near home. We also shipped quite a number of lambs during the fall, and six choice Shropshire ewes to J. E. Ashford, Ryckman's Corners; one pair Suffolk ewes to Geo. Bruce, Grand Valley; two pair Suffolk ewes to F. W. Hodson, Myrtle; one Shropshire ewe to R. J. Bennett, Spencerville. We have still in stock two dozen choice ewes for sale, five Angus bulls, and two Shorthorns, roan and red."

CAIRNBROGIE STUD.

Perhaps no other horse-breeding establishment in Canada has held so prominent a position for so long a time as that of Graham Bros., Clarendon, Ont. Their business has been chiefly confined to Clydesdales of the highest class, from the leading studs in Scotland, but for many years two or more sensational Hackneys have found their homes at Cairnbrogie. Their show-yard career has been one continuous series of successes. They have in their office very tangible evidence of victories in over 100 gold medals and 9 silver cups, valued at from \$150 to \$250 each. At the Toronto Industrial they won sweepstakes on females for three years in succession, and in no year were their winnings more important than in 1900. Just now they are, fortunately, well supplied with a good class of stock for the brisk trade that is now on and likely to continue. Their Clydesdale stock includes 20 head, made up of such notable animals as McQueen, Burnbrae, Royal Cairnton, Prince Roberts, Golden Prince, Lord Brilliant, Premier Prince, Royal Britain, and others. These are all high-class specimens of the very best types, and are in excellent form. The horse, Burnbrae [8378], by Rosewood (7207), was bred by N. P. Clark, St. Cloud, Minn., in whose hands he won first award at the Chicago Horse Show as a two-year-old, in 1897. He went from there to Manitoba for a term of some two seasons. Since Graham Bros. have had him he has steadily improved in form, until he is now showing his excellent qualities as never before since his Chicago victory. Another particularly choice Clyde is the rising three-year-old Lord Brilliant, by Young MacQueen 8033, and out of Lady Macpherson 7414. He is a bright bay, and much like his notable sire in type. Premier Prince, by Handsome Prince, and Royal Briton, by Two-in-One, are promising colts that it is worth travelling considerable distance to see. They are flash and big and bred right. Among the fillies are the two-year-old Cherry Startle, by Startle, and Charming Lady, by Lord Charming, the first and second winners at Toronto, Ottawa and other leading shows last autumn. See Graham Bros.' advertisement in this issue, and pay them an early visit, so as to be able to see and secure some of the desirable stock before they are gone.

AN IMPORTANT SALE OF JERSEYS.

The dispersion sale of the high-class herd of Jerseys belonging to Mr. R. Reid, Berlin, Ont., advertised for March 15th, presents an opportunity for dairymen and breeders of securing some A 1 stock for the dairy, showing or foundation of a herd. The milk and cream from this herd has been disposed of in the town of Berlin during the last eight years, the supply never being equal to the demand. The herd never averaged less than 4.8% butter-fat for the year, and one year as high as 5.2%. All the cows over four years average 6,500 lbs. of milk a year, as this is the owner's standard, all things being considered. There are no old or worn-out cows in the herd, and for beauty and utility several are hard to beat. No actual butter tests have been made owing to the demand for the milk and cream, but the milk is carefully measured, and samples are taken monthly by the Medical Health Officer and tested by Babcock. Buyers are told what each cow has done, and Mr. Reid states that he has sold cattle to Maryland, New York, Michigan, and many parts in Canada, and never heard a complaint. The following cows were raised and developed in this herd, and have since made the following respective tests: Leonora of Canada, 22 lbs. 11 ozs.; Esther Reid of St. L., 19 lbs. 12 ozs., and 10,280 lbs. milk in 10 months, averaging 4.5%; Heiress of Canada, 16 lbs. 5 ozs.; Sapphire, 17 lbs. 2 ozs. The bull at the head of this fine herd is Heir of Berlin, that for substance, vigor, breeding and beauty is hard to excel. He is low, level on top, well-sprung rib, broad behind, grand masculine head, neck and shoulders. He is only three years of age, and as he has been limited to a few cows each year, is in splendid shape for service. His dam, Heiress of Canada, 16 lbs. 5 ozs., was sold to Hon. M. H. Olin, Perry, N. Y., at a long price, and was a cow of remarkable beauty, and having a very fine udder. The oldest cow in the herd is Lucy of Glen Rouge, eight years. She is a grand-bodied cow, with high pelvic arch, and everything to denote heavy-milking qualities. She was fresh Jan. 15th, 1900, and gave in one day since then, on winter feed, 18 qts. of milk. There are three of her daughters in the sale, by three different bulls. There are two full sisters, Bashy Rose and Sweet Fairy, in the herd, they are now averaging 16 qts. a day each, on oat chaff, corn fodder, 1 gal. roots, 4 qts. oat chop, 2 gals. brewer's grains, each, in two feeds, and oat straw at noon. Two other sisters, Duchess of Berlin and Princess Bonnie Bird, both daughters of the pure Tennessee-bred bull, Lord Harry 3rd, and out of Farna Pogis of Grimby, 20 lbs. 10 ozs. (Babcock), certainly do not look like full sisters, but both apparently possess the ability to fill the pail. Miss Bobs, a two-year-old, gave at 20 months, 32 lbs. milk in one day. She is a daughter of Sweet Fairy, out of Joe of St. Lambert, now at the head of the "Hermitage Herd," belonging to Miss Williams, Centreville, Md. Miss Bobs is a very hard, some heifer, with an excellent udder both fore and aft, with well-placed teats of the right length. There are two very promising yearling heifers, daughters of Heir of Berlin, and four heifer calves, all with the right sort of udders and grand constitutions. Space forbids us describing Lady-smith, Princess Luta, Lily S. St. Lambert, etc., but send for a catalogue and make an effort to go to this sale. If you want dairy stock that will not only ornament a gentleman's lawn, but will prove money-makers for the ordinary dairyman. In a note to this office, Mr. Reid writes: "My retirement from farming will only be temporary, as I feel that I cannot content myself in town, but circumstances are such that I cannot do otherwise at present. I am not selling my Jerseys because I dislike them or find them unprofitable, as the more I have to do with them the more am I convinced that they are *par excellence* the dairy breed. My experience has taught me two lessons: 1. Do not consider a few dollars in buying a cow that you feel you ought to have. 2. Do not sell an animal unless you get a great deal more than she is worth to you."

THE NICHOLSON AND W. H. TAYLOR, M. P. P., SHORTHORN SALE.

Mr. Stephen Nicholson writes: Allow me, your editor, to make a brief commentary on our joint offering of 40 head of Shorthorns, to be sold by auction on March 20th next. Of our Vacuna family there are some ten bulls. This family produced the noted show

bull, Nominee, winner of the sweepstakes at Toronto, 1897, after which he was sold to the United States, where he was never defeated at State fairs. He was used at the noted herd of W. F. Brown, Minneapolis. After his show day was over he was sold for a high price to the noted breeder, W. S. Woods, Williamsport, Ohio. His grandam was bred at Sylvan Lodge, Cromwell was also a Vacuna. He was shown by Eastwood Bros. at Toronto as a yearling and at two years old, winning first both times. He then went to the U. S., and was shown extensively, and was never beaten except by Young Abbotsburn and Gay Monarch. He got two heifers in his 10th year—Mysie Cromwell 2nd and 3rd—that were sold at auction for over \$1,000 each. He was bred at Sylvan Lodge. Besides these, we might name many more that have been winners at Toronto and went into first-class herds and did a great deal of good. The females that are offered of this family are all under 6 years old, are easy feeders, have abundance of flesh of an even fiber, and all have calves at foot or are in calf to imp. Chief of Stars. Of the grand old Miss Syme family, two beautiful three-year-old heifers will be offered, one having a bull calf at foot, got by Chief of Stars (imp.); the other is in calf to the same bull. These have four and six crosses of bulls that have won first at Toronto. They are a grand pair and would be counted good in any herd. Among the younger ones are four beautiful heifers from the grand getter, Imp. Guardsman, sire of the Robbins champion bull, St. Valentine, and a lot of other noted prize-winners. They are hardy in flesh to fetch their full value, but are just the kind to buy to go on and do well. Among the calves is the heavy-fleshed Vacuna 2nd, winner of fourth prize at Toronto last fall. She is second to few or none in the Province. Those on the lookout for show animals should see after her. The white heifer, 26th Maid of Sylvan, is very little her inferior. She is considered by some to be the better of the two. The whole of the herd of calves that won third at Toronto last fall will be included in the offering, as well as some a month or two younger that are fully their equal.

The young bulls are an extra good lot. Bobs, a straight Mina, 14 months old, is as good as we ever bred at the same age, fully as good as his sire, Royal Standard, we believe. He is a beautiful roan, straight, long and even, carrying any amount of natural flesh; in fact, a show bull in every respect. Crown Jewel 26th, an almost full brother to Crown Jewel 17th, owned and shown by Eastwood Bros., winning first both as a 2-year-old and a 3-year-old at Toronto, is fully as massive, but even in conformation, and covered with a wealth of natural flesh. There are also two splendid reds by Royal Standard, about 13 months old, that will please the most critical. They are good enough to head any herd. The four by Imp. Guardsman are just what one might expect from such a noted sire. They are a little younger than the others, but are growing into grand young bulls. But we must not particularize. The whole lot are as well blooded and individually are as good as their breeding. This is the fourth auction we have held within the last few years, and all have been satisfactory. Every animal catalogued at these sales was sold and delivered. Not one bid was made but what was *bona fide*. The same rigid principles will be adhered to in our sale of the 20th inst. We shall have left after our sale our normal quantity of breeding cattle in both herds, and, as in both herds we breed so as to come in at two years of age, we hope to soon have our stables more than full again.

NOTICES.

The Use of Fertilizers.—"Farmers' Guide" is the name of a bright book, and as its title indicates, is a guide to farmers in the cultivation of all crops typical to America. It states what different crops take from the soil. This book is handsomely printed, generously illustrated, and every farmer who desires one in his library can get it without charge from the German Kali Works of 93 Nassau St., New York City. Send a post card for it.

Tick Destroyer.—On another page we have an advertisement from the old firm of Hugh Miller & Co., of Miller's Tick Destroyer. Here is a preparation that really does all that is claimed for it. The tick, writes the firm, "is the hardest of all the insects to exterminate, possessing a hard, bony shell, which resists all ordinary preparations, as carbolic mixtures, tobacco decoction, insect powder, etc., and it is therefore impossible that a non-poisonous preparation should effectually kill the ticks, eggs and all. Miller's Tick Destroyer is poisonous enough to kill ticks, and does it every time."

Seed Time Coming.—The seed business differs from others, especially in this, that the quality and worth cannot always be noticed in the seed secured, so that the purchaser must to a large extent place his confidence in the knowledge and honesty of the seedsmen. Wm. Ewing & Co., of Montreal, can be depended on to sell reliable seeds, as their seed business, which was established in 1869, has gone steadily forward during the whole 32 years. Their catalogue for 1901 is an extensive and elaborate work of over one hundred pages. Besides liberal illustrations and descriptions of varieties of farm, field and garden crops and flowers, it also contains cultural notes that are extremely useful. Their catalogue is a good one, and should be sent for at 142-144 McGill St., Montreal. See their advertisement in this issue.

Folding Sawing Machine.—Many of our readers in this and other countries are using the Folding Sawing Machine, and if it were not entirely satisfactory we should have heard something to that effect long ago. For the benefit of our new subscribers and all who are not acquainted with the machine, we add the following short description: It is designed to take the place of the old back-breaking cross-cut saw. It does this and more. It saves the time of the extra man. It will saw more wood, crosscut more logs, saw down more trees than two men can with the ordinary saw; it adjusts itself to all kinds of lands, hillsides, uneven places, etc.; it folds up neatly and is easily conveyed from place to place, and it is well and substantially built from the best seasoned white ash, malleable-iron castings, and the best steel saw-blade that money can buy. Write the Folding Sawing Machine Co., 35-7 9 Jefferson St., Chicago, Ill., for illustrated catalogue and testimonials.

Valuable Premiums!

These very liberal premiums are given our subscribers for sending us
NEW SUBSCRIBERS,
 accompanied with the cash.

No subscription must be taken at a less rate than
\$1.00 PER YEAR.

EVERY farmer who reads the FARMER'S ADVOCATE is benefited many times the subscription price. No better time than now to get new names.

"Post" Fountain Pen

SOMETHING THAT EVERY MAN, WOMAN, BOY AND GIRL NEEDS.

It is a wonderful tribute

to the greatest invention in fountain-pen construction of the age.

THE PRICE OF THE POST IS \$3.00. IT CANNOT BE PURCHASED UNDER THIS PRICE ANYWHERE.

The patentee has a hard-and-fast agreement with the trade and agents that \$3 shall be the lowest retail price. By a special agreement we are in a position to make

A Great Offer:

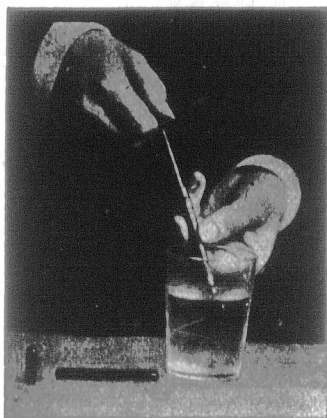
We will send one of these pens to anyone who sends us three new subscribers, accompanied by \$3.00 in cash.



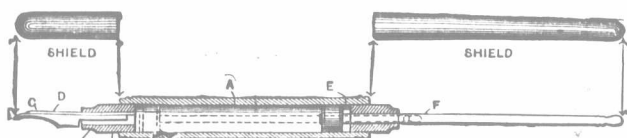
General Lew Wallace, the author of the greatest book of the age, "Ben Hur," also "Prince of India," "Commodus," etc., says in a letter in his own handwriting: "The fountain pen, Post, was received, and I have taken the liberty of trying it thoroughly. Please accept the excuse for failure to acknowledge sooner. "I have tried every pen of the kind on the market, and now unhesitatingly give the preference to the Post. It not only feeds itself with less care, but has the immeasurable advantage of re-supply without inking the fingers. I do all my work with it."

Lew Wallace

To show our confidence in this pen, we will send you one on trial for a week upon receipt of \$1.00, which, if not entirely satisfactory, you can return to us and we will refund you the \$1.00 paid us. If satisfactory, you must send us the names and addresses of the three new subscribers and \$2.00 additional cash.



THE only self-filling and self-cleaning pen manufactured in the world. To fill the pen, put the nib in ink and draw the piston rod up. To clean, put the nib in water and draw the piston rod backwards and forwards a few times.



A, Barrel; B, Nozzle; C, Pen; D, Feed; E, Plunger; F, Rod.



The world's greatest singing evangelist, who has thrilled thousands and tens of thousands, now raises his voice in praise of the Post Fountain Pen.

Mr. Sankey sends the following characteristic letter: "I have used the Post pen for some time, and have had great satisfaction with its use. It never fails or gets cranky. One can at least have clean hands by using the Post, whatever the heart may be."

Frank Sankey

ADDRESS

The Wm. Weld Co., Ltd., London.

Want a Good Watch?

WE have succeeded in procuring from one of the most reliable jewelers in Canada a complete list of Gents' and Ladies' Watches of sufficient variety to suit every one, and have no hesitation in recommending them to our readers as premiums worthy of an effort to secure. These are not by any means the same class of goods as are hawked around fair grounds, but first-class in every particular, and we assure you that you will be pleased with whatever of the above premiums you may obtain. Let us hear from you at an early date with a good list of new subscribers accompanied by the cash, and take your choice.

Gents' Watches.		Ladies' Watches.	
	New Subscribers.		New Subscribers.
No. 1. Yankee Nickel Watch	2	No. 15. Gun Metal Swiss Chatelaine	4
No. 2. Trump Nickel Watch	4	No. 16. Sterling Silver Swiss Chatelaine	4
No. 3. Trump Gun Metal Watch	5	No. 17. Nickel American O. F., large size	5
No. 4. No. 14 Silver Watch	8	No. 18. Gun Metal American O. F., large size	5
No. 5. 7 Jeweled Gent's Elgin in 3 oz. Nickel Case	10	No. 19. Nickel, small size	9
No. 6. 7 Jeweled Gent's Elgin in Gun Metal Case	11	No. 20. Gun Metal, small size	10
No. 7. 7 Jeweled Gent's Elgin in Sterling Silver Case	14	No. 21. Sterling Silver, small size	10
No. 8. 7 Jeweled Gent's Elgin in 20-year Filled Case	18	No. 22. 7 Jeweled Elgin in 20-year Filled Hunting Case	20
No. 9. 7 Jeweled Gent's Elgin in 25-year Filled Case	21	No. 23. 7 Jeweled Elgin in 25-year Filled Hunting Case	22
No. 10. 15 Jeweled Gent's Elgin in 3 oz. Nickel Case	15	No. 24. 15 Jeweled Elgin in 20-year Filled Hunting Case	23
No. 11. 15 Jeweled Gent's Elgin in Gun Metal Case	15	No. 25. 15 Jeweled Elgin in 25-year Filled Hunting Case	25
No. 12. 15 Jeweled Gent's Elgin in Sterling Silver Case	18		
No. 13. 15 Jeweled Gent's Elgin in 20-year Filled Case	21		
No. 14. 15 Jeweled Gent's Elgin in 25-year Filled Case	25		

Description of Watches.

The accompanying cuts fairly well represent all the Ladies' and Gents' Watches, and a description of each as numbered is as follows:

No. 1. American Nickel Key-wind Boy's Watch that is absolutely guaranteed to keep good time and give satisfaction.

No. 2. Gent's Nickel American O. F. Watch; stem wind, and push-in stem and turn to set hands. This is a very strong, reliable Watch.

No. 3. Same as No. 2, excepting that it has Gun Metal case instead of Nickel case.

No. 4. Is a smaller-sized Gent's Watch, has sterling silver case, O. F. Screw Back and Bezel; stem wind, and push-in stem and turn to set hands. This is the lowest-priced and most reliable Boy's or small Gent's Silver Watch that is on the market.

No. 5. Is fitted with 7-Jeweled Nickel, first-quality Elgin movement. The case is a 3-oz. O. F. Nickel case; stem wind and set; screw back and bezel case.

No. 6. Same movement in Gun Metal or Black Steel screw back and bezel case.

No. 7. Same movement with Sterling Silver O. F. screw back and bezel case.

No. 8. Same movement in 20-year guaranteed Gold Filled O. F. screw back and bezel case.

No. 9. Same movement in 25-year guaranteed Gold Filled O. F. screw back and bezel case.

Nos. 10, 11, 12, 13 and 14 are fitted in the same style of cases as Nos. 5, 6, 7, 8 and 9; the difference is in the movement, and the movement is 15-Jeweled Nickel, first-quality Elgin movement.

No. 15. Is a small-sized Swiss O. F. Gun Metal Chatelaine Watch.

No. 16. Is the same, only with Sterling Silver case, which can be had nicely engraved.

Nos. 17 and 18 are a good-quality American Watch, O. F. stem wind, and push-in stem and turn to set hands. These are a little larger than the usual Ladies' Watches, and are smaller than the usual Boys' Watches, though can be used for either Boys, Girls or Young Ladies.

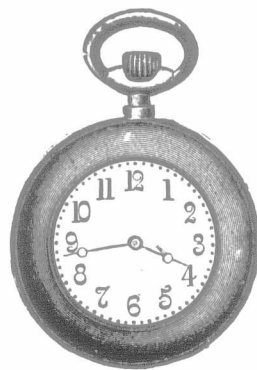
Nos. 19, 20 and 21 are small sized; in fact, are the exact size of cut. These are American Watches, O. F. stem wind, and push-in stem and turn to set hands, and are first-class timekeepers. Will give perfect satisfaction.

If a nice leather wrist case is desired with these watches, send two extra subscribers.

Nos. 22, 23, 24 and 25 are similar to the accompanying cut. These are regular Ladies' Hunting Watches. Nos. 22 and 24 are fitted in 20-year guaranteed Gold Filled cases, nicely ornamented, or to be had in plain or plain engine turned, and the same applies to Nos. 23 and 25, excepting that they are fitted in 25-year guaranteed Gold Filled cases, and 14k Gold Filled; 22 and 23 are fitted with 7-Jeweled Nickel, first-quality Elgin movements. Nos. 24 and 25 are fitted with 15-Jeweled Nickel, first-quality Elgin movements.

When making your choice of Watch as premium, be sure to mention its number as given in premium list, also whether Lady's or Gent's.

THE WILLIAM WELD CO., LTD., LONDON, ONT.

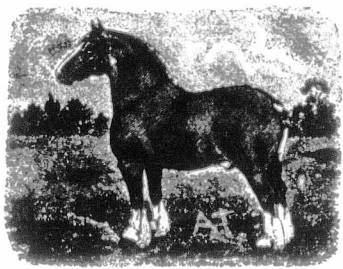


The Horses that made Janesville Famous.

For twenty years past Janesville has been associated with all that was high-class in the line of horses, and the name of "GALBRAITH" is familiar as a household word to every horse breeder of any note on this continent. The undersigned respectfully invites an inspection of his present stock of

CLYDESDALES,

which are believed to be fully equal to the best ever maintained during the palmy days of the business. Ample size, superior breeding, great individuality, moderate prices, and the best of guarantees, are among the inducements offered buyers. An assortment of Percherons, Shires, Suffolks and Hackneys also on hand. The only place where the best of all the breeds can be compared alongside each other. Prominent prizewinners at the recent International Live Stock Show at Chicago. Send for catalogue.



ALEX. GALBRAITH, JANESVILLE, WISCONSIN.

GRAHAM BROS., CLAREMONT, ONT.

PIONEER IMPORTERS AND BREEDERS OF

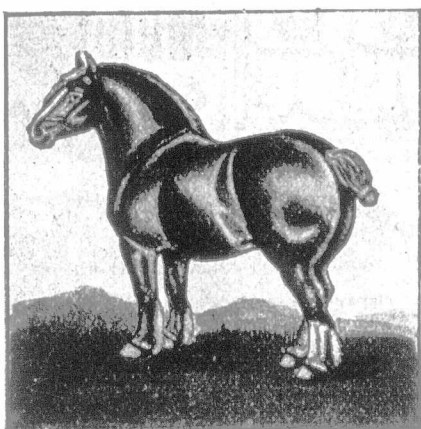
Clydesdales and Hackneys.

THE HOME AND HEADQUARTERS OF THE WINNERS. The oldest, largest and most complete collection of Clydesdales in America. Established in 1871, and has been the champion stud ever since.

27 FIRST AND 9 SECOND PREMIUMS, INCLUDING 7 GRAND SWEEPSTAKES.

At the recent leading Canadian shows—Toronto and Ottawa—being three times the number won by all competitors. Our animals are of immense size, good quality and action. Prices moderate. Terms to suit customers. Visitors cordially invited. Correspondence solicited.

CLAREMONT IS 25 MILES EAST OF TORONTO, ON THE C. P. R.



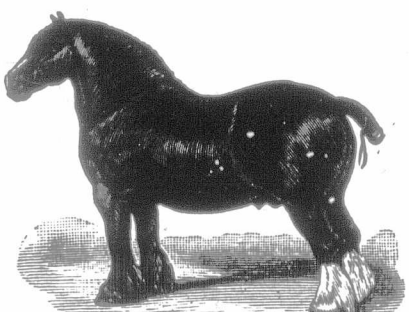
CLYDESDALE STALLIONS FOR SALE.

Fourth consignment will arrive about February 15th, 1901.

A High-class Lot, of Good Size and Quality, and of Most Fashionable Breeding.

Parties desirous of securing high-class horses will do well to see these or write us before purchasing.

Dalgety Bros., 463 King St., LONDON, ONT.



GOSSIP.

William Willis & Son, breeders of Jersey cattle, at Newmarket, Ont., write:—"Our calves are doing well, and the two young bulls sired by our Count of Pine Ridge would do to head any herd, as they are very promising. They are from excellent cows, and Count is a grandson of Adelaide of St. Lambert, which gave 82½ lbs. of milk in 24 hours."

The Shorthorns advertised by John Cook, Jr., Amulree, Ont., to be sold at public auction, are in nice breeding condition. They were shown at several exhibitions last fall, when they won many good prizes. The grades include a good class of stock. Mr. Cook is retiring from business, and will therefore sell everything without reserve. Write him at Amulree, Ont., for particulars of breeding, etc.

AUCTION SALE OF BERKSHIRES AND LEICESTERS.

Messrs. H. Bennett & Son, St. Williams, Ont., write:—"As the health of H. Bennett will not permit him to look after his stock any longer, he has decided to sell his entire stock of Berkshires and Leicesters (for date, see ad.) by public auction, at his farm near St. Williams, Ont., a station on the Jarvis and Port Rowan branch of the G. T. R., 26 miles from Jarvis."

THE AUCTION SALE OF THOROUGHBRED HORSES IN TORONTO.

The special sale of Thoroughbreds consigned by Mr. N. Dymont, Barrie; Mr. Joseph Dugan, Toronto; F. M. Ware, New York; Major Dent, Malton, Eng., and others, will take place on March 12th, at Grand's Repository, as per advertisement. The catalogues, which may be had on application, include the following valuable stallions: Imp. Sentinel, consigned by Major Dent, Malton, Eng.; Homecrest, Imp. Courtown, Imp. Superior, Imp. Annie Boy, Oceanic, and Foam, also a large number of mares and geldings.

M'CORMACK'S AYRSHIRES AND BARRED ROCKS.

Messrs. Jas. McCormack & Son, Rockton, write:—"In sending in change of ad., we might say that our Ayrshires are doing very well. Our imp. bull, Glenora Sultan, is developing into a very fine animal, and is producing fine stock, some of his calves weighing 75 lbs. at birth."

"We have three young bulls for sale, from 7 to 17 months old. The 17 months' old bull is the first-prize bull calf under a year at Toronto last September. He is a fine bull—large and lengthy. His dam is from Jock Morton. She is a very heavy milker, with fine large teats. She won second at the Winter Dairy Show, at Brantford, in 1898, for heifer under 36 months."

"Our National strain of Barred Rocks have again been very successful at the late shows. At the Ontario Provincial, at Guelph, we won first on hen (over 30 competing). The mother of this hen won first at the big Jubilee Show at Toronto in 1899. We will have some matings for this season's egg trade. A full brother to our Guelph winner heads our best mating, and we can supply eggs for incubator purposes, from pure-bred stock, at a very low cost."

45 IN.
47 IN.
39 IN.
32 IN.
26 IN.
20 IN.

AMERICAN FIELD AND HOG FENCE FULLY GUARANTEED. Best steel wire heavily galvanized. Strong, economical, efficient, durable. Local agents everywhere. If no agent in your town write to the makers. American Steel & Wire Co., Chicago or New York.

Dispersion Auction Sale

Of entire herd of Berkshire Swine and Leicester Sheep, without reserve, on Wednesday, March 8th, 1901, at 1 o'clock p. m. The property of H. BENNETT & SON, St. Williams, Ont. J. BALDWIN, AUCTIONEER.

Shorthorns for Sale.

Two excellent bulls, sixteen months old; roan in color; well bred and well grown; at reasonable prices.

D. ALEXANDER, - BRIGDEN, ONT.

18 Shorthorns 18

PUBLIC AUCTION March 19th, 1901, 1 p. m.

Four bulls, fourteen females, registered. Also twenty-one High-grade Shorthorns, as well as fourteen Sheep and seven Horses.

SALE AT LOT 16, CONCESSION 6, NORTH EASTHOPE, OXFORD CO. TWELVE MONTHS' CREDIT.

John Cook, Jr., Proprietor, AMULREE, ONT.

IN WRITING PLEASE MENTION FARMER'S ADVOCATE.

AUCTION SALE Shorthorn Cattle and Leicester Sheep

WEDNESDAY, MARCH 13TH, 1901,

Consisting of eleven cows and heifers of Duchess and Princess families. Good milking strains. Five young bulls. 35 Leicester ewes of choice breeding. Catalogues on application.

WM. COWAN, V. S., Galt, P. O.

GREAT SHORTHORN SALE

R. & S. NICHOLSON, OF SYLVAN, AND W. H. TAYLOR, OF PARKHILL,

WILL BE BY AUCTION, AT "SYLVAN LODGE," ON Wednesday, March 20, 1901,

40 Head of Shorthorns 27 FEMALES 13 BULLS.

The most of them have from 4 to 6 crosses from bulls that have won 1st at the Toronto Industrial Exhibition. We are satisfied that no better lot of home-bred cattle have been offered for a number of years. All young, and nothing doubtful in the lot. Terms: 12 months' credit on approved paper. LOCATION: 5 MILES SOUTH-WEST OF PARKHILL STATION ON THE G.T.R. Teams will meet train on evening before and morning of sale. Catalogue sent on application.

CAPT. T. E. ROBSON, R. & S. NICHOLSON, AUCTIONEER, ILDERTON, SYLVAN P.O., ONT.

36 Shorthorns by Auction ON MARCH 5TH, AT 1 P. M.

11 cows, 6 two-year-old heifers, 7 yearlings, and 3 bulls, two of which are fit for service. The cows and heifers are all bred to MASTER MASON = 29939 =, bred by J. & W. Russell, who won the leading prizes at the Centennial Exhibition, Philadelphia, and World's Fair, Chicago. Also, a draft from the herd of Mr. Wm. Newton, of Limehouse, of 2 cows with calves at foot, 2 two-year-olds, and 3 bulls, two fit for service. Farm, ½ mile from Georgetown, G.T.R. Conveyances will meet all trains. Catalogues upon application.

R. C. McCULLOUGH, JOHN SMITH, M. P. P., BRAMPTON, AUCTIONEER, GEORGETOWN, ONT.

DISPERSION BY AUCTION OF A HIGH-CLASS HERD OF

30 Registered Jersey Cattle

AT "SPRING VALLEY FARM," BERLIN, ONT.,

FRIDAY, MARCH 15th, 1901,

BRING THE ENTIRE HERD OF MR. R. REID.

THOS. INGRAM, GUELPH, J. W. DAVEY, BERLIN, AUCTIONEERS. R. REID, PROP., BERLIN, ONT.

The farm one mile from the center of the town. Catalogues will be mailed on application.

IMPORTANT DISPERSION SALE.

20 PURE-BRED SHORTHORNS, 38 HIGH-GRADE SHORTHORNS

THE PROPERTY OF D. A. GRAHAM, IVAN, ONTARIO.

WEDNESDAY, APRIL 3rd, 1901

AT THE FARM, LOT 13, CONCESSION 8, TOWNSHIP OF LOBO, IN THE COUNTY OF MIDDLESEX.

Luncheon at 12 o'clock noon. Sale to commence at 1 o'clock p. m. Catalogues on application.

TRAINS MET AT ILDERTON, ON HURON AND BRUCE R. R., MORNING OF SALE. CAPT. T. E. ROBSON, AUCTIONEER.

LATELY IMPORTED A FRESH LOT OF

CLYDESDALE STALLIONS,

Comprising sons and grandsons of many of the most noted Scotch showyard winners and sires, all in the pink of condition without surplus flesh, and personally selected to meet the best Canadian markets, having, without exception, the best of bone, hair, feet, and action, coupled with true Clyde character.

I will make further importations as the times demand. Inspection invited. Prices consistent with quality.

ROBERT GRAHAM, Stouffville Station, G. T. R., and telegraph office. RINGWOOD P. O., ONT.

Annual Meeting of the Dominion Sheep Breeders' Association.

The annual meeting of the Dominion Sheep Breeders' Association was held in the Palmer House, Toronto, on February 22nd, 1901; the President, Mr. A. W. Smith, in the chair. The Secretary-Treasurer read his annual report, which was taken up clause by clause and adopted, with the amendments, as given below: It was recommended that the general admission to the Provincial Winter Show be the same as last year.

On motion, it was resolved: "That the clause relating to 'ten per cent. added to prizes' be left as last year; that is, the report on feeding be made after the show, instead of before." Also "That the Secretary be instructed to inform the Provincial Winter Fair Board of the action of this meeting on the appointment of judges and the sheep prizes, the action in one case being the recommendation of the single-judge system, and the other confining prizes to carcasses of wethers, as amended."

The President, in his address, congratulated the sheep-breeders of Canada upon the flourishing condition of the industry. The past year had been one of the most prosperous in his recollection for the sheep-breeders of the Dominion.

ELECTION OF OFFICERS.

The election of officers for 1901 resulted as follows: President—A. W. Smith, Maple Lodge. Vice-President—R. H. Harding, Thornedale. Secretary-Treasurer—A. P. Westervelt, Toronto.

Directors—Cotswolds, D. McCrae, Guelph; Leicesters, Jas. M. Gardhouse, Highfield; Hampshires and Suffolks, John Kelly, Shakespear; Dorsets, John A. McGillivray, Uxbridge; Southdowns, John Jackson, Abingdon; Oxford, Jas. Tolton, Walkerton; Lincolns, John Gibson, Denfield; Merinos, W. M. Smith, Fairfield Plains; Shropshires, D. G. Hamner, Mt. Vernon; Ontario Agricultural College, Prof. G. E. Day, Guelph.

Auditor—J. M. Duff, Guelph. Delegates to Fair Boards.—Toronto Industrial—J. M. Gardhouse, Highfield; John Jackson, Abingdon. Ottawa—F. W. Hodson, Ottawa. London—A. W. Smith, Maple Lodge; A. P. Westervelt, Toronto. Provincial Winter Fair—A. W. Smith, Maple Lodge; John Jackson, Abingdon; Jas. Tolton, Walkerton.

The appointment of judges for the Provincial Winter Fair was left in the hands of the Winter Fair Board.

The following expert judges were nominated: Cotswolds.—John Rawlings, Ravenswood; Wm. Thompson Uxbridge; Val. Ficht, Oriol; R. Honey, Brickley; Jas. Hume, Arkell; W. G. Laidlaw, Wilton Grove; Jos. Ward, Marsh Hill; J. D. Davidson, Belhaven; John Slater, Buttonville; Jas. Russell, Richmond Hill; Thos. Teasdale, Concord; J. C. Snell, London; F. Bonnycastle, Campbellford; John Park, Burgessville; T. Hardy Shore, Glanworth; Wm. Rae, Arkell; A. Johnston, Greenwood; A. J. Watson, Castleberg; Prof. Day, Guelph. Toronto—R. Miller, Stouffville; T. Hardy Shore, Glanworth; Jas. Hume, Arkell. London—W. Thompson, Uxbridge; Wm. Rae, Arkell. Ottawa—W. G. Laidlaw, Wilton Grove; F. Bonnycastle, Campbellford. Chicago—Prof. Curtiss, Ames, Ia.

Leicesters.—Jas. Fennell, Bradford; H. B. Jeffs, Bond Head; A. E. Archer, Warwick; Geo. Whitelaw, Guelph; John Wells, Galt; Hardy Shore, Glanworth; Abraham Easton, Appleby; E. Wood, Appleby; Wm. Parkinson, Eramosa; E. Parkinson, Eramosa; John Orr, Galt; Wm. Watt, Salem; Wm. McIntosh, Burgoyne; Thos. Currelly, Fullarton; R. Eastwood, Mimico; John Kelly, Shakespear; Andrew Thompson, Ferguson; J. K. Campbell, Palmerston; J. C. Snell, London; G. B. Armstrong, Teeswater; John Gibson, Denfield; C. E. Wood, Freeman; Jos. Gaunt, St. Helen's; J. M. Gardhouse, Highfield; Andrew Whitelaw, Guelph; William Whitelaw, Guelph; R. C. Martin, Marysville; Alex. Smith, Maple Lodge; Alex. Waidie, Acton; Walter Nichol, Plattsville; H. G. Arnold, Maidstone; Prof. Craig, Ames, Ia.; John Marshall, Cass City, Mich.; J. W. Murphy, Cass City, Mich.; Prof. Curtiss, Ames, Ia.; D. C. Graham, Cameron, Ill.; Geo. Penhale, Exeter; Jas. Snell, Clinton; John Wright, Chesley; Prof. Day, Guelph; M. Kennedy, Northwood; D. Lillo, Ayr. Toronto—E. Parkinson, Eramosa; Jas. Fennell, referee. London—John Wright, Chesley; J. B. Jeffs, referee. Ottawa—John Orr, Galt. Brantford—W. Whitelaw, Guelph.

Dorsets.—Jas. Kelly, Shakespear; Chas. Fairbairn, Bobaygeon; Robert Miller, Pickering; J. C. Snell, London; J. M. Gardhouse, Highfield; Jas. Johnston, Trafalgar; John Campbell, Vernon; John Jackson, Abingdon; J. G. Hamner, Mt. Vernon; Richard Gibson, Delaware; W. H. Beattie, Wilton Grove; Prof. Curtiss, Ames, Ia.; Thos. W. Hector, Springfield-on-the-Credit; G. P. Everett, Mt. Vernon; Mortimer Levering, Lafayette, Ind.; A. Danks, Alamyuchy, N. J.; Prof. Craig, Ames, Ia.; Jas. Tolton, Walkerton; H. N. Gibson, Delaware; G. McKerrrow, Sussex; Wm. Henry, Arkell, Teeswater; Henry Arkell, Arkell; E. O. Denton, Somers-et, N. Y.; Herbert Hamner, Burford; R. Bailey, Union.

Southdowns.—John Miller, Markham; H. N. Gibson, Delaware; John Jackson, Abingdon; T. C. Douglas, Galt; Henry Arkell, Teeswater; W. H. Beattie, Wilton Grove; A. Swinton, Blackheath; Wm. Telfer, Paris; J. G. Hamner, Mt. Vernon; Jas. Smith, Mt. Vernon; H. B. Jeffs, Bondhead; Jas. Scott, Aberfoyle; Geo. McKerrrow, Sussex; Wm. Prof. Curtiss, Ames, Ia.; Prof. J. A. Craig, Ames, Ia.; J. C. Duncan, Lewiston, N. Y.

Oxford.—Smith Evans, Gourock; Jas. Tolton, Walkerton; R. J. Hine, Dutton; Kenneth Finlayson, Campbellton; Henry Arkell, Arkell; Wm. Dickson, Mildmay; Peter Arkell, Teeswater; John Harcourt, St. Ann's; J. H. Jull, Mt. Vernon; W. H. Arkell, Teeswater; John E. Cousins, Harriston; Arch. McKenzie, Corwhin; R. E. Birdsall, Birdsall; Geo. McKerrrow, Sussex; Wis.; W. A. Shaffer, Middleton, Ohio; J. V. Cooper, Pictou; Wm. Newman, Cherry Valley; Wm. Arkell, Teeswater; L. Parkinson, Greenock; A. Elliott, Pond Mills; D. Brown, Iowa; N. Gibson, Delaware; W. Lee, Simcoe; Prof. Craig and Prof. Curtiss, Ames, Ia. Toronto—Jas. Tolton, Walkerton; Henry Arkell, Arkell. London—W. H. Arkell, Teeswater; J. L. Tolton, Walkerton.

Hampshires and Suffolks.—R. Gibson, Delaware; H. Arkell, Arkell; Prof. J. A. Craig, Ames, Ia.; Ira Hiller, Thornton, Mich.; W. H. Beattie, Wilton Grove; Jas. Bowman, Guelph; Prof. Kennedy, Columbus, Ohio; U. S. W. R.

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Bowman, Mount Forest; John Kelly, Shakespear. Lincolns.—L. Parkinson, Eramosa; J. T. Gibson, Denfield; W. Oliver, Anonbank; T. E. Robson, Ilderton; G. Walker, Burford; J. G. Garry, London; J. C. Snell, London; R. W. Stevens, Lambeth; John Mitchell, Glencoe; John White, Eramosa; A. W. Smith, Maple Lodge; Geo. Whitelaw, Guelph; Hardy Shore, White Oak; J. H. Patrick, Ilderton; Jas. Petty, Hensall; J. M. Gardhouse, Highfield; Prof. Craig, Ames, Ia.

Shropshires.—R. Gibson, Delaware; G. P. Everett, Mt. Vernon; J. Conworth, Pictou; W. H. Beattie, Wilton Grove; A. Brown, Paris; R. Miller, Stouffville; J. Hamner, Burford; J. Campbell, Woodville; D. G. Hamner, Burford; M. Levering, Lafayette, Ind.; A. Elliott, Galt; J. Dickin, Wilton West; J. S. Thompson, Gas City, Ind.; Geo. Allen, Allerton, Ill.; W. G. Pettit, Freeman; D. J. Campbell, Woodville; G. Phin, Hespeler; Chas. Calder, Brooklin; H. N. Gibson, Delaware; Geo. Hindmarsh, Alisa Craig; C. W. Gurney, Paris; W. E. Wright, Glanworth; J. Miller, Brougham; H. Hamner, Burford; Prof. Curtiss, Ames, Ia.; J. C. Duncan, Lewiston, N. Y.; G. McKerrrow, Sussex, Wis.; Prof. Day, Guelph; S. Hagar, Plantagenet; Jos. Barnett, Rockland; Geo. L. Telfer, Paris, Toronto—Geo. Allen, Allerton, Ill.; Geo. Hindmarsh, Alisa Craig; reserve, W. H. Beattie, Wilton Grove. London—J. C. Duncan, Lewiston, N. Y.; reserve, Geo. Phin, Hespeler. Ottawa—R. Gibson, Delaware; reserve, A. Elliott, Galt. Fair Stock Show—Geo. McKerrrow, Sussex, Wis.; reserve, Prof. Curtiss, Ames, Ia.

Merinos.—Rock Bailey, Union; Andrew Terrill, Wooler; G. P. Everett, Mt. Vernon; W. H. Beattie, Wilton Grove; W. M. Smith, Scotland; R. Shaw, Glanford Station; J. G. Hamner, Mt. Vernon; Geo. McKerrrow, Sussex, Wis.

On motion, it was resolved: That it is the opinion of this meeting that after this year aged ewes should be struck out of the prize list, and substituted with either shearing ewes or lambs. It was also resolved that ewes should be shown singly, instead of in pairs. The Dominion Commissioner of Live Stock stated that the Dominion Government would pay for the transportation and maintenance of live stock going to the Pan-American Exposition; and they would also give free transportation to two men for each carload of stock.

A report, received from the committee appointed at the last meeting in regard to dogs killing sheep, was referred to a committee composed of John A. McGillivray, D. G. Hamner, John Jackson, J. C. Snell, and Richard Gibson. The sum of \$50 was granted by this Association to assist in paying the wages of a maktaking charge of the live stock going to the West.

NOTICES.

Highest Producing Grains in Canada.—Bulletin No. 36 of the Central Experimental Farm, Ottawa, has for some time been in circulation. It gives the results obtained in 1900 from trial plots of grain, fodder corn, field roots and potatoes at the Provincial Farms of the Dominion. The bulletin can be had by writing Dr. Wm. Saunders, Director Experimental Farms, Ottawa. It will prove a useful guide to farmers who wish to try new sorts of grain or roots.

The Disk Harrow and Steel Drum Roller.—T. E. Bissell, Ferguson, Ont., makes a specialty of disk harrows and steel rollers. He has made an earnest study of these machines and has succeeded in producing a combination and arrangement of materials and parts so as to give users of these machines entirely up-to-date, easy-running, durable machinery. The frames are strong and simple in construction, and the working parts are designed to work easily and well. See his advertisement.

A Successful School.—An assemblage of bright young men and women, gathered from many parts of the Dominion and united in the pursuit of practical knowledge under the direction of *lectre* experienced and capable teachers, may be seen any day by visiting the Central Business College, Toronto. Modernity is really the mistress of this excellent school. It is supported by thoroughness and careful attention to every detail which can be worked out for the benefit of the student. A Correspondence Department has been added during the past year, which opens the door for many young people to acquire a very good knowledge of business subjects who find it impossible to attend a school of this kind. See advertisement in this issue.

Freeman's Fertilizers.—The soil is often likened to a bank, from which can be drawn the interest for an indefinite period without reducing the account, but when the principal is commenced to be lifted, then the account begins to reduce. If we are farming with live stock and continue to purchase feed grains and restore the manure to the land to meet the produce that goes off in the form of flesh, bone, milk, etc., the soil will maintain its richness, but when something is being constantly sold off and nothing returned from an outside source, a constant depletion must take place, and its owner become gradually poorer. In order to meet this condition, fertilizers can be applied that will feed the crop and build up the land, so that full crops can be continued. See W. A. Freeman's advertisement in this issue, and write the firm at Hamilton for descriptions and prices of their fertilizers.

Ayrshire Breeders' Annual Meeting.

The third annual meeting of the Canadian Ayrshire Breeders' Association was held in Montreal, February 15th; Mr. A. Kains, Byron, in the chair. Among those present were Hon. Senator Owens, Montreal; F. W. Hodson, Dominion Live Stock Commissioner, Ottawa; J. Lockie Wilson, Alexandria; J. C. Smith, Hintonburg, Ont.; A. Clark, Brinston's Corners, Ont.; J. W. Nimmo, Toronto; A. Wood, Van-kleek Hill, Ont.; A. Hume, Burnbrae, Ont.; R. Brooks, Brantford, Ont.; W. W. Ballantyne, Stratford, Ont.; John Morrin, Belle Riviere; T. D. McCallum, Danville, Que.; R. Hunter, Maxville, Ont.; Thomas Irving, North Georgetown; James Boden, Ste. Anne de Bellevue; and Henry Wade, Toronto, Secretary-Treasurer, and J. P. L. Berube, Eastern Secretary.

The Secretary-Treasurer's report stated that 1,480 cattle had been recorded during the past year, against 1,254 the previous year. The total number of members of the Association is 190, an increase of 50 over 1898. Volume 10 of the Herdbook is now in the hands of the printer, entries closing March 1.

Continuing, the report stated: "I am very pleased to state that the Ross cow pedigrees, which affected the bull, Bonnie Scotland, and several hundred others, has been traced, allowing a great number of the best animals in New Brunswick, Nova Scotia, some in Ontario and Manitoba, to be passed, so that the future of this Association will be much brighter. They have also been accepted by the American Association.

"It is pleasing to be able to state that the sales of Ayrshire cattle have greatly increased during the past year. In the last half of the 19th century the Ayrshire cattle trade has advanced steadily along with the butter and cheese industries, and there is nothing to prevent a continuance of this advance, even in the 20th century. I would like to see a large representation of these fine cattle at the Pan-American Exposition, to take place this coming summer. I have been informed that the Dominion Government will pay the transport, and no doubt the Local Government will do something also. The show of cattle takes place from September 24th to 21st, just after the Toronto show. The entries are to be closed on July 15, 1901."

The financial statement showed receipts of \$1,935, and expenditure of \$1,491.95, leaving a balance on hand of \$443.25. The assets of the Association are \$1,585.29, with no liabilities.

OFFICERS ELECTED. The election of officers resulted as follows: President—W. F. Stephen, Trout River, Que. Vice-President—F. W. Hodson, Ottawa. Revising Committee—Ontario, N. Dymont, Clappin's Corners; Quebec, Robert Ness, Howick; Manitoba, George Steel, Glensboro, Man.; Assiniboia, C. W. Peterson, Regina, Assa.; British Columbia, A. C. Wells, Chilliwack; P. E. Island, Hon. Mr. Rogers, Charlottetown; Nova Scotia, Fred Black, Amherst; New Brunswick, M. N. Parlee, Sussex.

Directors—Ontario: W. Stewart, Jr., Menie; W. W. Ballantyne, Stratford; A. Kains, Byron; R. S. Brooks, Brantford; J. C. Smith, Hintonburg; A. Hume, Menie; F. W. Hodson, Ottawa; Quebec: W. F. Stephen, Trout River; James Bodena, St. Anne's; W. Wylie, Howick; Hon. Wm. Owens, Montreal; Nap. Lachapelle, St. Paul; R. Hunter, Maxville; R. Ness, Jr., Howick.

Executive Committee (Eastern Division)—Messrs. Hunter, Owens, and Lachapelle. Executive Committee (Western Division)—Messrs. Stewart, Ballantyne, and Smith. Revising Committee—Messrs. Hodson, Owens, Smith, Ness, and Wade. Auditor (Ontario)—C. F. Complin, London. Auditor (Quebec)—Hon. Wm. Owens. Eastern Secretary—J. P. L. Berube, Montreal. Secretary-Treasurer—Henry Wade, Toronto, Ont.

Delegates to Industrial Exhibition, W. W. Ballantyne and W. Stewart; Western Fair, A. Kains and R. S. Brooks; Ottawa, F. W. Hodson and Joseph Yuill; Sherbrooke, Que., T. D. McCallum and Robert Ness; Quebec, Nap. Lachapelle and D. Drummond.

It was moved by James Boden, seconded by John Morrin: That the different fair boards appoint two judges to judge Ayrshire cattle. Judges recommended—Toronto Industrial, G. H. Muir, A. Kains, D. Drummond, and T. D. McCallum; Ottawa Central, T. D. McCallum and D. Drummond; London Western, W. W. Ballantyne and William Stewart; Quebec Exhibitions and Lamarche and John Morrin; Sherbrooke, James Boden and A. Drummond; Kingston, John H. Douglas, Ware, and W. W. Ballantyne, Joseph Yuill, and James McCormack, John Morrin, Jas. Drummond and Thos. Irving be made life members of the Association, in recognition of the valuable service they have rendered in promoting the Ayrshire breed of cattle.

A discussion took place as to the advisability of making each member of the Canadian Ayrshire Breeders' Association a member of the Dominion Cattle Breeders' Association, resulting in the following motion: Hon. Wm. Owens moved, seconded by W. W. Ballantyne: "That the Canadian Ayrshire Breeders' Association make each member, by virtue of his membership, a member of the Dominion Cattle Breeders' Association, at a fee of 50 cents per member, and that two delegates be appointed from the Ayrshire Association to represent the Ayrshire interests on the Board of the Dominion Cattle Breeders' Association." Carried.

The delegates selected were W. W. Ballantyne and Dan Drummond. Moved by Hon. Wm. Owens, seconded by R. Hunter: "That, in the opinion of this Association, the cattle-breeding industry is seriously menaced by the tuberculin test as applied to cattle purchased for importation or sold for export; and that the test as now applied is misleading and of no real value; therefore, we respectfully ask the Honorable the Minister of Agriculture for the Dominion of Canada to discontinue the test so far as within his power." Carried.

On motion of J. Lockie Wilson, seconded by George H. Muir, it was resolved: "That we, the members of the Canadian Ayrshire Breeders' Association, in meeting assembled, express our regret that up to this date no action has been taken by the Government for the regulation of railway and ocean freight rates; that we specially urge that immediate action be taken by our representatives at Ottawa for the

Chicago Sheep Shearing Machine

1901 Model Stewart's Pat. Price \$15. Guaranteed to shear any kind of wool that grows. All gears cut from the solid metal and hardened. BOOK ON SHEARING just published. Finely illustrated, with valuable hints for fast and easy shearing by R. M. Marquis, champion of the world, will be sent free to any sheep owner on application. Address CHICAGO FLEXIBLE SHAFT CO. 158-160 Huron Street, Chicago, Ills.

Metal Shingles. SAFE LOCK SHINGLE. WE make them with locks on all four sides, absolutely preventing snow or rain getting in under shingles. They are fireproof and lightning-proof, and when made of galvanized iron do not require painting or any attention, and will last a lifetime. Will send model sample, catalogue and prices upon application.

The Metal Shingle & Siding Co. PRESTON, ONT. (Limited).

Sugar Beet Growth.

FARMERS SHOULD GROW SUGAR BEET. Profit from \$50 to \$100 per acre, at \$4 a ton at sugar refinery. Seed furnished to contractors of one or more acres. Call, or write—

John A. Moody, 398 1/2 Richmond Street, LONDON, ONT.

appointment of a permanent commission for the regulation of rates and the prevention of the great discrimination that now exists, and for the removal of the handicap now placed by the carriers on Canadian farmers' produce in granting lower rates for the larger and longer haul of our American competitors, who are thus placed in a better position than the farmers of Canada, in the markets of the world; also that a copy of this resolution be forwarded to the Dominion Government.

Moved by Alex. Hume, seconded by William Stewart: "That we urge upon the different fair boards to hold their exhibitions one week later, as the time selected is too early for the exhibitors." Carried.

Dominion Swine Breeders' Association Annual Meeting.

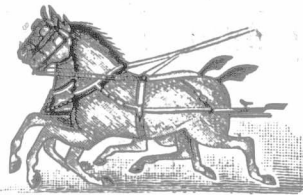
The annual meeting of the Dominion Swine Breeders' Association was held at the Palmer House, Toronto, Feb. 21, 1901, about 25 members being present, and the president, Mr. Wm. Jones, Mt. Elgin, in the chair. The secretary-treasurer's report was read, and, with a few slight amendments adopted. The clause recommending that the prizes for bacon hogs be confined to two sections, one for pure-breeds and one for grades, both alive and pressed, was, on motion, amended so that only in the carcass test should all breeds compete together, but on a motion to reconsider, this was modified, conditional on the donation of \$500 as prize money by the packers, in which case the original recommendation of the report will be adopted.

Following is a list of pedigrees and transfers recorded in 1900: Berkshires..... 1,260 Yorkshires..... 1,166 Chester Whites..... 270 Poland-Chinas..... 74 Tamworths..... 432 Duroc-Jerseys..... 37 Essex..... 18 Total..... 3,558

OFFICERS ELECTED FOR 1901. President, Wm. Jones, Mt. Elgin; Vice-President, G. B. Hood, Guelph; Secretary-Treasurer, A. P. Westervelt, Toronto. Directors—Berkshires, Thos. Teasdale, Concord; Yorkshires, J. E. Brethour, Burford; Chester Whites, R. H. Harding, Thornedale; Poland-Chinas, W. M. Smith, Fairfield Plains; Duroc-Jerseys, L. Tape, Tamworths; Andrew Elliott, Galt; Suffolks and Essex, Jos. Featherston, M. P., Streetsville; Ontario Agricultural College, Prof. G. E. Day, Guelph; General Director, George Green, Fairview, Auditor, J. M. Duff, Guelph. Representatives to Fair Boards—Toronto Industrial, D. C. Platt, Millgrove, and Thomas Teasdale, Concord; Ottawa, J. C. Smith, Hintonburg, and A. P. Westervelt, Toronto; London, D. DeCoursey, Bornholm, and Geo. Green, Fairview; Peterboro, Robert Vance, Ida; Guelph, G. B. Hood, Guelph, and Jas. Anderson, Guelph; Brantford, J. E. Brethour, Brantford; Belleville, J. M. Hurley, Belleville; Kingston, J. M. Hurley, Belleville.

PLEASE MENTION FARMER'S ADVOCATE

PROMINENT HORSEMEN SWEAR

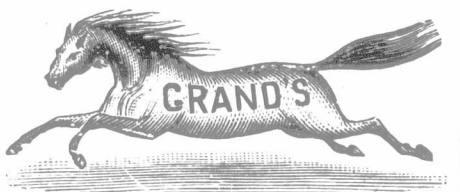


by our REMEDIES and TESTIFY they are as recommended. You will do likewise after a TRIAL. Our line consists of

Caustic Balsam (the greatest Liniment and Blister known—it has no superior), Colic, Chill and Fever, Tonic Mixtures, Lotion for Wounds, Heave Remedy, Condition Powders, Hoof Ointment, and Gall Cure. Your druggist or storekeeper should have them. If not, send us his name, and we will see that you are supplied. Every remedy guaranteed, or money refunded. Veterinary advice free. **EUREKA VETERINARY MEDICINE COMPANY, London, Ont.**

Grand's Repository

53 to 59 ADELAIDE ST. W., TORONTO, CAN.



Auction sales of Horses, Carriages and Harness every Tuesday and Friday, at 11 o'clock. Private sales every day.

The Great Special Sale of Thoroughbred

Stallions, Mares and Geldings

Consigned by **MR. N. DYMENT, Barrie**; **MR. JOS. DUGGAN, Toronto**; **MR. F. M. WARE, New York**; **MAJOR DENT, Milton, Eng.**, and others, will be held on

TUESDAY, MARCH 12th

CATALOGUES NOW READY.

The catalogue includes the following valuable stallions:

- Imp. "SENTINEL"—Hawkeye—Jennie Howlett, consigned by Major Dent, Milton, England.
- "HOMECREST"—Cheviot—Carmen, consigned by Mr. F. M. Ware, New York.
- Imp. "COURTOWN"—Herbertstown—Lady Alice.
- Imp. "SUPERIOR"—Chippendale—Olton.
- Imp. "CANNIE BOY"—Master Kildare—Cannie Agnes.
- "OCEANIA"—Imp. Certainty—Parthania, consigned by Mr. N. Dymont, Barrie.
- "FOAM"—Ocean Wave—Zoonomy, consigned by Mr. Jos. Duggan, Toronto.

The catalogues also include:
23 ROYALTY WELL-BRED MARES, 2, 3, 4, 5 and 6 year olds.

10 SPLENDID GELDINGS, from yearlings up. ALL REGISTERED THOROUGHBREDS. And will be sold on the above date, positively without the slightest reserve. Catalogues, giving full particulars and pedigrees, will be mailed to any one sending his address.

This is without doubt the most important sale of Thoroughbreds ever held in Toronto.

Walter Harland Smith,
AUCTIONEER, TORONTO, CAN.

NOTICE.

Cement Business Booming.—Messrs. Isaac Usher & Sons report having increased the output of their cement works at Queenston, Ont., from 350 to 500 barrels per day, to meet the increasing demand. Now is the time for farmers to get out the necessary sand and gravel for the work, which should be done early during the approaching season, so as to give the walls and floors ample time to "set" thoroughly before the early fall frosts. With regard to silos, Usher & Sons consider the square one, with bevelled corners, the best of all forms.

GOSSIP.

Mr. Wm. Cowan, V. S., Gall, Ont., advertises in this issue an auction sale on March 13th of sixteen Shorthorn cattle of good milking tribes, and thirty-five Leicester ewes of choice breeding. Catalogue with fuller information will be supplied on application.

Mr. Thos. F. Shore, White Oak, Ont., whose advertisement of turkeys and various breeds of fowl will be found in this issue, reports a good season's trade in Mammoth Bronze turkeys and the other fowls in his pens. He can still supply a few birds, but as they are going, those who need males should order soon. Mr. Shore has already commenced to book orders for eggs from his specially noted pens. Orders will be filled in rotation as received, and careful attention given to supplying exactly what is ordered.

The Farmer

Can Reduce Expenses

of cultivation by the judicious use of

Nitrate of Soda

upon his land! This when properly applied, with other elements of plant food, never fails to largely increase the yield of hay, grain, or garden crops, without additional cultivation or labor. Our literature and **list of dealers** in Nitrate of Soda will be sent free on application to **John A. Myers, 12-R John St., New York City.**

A 20th Century Event.

IS the introduction of Freeman's Fertilizers into the Maritime Provinces. Write to Ottawa for Bulletin No. 70. See the values of 107 samples analyzed last year, and behold FREEMAN'S way ahead, with an average intrinsic value of over \$28.00 per ton. Then place your order for the Best in Canada, Best in America, Best on Earth! For particulars and rock-bottom prices, write **Chas. A. McDonald, Gen. Maritime Agent, Poplar Grove, Mabou, C. B.**

WANTED—A working foreman—married, without children. Must understand the care of sheep in every particular, and be well up in modern farming. One who is kind and gentle with stock, will keep things neat and clean, and a good worker. No others need apply. State experience, age, and wages expected. Address **BONNIE BROOK FARM, Cazenovia, N. Y.**

Wanted to Rent A COUNTRY HOME, 50 to 100 acres, large brick residence, good barns and outbuildings; herd of registered dairy cattle. Possession by August 15th. Address: **COUNTRY HOME, FARMER'S ADVOCATE.**

A QUICK, SHARP CUT hurts much less than a bruise, crush or tear. Done with the **DEHORNING KEYSTONE KNIFE** is the safest, quick, sharp cut. Cuts from four sides at once. Cannot crush bruise or tear. Most humane method of dehorning known. Look highest award World's Fair. Write for free circulars before buying. **Owned and Manufactured by R. H. McKenna, V.S., Picton, Ont. THE LATE A. C. BROSIUS' PATENT.**

British Columbia.

Anyone thinking of farming in British Columbia should write for descriptive pamphlet of farms for sale in the Lower Fraser Valley—the garden spot of the Province.

We have compiled the largest and most complete list of farms, orchards, cattle-grazing and garden lands, and fishermen's attentions, in the Province. It has been very carefully selected, and we have personal knowledge of every property described. Prices range from \$3.00 per acre to \$250.00 per acre, and in extent from 1 acre to 1,000 acres. In the Lower Fraser Valley, and on the coast lands around Vancouver, we rarely have more than a month of frost and snow at outside, and the thermometer has only sunk to zero twice in ten years.

WRITE

HOPE, GRAVELEY & CO.,

536 Hastings St. VANCOUVER, B. C.

320-ACRE FARM FOR SALE.

South half Sec. 6, Tp. 16, R. 29, W.

260 acres thoroughly fenced and subdivided with three wires; 150 acres under cultivation; 56 acres summer-fallowed the past season, and 15 acres of fall plowing, ready for wheat in the spring. The farm has been worked on the 3-year rotation system, summer-fallowing one third every year, and land in first-class state of cultivation, yielding from 40 to 45 bushels wheat per acre. There is quite a large portion in virgin prairie, with bluff of good young poplar on it. Frame house, lathed and plastered twice, making two dead-air spaces, and well-finished in every respect. Main part, 20 x 30 ft., containing dining-room, kitchen, pantry, and hall, downstairs; 4 bedrooms and linen cupboard upstairs; and a lean-to on north side, 10 x 30 ft. There is a good stone cellar, with brick partition, under house. House cost \$1,200, not counting labor of drawing sand, stone, etc., and finishing. Stable, 26 x 40 ft., concrete; hayloft above, and frame implement shed, 15 x 40 ft., on north side. Henhouse, frame; pigpen, frame. Page-fence yard. Granary, 22 x 31 ft. All shingle-roof buildings; one frame stable, 22 x 15 ft., with sod roof. There is also a never-failing well. Seed and feed can be bought by purchaser at market prices. Situation: 17 miles from Moosomin; 3 miles from church and school. The N. W. C. R. R., whose present terminus is 25 miles east, is expected, during the coming summer, to run within 3 miles of the farm.

This is undoubtedly one of the best opportunities of obtaining a grand homestead at a moderate price.

For further particulars apply to

G. R. Collyer, or G. P. Collyer,
Wetlyn, Assa., or LONDON, ONT.
N.-W.T.

Farm for Sale

Known as the "Kinellar Lodge Farm," comprising 225 acres first-class land, bank barn (95 x 56), two-story brick house—all in first-class shape; 1 1/2 miles from Markham Station on the G. T. R. and 2 1/2 from Locust Hill on the C. P. R. For particulars apply to

JOHN ISAAC, MARKHAM P.O., ONT.

PLEASE MENTION FARMER'S ADVOCATE.

GOSSIP.

William Thorn, Lynedoch, Ont., writes:—"My Ayrshire cattle are coming through the winter in good shape. I have a good bull calf for sale, 11 months old, sired by imp. Royal Star, dam Lottie 2nd. His grandam is my old show cow, Lottie, by imp. Royal Chief, and out of Jess (imp.). This is a richly-bred calf from a high-class milking and show strain of Ayrshires. He is good size and fashionable color. I have a heifer calf for sale whose dam was bred by the late Thomas Guy, and is of the noted Gurta strain of Ayrshires. My 2-year-old heifers are of good stock. One is a daughter of Lottie, granddaughter of Royal Chief (imp.) and Jess (imp.). She is sired by Rob Brown of Barnmoor-hill. The other one is a granddaughter of Lottie, and sired by Rob Brown. The 3-year-old I am offering was bred by Mr. Guy. She is of the Gurta strain of Ayrshires, is a good large heifer, will be 4 years old in May, and is due to calve the 3rd of May. My reason for offering the above heifer is, I am overstocked for the amount of pasture I will have the coming summer. My poultry are doing well, and I have some very nice birds to sell. Our Toulouse geese are fine, large birds, and dirt cheap. I have sold several pairs, and they have given perfect satisfaction.

W. F. STEPHEN'S AYRSHIRES, AT TROUT RIVER, P. Q.

Mr. W. F. Stephen, whose home is near Trout River, in Huntingdon County, P. Q., has long been associated with Ayrshire cattle breeding, the herd being founded by his late father, Mr. James Stephen, over 30 years ago, when from time to time selections were made from such breeders as Thomas Irving, James Gibb, and James Drummond. In later years the herd gained an enviable show-yard reputation, animals from here frequently winning the highest honors at the leading shows. When Mr. Stephen disposed of the bulk of his herd two years ago, a few choice young females were reserved as a nucleus. These were chiefly sired by such bulls as Uncle Sam (out of imp. Nellie Osborne) and Baron Renfrew of Mansures (imp.), and out of the best-producing cows in the herd, upon which their owner employed Klondyke of St. Anne's 8897, a richly-bred young bull from Mr. Reford's herd, and as he follows Uncle Sam 6974, Duke of Argyle 2927, and Allan Gordon 5211, we would predict that his herd to fame was a tolerably sure one. Mr. Stephen has a splendid lot of young females on hand (about 20), chiefly 1, 2 and 3 years old, and will not feel disposed to increase that number very much; consequently, purchasers may approach him with the assurance of finding choice young stuff for sale at all seasons. Among his present offerings are a few straight young bulls, approaching the serviceable age, which any breeder might feel safe in using in his herd. Note Mr. Stephen's offerings.

W. F. TAYLOR'S AYRSHIRES.

Mr. W. F. Taylor, Wellman's Corners, Ont., has long enjoyed the distinction of having an excellent herd of Ayrshire cows, and each year when we call we cannot but admire the long rows of fine big cows in his stables, in the pink of health and bloom, cows of fine dairy conformation, with good constitutions, and carrying excellent, well-balanced udders, many of which trace their origin to the Red Rose tribe, so famous in Prince Edward County as heavy milkers. The season in which the bull, Douglas of Loudoun, by Royal Chief (imp.), and out of Dandy (imp.), did service marked a period most favorable to the future of the herd, as much of his mother's excellent conformation has been stamped on his progeny. Following him came the young bull, Dewey, by Dainty Lad of Elmshade, a son of the noted Silver King, and out of Mayflower 1098. He did two years' service, and his place is now filled by Minto 10496, by White Chief of St. Anne's, the worthy son of Glencairn 3rd (imp.), and out of Nellie of Park Hill 2091. A close analysis of the above reveals a strong combination of breeding seldom equalled in richness, the blood of such noted strains and individuals as Nellie Osborne, Silver King and Glencairn figuring prominently in the pedigrees of the younger members of the herd. When we called we found a few choice young bulls among Mr. Taylor's offerings, good, thrifty, straight young animals, in excellent health and with true Ayrshire character. Those requiring such stock, having richly-bred sires and grandsires, and out of big, strong, dairy cows with excellent udders and teats, will consult their own interests by visiting or writing Mr. Taylor.

MR. HOGATE,

Of the Hogate Importing Co.,

Sailed for England last Saturday, where he intends to purchase another lot of

CLYDESDALE AND ENGLISH SHIRE HORSES

For the spring trade. They will land at Woodstock about the 20th March, and all who want stock of this kind should not fail to see them, as they will be one of the finest lots ever seen in Canada. Call or write to

E. R. HOGATE,
WOODSTOCK, - ONTARIO.

BLACK PAIR DRIVERS

STAND 16 hands, good action and well matched. Sired by fuller by trainer and drive nicely. Sired by Toronto champion roadster, **BLACK VALENTINE**; dam by **HAMBLETONIAN GEORGE**—a frequent winner. 4 and 5 years old. No fancy price asked. Come or write.

JOHN CAMPBELL,
Fairview Farm, Woodville, Ont., Can.

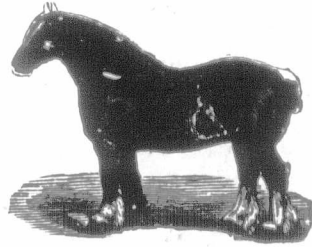
IT PAYS TO ADVERTISE IN
THE FARMER'S ADVOCATE.

WORLD'S STANDARD
Elgin
Elgin Watches
measure the flight of time with an erring accuracy. Perfectly adapted to the rougher usage of the mechanic and the farmer as well as the gentler handling of the lady of fashion. They come in various sizes and patterns to suit everyone. Sold by Jewelers everywhere.
An Elgin Watch always has the word "Elgin" engraved on the works—fully guaranteed.
Send for free booklet.
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THORNCLIFFE Stock Farm

The largest stud of Clydesdales in Canada, headed by the Champion Stallion of all ages,

"LYON MACGREGOR."



Stallions and Colts

From the best blood in Scotland and Canada. Ayrshire bulls and heifers from imported stock. Jersey heifers and bull calves, sired by the prize-winning bull, Distinction's Golden. Best milking strains, with good teats.

Terms reasonable. A visit to Thorncliffe will well repay you

ROBT. DAVIES,
Thorncliffe Stock Farm, TORONTO.

OAKLAWN FARM

AS ALWAYS, VASTLY IN THE LEAD.

PERCHERONS, FRENCH COACHERS, SHIRES.



ON HAND, HOME-BRED AND IMPORTED
270 STALLIONS, 235 MARES.

The greatest collection of stallions ever brought together. Our two large, recent importations for this year included the **Principal Prize Winners** at the **WORLD'S EXPOSITION, PARIS,** and at the Government Shows at Amiens and Mortagne, and the **Tops**, first choice, purchased from the leading studs of France and England.

The superiority of the Oaklawn Percherons was also shown at the **INTERNATIONAL LIVE-STOCK EXPOSITION** at Chicago, December, 1900, pronounced by press and public the greatest live stock exhibition ever seen, where **Oaklawn's Exhibit** was awarded **Three 1st Prizes, three 2d Prizes, three 3d Prizes, two 4th Prizes and two 5th Prizes** in the three stallion classes; **Championship, stallion, any age; Championship, mare, any age; 1st and 2d Prizes for collections; \$100 Gold Medal best group, five stallions; \$100 Gold Medal, best group, three mares.**

Catalog on application. Prices reasonable.
DUNHAM, FLETCHER & COLEMAN,
WAYNE, DU PAGE CO., ILLINOIS.

FOR SALE: Clydesdales and Shorthorns.

Young stallions and fillies bred from imported sires and dams. Also a choice bunch of Shorthorns, of both sexes and all ages, including a few extra choice young red and roan heifers and bulls.
JOHN BRIGHT,
Myrtle, Ontario.

Clydesdales and Ayrshires Imported and home-bred. Also Dorset Horned sheep, and the leading varieties of poultry. -om ROBERT NESS & SONS, Howick, Que.

4 Imp. Clydesdale Stallions From such well-known sires as Sir Everard (5353), Prince Roberts 7135, Prince Alexander 8899. 2 Imp. Shorthorn Bulls, 4 Bulls Imp. in Dams, 2 Canadian bred Bulls. 21 Imp. Cows and Heifers, 7 Canadian-bred Cows and Heifers. GEO. ISAAC & BROS., BOMANTON, ONT. COBOURG STATION, G. T. R.

FOR SALE. CLYDESDALE stallions, mares and fillies, representing the best blood in Scotland—Prince of Wales, Darnly, Macgregor and Lord Lyon—in-cluding the great sweepstakes winner, The Marquis (1182), a grandson of Prince of Wales and Macgregor; also the first-prize 3-year-old at Ottawa this season.

THOS. GOOD, Richmond P. O., Ont. R. R. Station, Stittville, C. P. R.

HEREFORDS FOR SALE.

THE HERD of upwards of 90 head of registered animals contains the blood of the best English herds, with imported Truce Briton and Likely Lad at the head. Stock of both sexes and all ages for sale. Correspondence or a personal visit invited.

A. S. HUNTER, DURHAM, ONT.

90 HEAD Herefords High-quality, Early-maturing Prizewinners. Young bulls, cows, heifers. The blood of "Corrector," "Eureka," "Ancient Briton," and "Rupert," on an "Anxiety" foundation. Send for illustrated catalogue. H. D. SMITH, COMPTON, QUE.

HAWTHORN HERD OF DEEP-MILKING SHORTHORNS. We are offering 8 young bulls for sale, of first-class quality, and all breeding. Wm. Frainger & Son, Londonborough, Ont. PLEASE MENTION FARMER'S ADVOCATE.

R. MITCHELL & SON, Burlington Jct. Station, Nelson, Ontario, Breeders and importers of SCOTCH SHORTHORNS. Offer for sale: 12 Canadian-bred females, 11 Imported females, 4 Imported bulls, 7 Canadian-bred bulls.

SPRINGFIELD FARM HERD OF Shorthorns, Oxfords, AND Berkshires. Young bulls and Heifers on hand. Also a few choice Berkshires. CHAS. RANKIN, Wyebridge, Ont. SIMCOE CO.



Shorthorn Bulls TWO excellent young bulls: one 2 yrs. in May, and one 1 yr. in Mar. Bred straight from high-class Scotch-bred bulls and Scotch-topped cows, of good milking families. Write for prices, or come and see for yourself. GEO. MILLER, Markham, Ont.

JOHN DRYDEN, BROOKLIN, ONTARIO, OFFERS SIX YOUNG SHORTHORN BULLS, ready for service, at reasonable prices. Strong, active, masculine. GOOD QUALITY AND CHOICE BREEDING.

FOR SALE: Shorthorn Bulls, Cows and Heifers, carrying a combination of Scotch top crosses, and tracing through many popular strains on the dam's side. -om F. A. Gardner, Britannia, Ont. YOUNG SHORTHORNS FOR SALE Our present offering includes several choice young bulls fit for service, sired by "Scotland Yet," and out of Warfare (imp.) dams; also bull calves, from Blue Ribbon (imp.), and out of Royal George cows. Inspection and correspondence solicited. A. & D. BROWN, M. O. RAILWAY, IONA, ONTARIO.

SPRINGBANK FARM. Shorthorn Cattle, Oxford Sheep, and Bronze Turkeys. Young bulls for sale. -om JAS. TOLTON, WALKERTON, ONT.

GOSSIP. WM. STEWART & SON'S AYRSHIRES AND POULTRY.

When we called at Messrs. William Stewart & Son's stock farm, at Menie, we found a gloom had recently been cast over the household by the death of one of Mr. Stewart's daughters, a bright young woman yet in her teens, who was stricken with diphtheria a few days previously. The family have the deepest sympathy of all their friends in such an hour of trouble. Owing to this circumstance, our visit was cut short, and only a hasty look was made among the stock. We found the working herd, of some 20 cows, in their comfortable quarters, recently provided. The two imported cows, Sprightly and Primrose, were found in their usual form, while Jean Armour and her descendants put up an attractive appearance. They are an excellent tribe; in fact, the kind of which any breeder might justly feel proud, being not only show animals, but the robust, productive kind, which are always able to account well for themselves, whether at the pail or in the show-yard. They are all good bull producers, and young sires from this family are eagerly sought. The young son of Jean Armour, by Mr. Hume's imported Caspian, is full of promise, having that type and form which inspires confidence in his future as a sire. Seldom is such an array of well-bred sires found in a herd of such proportions. White Prince (Imp.) is again installed here to assist Blair Athol and Hover-a-Blink, the son of Jean Armour and Dainty Lad. A few young bulls are among the present offerings that are at the serviceable age.

In poultry, Mr. Stewart, Jr., has gained a national reputation in the show-yards, which nothing but good judgment and personal attention could achieve. He informed us that at the recent Ottawa show, out of 74 entries he drew 35 firsts, 32 seconds, and four specials, while at Peterborough nearly everything competed for came his way; and when one considers the great competition such exhibits call out, it is evident that Mr. Stewart understands his business. In many lines, we were informed, it is frequently impossible to fill all orders, and we have yet to see any surplus stock on hand. The enormous demand absorbs all salable stock as fast as ready. The special lines bred here are Silver Gray and colored Dorkings, Houdans, Minorcas, Barred and White Rocks; Silver and Rose Comb, White and Brown Leghorns; Golden Penciled and Silver Spangled Hamburgs; Golden and Silver, White Crested and Black Polands; Indian Game, and Seabright Bantams; Rouen, Pekin, Aylesbury and Cayuga ducks, and Bronze turkeys. Note the firm's advertisement.

ROBERT NESS & SONS' CLYDESDALES, AYRSHIRES AND POULTRY.

Perhaps no breeders are better or more favorably known in their respective classes than are Messrs. Ness & Sons, Howick, Que. The firm have had a lifelong experience in their business, and during that period have enjoyed a reputation that only sterling business qualities can command. Being actively in touch and sympathy with the heavy-horse business at home and in Scotland, Mr. Ness, Sr., has been peculiarly well qualified to meet the requirements of the trade in breeding Clydesdale stock. We have frequently found their stables well filled with good, salable stock, but perhaps never better than on the occasion of our recent visit in January, when we were shown a string of Scotch and home-bred Clydesdales that would be hard to duplicate for form and quality. The 8-year-old brown horse, Durward Lely, half-brother to the great Baron's Pride, by Sir Everard, is the kind of horse for which this country will be the better. He combines size and quality with the grandest of bone and hair, coupled with character and quality seldom excelled. We also saw a splendid 3-year-old by Prince of Kyle, who won the highest show-yard honors in Scotland and fetched \$6,000 as a yearling; and while his son will perhaps never have such a brilliant career, he is an all-round good colt and will take a lot of beating when he gets into bloom. His feet and legs are just right. Of the three 2-year-olds, Mr. Ness informed us that two were by Baron's Pride and the third by Sir Everard. They are coming along in good form, and to all appearances will be on hand when the trumpet sounds, and while they may meet with strong opposition, the other fellow will have to go some to win. A few excellent home-bred animals were also shown us, chiefly the progeny of the grand imported horse, Lawrence Again, and although the old horse is away, he has left a lasting and impressive likeness in his sons and daughters, which give great promise, especially the yearlings and 2-year-olds. A few mares were bred the past season to Durward Lely, and since his get were qualified to win in strong classes from time to time, we see no reason why the firm are not in a position to breed as good horses here in Scotland as can produce. Show-yard winnings have clearly demonstrated the firm's judgment and ability to produce and bring out good Ayrshires, 75 head of which were on hand at the time of our visit, much, no doubt, being due to the high quality of the sires employed. To our enquiries, Mr. R. R. Ness, Jr., informed us that they have employed in the herd such bulls as Matchless (a son of Nellie O-borne), Golden Guinea (sire of many world's fair winners), Goldfinch (imp.), and Duke of Clarence (imp.), the spicy young champion show bull now at the head, a bull which has defeated all comers of his own and other ages. He has a superabundance of quality and style, and is bred in the purple, his stock proving wonderful sellers. Much might be said as to the individual merit of the females if space permitted, but in the face of the record the herd has established, we deem it sufficient to state that Mr. Ness has worked for a specific type in his cattle, the chief characteristics being constitution, quality, and productiveness, coupled with character, a combination of qualities which, coupled with the good facilities and sound judgment of the owner, is bound to succeed. A few Dorset sheep are kept, which were selected from the best Canadian flocks, and are headed by a ram of good proportions, from the flock of Mr. Jas. Bowman, Guelph. Much attention is given and ample accommodations provided a choice flock of poultry, their specialties being Barred and White Rocks, Silver Dorkings (which were imported), Light Brahmas, Black Minorcas, and Brown Leghorns; Bronze turkeys, China and Embden geese, Pekin and Cayuga ducks. Many of the best prizes of the large shows have fallen to the lot of this firm, and like the other branches of their stock, they are thoroughly in touch with the up-to-date poultry business.

IN THE AIR. The Germs of La Grippe are Conveyed Through the Atmosphere.

No one can escape La Grippe germ, because when an epidemic of the disease is prevailing the air is laden with it. The reason everyone does not have the disease at the same time is because the persons who are enjoying perfect health are able to successfully resist and throw off the infection, while those who for any reason are not in the best of health fall ready victims. The first symptoms are those of acute catarrh, resembling a hard cold, and if prompt treatment is applied at this time, it can easily be broken up. One of the best remedies at this stage is Stuart's Catarrh Tablets, sold by druggists everywhere, and if taken freely, say one tablet every hour or two for two or three days, the danger of pneumonia and serious complications will be averted. The Rev. L. E. Palmer, Baptist clergyman, of Ceresco, Mich., makes a statement of interest to all catarrh and grip sufferers. He says: "Stuart's Catarrh Tablets have certainly been a blessing to me. I have used them freely this fall and winter, and have found them a safeguard against La Grippe and catarrhal troubles, from which I had suffered for years. I feel that I can freely and conscientiously recommend them." Persons who suffer from catarrh of the head and throat are very susceptible to La Grippe, and such will find a pleasant, convenient and safe remedy in this new catarrh cure. Stuart's Catarrh Tablets are composed entirely of harmless antiseptics, and may be used as freely as necessary, as they contain no cocaine, opiate or poisonous drug of any kind. -om

Standard Sheep Dip (OIL OF TAR.)

Non-poisonous, cheap and effective. Destroys Scab, Lice, Ticks, Foot Rot, etc. Write for Testimonials and Circulars.

Manufacturers: The West Chemical Company, TORONTO, ONT. For Contagious Abortion use West's Fluid.

FOR SALE: SHORTHORN BULLS AND HEIFERS from such sires as Mariner (imp.), Royal Judd 17499, Sultan Selam (imp.), Grenadier 26251, and Roseville Abbott 30874, on a Victoria foundation. Also one extra Kinellar Stamp 10-mos. red bull. Come or write. HURON STATION, THOS. CUDMORE & SON, Hurondale, Ontario. EXETER STATION and Telegraph Office.

SHORTHORNS FOR SALE, of the Crimson Flower, Clarissa, Missie and Lustre tribes, with Indian Chief (imp.) and Clan Campbell (imp.) prominent in their pedigrees. Young bulls and heifers for sale. ARTHUR JOHNSTON, GREY COUNTY, Vandeleur, Ont.

SHEEP BREEDERS' ASSOCIATIONS American Shropshire Registry Association, the largest live stock organization in the world. Hon. John Dryden, President, Toronto, Canada. Address correspondence to MORTIMER LEVERING, Secretary, Lafayette, Indiana.

SHORTHORNS AND BERKSHIRES. Young bulls, six to twelve months old; cows and heifers. Berkshires (various ages, either sex), and Embden geese. MAC. CAMPBELL, Northwood, Ont.

Bonnie Burn Stock Farm Forty rods north of Stouffville station, Ont., offers 5 Shorthorn bulls and some heifers, 30 Shropshire rams and ewes from Imp. and Canadian-bred sires, at reduced prices. D. H. RUSSELL, Stouffville, Ont.

ARTHUR JOHNSTON Greenwood, Ontario, Canada. HIGH-CLASS SCOTCH SHORTHORNS (First Importation Made in 1874.)

(My recent importation of 30 head has just arrived home from quarantine. Herd now numbers over 120 head.)

OFFERS FOR SALE 40 Imported Cows and Heifers, 40 Home-bred Cows and Heifers, 11 Imported Bulls and Bull Calves, 13 Home-bred Bulls and Bull Calves.

Railway stations—Pickering, on main line of Grand Trunk Railway, 22 miles east of Toronto, and Claremont, 23 miles east of Toronto, on the C. P. Railway. Catalogues on application. om

Center Wellington Herd Scotch Shorthorns was founded in 1892 on Marr-bred descendants, to which have been added the Mistletoe and Matchless tribes, with Lord Stanley 4th 22678 at the head. Young cows and heifers for sale. Farm 1/2 mile from town and 11 miles north of Guelph. Box 66, H. B. WEBSTER, Fergus, Ont.

BIBBY'S CREAM EQUIVALENT

SOLVES THE PROBLEM OF HOW TO RAISE CALVES SUCCESSFULLY ON SEPARATED MILK. PRICE, \$3.50 PER 100 LBS. FREIGHT PAID TO NEAREST RAILROAD STATION.

MANUFACTURED BY J. BIBBY & SONS, 10 BAY STREET, TORONTO, CANADA.

We Append a List of Dealers from Whom Supplies and Further Particulars May be Obtained:

- Aylmer, J. E. Richards. Ailsa Craig, C. Walker. Aurora, W. A. Hill. Arthur, Jos. Driscoll. Barrie, J. R. Hamblly. Berlin, A. C. Holman. Brantford, J. J. Be s. Brantford, W. L. Campbell. Brantford, A. Watts. Cornwall, H. Yates & Co. Chatham, Geo. Stephens & Co. Caledonia, The Sherra Milling Co., Ltd. Cayuga, J. & J. Murray. Durham, A. S. Hunter. Galt, W. J. McMurray. Guelph, Jas. Hewer. Gore Bay, E. Battye. Hamilton, Jas. Dunlop. Hespeler, E. Harris. Hillsburgh, J. H. Lacey. Hagersville, A. T. Young. Jarvis, R. W. Smith. London, Jno. S. Pearce. Letroy, Isaac Morton. Markham, G. W. Resnor. Middleville, A. R. McIntyre & Co. West Montrose, H. Stuckey. Newmarket, Wm. Denne. Orono, J. Henry & Sons. Ormond, A. Campbell & Son. Ottawa, Bedingfield & McCusker. Owen Sound, J. Wright & Sons. Paris, W. K. Clark. Sault Ste. Marie, E. Noble & Co. St. Thomas, W. O. Foster. St. George, J. M. Kitchen. St. Mary's, G. Carter, Sons & Co. Stratford, W. R. Marshall & Co. Toronto, J. M. Purvis. Toronto, Wm. Rennie. Toronto, A. Simmers. North Toronto, McIntosh & Hortop. Verschoyle, E. C. Corbett. Woodstock, Patrick Bros.



FARMER'S ADVOCATE

IMP. FASHION'S FAVORITE.

FOR SALE:

Three imp. Yearling Bulls; Seven imp. in-dam Bull Calves.

Bred by Messrs. Duthie and Marr, from females imported by us, and sired by the best bulls in Scotland. All are excellently bred and first-class individuals.

We also offer any reasonable number of females, either in calf or with calves at foot; all ages.

Herd headed by the imported bulls, Golden Drop Victor and Prince Bosquet.

Also the Standard-bred Trotting Stallion, PAVON (30760) A. T. R.

CATALOGUE FREE.

If interested, come and see us or write:

H. CARGILL & SON, CARGILL, ONT., CAN.

TROUT CREEK HERD OF SHORTHORNS.

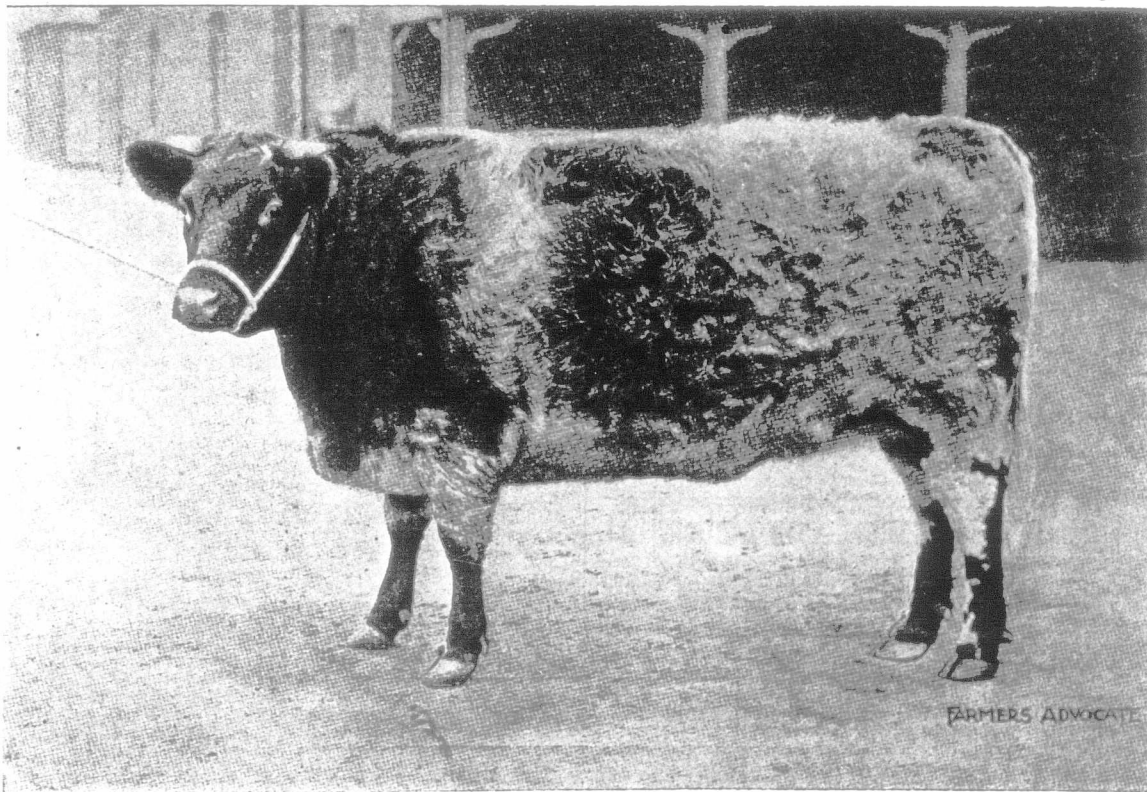
Since our Chicago sale we have imported sixty-two head, including some Royal winners; they were pronounced in Scotland superior to past importations. We try to import the best, believing that this is one of the ways to assist in improving the breed on this side of the water. Being thoroughly convinced, also, that a bull of the right sort is even more than half the herd, we have decided to keep the following choice ones:

Imp. Lord Banff,

Bred by A. Watson; of the Campbell Bessie family.

Imp. Consul,

Bred by J. D. Fletcher; of the Campbell Claret family. Consul was awarded first at Edinburgh, first and champion at Provincial Union, first and champion at Creiff, and second at the Highland. His sire, Watchword, bred by Wm. Duthie, was first at the Highland in 1895 and 1896, and got by Scottish Archer. Watchfire, by Watchword, was first at the Highland, 1897. Consul is the highest-priced bull imported to Canada.



CICELY.

Bred by Her Majesty the Queen; undefeated in her class and many times champion; imported by W. D. Flatt.

Imp. Silver Mist,

Bred by Wm. Duthie; of the famous Missie family. He had many friends for first choice at Messrs. Marr and Duthie's sale. Mr. Beck, representing the Prince of Wales, made next to last bid.

Imp. Wanderer's Last,

Bred by W. S. Marr; also of the Missie family. Is the last calf got by that renowned Cruickshank bull, Wanderer. Mr. Marr considers this youngster very promising.

We keep in our herd a choice lot of both imported and Canadian cattle, of both sexes, from which to make selections. Personal inspection invited. Parties desiring to see the herd will be met on arrival of trains at Hamilton if notice is given. Visitors always welcome.

W. D. FLATT,

378 Hess St. South.

HAMILTON, ONT.

Jas. Smith, Manager.

FOR SALE
Three Beautifully-bred
Clydesdale Stallions

Royal Erskine (imp.) [2529] (10431)

Brown; foaled May 3, 1896. Bred by Chas. Smith, Jr., Inchcorsie, Huntly, Scotland.

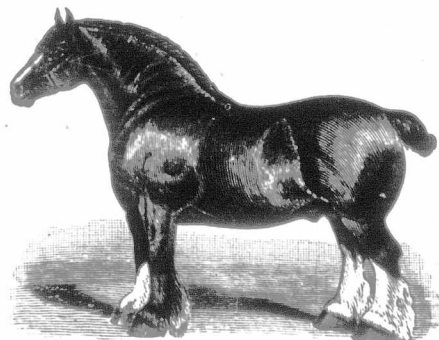
Dam Roseabella (19921)	Sire Prince of Erskine (9647)	Breeder of Sire.
2 Rose of Inchcorsie (7823)	Lord Montrose (7973)	W. S. Park.
3 Suste of Inchcorsie (7822)	Johnny (414)	J. McGibbon.
	Black Samson (64)	Wm. Ketcher.
		A. K. Leitch.

ROYAL ERSKINE is a grand young horse, and won Second at both Toronto and London in 1899 against strong competition, when in very thin condition, being just off the ship.

PRINCE OF ERSKINE (9647), by Prince of Albion; dam Halton Beauty (5687), by the great Darnley (222).

LORD MONTROSE (7973), by Knight Errant (4483); dam Lady Jane (6434), by Model Prince (1225).

JOHNNY (414), alias Nonsuch, alias Young Emperor, alias Rantin Johnny, was a prizewinner at the Highland Society's Show at Glasgow in 1875.



Balmedie Cameron Highlander (imp.) [2562] [Vol. 21, p. 134 S.]

IMPORTED IN 1899 BY H. CARGILL & SON, CARGILL, ONT.

Dark bay, white star on face, hind feet and ankles white, foaled April 7, 1898. Bred by W. H. Lumsden, of Balmedie, Scotland.

Dam Balmedie Doris (13511)	Sire Royalist (6243)	Breeder of Sire.
2 Lady Dorothy (8688)	Balmedie Prince (7434)	Jas. Lockhart.
3 Maggie of Kirminnoch (5827)	Darnley (222)	J. Cranston.
4 Jean of Kirminnoch (5826)	Strathclyde (1538)	Sir W. Stirling-Maxwell.
	Young Conqueror (957)	J. McIsaac.
	Cairn Tom (117)	Jas. Smith.
		Mr. Cochrane.

BALMEDI DORIS won the following prizes; only times shown:—1896. Second Prize as a three-year-old at Royal Northern, Aberdeenshire. 1897. Second Prize as yearling mare at Royal Northern, Aberdeen. 1898. Second Prize as mare with foal at foot, at Royal Northern, Aberdeen.

LADY DOROTHY won the following prizes, and was one of the best mares left by that famous stallion, Darnley (222)—1891. Glasgow Show, Fourth Prize. Royal Northern, Aberdeen. First and Special for best mare in yard. 1894. Royal Northern, Aberdeen, First with foal at foot. Highland and Agricultural Show at Inverurie, First Prize. 1898. Highland and Agricultural Show at Edinburgh, Silver Medal. 1894. Highland and Agricultural Show at Aberdeen, Third Prize. 1896. Formartine Show, First Prize and Special for best female. Inverurie Show, First Prize and Special for best female.

ROYALIST (6242), sire Darnley (222); dam Princess (6365), by Prince of Wales (673), is one of the Champion Clydesdale Stallions of the day, both in the show-yard and at the stud, his progeny having taken First Prizes at the Highland and Agricultural Society, Royal English, and other leading shows.

ROYALIST, in 1887, as a one-year-old colt, gained Third Prize at Kilmarnock, First Prize and Cup at Royal Northern Summer Show, Aberdeen, and Third Prize at Highland Society's Show at Perth. In 1888, as a two-year-old colt, he gained First and Challenge Cup at Inverurie Show, First Prize and Cup at Royal Northern Summer Show, Aberdeen. In 1899, as a three-year-old stallion, he gained First Prize at Royal Northern Summer Show, Aberdeen, and Second Prize at Highland Society's Show at Melrose; and in 1893, when seven years old, he gained First Prize and Challenge Cup as champion male at the Jubilee Show of the Royal Northern Society, Aberdeen.

BALMEDI PRINCE (7434), by Prince of Wales (673).

Royal Carruchan (imp.) [2561] (Vol. 21, p. 172, S.)

IMPORTED IN 1899 BY H. CARGILL & SON, CARGILL, ONT.

Bay, stripe on face, off fore and hind feet white; foaled May 4, 1898. Bred by David Walker, Coullie, Udney, Aberdeenshire, Scotland.

Dam Jess of Coullie (13647)	Sire Prince of Carruchan (8151)	Breeder of Sire.
2 Balfarg Jess (5305)	Mount Royal (8065)	J. McCaig.
3 Dainty of Kingsdale (2648)	Corsair (4419)	D. Mitchell.
4 Jess 2nd (1837)	Scotsman (760)	Sir W. Stirling-Maxwell.
5 Jess (778)	Stirling Tom (1537)	J. Melklem.
6 Mettle (830)	Sir Colin Campbell (778)	R. Moubray.
	Stirlingshire Champion (830)	R. Louan.
		J. Hardie.

PRINCE OF CARRUCHAN, by Prince of Wales, was First at Highland Agricultural Society Show at Dundee, as a two-year-old. First and Champion at the Highland Society, as a three-year-old, at Stirling. First as an aged horse at the Highland Society Show at Edinburgh; also winner of the Cawdor Cup twice at the Glasgow Stallion Show.

MOUNT ROYAL won the following prizes:—1888. First at Perth. 1889. First at Turriff. 1890. First and Champion for best entire, any age, Royal Northern, Aberdeen. First and Clydesdale Society's Medal for best entire, any age, Turriff. First and Challenge Cup for best animal, male or female, Inverurie. First and Lord Aberdeen's Special Prize for best entire colt, Aberdeen. V. H. Commended, Highland Society's Show, Dundee, 1891. First and Champion Cup for best entire, any age, Royal Northern, Aberdeen. First at Royal Northern Summer Show, Aberdeen. Second (to Prince of Carruchan) at Highland Society's Show, Stirling. 1892. First, Royal Northern Summer Show, Aberdeen. Fourth, Highland Society's Show, Inverurie, 1893. Second, Glasgow, as sire of five yearlings. Kirriemuir Society's Premium horse. 1894. Kirriemuir Society's Premium horse. 1895. Short list of five for Glasgow Premium. Selkirk and Galashiels Society's Premium horse. 1896. Windygates Society's Premium horse. His stock has gained First Prizes at Huntly, Keith, Banff, Turriff, Inch, Kennethmont, Inverurie, Fyvie, Aberdeen, Glasgow, Edinburgh, Dundee. East Kilbride, Kirkintilloch, Girvin, Kirriemuir, Montrose, Forfar, Arbroath, etc. He is sire of Royal Gairly (9844), the Cawdor Cup winner in 1896 and 1896.

The Breed THAT FIRST MADE Hillhurst Famous

FIVE GRAND YOUNG SHORTHORN BULLS FOR SALE, 9 to 12 months old - registered; bred from milking strains; hardy and active, having been reared in a natural manner on pasture. Prices moderate. Special inducements to clubs. A choice lot of SHROPSHIRE

Ram and Ewe Lambs, by imported rams of Mansell's and Harding's breeding. HAMPSHIRE, THE GOLDEN-FLESHED, Ram Lambs all sold. Next crop due January, 1901. Ready for service in August.

M. H. COCHRANE,

HILLHURST STATION. -om COMPTON CO., P. Q.
117 miles from Montreal, on Portland Div. Grand Trunk Ry.; 12 miles from Lennoxville, C. P. R.

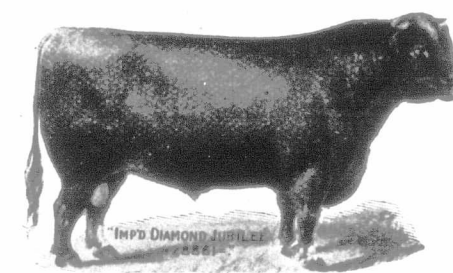
W. G. Pettit & Son, FREEMAN, ONT.

IMPORTERS AND BREEDERS OF
Scotch Shorthorns
and Shropshire Sheep

- OFFER FOR SALE:
- 12 Imported bulls, 12 mos. to 2 yrs. old.
 - 5 " " " " 9 to 12 mos. old.
 - 20 " " cows, 3 to 6 yrs. old.
 - 5 " " heifers, 2 yrs. old.
 - 15 " " " " 1 yr. old.
 - 6 Home-bred bulls, 9 to 18 mos. old.
 - 20 " " heifers, 1, 2 and 3 yrs.

Our imported bulls are now getting in good shape. All our heifers of suitable age are bred to Pure Gold (Imp.), by Cyprus, and Scotland's Pride (Imp.), a Cruickshank Clipper, by Star of Morning.
Catalogues on application. All our imp. cattle were registered in the American Herd Book before the \$100.00 fee for recording was put on.

Burlington Junction Station, Telegraph and Telephone Offices, within half a mile of farm.



T. DOUGLAS & SONS,
STRATHROY, ONT.
BREEDERS OF
Scotch Shorthorns
100 HEAD TO SELECT FROM.
Offer for sale 14 young bulls, and cows and heifers of all ages, of the most approved breeding, bred to (imp.) Diamond Jubilee = 28861 =, at head of herd. Farm one mile north of town, om

J. & W. B. Watt, SALEM, ONT.,

BREEDERS OF
Clydesdale horses,
Scotch Shorthorn
cattle, Leicester
and Oxford sheep,
Berkshire pigs.

Our SHORTHORN herd was founded over 30 years ago, and contains such tribes as the Village Buds, Matchless, Missies, Mildreds, Stamfords and English Lady, upon which we have employed such bulls as *Barnyton Hero* 324, *Young Abbotsburn* 6236, *Challenge* 2333, *Perfection* 9100, *Lord Lansdowne* (imp.) 2712, *Clan Stuart* 14381, *Canada* 18536, *Sittlyton Chief* 17069, *Royal Sailor* (imp.) 18959, *Royal George* 28513, *Clipper King* 16293 and *Judge* 22419, all of which have been first-prize winners wherever shown. *Royal Victor* 34681 and *Royal Wonder* 34682, by *Royal Sailor* (imp.), and out of English Lady and Mildred dams, now head the herd, assisted by *Road Cloud* 31317, by *Lord Gloster* 26965, and out of *Melody* 21992, a descendant of the Buckingham family. We are now offering young bulls, cows and heifers for sale, of Scotch type.

Farm 2 miles from Elora Station, G. T. R. and C. P. R., 15 miles north of Guelph.

Queenston Cement.

The demand for our cement in 1900 justified us in adding largely to the capacity of our cement works. The indications are that this year's business will be still greater. We start the new century with an equipment which for the manufacture of natural rock cement is not excelled in America.
We shall be glad to assist you in making plans for new farm buildings or for remodelling old ones. Our experience should be of value to you. It will pay you to investigate our system of ventilation.
Write us for prices or for estimate of cost of any kind of concrete work.

Queenston Heights Stock Farm.

Shorthorn Cattle: Eight young bulls for sale; any age, any color. Also cows and heifers—straight Scotch crosses.

ISAAC USHER & SON, QUEENSTON, ONT.

Shorthorns, Cotswolds and Berkshires
FOR SALE. One yearling bull and six bull calves; also a few cows and heifers. A choice lot of ram lambs, ewe lambs, and ewes in lamb. Young pigs of the long bacon type, from two to three months old. Write for prices.
F. BONNYCASTLE & SONS,
Campbellford P. O., Ont. om

J. R. McCallum, Iona Station, Ont.
Offers young SHORTHORN BULLS and HEIFERS, of choice breeding, at reasonable prices. Iona Stn. on M.C.R., half a mile from farm.

FOR EXCHANGE:
A 4-year-old red bull, Lord Lavender 26855, bred by John Miller & Sons, Brougham, For particulars, address - H. PARKER, Durham, Ont. o

SHORTHORNS FOR SALE

Cows and heifers, also a few young bulls. I have employed sons of Lord Lovel, Royal Member, Perfection, Indian Chief, and Clair Campbell, on Lord Lovel and Abbotsburn females.
WM. HAY, TARA, ONT.

IT PAYS TO ADVERTISE IN THE FARMER'S ADVOCATE.

6 Shorthorn Bulls 6

Also cows in calf and yearling heifers. All of straight Scotch breeding. om
SHORE BROS., WHITE OAK, ONT.

SHORTHORN BULLS FOR SALE.

We have Cruickshank Lovely, Fashions and Stamford females, and Matchless females bred by J. & W. B. Watt, Salem, Ont., with Lovely Vector 22170 at the head. T. MERCER, MARKDALE, ONT.

GOSSIP.

Mr. James Bowman, Guelph, who advertises seed grain in this issue, writes:—"The Mandescheuri barley has stood highest for a number of years in the experiments. Siberian oats also are too well known to need a recommend. Danbeny oats are the earliest variety grown for any length of time in O. A. C. experiments, and ripen as early as barley, making a very satisfactory kind to sow with barley for feed. The grass peas are a good variety to grow where the bug is prevalent, as they are entirely bugproof, and grow fine quality of straw for sheep feed."

LINCOLNS SELL WELL IN ARGENTINE.
At the Palermo Show, recently held in the Argentine, twenty-five rams from the well-known Laughton flock of Lincoln Longwools, bred by Mr. J. E. Casswell, Folkingham, Lincolnshire, sold for £1,344, giving an average of £54 each. Fourteen of the best averaged £63 each (£315). This is a good indication of the appreciation in South America of this famous and old-established flock of Lincoln.

THE SUNDERLAND SHORTHORN SALE.
Owing to heavy snow-storms and drifted roads, the attendance at the joint sale of Shorthorns advertised by Messrs. Shier, Gordon and Dawson, of Sunderland, Ont., Feb. 14th, was not as successful as expected, and some good bargains were secured by those who faced the storm and got there. Twelve females of Mr. Shier's made an average of \$115 each, which, though apparently a good price, was considered less than their value, as Mr. Shier expected them to average \$200. The others sold for lower prices, the females selling better than the bulls.

A FRAUDULENT STOCK BUYER.
Information has been received at this office that a slick young man has recently been operating in the neighborhood of Guelph, under the name of Major Bird, of California, contracting for carloads of breeding sheep, making all arrangements for having them shipped when he sends a draft in payment, which is to be forwarded from Chicago together with a man to take charge of the stock, etc., but from the fact that he forgets to pay his hotel bills, and that some articles of clothing have been missed at farmhouses where he has staid, it is evident that he is a barefaced fraud, and stockmen will do well to look out for this "bird," who may appear in different plumage and under another name, which seems likely to be his way of getting a living. He is described as about 5 ft. 5 inches high, weight about 130 lbs., very sleek black hair, heavy tawny moustache, full gray eyes, wore a brown frieze ulster, checked cap with ear flaps, a black suit, and coon-skin driving mitts—the latter appropriated from a farmhouse near Guelph. CLYDESDALE WINNERS AT THE GLASGOW STALLION SHOW.

The following were leading winners in the Clyde class at the Glasgow Spring Show, Feb. 6th: In the aged stallion section for the Society's premium of £80, to serve in Glasgow district (22 competing), Mr. John Crawford's *Casabian* (18523), rising 3 years, a son of Baron's Pride (9122) and Garthland Queen (13413). In the 3-year-old section 31 competed, and the 1st and 2nd prizes went to two sons of Hiawatha (10069), namely, *Marcellus* (11110), a bay, bred and owned by Matthew Marshall, Bridgebank, Stranraer, and *Labori* (10791), a bay, owned by A. B. Matthews, Newton-Stewart. The 3rd prize went to Mr. Dunlop's *Sylvander*, by *Montrose Mac*. In 2-year-olds 1st went to *Lord Dundonald* (11094), owned by Jas. Kilpatrick, Craigie Mains, Kilmarnock, and sired by *Royal Carrick* (10270). Second went to *Alexander Everard*, owned by Mr. St. Clair Cunningham, Dunbar, sired by Sir Everard, and his dam by Prince Alexander. Baronson was 3rd. He is a son of Baron's Pride, and of a Prince Alexander mare, and is owned by Mr. David Mitchell, Millfield. The Cawdor cup championship was won by Hiawatha, who had previously won the same in 1898 and 1899. He is a bay, rising 3 years, and is owned by John Pollock, Langside. His strongest competitor was his 3-year-old son, *Marcellus*, winner of 1st in the 3-year-old section. Hiawatha and his two sons were the only horses that entered the ring in this contest. See our Scottish Letter in this issue for particulars.

OFFICIAL RECORDS OF HOLSTEIN-FRIESIAN COWS RECEIVED DURING JANUARY, 1901.

This class of records are made under the supervision of experiment stations by the scales and the Babcock test. All are for periods of one week. The equivalents of butter are calculated by the Superintendent of Advanced Registry. Twenty were received during this month, two of which may be regarded as phenomenal, that of *Alta* Posch 4th, a cow nearly eleven years old, producing 19.91 lbs. butter-fat, equivalent to 23 lbs. 13.8 ozs., butter 80 per cent. fat, or 22 lbs. 4.4 ozs., 85.7 per cent. fat, and that of *Alta Posch*, a heifer 1 year 11 months old, at 12.97 lbs. butter-fat, equivalent to 16 lbs. 3.4 ozs., butter 80 per cent. fat, or 15 lbs. 2.1 ozs., 85.7 per cent. fat.
Summarized:—Four full-age cows, average 8 years 8 months 29 days, 27 days after calving: Milk 39.5 lbs., butter-fat 14.962 lbs., equivalent butter 80 per cent. fat 18 lbs. 11.2 ozs., equivalent 85.7 per cent. fat 17 lbs. 7.3 ozs. Four 4-year-olds, average age 4 years 5 months 4 days, 17 days after calving: Milk 39.7 lbs., butter-fat 14.248 lbs., equivalent butter 80 per cent. fat 17 lbs. 13 ozs., equivalent 85.7 per cent. fat 16 lbs. 10 ozs. Seven 3-year-olds, average age 3 years 6 months 4 days, 13 days after calving: Milk 32.4 lbs., butter-fat 10.459 lbs., equivalent butter 80 per cent. fat 13 lbs. 1.2 ozs., equivalent 85.7 per cent. fat 12 lbs. 3.2 ozs. Five classed as 1-year-olds, average age 2 years 2 months 10 days, 28 days after calving: Milk 32.8 lbs., butter-fat 11.681 lbs., equivalent butter 80 per cent. fat 13 lbs. 13.7 ozs., equivalent 85.7 per cent. fat 12 lbs. 14.9 ozs.

High-class Shorthorns and Yorkshire Pigs.

One very superior bull, about 17 months old; three bulls about 5 months old, from imp. stock; cows and heifers due to calve this fall, forty Yorkshire pigs, 2 months old, from imp. stock; imp. boar, 2 years old, and sows due to farrow soon. Write, or come and see us.
JAS. McARTHUR, GOBLE'S, ONT.
Goble's Station, G. T. R., 10 miles east of Woodstock, 2 miles from farm. Visitors met. om

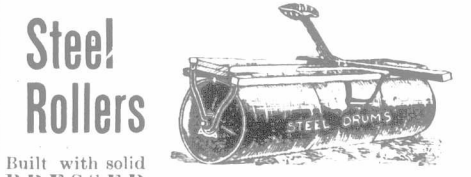
Stranger than Fiction

A Remedy Which Has Revolutionized the Treatment of Stomach Troubles.

The remedy is not heralded as a wonderful discovery, nor yet a secret patent medicine, neither is it claimed to cure anything except dyspepsia, indigestion and stomach troubles, with which nine out of ten suffer.
The remedy is in the form of pleasant-tasting tablets or lozenges, containing vegetable and fruit essences, pure aseptic pepsin (government test), golden seal and diastase. The tablets are sold by druggists under the name of Stuart's Dyspepsia Tablets. Many interesting experiments to test the digestive power of Stuart's Tablets show that one grain of the active principle contained in them is sufficient to thoroughly digest 3,000 grains of raw meat, eggs and other wholesome food.
Stuart's Tablets do not act on the bowels like after-dinner pills and cheap cathartics, which simply irritate and inflame the intestines without having any effect whatever in digesting food or curing indigestion.
If the stomach can be rested and assisted in the work of digestion, it will very soon recover its normal vigor, as no organ is so much abused and overworked as the stomach.

This is the secret, if there is any secret, of the remarkable success of Stuart's Dyspepsia Tablets, a remedy practically unknown a few years ago, and now the most widely known of any treatment for stomach weakness.
This success has been secured entirely upon its merits as a digestive pure and simple, because there can be no stomach trouble if the food is promptly digested.
Stuart's Dyspepsia Tablets act entirely on the food eaten, digesting it completely, so that it can be assimilated into blood, nerve and tissue. They cure dyspepsia, water brash, sour stomach, gas and bloating after meals, because they furnish the digestive power which weak stomachs lack, and unless that lack is supplied it is useless to attempt to cure by the use of "tonics," "pills" and cathartics which have absolutely no digestive power.
Stuart's Dyspepsia Tablets can be found at all drug stores, and the regular use of one or two of them after meals will demonstrate their merit better than any other argument.—Adv't. -om

BISSELL'S



Steel Rollers
Built with solid PRESSED STEEL HEADS in the drums. Has TRUSS RODS under the frame. Heavy 2-INCH AXLE, ROLLER BEARINGS, LOW-DOWN DRAFT. Light on horses' necks. Turns at end of field with ease; in fact, a perfect beauty. Ask your nearest agent for this roller. No other quite as good.
Address— T. E. BISSELL,
For Disk Harrow, see page 178. -o Fergus, Ont

Shorthorns FOR SALE:

- 12 young bulls.
 - 10 yearling heifers and heifer calves.
 - 16 2-year-old heifers and young cows,
- several well advanced in calf to Precious Stone (imp.). Prices moderate. Write for particulars, om
G. A. BRODIE,
Stouffville Station, Bethesda, Ont.

SHORTHORN CATTLE AND LINCOLN SHEEP.

Imp. Prime Minister at head of herd. Seven young bulls for sale—good ones. Also a few females. Stud rams all imported from H. Dudding, Esq.; the same blood as the 1000-guinea ram.

J. T. GIBSON, DENFIELD, ONT.

FOR SALE: SHORTHORNS AND YORKSHIRES

4 SUPERIOR Scotch-bred Shorthorn bulls, 12 to 14 months; 4 two-year-old heifers of the best strains; and cows with calves at foot. Also a superior lot of Yorkshire boars and sows from 3, 5 to 7 months old. Orders booked for spring pigs. Pairs and trios supplied not akin.
H. J. DAVIS,
BOX 290. -om WOODSTOCK, ONT.

Shorthorn BULLS AND HEIFERS FOR SALE.

Choice quality and best Scotch breeding. Imported and home bred. Imported Knuckle Duster (72793) and imp. Royal Prince head the herd, which has furnished the Provincial Fat Stock Show champion three out of the last five years.
Catalogues on application.

H. SMITH, - HAY, ONT.

Exeter Station on G. T. R., half a mile from farm. om

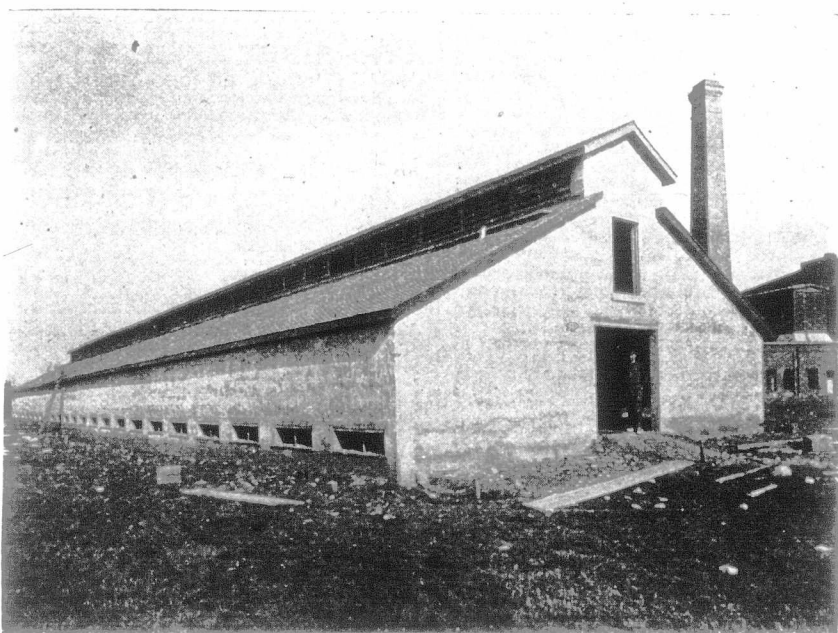
PLEASE MENTION FARMER'S ADVOCATE.

A Mammoth Piggery

THE FARMERS' CO-OPERATIVE PORK PACKING CO., OF BRANTFORD, ONT.,
USE 324 BARRELS OF

Thorold Cement

IN THE CONSTRUCTION OF A MAMMOTH PIGGERY.



BRANTFORD PIGGERY.

Size of main building 40 x 192 x 10 feet x 9 inches thick. Gables, 15 feet high x 9 inches thick. Office, 18 x 20 x 10 feet x 9 inches thick. Floors, 6 inches gravel and 4 inches concrete, in all 10 inches thick.

Capacity, 12 carloads pigs. Labor and material, walls and floor—12 men 24 days; 226 yards gravel; 44 yards stone; 324 barrels THOROLD CEMENT. Built under the supervision of our N. B. Hagar.

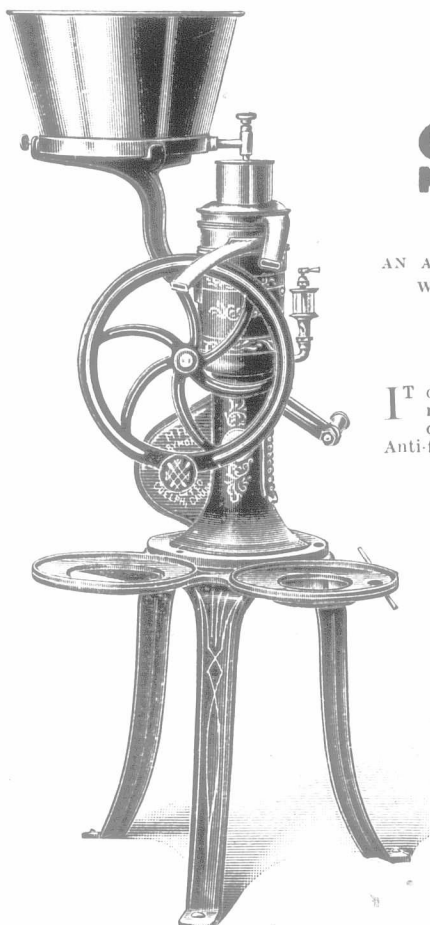
Estate of JOHN BATTLE, Thorold, Ont.

Thorold Cement Manufacturers.

The National

Centrifugal Farm

Cream Separator



AN ACTUAL NECESSITY FOR PROFITABLE DAIRYING
WHEN MAKING BUTTER ON THE FARM OR
WHEN SENDING CREAM TO THE
CREAMERY OR CITY TRADE.

It combines all important improvements and points of merit that are of real practical service to the everyday operator on the farm. Most simple in its construction, Anti-friction ball bearings; convenient and easy to operate by the children. Skims the cleanest; makes the sweetest cream; no numerous parts to give trouble and delay when washing every time it is used; only two pieces inside of the bowl. Strong, durable, made of the finest material, so as to give the most lasting service, and most beautiful in design and finish.

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THE
Raymond
Mfg. Co.
of Guelph,
LIMITED,

"NATIONAL" NO. 1 HAND POWER.
Capacity, 330 to 350 lbs. per hour.

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If not introduced in your locality, ask for testimonials, etc., from

THE
& **Creamery Supply Co.**

General Agents for Ontario.

GUELPH, ONT.

Simmers' Seeds Grow

and are the best that grow. Planting time is not far off. Planning time is here. Decide now what you want to plant when the frost leaves. Send at once for

SIMMERS' ILLUSTRATED AND DESCRIPTIVE CATALOGUE FOR 1901.

It's more than a seed catalogue—it's an illustrated book of information, helpful to every one who plants for pleasure, essential to every one who plants for profit. Sent Free.

Address J. A. SIMMERS, Toronto, Ont.

Rapids Farm Ayrshires.

REINFORCED BY A RECENT IMPORTATION of 20 cows, 2 bulls, and a number of calves, selected from noted Scotch herds, and including the male and female champions at leading Scottish shows this year. Representatives of this herd won the first herd prize at the exhibitions at—

Toronto, London, and Ottawa, in 1900.

Come and see or write for prices.

Young Bulls and Heifers for Sale, bred from High-class Imported Stock.

Robert Hunter, Manager

for W. W. Ogilvie Co., Lachine Rapids, Quebec.

9—SHORTHORN BULLS—9

From 7 to 18 months old,

Of the Fashion and Lavender tribes; well-developed, healthy, and thick-fleshed; red and roan animals. Golden Robe now heads the herd.

WM. G. HOWDEN,

Ontario Co. Columbus, Ont.

PURE AND SCOTCH-TOPPED SHORTHORNS FOR SALE.

Ten red bulls, from 6 mos. to 2 years. Calves by Imp. Prime Minister, Strathallan, Hawarden. Also females for sale. Parties notifying us will be met at Burlington Station, Appleby P. O.

A. D. ALTON & C. N. BLANSHARD CO.

Shorthorns and Leicesters.

Herd Established 1855.

A number of young bulls, cows and heifers for sale. Herd headed by imported Christopher 28859, and Duncan Stanley =16364=. Grand milking cows in herd. Also a number of Leicesters of both sexes, from imported foundation.

JAMES DOUGLAS,

CALEDONIA, ONT.

11 SHORTHORN BULLS 11

5 reds, 3 roans, and 3 whites, for sale, from 3 to 13 months old, sired by imported British Statesman; also some cows and heifers.

FITZGERALD BROS.,

Simcoe Co. Mount St. Louis.

SHORTHORNS.

15-months-old bull, 7 young heifers, including 11-months Empress Augusta, imported in dam.

A. P. ALTON & SON,

Burlington Junction Station. Appleby P. O.

FOR SALE.

FIFTEEN OR TWENTY young Scotch Shorthorn cows and heifers. Also 10 bulls, 6 to 24 months; good ones at right prices.

DAVID MILNE, ETHEL, ONT.

5 SHORTHORN BULLS 5

My five lusty, well-fleshed, red Shorthorn bulls range in age from 5 to 15 months old. The are all for sale.

JAS. BROWN, Thorold, Ont.

Farnham Stock Farm

Shorthorns—A fine lot of young bulls and heifers; sire, 20th Duke of Sylan.
Oxford Downs—Both imported and Canadian bred. A few ewes in lamb to imp. Bryan 125. Prices reasonable.

HENRY ARKELL, Arkell, Ont.

Maple Lodge Stock Farm

ESTABLISHED 1854.

SHORTHORNS—An excellent lot of young bulls, and a special value in young cows and heifers in calf to our imported Knuckle Duster.

LEICESTERS—Imported and home bred—the best.

ALEX. W. SMITH,

MAPLE LODGE P. O., ONT.

SPRING GROVE STOCK FARM

Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by Topsman =17847=, champion at Winnipeg, Toronto, London and Ottawa, 1899. High-class Shorthorns of all ages for sale. Also prizewinning Lincolns. Apply



T. E. ROBSON, Ilderton, Ont.

For sale: Yearling A. J. C. C. Bull,

sired by a son of Two Hundred Per Cent; dam rich in Stoke Pogis blood. Solid color; good size. For price and particulars address

E. B. HINMAN & SONS, Grafton, Ont.

FOR SALE:

One Jersey bull (16 mos.); also one bull calf. Correspondence solicited.

W. N. HASKETT, "Avon Manor," Markdale, Ont.

Maple City Jerseys.

One Jersey bull two years old. Some very choice bull calves from 2 to 5 months old, and a few high-grade heifers and heifer calves. All of the choicest breeding. Write for prices.

Box 552. W. W. EVERITT, Chatham, Ont.

GLEN ROUGE JERSEYS.

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

THOSE

Butter Jerseys

ADVERTISED ARE ALL SOLD.

But I have others fully as good, or better. Heifers from 4 months up to 2 years. Several soon due to calve. Another g.g. daughter of old Massena, 10 months old. Three fresh young cows, grand bulls. One yearling bull. One aged bull. No young bull calves left, but more to come.

MRS. E. M. JONES,
Box 324. Brockville, Ont.

BARRED ROCKS.

COCKERELS AND PULLETS, large, robust, healthy birds of the "National strain"; bred from a pen of 30 hens, selected for their good color and extra laying qualities, and an AI imported National cock. For prices write

W. C. SHEARER,

Bright, Ont.

SEED GRAIN.

Mandescheuri barley, 55c. per bush.; Siberian oats, 40c. per bush.; Daubeney oats, 40c. per bush.; Grass peas, 75c., any quantity. These prices for oats and barley in lots of ten bush. or over; five bush. lots, 5c. extra; 1 bush., 10c. extra; bags, 19c.; sacks, 7c. For a full report of these reliable varieties of seed grain, look to report of Ontario Experimental Union. Cash to accompany order.

Jas. Bowman, Elm Park, Guelph.

GOSSIP.

Thomas Good, Richmond, Ontario, writes: "Clydesdale stallions wintering well; not overloaded with fat, but in grand health. Our system of daily exercise is having a marked effect in sound constitution and sure stock-getters. Marcus was never fresher or in better form. The young horse, Prince Lyon, is daily improving. It will take something better than the ordinary to put him down at the next fall fairs. Mares in colt doing well, and the fillies coming up in fine form. Shorthorns looking fairly well. Calves just beginning to come. Our crop of this season are from 23rd Crown Jewel, purchased from R. & S. Nicholson by Mr. W. H. Hortin. Our Southdowns are looking well. Our lambing season commences about 20th April."

DAVID BENNING & SONS' AYRSHIRES AT WILIAMSTOWN, ONT.

"I could spare a few real good young females at present," said Mr. Benning when we called to see his stock in January, and while such remarks are not uncommon where we go, they are very significant when spoken by Mr. Benning, as it is not often that a purchaser gets access to such a row of really choice and richly bred young females as are to be seen in the Glenhurst herd. Experience has shown that Messrs. Benning have been upon the right course as breeders for a great many years, and having the determination to follow their conviction through thick and thin, they have succeeded as only such a course can. Their female selections have been strong in constitution, rich in quality, and, above all, feeders and producers, while the owners have been most particular in the employment of high-class sires; and while individual conformation has by no means been overlooked, they have been selected only from deep-milking strains. Forty-five head were on hand at the time of our visit, and one cannot visit the herd without being strongly impressed with the rugged, well-grown, uniform row of young females, which would be hard to duplicate as the production of one farm.

The present stock bull is Carrick Lad of St. Anne's, by Napoleon of Auchenbrain (imp.), and out of Annie of Barcheskie (imp.), a cow of superior quality, having immense capacity with excellent character and carrying a large, well-balanced udder. In Carrick Lad, the firm have a good young bull having a combination of dairy conformation and grand ancestry, coupled with good character and constitution, and is placed where he should make a reputation for himself.

We found the long string of matrons in their usual comfortable quarters, enjoying good health and a neat preparatory to their season's work, although we believe their season of rest is frequently cut short by their persistent milking qualities. A few young bulls were also on hand, but those in search of really good young Ayrshire females will do well to note the firm's offerings.

W. R. Bowman, Mt. Forest, Ont. OFFERS FOR SALE: 5 Choice Angus Bulls, 2 Shorthorn Bulls, 25 Suffolk and Shropshire Down Ewes.

GUERNSEYS.

This is the dairy breed for ordinary farmers. Large, vigorous, and hardy, giving plenty of rich milk. Several fine young bulls for sale at very reasonable prices. A few heifers can be spared.

Address— SYDNEY FISHER, 17-y-o ALVA FARM, KNOWLTON, P. Q.

HOLSTEINS.

A few choice bull calves for sale, from imported stock. Best blood. Milk and butter strains. Prices moderate.

J. & F. PIRIE, C. P. R., PUTNAM, ONT.

RIDGEVALE HOLSTEIN-FRIESIANS Two young bulls of choice breeding for sale; also some heifers. Prices reasonable. Write for particulars, or come and see them. R. W. WALKER, Shipping stations: Utica P. O., Port Perry, G. T. R.; Myrtle, C. P. R.

BROOKBANK

Is headquarters for Holstein bulls. They are going fast; be quick if you want one. In writing, state age, etc., preferred.

Oxford Co. GEO. RICE, Currie's Crossing, Ont.

Holstein-Friesian Calves. We are booking orders for spring calves for March, April and May delivery. Also can spare a few young calves and heifers from deep-milking strains. Breeding stock all registered. Write for prices. O. H. GEORGE & SONS, CRAMPTON, ONT.

WE WANT TO SELL A FEW

Holstein Heifers, coming 2 years old

THEY are of the richest and largest producing strains, fine individuals, and bred to as good bulls as there are living. We have a few bull calves and yearling bulls also for sale.

HENRY STEVENS & SONS, LAONA, OSWEGO CO., N. Y.

IT PAYS TO ADVERTISE IN THE FARMER'S ADVOCATE

No crop can be grown without Potash. Supply enough Potash and your profits will be large; without Potash your crop will be "scrubby." Our books, telling about composition of fertilizers best adapted for all crops, are free to all farmers. GERMANY KALI WORKS, 93 Nassau St., New York.

Our books, telling about composition of fertilizers best adapted for all crops, are free to all farmers. GERMANY KALI WORKS, 93 Nassau St., New York.

Maple Hill Holstein-Friesians

SPECIAL OFFERING: Four bull calves, born in August and September, sired by the great bulls, Count Mink Mercedes and Daisy Teake's King, and out of prizewinning and producing dams. They are show calves, about the best I ever bred. One yearling bull, the first-prize calf at Toronto, 1900. Also a nice yearling heifer—a bargain.

HARRISBURG STN., G.T.R. G. W. CLEMONS, GALT STN., C.P.R. ST. GEORGE P.O., ONT.

HOLSTEINS FOR SALE.

I am now offering Holstein calves of both sexes, out of such cows as Panarieta Pauline, Inka Drikness 3rd's Jessie DeKol, DeDicker's DeKol, Belle Burke Mechthilde, Pietertje Hartog DeKol, and others, all closely related to DeKol 2nd and Netherland Hengerveld, the greatest of Holstein cows.

J. A. CASKEY, Madoc, Ont.

Maple Glen Stock Farm.

The home of officially tested, Advanced Registry, dairy test and showing-win HOLSTEINS. A grandson of Inka Drikness 3rd's Jessie DeKol, DeDicker's DeKol, of Carman Sylva now for sale. Price is in keeping with breeding and performances.

C. J. GILROY & SON, Brockville, on C.P.R. or G.T.R. Glen Buell, Ont.

4 HOLSTEIN BULLS 4

FOR SALE: From 4 to 7 months old, having sires in their pedigrees from such strains as Inka, Netherland, Royal Aaggie, and Tritonia Prince, and out of imported females that have proven their worth at the fair. THOS. B. CARLAW & SON, Warkworth.

MAPLE GROVE OFFERS a few Holstein bulls of the very richest butter breeding. They are grand individuals, of the true dairy type, and will be sold at right prices. For breeding and prices, address— H. BOLLERT, CASSEL, ONT.

3 Holstein-Friesian Yearling Bulls for sale.

Apply to Wm Suhring, Sebringville P. O., Ont.

Riverside Holsteins.

4 BULLS, from 8 to 13 months old, sired by our famous stock bull, Victor DeKol Pietertje. Some are from imported or officially-tested dams. Also a few heifers for sale.

M. RICHARDSON & SON, Haldimand Co. Caledonia, Ont.

Ayrshire Bulls fit for service, out of big, rugged cows, having good udders and teats, and by sires from deep milking strains.

F. W. TAYLOR, Wellman's Corners, Ont.

DAVID A. McFARLANE, Breeder of high-class KELSO, P. Q. AYRSHIRES.

Young stock for sale from imported and home-bred foundation. Prices reasonable.

For Sale: Six Ayrshire bulls, ranging from 5 months to 1 year past. Also a few cows and heifers, thoroughbred fowls, and Scotch collie dogs.

WM. STEWART & SON, MENIE, ONT.

FOR SALE: THREE BULL CALVES, from 4 to 10 mos. old, from choice Ayrshires of deep-milking strains. Prices reasonable. Come, or write to Carr's Crossing, G.T.R. W. F. STEPHEN, Brook Hill Farm, Trout River, Que.

FOR SALE: IMPORTED AND HOME-BRED AYRSHIRES, High-class

including cows, heifers and young bulls out of our prize and sweepstakes cows. Foundation selected with due regard to quality and productiveness. Come or write. WM. WYLIE, HOWICK, QUEBEC.

GOSSIP.

The Canadian Horse Show will be held, combined with the Military Tournament, in Toronto, April 24-27.

The stockholders of the Ohio Poland-China Co. met at Dayton, Ohio, January 23. Directors elected were: L. N. Bonham, Oxford, Ohio; J. M. Klever, Bloomingburg, Ohio; John W. Williams, Briant, Indiana; J. H. Lackey, Jamestown, Ohio; Ed. I. Brown, Winchester, Indiana; J. J. Snyder, Paris, Ohio, and C. W. Goslee, Roundhead, Ohio. These directors organized after the meeting and elected officers as follows: President, L. N. Bonham; Vice-President, Ed. I. Brown; Secretary, Carl Freigau, Dayton, Ohio; Treasurer, J. H. Lackey.

A JOINT AUCTION SALE OF SHORTHORNS.

On March 5th, according to the advertisement in another column, Mr. R. C. McCullough will sell by auction at his farm at Georgetown, Ont., a junction station on the main line and the Hamilton and North-western branch of the G. T. R., 27 head of Shorthorn cattle, consisting of 11 cows, 6 two-year-old heifers, 7 yearling heifers and 3 young bulls. The cows and 2-year-old heifers have been bred to Master Mason = 29039 =, a richly-bred bull bred by J. & W. Russell, whose cattle made such a grand record at the Centennial and Columbian Exhibitions, and at the Toronto Exhibition last year. He was sired by Prince of Wales = 27131 =, of Russell's famous Isabella family, which produced the champions at the Centennial, and his dam, Imp. Roan Princess, came from the noted Kinellar herd of Sylvester Campbell. Mr. Newton, of Limehouse, contributes to the sale from his herd 9 head, comprising two cows with calves at foot, two 2-year-old heifers and three young bulls.

These cattle are said to be in excellent breeding condition and of good milking tribes, on which a good class of sires have been used, and should prove very useful and satisfactory stock. Parties interested will do well to note the advertisement and send for the catalogue.

COLWELL BROS., SHORTHORNS AND TAMWORTHS, AT NEWCASTLE, ONT.

When we visited Messrs. Colwell Bros.' stock farm at Newcastle, late in December, we were shown a few choice registered Shorthorn cattle and Tamworth pigs. In the former the firm are making steady progress and giving strict attention to the sort of sires they employ. At present a well-formed son of Indian Chief (imp.) is doing duty, a bull of good proportions, having size and superior quality, and from which the firm rightly expect good results. Among their offerings we saw a smooth, evenly-made, dark red 8-months bull, a youngster growing up evenly and one which should find a ready buyer.

Their Tamworths were fully up to former seasons when we called. The firm, having made a specialty of this breed, have given them a great deal of attention. Show-yard winners of high repute have been reared and developed in their hands, and from present indications they have felt sufficiently encouraged to continue along this line. The boar, Rob Roy, out of the noted sow, Thrifty Girl, was a winner with them in Toronto when under six months, while Colwell's Choice landed first honors for his owners at the same age, and repeated it when shown under two years in good competition. Therefore we cannot but attribute their success to the employment of good sires. A few very superior and prizewinning females have also been brought out by this firm; even sweepstakes honors have been connected with their name. Among the firm's offerings are a choice lot of thrifty young boars, that would please any buyer, possessing good length and depth with excellent quality, while a litter of ten are following closely and receiving the good attention necessary for proper development. Note the firm's offerings elsewhere.

DONALD CUMMING'S AYRSHIRES AND LEICESTERS, NEAR LANCASTER, ONT.

When we called upon Mr. Donald Cumming, near Lancaster, on the G. T. R., we found that gentleman in his usual good-natured mood, ready to press upon a visitor that warm hospitality peculiar to himself and race. Mr. Cumming takes much delight in his Ayrshire cattle and Leicester sheep, and is willing to travel a long journey to see a good "cog." In his herd are individuals which he has selected from time to time for specific purposes, after duly deliberating upon their individual merit. Among the foundation females we found the cow Snowball, by Sir Hugh and out of Lady Laurie by Royal George by Carrick Lad, the sweepstakes bull at the Centennial Exhibition. Snowball is a rugged, prolific cow, the kind one feels a certainty in, and she has made her mark by placing many good things in the herd. Another cow of similar breeding is Snowdrop, also one of which her owner feels justly proud, while Safura traces direct to importation on both sides, and is a good representative of the Ayrshire breed. Flora and daughters trace to Maggie of Lancaster. At the Robertson dispersion, Mr. Cumming purchased the young cow, Lady Wonder, by Lockerby Chief 2223, out of Little Wonder by Golden Guinea, and closely related to Jessie of Burnside by Golden Guinea, which won in so many sections at the World's Fair, Chicago, being 1st in herd, 1st as a 3-year-old, 1st for cow and two of progeny, and one of first-prize herd of four by one sire (Golden Guinea). Also, at the same time, he purchased the young bull, Victor of Maple Chief, out of Viola of Burnside and by Noble Boy 6285. Mr. Robertson considered his dam the best cow he owned, and she gave 64 lbs. per day, and as the young bull traces to Nellie Osborne through Matchless by Glencairn 3rd (imp.), it is plain to be seen of what value he must be in any herd, and, as he did three seasons' service, which is expected of his progeny. To follow Victor, Mr. Cumming purchased the young son of Mr. Wyllie's imported cow, White Glen; also one having Glencairn of Burnside and White Prince top crosses, and out of Highland Princess, and to this combination Mr. Cumming looks forward with much interest. A few choice young bulls are among the offerings elsewhere in this issue, to which intending purchasers should direct their attention. Being out of deep-milking dams and well-formed individual ancestors, we think they will not be long in finding purchasers. A few choice Leicester heifers are also maintained here, of which their owner feels justly proud.

HORSEMEN!—THE ONLY GENUINE IS GOMBAULT'S CAUSTIC BALSAM.

The Safest, Best BLISTERS ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUSTIC or FRING. Impossible to produce scars or blemish. Every bottle is warranted to give satisfaction. Price \$1.50 per bottle. Sold by Druggists, or sent by Express, charges paid, with full directions for its use. Send for free descriptive circulars. THE LAWRENCE-WILLIAMS CO., Toronto, Ont.

AYRSHIRES AND LEICESTERS

We breed for milk and quality, and employ only the best sires. Are now offering young Ayrshires of both sexes. DONALD CUMMING & SONS, Lancaster, Ont.

AYRSHIRE FEMALES FOR SALE

Carrying the same breeding as our prize-winners, including such offspring as Floss and Tom Brown, the World's Fair winners. We breed for constitution, quality, and production. DAVID BENNING & SON, Williamstown, Ont.

Ayrshires, Guernseys, Shropshires, Yorkshires

For immediate sale. A few fine Ayrshire bull calves, from 4 to 12 mos.

Isaleigh Grange Farm, Danville, Que. J. N. GREENSHIELDS, Proprietor.

Choice Ayrshires, AND BARRED ROCK EGGS.

3 BULLS, from 7 to 17 months old; also a few COWS AND HEIFERS.

Eggs for hatching, from choice matings, at \$2.00 per 15. Incubator eggs \$4.00 per 100.

JAS. McCORMACK & SON, ROCKTON, ONTARIO.

High-Class Ayrshires and Poultry GREAT BARGAINS DURING MARCH.

One choice prizewinning bull calf, eleven months old, fashionable color, tracing direct to imp. stock, \$35.00; one heifer calf, six months old, \$25.00; one bull calf, one week old, price \$15.00. All sired by Royal Star, first prize bull at Toronto and London. Also two two-year-old heifers; one three-year-old heifer, due to calve this spring; prices right. Also five pair of choice Toulouse geese, \$4.00 per pair. White Leghorns, Black Minorcas, Houdans, and Langshans. For particulars write WM. THORN, Lynedoch, Ont. Norfolk Co. Trout Run Stock Farm.

Ayrshire Bulls: Write to J. YULL & SONS, Carleton Place.

for special prices on Ayrshire bulls from 1 1/2 years to 6 months. Four over 15 months, fit for service, from special milking stock. Sired by prize bull, Jack of Burnside—1684—, also females of all ages. Shropshire sheep of all ages; a number of fine ram lambs. Berkshire pigs of either sex, of the best bacon type. B. P. Rocks.

TREDINNOCK AYRSHIRES

Imported bulls at head of herd: Glencairn 3rd, Napoleon of Auchenbrain, and Lord Dudley. Forty imported females, selected from above-named bulls. Size combined with quality and style, well-formed udders, good-sized teats, and capacity for large milk production. Bull calves for sale; also a few young cows and heifers. For prices and particulars, address JAMES BODEN, Mgr., St. Anne de Bellevue, Quebec. G.T.R. & C.P.R., 20 miles west of Montreal.

NETHER LEA AYRSHIRES, BERKSHIRES, YORKSHIRES, AND ROUGH-COATED COLLIES.

YOUNG STOCK FOR SALE. I expect to import from Europe, in the near future, and can book orders for stock on commission, as I have a good connection in England and Scotland. T. D. McCALLUM, Danville, Que.

EUROPEAN ADVERTISEMENT.

J. E. CASSWELL, Laughton, Folkingham, Lincolnshire.

breeder of Lincoln Long-wooled Sheep, Flock No. 46. The flock was in the possession of the present owner's great-grandfather in 1785, and has descended direct from father to son without a single dispersion since. J. E. Casswell made the highest average for 20 rams, at the "Annual Lincoln Ram Sale," 1895 and 1897. The 1896 rams were all sold for exportation. Ram and ewe hoggs and shearlings for sale, also Shire horses, Shorthorns, and Dark Dorking fowls. Telegrams: "Casswell, Folkingham, Eng." Station: Billingboro, G. N. R.

EUROPEAN ADVERTISEMENTS.

W. W. Chapman,
Secretary of the National Sheep Breeders' Association,
Secretary of the Kent or Romney Marsh Sheep Breeders' Association,
and late Secretary of the Southdown Sheep Society.

Pedigree Live Stock Agent, Exporter and Shipper. All kinds of registered stock personally selected and exported on commission; quotations given, and all enquiries answered.

Address: FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W. Cables—Sheepcote, London.

FAMOUS ALL OVER THE WORLD.
ALFRED MANSELL & CO.,
LIVE STOCK AGENTS AND EXPORTERS,
SHREWSBURY.

BRITISH STOCK selected and shipped to all parts of the world. Write for prices to ALFRED MANSELL & CO., Shrewsbury, England, or to our American representative, Robert Miller, Stouffville, Ont., Canada.

HENRY DUDDING, RIBY GROVE, STALLINGBOROUGH, LINCOLN, ENGLAND. Breeder of Lincoln Longwool Sheep and Shorthorn cattle. The Riby Flock of upwards of 1,400 Ewes holds an unequalled record for true type, merit, and quality. Its produce and their descendants have won the highest honors at all the principal exhibitions and shows throughout the world; its wool exhibits being unbeaten. Established upwards of 140 years. Its produce leads the way from the fact that satisfaction is given. The Riby Shorthorn Herd of upwards of 300 selected specimens of Booth, Bates, Cruickshank, and Scotch strains, is one of the largest Herds in Great Britain. Its principal Stud Bulls are: "Pride of Fortuna" 73240, s. "Pride of Morning" 145694, d. "Flora 2nd," by "William of Orange" 50694, d. "Golden Robin" 68718 (rich roan), s. "Roan Robin" 57992, d. "Golden Sunshine," by "Royal James" 54972; "Prompter" (Vol. XLV.), by "Prefect" 69255, d. "Risington Lass," by "Empire 13th," 1st and champion at Ombersley, 1898; "Rosario" s. "Wiltshire Count" 69824, out of "Rose Blossom" (G. Harrison). This bull, his sire and dam, won 84 prizes, including first and champions. Telegrams: "Dudding, Keeby." Rail Stations: Stallingborough, 3 miles; Great Grimsby, 7 miles.

HAMPSHIRE DOWN SHEEP.
SPLENDID MUTTON, GOOD WOOL,
GREAT WEIGHT.

THIS HIGHLY VALUABLE

English Breed of Sheep

Is unrivalled in its rapid and wonderfully early maturity, possessing, too, a hardness of constitution adapted to all climates, whilst in quality of mutton and large proportion of lean meat it is unsurpassed. Full information of

JAMES E. RAWLENCE,
SECRETARY HAMPSHIRE DOWN SHEEP BREEDERS' ASSOCIATION,
SALISBURY, ENGLAND.

REGISTERED
Southdown Sheep, Suffolk Sheep
AND **Berkshire Pigs.**

THE Cheveley flocks and herds, the property of Col. H. L. B. McCalmont, M.P., are unique for the purity of their blood, typical character, and individual merit. In their foundation, etc., no expense has been spared in securing the best and most perfect specimens of the different breeds. In each case full records are kept of individual pedigrees, so that any selections made from these flocks will, in addition to being of the highest merit and typical character, have also the great advantage of individual pedigrees.

The Southdowns have secured the highest show-yard honors during 1900, including first prizes at the leading summer and winter shows. The Suffolks are equally well bred, and numerous prizes have also been won. In fact, for individual merit, pedigree, and purity of breeding, it would be difficult to find better and more suitable flocks of either of these breeds from which to perpetuate their high individual merits. Apply to—

H. J. GARROD,
Cheveley, Newmarket, England.

MANSELL'S DISPERSION SALE.

Shropshires.

Andrew E. Mansell, Harrington Hall, Shipnal, England, who is settling in Tasmania, will sell by auction, without reserve, on Thursday, August 29th, 1901, his unrivalled flock of Shropshires. Sheep bought for America and Canada will, if desired, be sent in charge of Mr. Robert Mansell. Particulars and catalogues obtained from Alfred Mansell & Co., Auctioneers, Shrewsbury, England. Commissions carefully executed.

IN WRITING
PLEASE MENTION FARMER'S ADVOCATE.

Dorset Horn Sheep

THE largest flock in America. The most celebrated prizewinners at the Columbian Exhibition and Canadian exhibitions. Contains more Royal winners than any other. Awarded 5 out of 8 first prizes at Toronto, London and Ottawa in 1900. Flock of 300. Stock for sale always on hand.

John A. McGillivray, Uxbridge, Ontario.

HUNTLYWOOD FARM

SOUTHDOWN SHEEP (IMPORTED AND HOME-BRED), ALSO DEXTER-KERRY CATTLE. A USEFUL LOT OF SOUTHDOWN RAMS NOW FOR SALE. APPLY TO—

W. H. GIBSON,
MANAGER.

Hon. G. A. Drummond, Proprietor.

Beaconsfield, G.T.R. & C.P.R.
Pointe Claire P. O. P. Q.

BROAD LEA OXFORDS.

Sheep of both sexes for sale, many of which are bred from the famous imported ram, Royal Warwick 3rd. Correspondence solicited. Visitors welcome.

Henry Arkell & Son,
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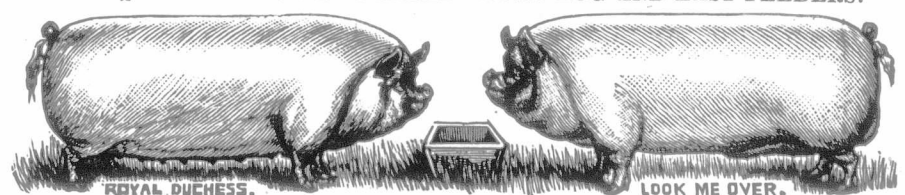
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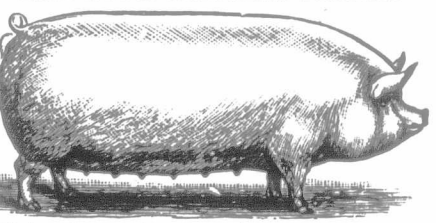
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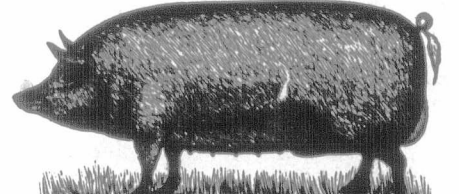
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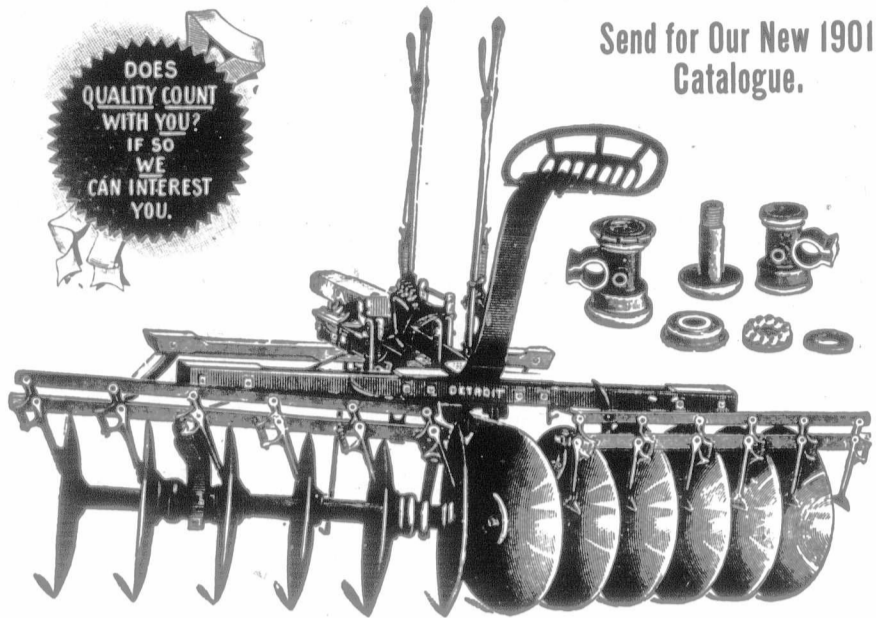
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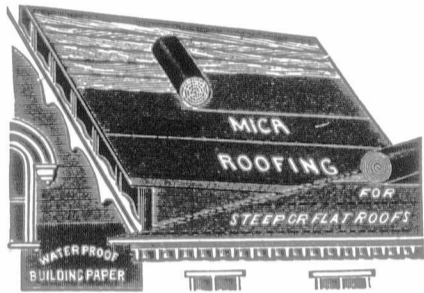
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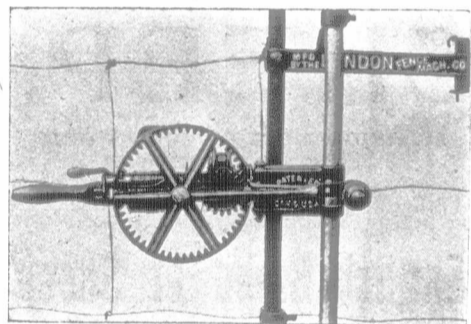
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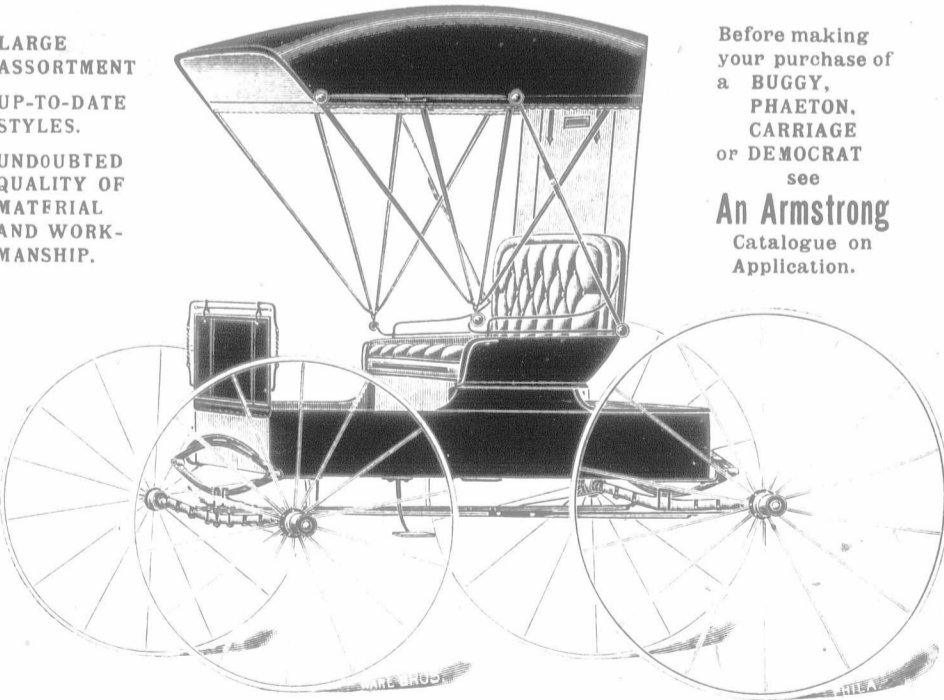
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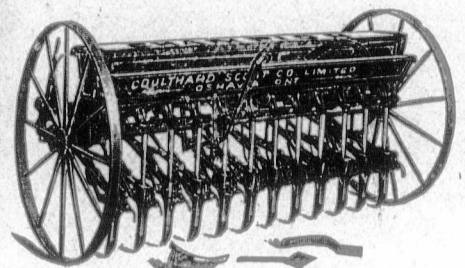
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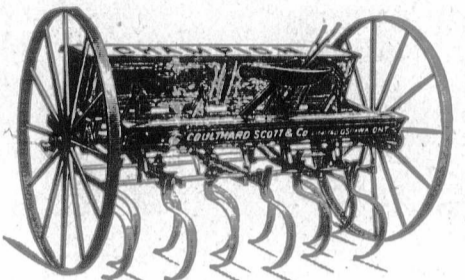
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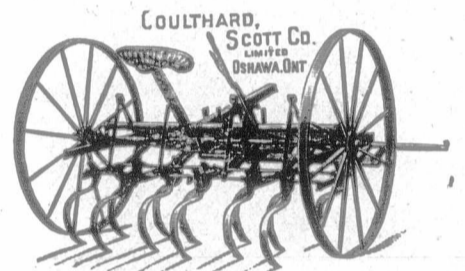
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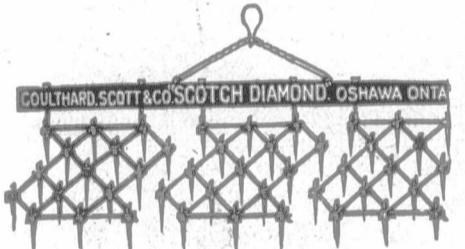
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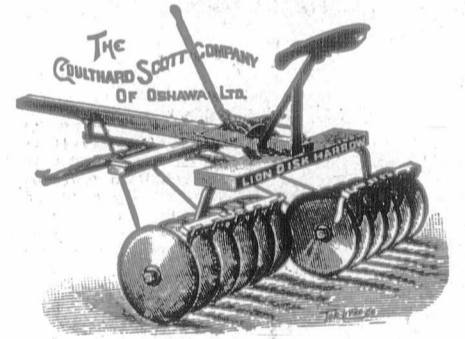
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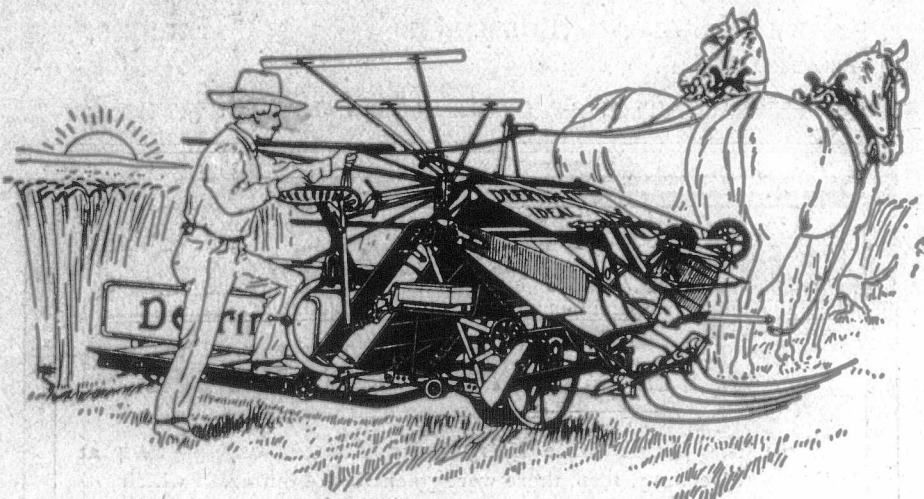
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