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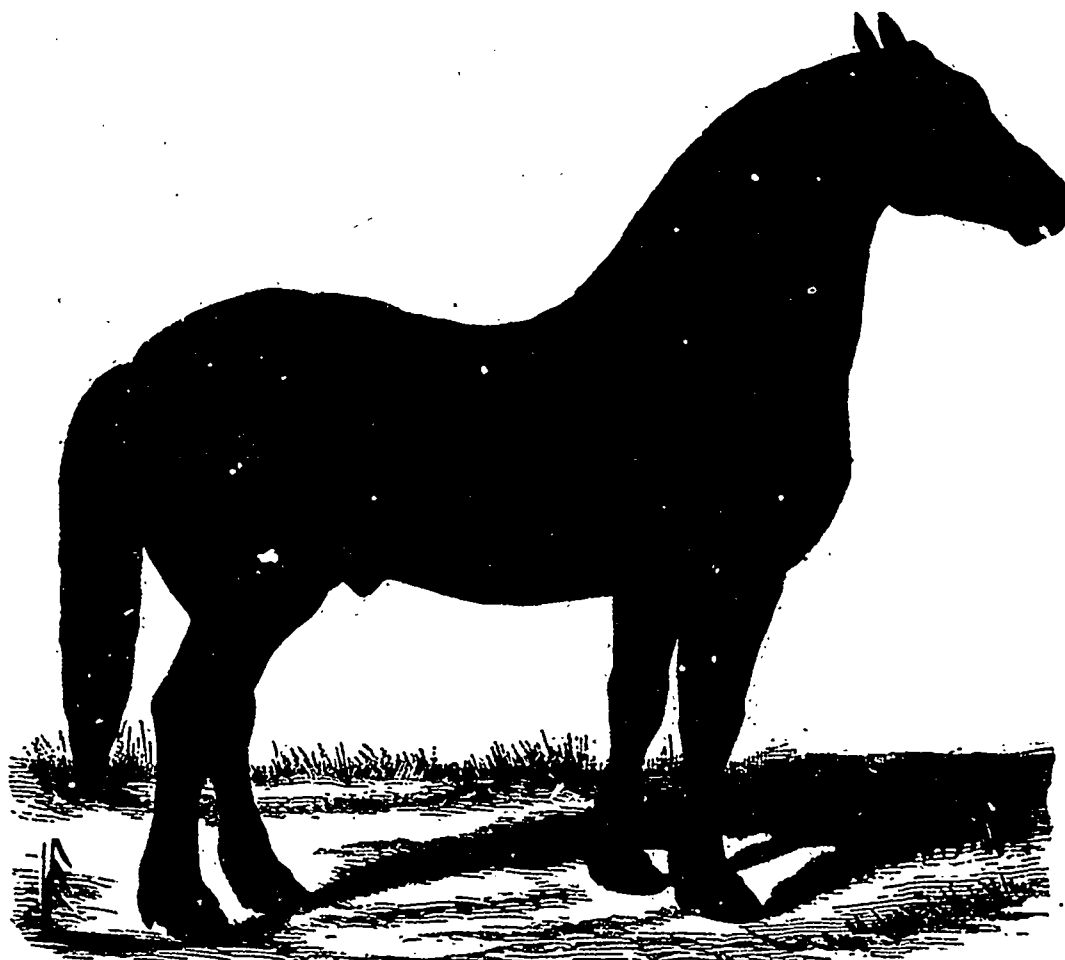
CANADIAN BREEDER

and
AGRICULTURAL REVIEW.

Vol. II.

TORONTO, MAY 22, 1883.

No. 21.



Percheron Stallion "BRILLIANT." Imported and owned by Mr. E. D. Morse, Morse Stock Farm, Kewanna, Fulton County, Indiana.

DENUDATION OF FOREST LANDS.

National Live Stock Journal.

The rapid denudation of forest lands all over the Union justly excites more or less comment on the part of thoughtful people, who look beyond their own selfish interests. The public domain has long been a common for lumbermen and settlers until nothing but the bare, dry acres are left to mark the spoliation. From the report of the chief of the forestry bureau for 1884, the startling extent of forest denudation is made more apparent. In Pennsylvania fully 70 per cent. of the original forest area has been cleared. Iowa has lost 40 per cent. of her forest area, Minnesota 17 per cent., Indiana 55 per cent., Illinois 60 per cent., and Wisconsin 60 per cent. It is estimated that in 1882, 2,585,000,000 feet of lumber of various kinds were consumed and handled in California. In

1870, the census reported the lumber product to be 12,755,543,000 feet, and 3,265,516,000 shingles. In 1880, the census gives the lumber product at 18,091,356,000 feet and 5,555,046,000 shingles. For six years, ending January 1, 1885, the lumber receipts at Chicago alone amounted to 10,728,941,322 feet. This draught upon our forest lands is not like the drawing of water from an inexhaustible spring. There will soon be a time when our States will either be without timber, or some measure, both preventive and propagative, must be adopted in the interest of forestry. Few people realize the full value of forests from a meteorological standpoint.

It is only in late years that it has become known that forests preserve the flow of the brooks with evenness throughout the year, and stimulate more or less rainfall, and thus vegetable growth. They also prevent the destruc-

tive effects of floods, and materially change the character of a country. Considering these advantages, which are common to all timbered countries, forests are, in one sense, common property, like air and water, but unlike them not being the subject of general appropriation. Arbor days are doing something to redeem the lost areas of forest lands, but they must do a great deal more, and the general government must be alive to the forestry needs in order to keep pace with the enormous deficit that accrues each year. Foreign governments have been for centuries trying to repair and cover up the despoilers' tracks, but in this country a spirit of recklessness upon such matters waives all respect and duty for future generations and any wants but personal greed. It will be easier, at any rate, to save the forests than to rear new ones to take their places.

THE CANADIAN BREEDER

AND AGRICULTURAL REVIEW.

Weekly Paper published in the Stock and Farming interests of Canada.

SUBSCRIPTION, - - \$2.00 per Annum

ADVERTISING RATES.

Per line, each insertion, 20 cents.

(Nonpareil measurement, 12 lines to one inch)

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Condensed advertisements under classified headings, one cent per word, each insertion, for which cash must accompany order, as accounts will not be opened for them.
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CANADIAN BREEDER,

COR. CHURCH AND FRONT STS
TORONTO.

S. BEATTY, MANAGER.

Toronto, Friday, May 22nd, 1885.

Advertisements of an objectionable or questionable character will not be received for insertion in this paper.

OUR ILLUSTRATION.

"BRILLIANT."

This horse was personally selected in France by Mr. E. D. Morse, proprietor of the Morse Stock Farm, Kewanna, Indiana.

Recorded with full pedigree in Stud-Book of France, No. 132, also Percheron Stud-Book of America No. 3,165 and National Norman Horse Register No. 2,622.

Black grey; 16½ hands; weight, 1,800 lbs.; foaled 1881; 3 years old; sired by Coco; dam, Rosette; bred by Louis Gautier, department of the Orne district of la Perche, France.

This colt has wonderfully fine style and action and plenty of spirit; short back; well ribbed and good barrel; and is grandly bred. He is the making of an extra fine horse, and would please anybody in want of a horse for any purpose.

FEEDING HORSES.

Ignorance of the anatomy of the horse leads horsemen into some very grievous mistakes in the matter of feeding. Some people feed their horses as if they thought the animal had no such organ as a stomach, but that all the vacant space to be found in both chest and abdomen after the heart, lungs, and a few more such little conveniences had been provided for was designed for the reception of food. The capacity of an ordinary horse's stomach is about sixteen quarts, yet many farmers will not hesitate to administer eight quarts of oats at a dose, and then immediately supplement this with all the good fresh hay he can induce the horse to swallow. Such feeding can only result one way. The grain, the best part of the horse's feed, is forced out of the stomach before it is half digested and its place is taken by the less nutritious portion of his diet. A horse treated in this way, if he happen to have a good strong appetite, is apt to be reckoned a "glutton," and "a horse whose feed appears to do him no good." He is not allowed time to digest his food, and of course it cannot do him much good. Through

irregular work and overwork his digestive organs in time become seriously impaired, and what we have quoted above becomes true of him, but with proper feeding such a misfortune would never have befallen him. Had he been allowed time to digest his grain before the hay was given him he would have received the full benefit of the eight quarts of oats, and at the proper time the hay would have been useful instead of detrimental to him.

Another serious blunder which farmers often make in feeding their horses is that of crowding the hay rack or manger full of hay every time the horse is to be fed. By this practice the hay becomes impregnated with the horse's breath, and consequently unwholesome and uneatable.

Another mistake is to feed a horse heavily when he is fatigued. Most people think that no matter how tired a horse happens to be he may be fed a liberal ration of grain, so long as he is not too warm. This is a very grave error, and results in the almost total destruction of many valuable animals every year. A tired horse is no more fit to digest a heavy feed of grain than a warm one.

A SUGGESTION FOR LIVE STOCK EXHIBITIONS.

Dairy farmers in Scotland appear to have at length become thoroughly alive to the value of milking and butter-making tests as a guide to the distribution of prizes among dairy cattle. In times now happily passing away it has been the fashion to judge Ayrshires almost wholly by their external appearance. Judging in show-yards in recent years has turned on fanciful hinges. That is to say, that the particular position of an udder, or of the teats, has carried almost everything before it in the Ayrshire cow classes. The value of the Ayrshire is in her milk product, and Mr. Howatson, a wealthy and intelligent Scotchman, recognizing this fact, has taken the very best method of developing and fixing the deep and rich milking properties of this valuable breed of dairy cows by the offering of prizes for milking tests.

Hitherto in judging these cattle the practice has been to notice only those points which were supposed to indicate the best milking qualities, and though these points were doubtless of value to the Ayrshire, the best evidence of the inadequacy of the system is found in the fact that Ayrshires, good dairy cows as they are, have not improved as they should have done. Tested by the milk pail and the churn these cows cannot fail to improve, as the milk and butter yields of the various families becoming matters of permanent record, the breeder and fancier will quickly learn how to improve his herd with a degree of certainty that will compare most favorably with the guess-work system of selecting scions of families by what may have been said concerning some individual representative.

The milk test should be introduced at our fairs.

DRAUGHT HORSES.

Breeders of good draught horses are always sure of a market, which will not be over-stocked for years to come. Good quality will always command good prices.

SCALPER AMISS.

Ill luck seems to follow the plucky and enterprising proprietors of the Richmond Stable. Scalper, the splendid five-year-old son of War Dance and Ella Brickenridge, has had one of his fore legs fail. In consequence he has been thrown out of training and is offered for sale or to rent as a stallion. It is to be hoped that such a horse as Scalper will not be allowed to go out of the country, as besides being royally bred he is a horse that combines great size and substance with excellent conformation. He is a bright chestnut, liberally marked with white, stands more than 16 hands high, and would weigh in stallion condition over 1,200 lbs. He was a fast horse on the flat and over hurdles or across country there was not a horse in the country that gave better promise. He is five years old by War Dance, 1st dam Ella Breckenridge b Colossus, 2nd dam Zingara by Star Davis, 3d dam Zenobia by imported Zinganee, &c. From War Dance he receives the blood of Boston through Lexington, and that of imported Glencoe through Peel. From Ella Breckenridge he receives the blood of Emilius through Sovereign and Colossus, and another cross of Glencoe through Zingara and Star Davis.

Such breeding, combined with his performances, should give reasonable hope that Scalper might turn out a successful sire of race horses, but such breeding, size, and bone, as he possesses should prove of well nigh inestimable value for a thoroughbred cross upon the common mares throughout the country. On a horse ranch in Alberta, such a horse as Scalper ought to be worth a small fortune.

"THE CANADIAN BREEDER" IN THE NORTH-WEST.

The following passage occurs in a private letter from one of the most successful and prominent ranchmen in the Canadian North-West to a friend of his in this city:—

"Will you go and see Mr. Beatty, of THE CANADIAN BREEDER AND AGRICULTURAL REVIEW, and try and get him to come up here during the summer to see the stock and the country. It is the only good and practical farming or breeding journal I have ever seen published in Canada, and it is quite up to the standard of the best American papers of that class. He has a fair idea of this country, and all the first-class people here will be only too glad to do all they can to promote the interests of his excellent paper. He must come and see us. The article on making the Indians stockmen is a practical one, and I believe that is the only sensible way to improve their condition. There are Indians in the American North-West who have from 6,000 to 10,000 head of cattle and horses. There ought to be ten good stallions on every Indian Reserve the size of the Blackfeet, Bloods, Piegans, and Sarcees. To give this country a fair show Mr. Beatty must come out and see it for himself.

"Everything is going on well here. This has been a splendid spring. The grass is now (May 6th) fine and green. There is no danger of the Indians, everythi g is quiet."

Correspondence.

THE PRINCIPLES AND PRACTICE OF SHOEING.

BY C. W. GREGORY, MEDALLIST AND PRIZE ESSAYIST ON "ANIMAL HEAT," "THE SKIN AND ITS DISEASES," "THE DIGESTIVE SYSTEM," &c.



FIG. 1.—Section of Foot—A, Wall or Crust; B, Sole; C, Frog; D, D, Sensitive Foot; E, E, Sensitive Frog.

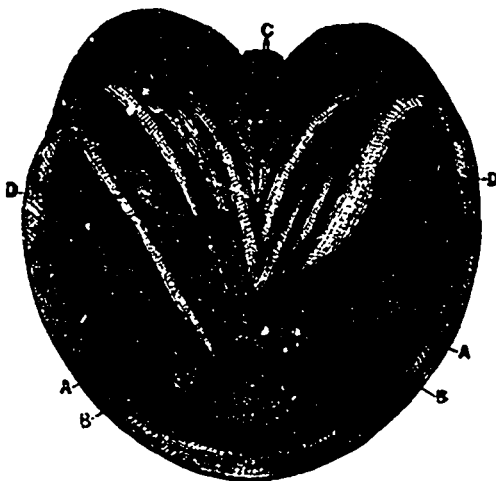


FIG. 2.—Ground Surface of Unshod Foot—A, A, Wall or Crust; B, B, Sole; C, Frog; D, D, Bars.

To the Editor of THE CANADIAN BREEDER, from the Author.

(Concluded.)

LEATHERS

are often a very useful adjunct to the shoe, and are especially useful over rough roads and paved streets, for thin, tender, flat, or pumiced feet; sometimes for corns, for sandcracks, and false quarter. Some say leathers diminish concussion, others that they cause too much heat; but I have seen no evidence to support either idea. Ring leathers are sometimes used—that is, a piece of leather the shape and width of the shoe only—and are useful for pumiced feet, and three-quarters length of shoe for corns and inward curvature of heels. In fitting a leather it should be the full or slightly over size of shoe, and not wetted much nor stretched by hammering, as it is apt to shrink again from under the foot. When the leather and shoe are ready, first apply a smearing of Barbadoes tar, or tar and tallow, over the sole and frog, then lay a pellet of tow loosely on each side of frog,

filling the corner well up, also a small pellet in the cleft of frog, after which put on the shoe in ordinary way, rasping off the projecting leather level with edge of foot and shoe.

HUMANITY.

It is with much regret I feel it necessary to call attention to the frequent needless cruelty and inhumanity practised in the shoeing forge, although there are a number of exceptions in which the forge is conducted with kindness, and whose proprietors are totally exempt from this charge; yet harshness is exceedingly prevalent where men display hastiness and irritability of temper by whooping, hitting, twitching nose, and even the ear, dropping the leg suddenly, especially a stiff-legged horse, either of which simply makes the horse more nervous or more vicious. To shoe a colt, a nervous or a vicious horse, a man should stand quietly in front, or same side the head as the farrier is working, hold the bridle (without blinkers) loosely, and allow the horse to see what is being done, without any or but little patting or talking. On no account allow any person to stand on opposite side; but the horse may stand by a wall. The farrier should then quietly smooth down the shoulder and fore leg; but if the horse be nervous quietly withdraw, and in a few minutes repeat this, and pick up the leg, look at and put it down again. Do the same with hind leg, and, if done with quiet firmness, you will soon gain the confidence of the colt or horse, and feel surprised how easy he will allow you to shoe him. A little time spent in this way will be more than saved by the quickness in the execution of the work.

If the horse be intractable, vicious, but young, put on knee-caps and strap up one fore leg to the arm, smooth him over but not pat; the former he is accustomed to among other horses, but patting is entirely new and unintelligible to him; after doing this leave him for five or ten minutes with one leg strapped up and with the man still mutely holding the rein, then handle him all over the body and legs; continue this treatment until he will allow you to handle him all over quietly, when the leg may be liberated, and you will generally be able to shoe him as quietly as any other horse.

If the horse be old, vicious, and kick out sly or suddenly, there is danger of injury to the farrier, who should then protect himself by using a side-line; that is, by securing a stout list or rope with a noose around the heel of hind leg, and pass the other end through an ordinary collar on the neck, on the same side as hind leg secured, draw the leg forward until the toe can just touch the ground, then give the slack end a twist around the taut rope, which may be held in place by the man at horse's head. A fixed loop in the rope the size to fit neck may be used instead of collar, and a hobble around hind pastern instead of bare rope would be less likely to injure. Never use a twitch unless it be absolutely necessary, and then first have everything in readiness, so as to keep it on the nose as short time as possible, but on no account put a twitch on the ear; whilst using a twitch do not jerk, shake, or push the head about with it, as horses are liable to be goaded on to reckless wildness.

The principal and safest means of overcoming a nervous, irritable horse is quiet kindness with cool firmness, and to this end one, or at most two, can invariably do more than a number of persons; and when finished quietly smooth the horse over, so as to make friends before parting.

THE CANADIAN BREEDER AND AGRICULTURAL REVIEW circulates through the entire Dominion, and has a large and increasing circulation in the United States and Great Britain.

HOW TO MAKE GOOD BUTTER.

BY PROFESSOR SHELDON.

The Raising of Cream.

The current generation of men has invented more ways of raising cream than all the preceding ones, and in this we see the most striking evidence to be found of the extraordinary activity which pervades the domain of the dairy. These inventions include, indeed, one of the most curious and wonderful machines which mechanical science has ever produced—a machine, by the way, which is quite as effective as it is wonderful, and which has already become indispensable in many large establishments. I refer now to what is known as the centrifugal cream-separator. Of the various adaptations of the Swartz system, in which the employment of ice is the salient feature, it is unnecessary to give a description, or even a mention, because few if any of them are not at all adapted to this country and climate, and because in all large establishments the "separator" has already superseded them, while for small ones the ancient open-pan system is, when properly employed, good enough for all practical purposes, simpler than most others, and thoroughly reliable.

The centrifugal separator employs, as its name suggests, a natural law of force, and in a most strikingly effective manner. There are already several of these separators, wholly disparate in character and appearance, but employing the same principle—that of centrifugal force—in the separation of the cream from the milk. And the application of this natural law is, in this case, uncommonly simple and effective, working perfectly, quickly, and continuously. A hollow vessel, made of great strength—resembling an exaggerated orange in form, in one of the machines—revolves at a great speed; the speed, however, varies from 1,500 to 6,000 revolutions per minute, in the different machines. The milk is made to run into the vessel in a stream, like the stem of a clay tobacco pipe, and instantly responds to the motion. The effect of the motion is to separate the cream from the milk—the lighter from the heavier portion—whereupon the latter gravitates to the outer, and the former to the inner, circumference of the rotating vessel, tubes being arranged to conduct them away as fast as they separate. The amazing simplicity of these machines, and their efficient action, has made them, in the short space of six to seven years, to assume the position of a thoroughly practical instrument, and their permanence is distinctly assured. I saw the germ of these machines—the idea from which they have been evolved—exhibited at the International Dairy Show in Hamburg in 1877, and since that time they have been simplified and improved to a degree which seems to exclude the desirability of much further alteration. The advantages fairly and justly claimed for the centrifugal separator are these: that perfectly fresh cream and skim-milk are produced, that less cream is left in the skim-milk than under any other system, that fewer vessels and utensils are needed in the dairy, that the risk of having sour milk and cream is entirely removed, even in the hottest weather, and so on. The advantage of having fresh cream and fresh skim-milk, where both of these are sold, is of course abundantly obvious; and, even in the domain of butter-making, it is advisable to have the cream severed from the milk before any acidity has developed, even though the cream may afterwards be kept until it has soured more or less. On this point I shall have more to say later on.

The centrifugal machine, however, is too

costly a thing, and too elaborate in its accessories, to be suitable to small dairies. Unless water power is available, an engine is required to drive it, for horse power is too unsteady to be relied on, so that the cost of the machine itself is not all, or nearly all, that has to be considered. I consider, notwithstanding, that a butter-making farmer who milks from thirty to fifty cows may employ one with profit and advantage, particularly when he has the chance of selling his skim-milk. At the same time it must be allowed that on the ancient open-pan system of raising cream the best of butter is made, wherever the system is intelligently and carefully carried out. The leading and fundamental requirement in this system is a properly constructed dairy, well drained and ventilated, and whose temperature can be so regulated as not to vary very much. Providing the room is cool enough in summer, the regulation of the temperature in winter is a simple matter enough. A room with double walls and an air space, with a ceiling at the square, and an "air-cushion" between it and the roof, and lastly, a felt roof a foot or two above the hard one, and an air space between them, the air circulating freely, will, I have reason to believe, secure inside the room a temperature which will seldom rise above 65 degs. in any weather to which we are subject in the British Islands, and this immunity from excessive heat is all the more probable if the dairy has a northern aspect, and is shaded by a large tree or two from the sun's rays. A room so constructed will also be dry, in which event the gases of the milk will pass off into the air, and there is no atmospheric moisture to speak of, no vapors, sweet or otherwise, to condense on the surface of the milk as it cools.

Milk does not become unmanageable if the temperature of the room does not rise above 65 degs. in the middle of the day. It must be borne in mind always that this question of temperature, closely followed by those of cleanliness, watchfulness, and industry, is of very considerable importance in a dairy. No dairy equipment is complete without a thermometer. The colder the room, especially in summer, the faster the cream will rise, and the more thoroughly. This is the result of natural laws. Water, of which milk is chiefly composed, shrinks sooner than fat does under the influence of cold, as also it expands quicker under the influence of heat. This is because it is a better conductor of both cold and heat than fat is. And the result of milk being placed in an atmosphere much colder than it is itself at the time, or in much colder water, is seen in the comparatively rapid ascent of the cream. This is simply because fat, being a slower conductor of cold than water is, retains its buoyancy all the longer, and so rises to the surface quicker in a falling temperature of the milk than it does in a stationary one. And it rises all the quicker, within limits, the more rapidly the milk is cooled. This, indeed, is well observed in the Swartz and Cooley systems of milk-setting—the former operating in ice water and the latter in a current of cold water, and both of them in troughs or boxes containing the water in which the cans of milk are placed.

Some persons attach importance to the heating of milk to 130 degs. or so, soon after it is taken from the cow. Intelligently pursued, this practice is a sound one. In the first place, heating will expel the animal odor—the "cowey" smell—from the milk; it will for the time being checkmate the action of fermentive germs that milk may naturally contain, or that it may have absorbed from the air; and it will tend to the dissipation of the peculiar flavor which some kinds of food—turnips, for instance—impart to

milk that is produced by their aid. But it must be remembered that milk at a high temperature is all the more liable to go sour from the formation of lactic acid, so that, especially in warm weather and unless it can be placed in a cold room it should at once be cooled down to 70 degs. or so, after which the cooling may be allowed to proceed more leisurely during the time the cream is rising. During the rapid cooling from the high temperature the milk should be stirred, or an albuminous skin will form on the surface, and this is objectionable. Milk heated and cooled in this way will remain sweet longer than with cooling from its natural temperature only, and the cream will rise the quicker. The heating is said to enlarge the cream globules by coalescence, and the larger the globules the sooner they rise—a fact which has been microscopically ascertained in milk whose globules vary in size, which, indeed, is the case in all qualities of milk.

A cool dairy, then, is especially valuable in summer time, hastening the rising of the cream and keeping the milk from souring. In order to produce the finest-flavored butter, pure and delicate in aroma, it is essential, I consider, to prevent all approach of sourness, and to churn sweet cream. Acidity in milk is incipient decomposition, and it is the more delicate flavoring oils which suffer first of all among the fats of which butter is composed. Butter made from perfectly fresh cream is of course pure in flavor, but there is not a full flavor in it; and if a full-flavored butter is desired, which is generally the case, it is necessary to let the cream "ripen" by keeping it some days, but keeping it sweet all the time. Some persons prefer the cream to be slightly sour when it is churned, and the souring will make a tough and keeping butter, somewhat less attractive in flavor, and which is more easily churned as a rule. But, at the same time, a more admirable butter is made from ripened cream that is still free from perceptible acidity.

BONE MANURES.

By DR. A. P. AITKEN,

Chemist to the Highland and Agricultural Society.

Bones have been in use as a manure for more than half a century, and their use is continually on the increase. There is no manure for which farmers entertain so great a respect—one might almost say affection—as bones. Their efficacy as a manure was first brought forcibly before agriculturists in this country from experiments made in Cheshire on pastures which had deteriorated from being long grazed by dairy cattle. The great drain of phosphates on a dairy farm, due to the large amount of that material contained in milk, has already been referred to, and it was not long before it was found that bone and milk were very closely related to each other.

Bones owe their value chiefly to two ingredients, phosphate of lime and gelatine, or other nitrogenous matter. About half the weight of dry bone consists of phosphate of lime, and the nitrogenous matter is sufficient to yield from 4 to 5 per cent. of ammonia. The proportions of phosphate and ammonia vary a little in different kinds of bone, so that in hard bones there may be 55 per cent. of phosphate, while in the flat or spongy bones there may be only 45 per cent. The ammonia fluctuates in a corresponding manner—the former class of bones may have only 4 per cent. ammonia, and the latter may have 5 per cent. There is always a balance in these two constituents, so that if bones are rich in the one they are cor-

respondingly poor in the other. If they are genuine bones they cannot be rich in both, although they may easily be poor in both if they are damp or contain much earthy matter, as the last of a ship's cargo, and bones gathered from clayey land, usually do.

When bones were first used as a manure they were cheap, and enormous quantities were put upon an acre. They were applied as rough or coarsely crushed bones, and on that account it required a large application to produce an immediate and marked effect; but all experience has gone to prove that coarsely-crushed bones are a wasteful and extravagant manure. The phosphate in bone, and the nitrogenous matter in great measure also, are insoluble, and it is long before a splinter of bone an inch long yields to the solvent forces in the soil. I have picked up numerous fragments of bone in fairly good preservation from a field where they had lain for a quarter of a century, and it requires no arguments to prove that such a use of bones is a very extravagant one. The more rapidly and thoroughly that bones can be converted into crops the more profitable is it to the farmer, and therefore the practice of applying half-inch bones and crushed bones is speedily dying out. Yet there are still to be found farmers who prefer to use bones in that form, chiefly in order that they may have the satisfaction of seeing with their own eyes that the manure they are applying is really genuine bones. That is no doubt a satisfaction, but it is one for which they are paying a very large interest. It would be a much better investment to spend half-a-crown in buying a magnifying glass or convenient little pocket lens, capable of making things appear four times their natural size. By applying such a lens to eighth-inch bones they would look quite as big as half-inch bones, and their genuineness could be quite as easily ascertained. There are many other uses to which a farmer might with advantage apply his lens. All mixed manure will be found to form interesting objects of observation, and soluble manures also when they have been washed repeatedly, and all the turbid liquid poured off will be found to leave behind an amount of sediment of a coarse kind that will form interesting matter for examination. Cakes and other feeding stuffs may also be examined through a lens with great advantage, and grass seeds will be frequently found to present a most interesting and instructive picture. There is no outlay that a farmer can make that will pay itself better than half-a-crown spent on a pocket lens.

Even roughly-ground bones contain usually a certain proportion of fine bone meal, and it is to the latter that the immediate efficacy of that form of bones is in the main to be ascribed. In laying down land to permanent pasture there may be advantage in having the bones not entirely ground to a fine powder, for the roots of grass weave a web round little particles of bone, and slowly extract nourishment from it for a long period; but in ordinary rotation cropping the finer the bone meal the more rapid is its action, and the more profitable is its application. Bone meal is the proper form in which to apply bones. It may be objected to very fine bone meal that it is liable to be adulterated, but such adulterations are easily detected by any one acquainted with the use of the microscope.

The presence of nitrogenous matter in bones gives that form of manure a great advantage over all purely phosphatic manures, and when bones are finely ground the nitrogenous matter comes rapidly into operation. It forms a suitable food for minute ferments, which hasten its decay and transformation into ammonia—

salts, and nitrates, and the roots of the crop are then able to immediately absorb it. Bones may very advantageously be subjected to a fermentative process before being applied to the land, and that is accomplished by damping them and placing them in heaps for a week or two, when they will be found to become heated, and to be converted into a soft and easily decomposed state which is very favorable to their rapid action as a manure. On this account they form a valuable adjunct in composts, and their use as material for improving the value of well-made dung has already been referred to.

The chief crops to which bone meal should be applied are those that have a long period of growth, such as winter wheat and pasture. The effect of bone meal in improving pasture is of the most marked character. The bones have no disagreeable odor or taste, and seem to produce a sweet herbage, which is much appreciated by stock. If a few bushels of bones, or, better still, a few hundredweights of bone meal, have been put upon a part of pasture, it will be found that for years that is the part of the pasture which sheep first make for, relish most, and eat barest, and the result of that visitation and close cropping is that none but deep-rooting and nutritious grasses are allowed to grow, while the dung left by the stock which linger about the place still further enriches the land, so that the place where the bone meal was applied is marked by a closer sward and a richer green than any other part of the pasture. There is no manure that makes a more permanent improvement on a pasture than bone meal.

Bone meal is also well adapted for root crops, for they have a long period of growth, and the benefit of the application is not confined to the root crop, but is felt on the succeeding white crop and the grass which comes after. In order that bone meal may exert its best influence on root crops, it should be applied to the land as early as possible—two or three months before the seed is sown—and this is all the more necessary if the bone meal is not very finely ground.

Bone meal put upon the land early in the year forms an excellent preparation for potatoes, and is said to improve their quality by rendering them more mealy, and also to improve their keeping quality.

The kind of land best suited for bone meal is light land, for it is a form of manure that is not liable to be washed away, and in porous ground it very readily rots, and becomes available for the nourishment of crops. On newly turned up land it is also found to be a very efficacious manure, and is more suitable to such land than farmyard manure, for the land has already a large store of organic matter, and therefore a manure so rich in organic matter as farmyard manure is not to be recommended. On such land a light liming may with advantage precede the application of bone meal, and, indeed, the presence of lime in a soil is found to materially assist the fertilizing effect of bone meal. The mixing of lime and bone meal is, of course, not to be recommended, for that would destroy the life of the bone, or rather of the living organisms that are present in rotting bone. It must not be forgotten that rotting bones are swarming with living organisms, and it is to their activity that the rapidity of the rotting process is due. On that account all operations carried on upon bones which tend to destroy the organic life contained in them must be shown to have special merits of their own before their adoption can be recommended. Of that we shall have something to say hereafter.

A PLEA FOR HOME DAIRYING.

Correspondence of the English Agricultural Gazette.

The *Chester Chronicle* has lately given some particulars with respect to the size of the farms on the Peckforton estate of Lord Tollemache. There are 52 farms above 100 acres, with an average of 207 acres to each farm. There are 51 farms under 100 acres, with an average of 28 acres. There are 55 small holdings, with an average of six acres. Besides, there are 250 cow-keeping cottages. We are frequently told by men of all political parties that there is the utmost agreement between the three classes engaged in agriculture on the Peckforton estate. Lord Tollemache as landlord, the farmers as tenants, and the laborers employed by the latter are described as both happy and prosperous. Though Lord Tollemache is Tory himself, he commands and receives the admiration and respect of a Radical land-reformer like Mr. James Howard, M. P. There is, in fact, no "land question" at Peckforton. Lord Tollemache has solved it. How comes it about? The answer is, first, Lord Tollemache personally understands the business of landowning, and, secondly, he has backed up knowledge of his business by an expenditure necessary for its proper conduct. It is stated that during his life he has rebuilt between 50 and 60 farmsteads, and built 260 cottages. Most certainly, there can be found few instances in which a landowner to a similar extent has carried out in beneficent practice the truth contained in the poet's lines—

Order is heaven's first law, and, this confessed,
Some are and must be greater than the rest.

Now, although on the Peckforton estate 200 acres is considered the most suitable size for economical and successful management, the figures given above plainly show that care has been taken to provide a sufficient number of steps leading up from the cottage cow-keeper to the large farmer. If there be, as there must be, some farmers "greater than the rest," there is also every encouragement to one standing on the lower steps to work his way up with the hope that some day he will be greater than the rest. If there be discontent at all at Peckforton it ought indeed to be confined to that "divine spirit of discontent" which has made the Anglo-Saxon race great, and will continue to make it greater still. Some years ago, at a meeting of the Social Science Congress, agriculturists were reproached because their business was so conducted that the farm laborer had no opportunity of rising in life. It was stated that we had amongst us no other pursuit which so persistently kept down its hands to the dead level of hopeless servitude. That this was an unfounded accusation was well known to most farmers. The writer has great pleasure in saying that he has already received rents due last Lady-day from three agricultural tenants who began life as farm servants. The annual rental of their present holdings averages more than £100. One of them, who pays £115 rent for his farm, insists on settling to the very day on which Michaelmas or Lady day falls. Possibly such cases as these are rarer than they ought to be, even in a dairy district. It is the object of this paper to show that it is not only possible for such cases to exist, but that they do exist and may be brought into existence in greater number.

There can be no better training possible for a future farmer of a small holding than that which constant employment during youth and early manhood gives him on a dairy farm. There can be no better training possible for the future wife of such a farmer than that which she may get as servant in a well-managed farm-house, in which home-dairying is carried on. On the Peck-

forton estate there are unusual facilities for the acquirement of practical knowledge in home-dairying, both in the farm-house and in the cottage. Science is all very well in its way in all departments of farming, but actual every-day practice is absolutely necessary, or the most finished science comes to grief. But of all our different kinds of farming home-dairying most depends upon that actual knowledge of details which had to be picked up day by day in the school of practice. Our milk-selling farms no doubt do useful work, and are absolutely necessary in the general economy. Cheese factories and butter factories sometimes do good, and probably will in the future do more good. But on no farm from which the milk goes away day by day can there be got an education complete enough to qualify those engaged on it to deal with any part of the dairy question, which lies beyond the mere production of milk.

On the Peckforton estate the production of milk is more the means to an end than the end itself. The manufactured article is the end, and upon the quality of the cheese the success of the manufacture depends. The market reports of a fair lately held at Nantwich state that of two lots of cheese sold on the same day and at the same place, the prices realised were respectively 2½d. and 7½d. per lb. No English-made factory cheese is worth the latter price. Home-made dairies of the finest quality will always be worth more money than any factory-made cheese. But Lord Tollemache is doing a good work, which has an influence wider than the limits of his estate. In his farm-houses and cottages there is growing up a generation, both sexes of which have from their earliest years an opportunity of acquainting themselves with the rare knowledge of milk management. Is it too much to hope that the redundant population overflowing from those farms and cottages may take this rare knowledge into other districts where it is grievously wanted?

INOCULATION FOR ANIMAL DISEASES.

The question of inoculation, whatever the incredulity with which it was first received in the case of a great many contagious animal diseases, has succeeded in at least compelling consideration, if not conviction, on the part of veterinary science everywhere. Under the leadership of the great Pasteur, inoculation has been tried for all the commoner forms of animal disease, and with most satisfactory results. In the last number of the *American Veterinary Review*, Dr. R. M. Smith records some striking examples of its efficacy. The first case cited is one of inoculation for anthrax:—

"In 1881, Pasteur gave a public demonstration at Melun of the truth of these statements. Fifty sheep and twelve cattle were placed at his disposal, half the number were then inoculated with the cultivated or attenuated virus, and fifteen days later all the animals were inoculated with the uncultivated or deadly virus. Forty-eight hours later every one of the unprotected animals were dead, while all of the animals that had received the cultivated virus were in perfect health. But this is not all. It had been claimed that the deadly virus was a laboratory product, and, perhaps, not the true essence of the disease, and it was proposed that the anthrax blood, whose deadly effects on man and animals were so well known, should be used as a test of protective inoculation. An official commission was therefore appointed at Chartres to set the matter at rest, and twenty sheep were allowed for the experiment. Similar results were obtained. Those inoculated with the attenuated virus were not in the least

affected when they received what would otherwise have been a deadly quantity of anthrax blood, while of those not protected all died but one.

"There was no longer any doubt as to the value of protective inoculation, and there was the greatest anxiety to have the flocks in the anthrax-haunted districts protected as soon as possible. Up to October, 1881, 58,900 animals had been inoculated in the proportion of three to five, *i. e.*, 33,576 against 21,938, which were left unprotected to show the difference. Before inoculation the loss in all the flocks had been 2,986. During the inoculation and until the effects were complete, 260 died in the group of 33,576 which was being operated on; and during the same time 368 died in the non-inoculated group of 21,938. But when the inoculations were completed, in the first group the mortality fell to five and then ceased, while it continued at its usual rate in the non-protected group."

Similar experiments in Hungary were followed by similar results. Experiments in chicken cholera were carried on by Pasteur with entirely successful results both as to securing the virus, its application, and the immunity of the vaccinated chickens, lasting for a year or more. *Science* reports the triumphant success of the trial of Pasteur's system of vaccination in India, under the auspices of the Indian Government, acting by the advice of Mr. J. Mills, inspector of cattle disease for Madras:—

"According to the official papers, ponies, donkeys, cows, bullocks, buffaloes, sheep, and guinea-pigs, have all been protected by vaccination from the consequences of inoculation with virus which proved fatal to unvaccinated animals. A vaccinated pony and a buffalo were sent to a village where there was an epidemic of anthrax; and though they were herded with the diseased cattle, and grazed on the same pastures, they escaped the disease. In Burmah the elephants have been vaccinated with equal success. At first the 'vaccine' was imported from France; but the uncertainty of obtaining it pure and efficacious from any one but Pasteur himself has induced the Indian Government to fit up a laboratory for the manufacture and dispensing of the fluid in Bengal; and, if this is successful, other laboratories will be founded in other centres. Mr. J. H. B. Hallen was sent, some time ago, to study in Pasteur's laboratory; and the report recommends that all veterinary surgeons should go through such a course of instruction."

In regard to contagious pleuro-pneumonia, a subject of more than usual interest just now, the authority first quoted, Dr. Smith, has this to say:—

"Contagious pleuro-pneumonia in cattle is a disease with which we in America are unfortunately but too familiar; and yet in 1850 the question as to its contagiousness was still undecided. At the suggestion of Dumas, a commission was then appointed to investigate the subject, and the result of these experiments was to prove that the disease was communicable, not only by co-habitation in 50 per cent. of the exposed cases, and of these 70 per cent. proved fatal, but that it was also transmissible without contact, through the atmosphere. The experiments of this commission showed that when once affected with this disease, the animals which recovered had acquired immunity to subsequent attacks.

"Experiments as to the preventive power of inoculation were also made by the commission, which, although not carried far enough to be conclusive, showed the direction in which other experiments should be prosecuted; and, profiting by their experience, Dr. Willems, of Hasselt, Belgium, found that in fifty-four cases inoculation at the root of the tail with fluid

taken from the lungs of animals dying of this disease, conferred complete immunity in thirty-eight cases, though the operation proved fatal in six cases. Similar results were obtained by Dutch and Belgian commissions."

THE ORLOFF TROTTER.

BY MR. A. J. ROUSSEAU, ST. PETERSBURG.

This breed of horses derives its name from Count Alexis Orloff, who lived when Catherine the Great was Empress of Russia. The Count got up this class of horse, not because he thought that trotters would be of more utility to his country than the English thoroughbred, but simply because he was getting too heavy to ride his favorites (imported English thoroughbred horses). Being fond of travelling fast he made it his mind to produce a better-class horse than those bred in then Russia. This took place in 1777, when he bought in the South of Greece a silver-white Arabian stallion, Smetanka, for 60,000 roubles (assignats), which is equal to £1,714. Some writers put this horse down as Smolenska, called him a Barb, and say that he was presented to the Count by a Turkish Pacha. This is not correct, as there are documents to prove that the founder of the Orloff trotters was a stallion called Smetanka, bought in Greece for the above-named amount, and that he was a thoroughbred Arabian of the Saclavi class, of the Koelani breed. Smetanka was a fine animal and very strong, he was 2 archines 2½ vershoks high (15 hands or 1 metre 5,240). He was used one season only at the stud, and died in 1778, leaving only four colts and one filly. Smetanka had two ribs more than ordinary horses, as can be seen by his skeleton, which is still kept in the Orloff Museum.

His progeny was Felkersam, a light grey stallion out of Okotnitssa, an English thoroughbred mare; Lubemitz, a grey stallion out of Saiga, an English thoroughbred mare; Bovka, a bay stallion out of Glavnai, an English thoroughbred mare; Polkan, a grey stallion out of a big, strong, long, Isabel Danish mare.

Felkersam was the sire of seven stallions and fifty-nine mares, all were most handsome and strong animals. Lubemitz left no progeny. Bovka also left no progeny, was sold, and went to England.

Polkan was sire of seven stallions and twenty-one mares, one of which was Barss, who is considered as the founder of the real Orloff trotters; he was foaled in 1784, just a century ago, and died in 1808.

Polkan (and not Vulcan, as some authors have it) was a fine, strong, active animal, combining the best qualities of his parents, but was a bit too deficient in shoulder action to please the knowing old count, who then saw that he was on the right ground to obtain the class of horse that he wanted to replace his saddle horses, so he crossed Polkan with a big black Dutch mare (harttraber), this breed having the quality deficient in Polkan. The result of this cross was the celebrated Barss, who combined the blood, muscle, power of endurance, and temper of Smetanka, the size of the Danish mare, and the shoulder action of the Dutch mare.

Barss left 11 stallions, four of which had no progeny. Count Orloff did not begin in-breeding for some time later, he continued pouring in fresh blood, and that always through English thoroughbred mares; it was that way that he produced the celebrated trotters Dobroi, Lubesnoi, and Lebed. In-breeding only began with the produce of these horses, but later on he introduced English blood through the mares—he never introduced fresh blood through the

sires; this was a golden rule with this noted old cock-fighter.

Having got the stamp of horses he wanted, he gave all his attention to training them. Early in the morning the Count could be seen followed by six or eight black-and-tan English Terriers jogging along towards a poultry run containing some 150 Game fowls, which I have very good reason to think were not kept for the production of fine-flavored eggs only, as two sets of steel spurs and two sets of sparring gloves for fowls (now in my possession) can prove (I must stop here or I will have your Mr. Colam after me); *revenons a nos moutons*, having fed his fowls, he would have his horses out on the course, sometimes driving himself, but more often he would watch and time them personally. He trained both for speed and endurance; he generally tested them by heats of 1,400 feet each, registering the seconds each time. He would send them at tip-top pace the whole distance, then walk them back again, he would do this four times with the same horse, this he considered the best training to get all the speed he could out of his horses. For stamina he would trot them from 10 to 15 English miles at one stretch; stallions and mares went under the same training.

Count Orloff never sold a stallion during his life. In 1845 the Imperial Government bought up the stud, and now sells annually all the surplus stock which is not required for the Government studs. The breed is now to be found all over the empire. Many breeders have given up calling them Orloff trotters, but call them thoroughbred trotters. This, I think, is a mistake, and the name of Orloff ought to remain attached to the breed as long as the animal will be bred to the standard of Barss. The Orloffs have bred true for over 80 years. In Russia, a horse to be considered a trotter must do one verst (3,500 ft.) under two minutes. Orloffs are broken in when two years old, and are always trotted in harness, and never mounted. About 400 Orloffs go in annually for trotting matches. Their racing career begins at three years of age, and continues till they are 12 to 15 years old. They obtain their maximum speed only at eight years of age, and even later on. Geldings are not allowed to compete for the trotting matches. Mares and stallions are bred from only when five years old. The Government never sells any surplus stock under five years of age.

In 1845, when the Government bought the Orloff stud from the Countess A. A. Orloff, daughter of its founder, there were 21 stallions and 194 brood mares of the Orloff trotter breed, and nine stallions and 112 brood mares of the Orloff hack breed.

During the Paris International Exhibition the stallion Bedouin, a direct descendant of Barss, trotted three kilometres in 4 min. 45 sec., and the last kilometre in 1 min. 29 sec., which is equal to 1 min. 32 sec. per verst (3,500 feet), whilst the celebrated American trotting mare Flora Temple never did a verst under 1 min. 36 sec., thus proving Bedouin a faster trotter than Flora Temple by four seconds. Bedouin had a fine head and neck, a very broad chest, a good straight, long back, rather goose-rumped, the best of legs, very hard hoofs, tail well fixed on with a powerful root. He is, as all this breed are, very docile and quiet. The action is very good indeed; when trotting they throw their hind-legs in front of their fore-legs.

NEVER.

Never make the mistake of using any animal as a sire for horses, cattle, sheep, pigs, or dogs unless he is thoroughbred.

MR. FREWEN'S CATTLE SCHEME.

From the London Live Stock Journal.

Mr. Moreton Frewen in argument is no mean antagonist. He can plead his case well. He has, we should say, fully an average acquaintance with the weak side of human nature. For some time past he has striven with remarkable energy and intelligence to accomplish one great object—to convince British farmers that they would make big fortunes by importing lean cattle from Wyoming. To do Mr. Frewen justice, we are bound to say that if he has not succeeded, no part of the blame can rest with him. The weakness lies in the case itself—certainly not in the advocate.

Nothing could exceed the adroitness and diplomatic reasoning with which Mr. Frewen has endeavored to impress his own views upon the minds of British farmers. He has professed to speak mainly on their behalf; and no one who knows anything of Mr. Frewen will doubt the sincerity of his belief that the scheme of live stock importation which he so fondly cherishes would really, if carried out, confer substantial benefit upon the agriculturists of this country. We have thought it necessary to point out that the realization of the scheme would be certain at least to create a sudden and very marked advance in the selling value of shares in the ranches of the Far West—undertakings in which Mr. Frewen has considerable financial interest. But while we have mentioned this circumstance, it is not to be supposed that we would go the length of saying that because Mr. Frewen has a heavy monetary interest in Western ranches his evidence as to the character of Wyoming cattle and their suitability for profitable fattening in this country is not admissible or worthy of being taken into serious consideration by those to whom his evidence is addressed. We do not for a moment doubt the sincerity of Mr. Frewen's convictions. We are willing to believe that in the formation of those convictions personal interests were not allowed to exercise any undue influence. Yet we are quite unable to regard Mr. Frewen as a disinterested witness in the case; and he must not complain if, in an estimate of the strength of his evidence, notice is taken of the circumstances we have mentioned.

We have perused with interest Mr. Frewen's very able and telling paper which he read the other week before the Newcastle Farmers' Club. "Will you take these cattle [the lean cattle which are reared but cannot be fattened on the Western prairies] from us and finish them, or shall we hand them over to be fattened by the farmers of the maize belt of the States? A certain defined proportion of this supply has to come into England, the needs of the British consumer have to be supplied; whether, then, is it better that English or American farmers should secure the profit of fattening these stores?" Mr. Frewen, in thus putting the question, assumes that from fattening these cattle there would be a "profit," no matter whether fed here or in the States. Taking it for granted that there actually is this profit, we would ask Mr. Frewen if he comes to tell us that the American farmers are willing to give up any attempt to share in the profit, and leave it entirely to our farmers if only we will admit these Wyoming cattle? If this were what were meant, then we would say by all means let us have both the cattle and the "profit." We fear, however, that no such philanthropy need be looked for. American farmers will take as much of this fattening profit as they are able to withhold from us. If they can keep it all to themselves they will undoubtedly do so—and who could blame them for this? The matter is really a trial of strength between the

American and the British cattle-feeder. He who can feed the most cheaply will in the end "secure the profit." Can we with our costly and limited supply of food fatten as cheaply as can American farmers with their stores of cheap food? Mr. Frewen contends that we can. Feeding in America, he says, is costly "because where food is cheap there invariably the winter is intensely severe, and also timber is scarce." Do we fatten our bullocks in the open air? Are the feeding barns of America, even where timber is scarce, more costly than our farm steadings? For the interests of British farmers we regret that our experience in these matters has differed entirely from the views expressed by Mr. Frewen. Would that it had not! Our farmers in these times need all the balm that can be given to them, and if there were any in Wyoming they would gladly turn their eyes westward.

In our belief that these prairie cattle can be fattened much more cheaply in America than in this country we are not alone. It is also the opinion of the most weighty and most disinterested authorities in America. Our Chicago contemporary, *The National Live Stock Journal*, has emphatically said that Mr. Frewen's scheme for sending Wyoming lean stock to be fattened in England will not succeed, for the reason that if it will pay at all to fatten these ranche cattle for English beef markets the fattening can be done more cheaply in the maize States than on British farms. In our columns on the 2nd ult. the Hon. T. C. Jones, of Delaware, Ohio, gave expression to similar views. "A bullock," he says, "can be fattened much cheaper in Ohio, Indiana, Illinois, Iowa, &c., than in England, while the cost of transporting the fat beasts will be very little more than the stores." Then, if we are to import these lean cattle, we must also import a certain quantity of food to feed them, for our own supply is already insufficient. There would thus be double freight to pay, besides heavy profits to middlemen—much heavier middle-man profits than arise upon the dead meat trade. In all views of the subject, therefore, we are forced to the conclusion that Mr. Frewen has not succeeded in making good his case.

BREEDING HUNTERS.

A correspondent of the *London Live Stock Journal* says:—

I have bred some hunters for several years, and show a few at our local meetings occasionally, and get my fair share of prizes. As a rule I find the best way to breed hunters is to breed from two and three-year-old fillies that are sound, with good shoulders, and good legs and feet. I breed from light cart mares, also coaching mares, from a blood sire, and I have made from 100gs. to 300gs. for each of my hunters when five years old. I think that is a very fair profit for the breeder. If farmers will pay attention and select the right sire for their mares, they will have no trouble to sell the colt when fit for the market. I attended the show at the Agricultural hall, London, on March 3rd, and I was delighted to see so many thoroughbred stallions there. Being the first show of the kind held there, I went from box and box, and by the courtesy of the different grooms in charge I was enabled to have a good look at them. I have no doubt there were several sires in Class A that will leave some good hunters from picked mares. But the first to take my attention was Mulatto, a ten-year-old, sire Highclere, grand sire Newminster, dam Miss Lucy, by Sweetmeat. "What rare breeding," my friend said. I asked the groom if he was quiet. "Yes, sir," said he, "as quiet as a

sheep; come in and handle him." I did so, and to look at his beautiful head, full of intelligence, hung on a long muscular neck with rare shoulders, good back and middle, with extraordinary loins and quarters. He measured six feet eight inches to girth, nine inches below the knee, and 10½ inches under the hock. This is my ideal of a hunter sire. I thought I had never seen such a one before, and did not begrudge my journey to the hall had it been only to have seen Mulatto, who is full of quality and stands 16 hands high on short legs, and I heard that Professor Pritchard pronounced him perfectly sound, a very essential point in a sire. The horse was sold to go to Devonshire, where there has been many a good hunter bred, and I feel sure Mulatto's stock will be eagerly sought after.

MORE HIGH-PRICED YEARLINGS.

PUBLIC SALE OF THE WOODBURN FARM THOROUGH-BRED COLTS AND FILLIES.

By Telegraph to the Herald.

LEXINGTON, Ky., May 14, 1885.—The annual sale of thoroughbred stock bred at Woodburn Farm by Mr. A. J. Alexander was held this morning. Delightful weather served to increase the attendance, and prominent turfmen and stable owners were out in force. The bidding was spirited and the prices satisfactory. Forty-six animals were sold within two hours, bringing \$39,510. Following are the individual sales:—

YEARLING COLTS.

Chestnut, by King Alfonso, dam Canary Bird; Appleby & Johnson, New York..	\$3,000
Bay, by King Alfonso, dam Hester; S. D. Bruce, New York.....	1,500
Bay, by Falsetto, dam Cachuca; Stephen Maxwell, Louisville, Ky.....	325
Chestnut, by Lisbon, dam Spinola; Milton Young, Lexington, Ky.....	1,500
Bay, by Falsetto, dam Patula; Preakness Stables, New Jersey.....	625
Bay, by King Alfonso, dam Penelope; McClelland Brothers, Lexington, Ky.	775
Bay, by King Alfonso, dam Mollie Wood; S. D. Bruce.....	850
Bay or brown, by Falsetto, dam Zephyr; Milton Young.....	510
Chestnut, by King Alfonso, dam Britomarte; J. T. Williams, Eminence, Ky.	750
Brown, by Powhatan, dam Miss Carter; Treacy & Wilson, Lexington, Ky.....	330
Bay, by King Alfonso, dam Miranda; Edward Corrigan, Kansas City, Mo...	2,000
Bay, by King Alfonso, dam Vis-a-Vis; J. T. Williams.....	510
Chestnut, by King Alfonso, dam Queen-craft; S. D. Bruce.....	1,850
Bay, by King Alfonso, dam Minnie Brown; Joseph Swigert, Lexington, Ky.....	600
Chestnut, by Lisbon, dam Peaceful; Edward Corrigan.....	2,000
Chestnut, by Lisbon, dam Maggie Hunter; John S. Clark, Lexington, Ky...	675
Chestnut, by King Alfonso, dam Flash; Appleby & Johnson.....	1,400
Bay, by Powhatan, dam Night Rose; Preakness Stables.....	400
Bay, by Falsetto, dam Lerna; G. D. Wilson, Lexington, Ky.....	575
Bay, by Powhatan, dam Britannia IV.; G. D. Wilson.....	325
Bay or brown, by Falsetto, dam Blantina; McClelland Brothers.....	500
Bay, by King Alfonso, dam Emeti; G. D. Wilson.....	400

THOROUGHBRED FILLIES.

Table listing various Thoroughbred fillies with their owners and prices. Includes entries like 'Bay, by Falsetto, dam Lilly Duke; Edward Corrigan' and 'Chestnut, by King Alfonso, dam Jersey Lass'.

Table listing various bulls with their owners and prices. Includes entries like 'Mr. Sanders', 'Welcome Duchess, calved Nov. 8th, 1880', and 'Water Nymph 6th, calved April 13th, 1881'.

The Commissioner of Agriculture has called a convention of representatives of the various Agricultural Colleges and other industrial institutions, to be held at Washington June 24.

Among the cattle being shipped for England just now are three of the largest steers ever purchased for shipment, weighing respectively 2,800, 2,740, 2,560 pounds; the latter bred and reared by the Ontario Agricultural College.

The largest number of bulls sold in Colorado the present season have been grade Herefords. The Galloways and Aberdeen-Angus come next.

Another of the few links which connect the first few years of the nineteenth century with the present time has disappeared. Mr. John Outhwaite of Baines, Yorkshire, has passed away at the ripe old age of four score years and one.

SALE OF THE BROUGHTON SHORT-HORNS.

Table listing various cows and heifers from the Broughton sale with their owners and prices. Includes entries like 'Water Nymph, calved May 24th, 1872-S. Spencer' and 'Sunshade, calved July 30th, 1874-Capt Ashby'.

Table listing various bulls from the Broughton sale with their owners and prices. Includes entries like 'Probus 50,270, calved April 18th, 1883-Mr. Tompkins' and 'Royal Christon (L. Combs'), calved 1882-Mr. Broadhurst'.

Cattle Notes.

The grass on the ranges is growing finely and the harvest time of the horse thief is near at hand. He can now make a through ride to Texas without having to hunt a cow camp for horse feed, so it would be well to lock that stable door.

Live Stock Notes.

At Mr. Broughton Knight's dispersion sale of Herefords at Leinthall, Ludlow, England, the last week in April, the average for 114 cows and heifers was \$170, and for the whole number sold (185 head) \$150.

THE CANADIAN BREEDER AND AGRICULTURAL REVIEW circulates through the entire Dominion, and has a large and increasing circulation in the United States and Great Britain.

The Kennel.

THE TORONTO DOG SHOW.

Dog fanciers in particular, and the Toronto public generally, are under the most pronounced obligations to the gentlemen who have taken a great deal of time and pains to make Toronto's third annual Dog Show the most brilliantly successful of the season. Of course much of the work has fallen on the shoulders of the capable and energetic secretary, Mr. Jackson, but the other officers of the show and members of the committee have all worked well, Mr. Boyle, Mr. Massey, and others all manifesting a disposition to perform their full share of the work. Too much could hardly be said in praise of the admirable arrangement of the cages and the management of the available space generally.

The display of dogs is a grand one, and one of which Toronto has good reason to feel proud. As is usual here, the most extensive display is made in the setter class, with spaniels coming second; while the other candidates for honors are pretty fairly distributed among nearly all the recognized breeds. In point of quality, as well as quantity, the display is an admirable one, and altogether better than there was reasonable ground for expecting. As the awards are not yet complete it would be manifestly in bad taste to particularize as to the merits of individual animals. It is safe to say, however, that the display of spaniels and setters is something extraordinary. Newfoundlanders show a marked improvement on last year's exhibit; the St. Bernards are well up to the mark, as are also the Mastiffs. There are five splendid bulldogs on exhibition, which is two more than the number shown last year that were at all worthy of being classed as such.

The show of bull terriers is also much better than that of last year. The pointers are out in fair force, but fox hounds are only moderately represented as compared with last year. Smooth-haired fox terriers make an exhibit which probably exceeds that of last year as to numbers, and possibly as to quality. There is also a fair collection of wire-haired fox terriers. Besides these there are the toy dogs and canine curiosities of the various sorts incident to dog shows, and altogether the exhibit is one which no fancier or admirer of the dog can afford to miss seeing.

The entries in all exceed 400, some of the most famous animals on the continent being present. At the time of going to press it is too early to speak in detail of the exhibits. They will be noticed next week.

NOTES.

Some novelties in the way of special prizes were given at the Warwick Dog Show. They were some handsomely finished dog kennels, constructed on wheels, presented by the patentee, Mr. L. T. Kermodé. There were four of them, valued at £15, two being won by the champion bulldog Grabber, and two by the Fox-terrier Splinter. They are so made that they can be either used as stationary kennels or

as cases in which to convey dogs by rail, and have a great advantage over ordinary boxes, as from the shape of the top they cannot be closely packed, the danger of the occupants getting suffocated being thus rendered almost impossible.

The subject of the division of colors in the Collie classes is being again brought forward. The plan of dividing when they come before the judge, as tried at Warwick, can scarcely be looked upon as a good one, as it causes some confusion in judging, but much more after the dogs are re-benched. Take, for instance, the man who attends the show for the purpose of improving his knowledge of Collies. After buying a catalogue he goes through the classes and finds duplicate prizes all through. So far, by a little explanation or a glance at the rules, this may be accounted for, but confusion becomes more confounded when, on arriving at puppy classes, the prize-winners are not there at all, and when they are found by harking back, dogs that have taken prizes in the previous classes are below others that have apparently received lesser honors in the same competition. This arrangement is perplexing to reporters, who are continually at dog shows; so what must it be to the occasional visitor?

PROLIFIC COWS.

The *National Live Stock Journal* (Chicago) says:—"A correspondent sends us a communication, published elsewhere, on a prolific Shorthorn cow, owned by his daughter, that gave birth to triplets, and ten months after to twins, making five calves in ten months. This is, so far as we know, the most rapid case of increase ever recorded. We have heard of a Polled-Angus cow having twins thrice in five years, and, of course, occasional twins are by no means rare. The tendency to throw twins seems to be hereditary in some families, and if this tendency does not prove over-taxing to the constitution of the mother, it is very profitable to the breeder. It is true that where there are twin calves of different sexes, the female is usually a non-breeder, but while this is a disappointment the breeder is just as much better off as if he had a steer calf in addition to his bull. Inasmuch as the tendency to get twins has sometimes proved hereditary, it would be wise for the breeder to retain his twin heifers for his own use in breeding, and thus get the benefit should any of them prove to inherit this profitable trait. Yet the tendency in Nature to preserve equilibrium is so strong that we do not think the double advantage of getting twins and of a long career as a breeder is likely to occur in the same animal, except very rarely. Where a cow is not bred too young, and is kept in good health and properly cared for, she will usually, if a good breeder, continue to breed for a good many years. It would surprise most people greatly to see the result of a calculation showing the product of a single cow in ten years where, say, one-half of her increase were females."

Live Stock & Kindred Markets.

OFFICE OF THE CANADIAN BREEDER
AND AGRICULTURAL REVIEW,
TORONTO, May 21st, 1885.

The improvement chronicled by last week's cables has been shortlived and has been followed by a sharp decline in values. A week ago the markets were virtually bare of Canadian stock, but since then receipts from Canada and the United States have been heavy, which

have forced the market down, although the supplies from other sources were relatively small. At Liverpool on Monday there was a slow and dragging trade, the demand being weak at the decline, and considerable supplies were left over. Prices are 1c. lower than last week.

Quotations at Liverpool on Monday, being calculated at \$4.80 in the £, were:—

Cattle—	\$ c.	\$ c.
Prime Canadian steers.....	0 14	to 0 00
Fair to choice.....	0 13½	to 0 00
Poor to medium.....	0 12½	to 0 00
Inferior and bulls.....	0 9½	to 0 11½

The Toronto live stock market has been quieter this week owing to lighter supplies. A heavy run on Friday last caused an easier feeling to prevail and prices were lower. Yesterday, however, the decline was recovered and prices were generally steady, shipping cattle being slightly stronger. The receipts of live stock for the week ending Saturday last were 1,468 head of cattle, 150 sheep and lambs, and 181 hogs.

CATTLE—Shipping cattle continue in good demand but the supply is not so large this week. All offering this week sold at good prices excepting a load of rather poor quality. The top price for the general run of choice was 5¼c. per lb. For a load of extra choice averaging 1,500 lbs. 5¾c. was paid. The average price has been from 4¾ to 5¼c. per lb. The market for butchers' cattle is more satisfactory than at the close of the week. The run is not so large and in consequence the demand is better. Best cattle have been selling at 4¼c. with the general run of good at 4 to 4¼c. per lb. Inferior to common have been a little slow at 3½ to 3¾c. per lb. Among the sales were a mixed load of 21 weighing 1,125 lbs. each at \$50; 12 cattle 1,050 lbs. at \$42; 4 do. 1,130 lbs. at \$43.50. Stockers are unchanged, the demand being fair. Milkers are in fair supply but the demand is dull. Not many good ones are offering. Inferior sold as low as \$17.50. Choice milkers are also easier.

CALVES.—Are not in much demand as a considerable quantity of dressed are being brought in. The supply is ample.

SHEEP AND LAMBS.—Are dull. Not many are wanted. Supply is light, but quite large enough. An increase in the number offering would cause a decline. Prices are nominally unchanged.

HOGS.—Are in light supply. Light stores are wanted at 5¼c. per lb.; but very few are offering. Sales of fat have been made at 5c. A better run is expected on Friday.

Following are the receipts of live stock at the Western Cattle Market here for the week ending Saturday, May 16, with comparisons:—

	Cattle.	Sheep and Lambs.	Hogs.
Week ending May 16.....	1,468	150	181
Week ending May 9.....	1,118	122	345
Cor. week, 1884.....	504	27	232
Cor. week, 1883.....	611	22	61
Total to date	16,311	3,040	1,844
To same date 1884.....	12,335	4,600	2,434
To same date 1883.....	11,621	4,400	1,695

Quotations are as follows:—

Cattle, export choice.....	4¾	to 5½	per lb.
" " mixed.....	4	to 4½	"
" bulls	3½	to 4¼	"
" butchers', choice.....	4½	to 0	"
" good	3¾	to 4¼	"
" common.....	3½	to 0	"
" stockers ..	3¾	to 4½	"
Sheep and lambs, choice, per head	5 00	to 6 50	
" secondary qualities, per head	4 00	to 5 25	
Spring lambs, per head	3 00	to 4 00	
Hogs, fat, off the car.....	5	to 0	per lb.
" store.....	5¼	to 0	"
Calves, choice, per head.....	\$8 00	to \$10 00	
" Common	2 00	to 4 00	

MONTREAL.

Receipts of live stock at Point St. Charles last week were 2,490 head cattle, 106 sheep, 266 calves, and 189 hogs. Receipts since May 1 were 4,272 head cattle, 455 sheep, 1,946 calves, and 1,062 hogs. The export trade in cattle via the St. Lawrence has opened. To date 1,728 head have been shipped against 4,150

head to the same date last year. Freight room has been engaged at 50s. to 60s. per head, but shippers predict lower rates. The most noticeable feature of the shipping cattle trade has been the excellent quality of the receipts, a few head of which weighed from 1,800 to 2,000 pounds each. In consequence of the improved quality and an active demand from shippers a higher level of prices was made, and sales of over 250 head were made at 4 1/4 to 5 1/2c. per lb. live weight, some very choice steers selling as high as 5 3/4c., but that figure is extreme. The exports from Boston last week were 465 head cattle and 504 sheep, cattle freights being quoted at 35s. At Viger market the receipts were 350 head, and prices were firm with a fair demand. Good heifers and steers sold at 5c. per lb. live weight, and common to fair at 4 to 4 1/2c. There were 80 lambs and sheep offered, and prices were firm, ranging from 4 to 5c. per lb. live weight for sheep on the scale. Spring lambs were in good demand. The receipts were 60 head and sold at \$3.50 to \$4.00 each. The receipts of calves were 150 head, and brought \$1.50 to \$6.00 each as to quality.

THE HORSE MARKET.

TORONTO.

Horse dealers report a good demand for all classes of horses this week, particularly for well-bred carriage and saddle horses, at prices ranging from \$150 to \$225 each. At Grand's weekly sale yesterday, 25 work horses weighing 1,100 to 1,300 lbs. were sold at \$110 to \$165 each. Mr. Grand reports the following private sales:—Pair of bay carriage geldings, 16 hands, sold for New York market at \$550; bay carriage gelding, 16 hands, \$205; pair black mares (drivers), 15-2 1/2, at \$560; chestnut saddle horse, 15-3, \$300, shipped to Boston. A large number of working horses and mules from the C. P. R. works are expected by the first boat from Port Arthur and will be offered for sale here.

MONTREAL.

Business has been quiet in the horse market. There are not many buyers in town, and consequently but few sales took place. Taking into consideration these facts, there have been but few animals shipped. The following were sent to different parts of the States:—1 horse, \$140; 1 do., \$140; 16 do., \$1,840; 1 do., \$225; 12 do., \$2,055; 19 do., \$2,181; 9 do., \$1,005; 3 mares, for breeding purposes, \$350. The steamer Concordia, from Glasgow, brought five fine Clydesdale stallions, owned by Mr. J. L. Dalglish, of Glasgow. Since the arrival of the steamer they have been exhibited at the Horse Exchange, Point St. Charles. Mr. Dalglish has placed three out of the five, one of which is Earl Gray, an excellent type of the Clydesdale stallion, sired by the celebrated horse General Williams, and fully registered in the stud book. The purchaser, Mr. Henderson, paid about \$2,000 for him. Mr. Dalglish also sold two fine stallions to Mr. Young, of Leamington, Ont., both sired by Prince of Wales, for \$1,750.

PRODUCE.

The local market has been dull and inactive with prices tending downwards all week. This reaction has been chiefly due to the cessation of war rumors and a weak feeling in outside markets, but we should say that the demand here has been decidedly slack, and only the absence of any pressure to sell has averted a much more considerable fall. Stocks in store stood on Monday morning as follows:—Flour, 2,125 barrels; fall wheat, 161,501 bushels; spring wheat, 87,175; oats, 15,930; barley, 25,861; peas, 16,458; rye, nil. Wheat in transit for England shows an increase on the week, standing on the 14th inst. at 3,375,000 quarters, against 3,225,000 on the 7th inst. In the States the visible supply of wheat stood at 37,042,000 bushels against 37,890,000 in the preceding week, and 19,297,000 last year.

PRICES AT LIVERPOOL ON DATES INDICATED.

	May 12.	May 19.
Flour.....	00s od	00s od
R. Wheat.....	7s 6d	7s 4d
R. Winter.....	8s od	7s 9d
No. 1 Cal.....	7s 5d	7s 2d
No. 2 Cal.....	7s 2d	6s 9d
Corn.....	5s od	4s 11d
Barley.....	5s 6d	00s od
Oats.....	5s 5d	00s od
Peas.....	6s 3d	6s od
Pork.....	62s od	59s od
Lard.....	35s 6d	35s od
Bacon.....	32s od	31s od
Tallow.....	32s 3d	32s od
Cheese.....	56s od	54s od

FLLOUR. Very slow of sale, with values tending downwards but buyers and sellers apart. Superior extra has been inactive, being offered at \$4.50 or equal to that price, with no buyers over \$4.45; extra has sold at equal to \$4.30 and \$4.35, the latter being for very choice; market closed with scarcely any demand heard.

BRAN. Again easier; sold at the close for \$11 on track.

OAIMEAL. Inactive with buyers and sellers apart on cars, which are still held at \$4.45 to \$4.50. Small lots \$4.75 to \$5.

WHEAT. Offerings have been small but sufficient, as the demand has been decidedly slack and heard at all at declining prices only. At the close No. 2 fall was held at 97c. with buyers about 95 to 96c.; and No. 3 fall worth about 93c. No. 2 spring sold on Monday at 93c. which price would have been repeated at the close for this grade and 95 to 96c. paid for No. 1, had any been offered. Street receipts small and prices declined at close to 93 to 94c. for spring and fall and 83c. for goose.

OATS.—Have been offered much more freely than for some time past, and selling slowly at a decline; cars on track sold last week at 42c. and on Monday and Tuesday at 41 and 40c., closing with sellers at 40c. Street receipts still small, but prices declined to 46c.

BARLEY. Scarcely any either offered or wanted; the only movement for the week was a sale of a lot of uninspected lying outside at equal to 55c. here, its quality being about equal to No. 3; other grades nominal at 60 to 62c. for extra No. 3 and 64 to 65c. for No. 2. Street receipts consisted of two loads at 56c.

PEAS.—Much as before; No. 2 have sold at 70c. f.o.c., at which price more would have been taken had they been offered. On street one sale was made at close for 69c.

RYE.—None offered but would have been taken at 70 to 71c.

HAY.—Pressed fairly steady at \$15 to \$16 for timothy in car-lots. Market receipts increased last week, but have since again fallen off, prices closing about \$12 to \$15 for clover and \$17 to \$20 for timothy.

STRAW.—Has been in fairly good supply but sold fairly well at from \$9 to \$11 for sheaf, with loose worth \$6.50 to \$7.

POTATOES.—Cars have sold pretty freely at 35c., but at close there were more offered at this price and not taken. Street receipts small and prices steady at 40 to 45c.

APPLES.—Very few offered and these selling usually at from \$2 for common to \$2.50 to \$2.75 for choice winter growth.

POULTRY.—Fowl selling usually at 65 to 90c. and spring chickens at 50 to 60c. per pair; nothing else offered.

TORONTO MARKET.

Flour, p. brl., f.o.c., Sup. extra.....	\$4 45	to	\$4 50
“ “ Extra.....	4 30	to	0 00
“ “ Strong Bakers.....	0 00	to	0 00
“ “ S. W. Extra.....	0 00	to	0 00
“ “ Superfine.....	0 00	to	0 00
Oatmeal.....	4 45	to	4 50
Cornmeal.....	0 00	to	3 50
Bran, per ton.....	11 00	to	00 00
Fall wheat, No. 1.....	0 00	to	0 00
“ No. 2.....	0 95	to	0 96
“ No. 3.....	0 92	to	0 93
Spring Wheat, No. 1.....	0 96	to	0 97
“ No. 2.....	0 93	to	0 94
“ No. 3.....	0 00	to	0 00
Barley, No. 1.....	0 00	to	0 00
“ No. 2.....	0 65	to	0 00
“ No. 3 Extra.....	0 60	to	0 62
“ No. 3.....	0 55	to	0 56
Oats.....	0 40	to	0 00
Peas.....	0 70	to	0 00
Rye.....	0 70	to	0 00
Corn.....	0 00	to	0 00
Timothy Seed, per bush.....	2 00	to	2 15
Clover.....	6 75	to	0 00
Flax, screened, 100 lbs.....	0 00	to	0 00

PROVISIONS.

BUTTER.—At the close there was a slight demand for shipment and a few small lots of really fine medium with white out sold at 7, at 7 1/2 and 8c., but plenty more obtainable; nothing doing in fine old dairy which has ceased to be offered, but a few packages of new sold about 12 1/2c. Rolls have been offered slowly and are expected to be finished in a week; prices as before, 10 to 13c. for good to choice and inferior down to 8c. Street receipts of pound rolls fair and prices steady at 16 to 18c.

CHEESE. Quiet at 11 to 11 1/2c. for fine and down to 9c. for common in small lots, with new offered at 10 to 10 1/2c.

EGGS.—More abundant and closed easier at 12c. for round lots, with 13 to 14c. paid on the street.

PORK.—Quiet and unchanged at \$15.50 to \$16.

BACON.—Selling slowly and feeling easy. Long-clear dull at 8 to 8 1/4c. for tons and cases, and Cumberland at 7 1/4 to 7 1/2c. Rolls in good demand with trade lots sold at 9 1/2c. and small lots at 9 1/2 to 10c. and bellies 11 to 12c. Shoulders held at 8c.

HAMS. Held firmly and in good demand; trade-lots of smoked sold at 11 1/2c. and small lots at 12c., with pickled held at 10 1/2c.

LARD.—Inactive; tinnets 9 1/4 to 9 1/2c. and pails 9 1/2 to 10c., a lot of 50 selling at the former figure.

HOGS.—Receipts increased and prices declined, closing at \$6.50 to \$7.00 with offerings sufficient.

SALT.—Unsettled; but closed with small lots at 65 to 70c. for Liverpool coarse and \$1.45 to \$1.50 for fine with no dairy yet in.

HOPS.—Country lots offered but no sales reported, though naming of prices might increase chances of them being effected.

DRIED APPLES.—More active with trade lots sold outside at 4 1/2c., and dealers selling barrelled at 5c. with evaporated at 8 to 8 1/2c.

WHITE BEANS.—Held firmly at \$1.00 to \$1.20 for hand picked in small lots with inferior offered down to 50c.

TORONTO MARKETS.

Butter, choice dairy, new.....	0 12	to	0 12 1/2
“ good shipping lots.....	0 07	to	0 08
“ inferior, &c.....	0 05	to	0 00
Cheese, in small lots.....	0 09	to	0 11 1/2
Pork, mess, per brl.....	15 50	to	16 00
Bacon, long clear.....	0 08	to	0 08 1/2
“ Cumberland cut.....	0 07 1/2	to	0 07 1/2
“ smoked.....	0 00	to	0 00
Hams smoked.....	0 11 1/2	to	0 12
“ cured and canvassed.....	0 00	to	0 00
“ in pickle.....	0 10 1/2	to	0 10
Lard, in tinnets and pails.....	0 09 1/2	to	0 00
“ in tierces.....	0 09	to	0 00
Eggs.....	0 12	to	0 00
Dressed hogs.....	6 00	to	7 00
Hops.....	0 10	to	0 15
Dried apples.....	0 04 1/2	to	0 05 1/2
White beans.....	0 75	to	1 20
Liverpool coarse salt.....	0 65	to	0 70
“ dairy, per bag 56 lbs.....	0 45	to	0 50
“ fine, “ “.....	1 45	to	1 50
Goderich, per barrel.....	0 95	to	0 00
“ per car lot.....	0 90	to	0 00

HIDES, SKINS, AND WOOL.

HIDES.—Green have been readily taken, all offered being wanted, at steady but unchanged prices. Cured in good demand and steady; sold by car-lot at 8 1/2c.

CALFSKINS.—All green offered have been wanted at former prices; one large lot of cured changed hands at steady prices, and a steady demand has been maintained.

SHEEPSKINS.—Very few offered and these few bringing steady prices, the best green bringing \$1.40; country-lots ranging from \$1 for dry to \$1.25 to \$1.30 for green.

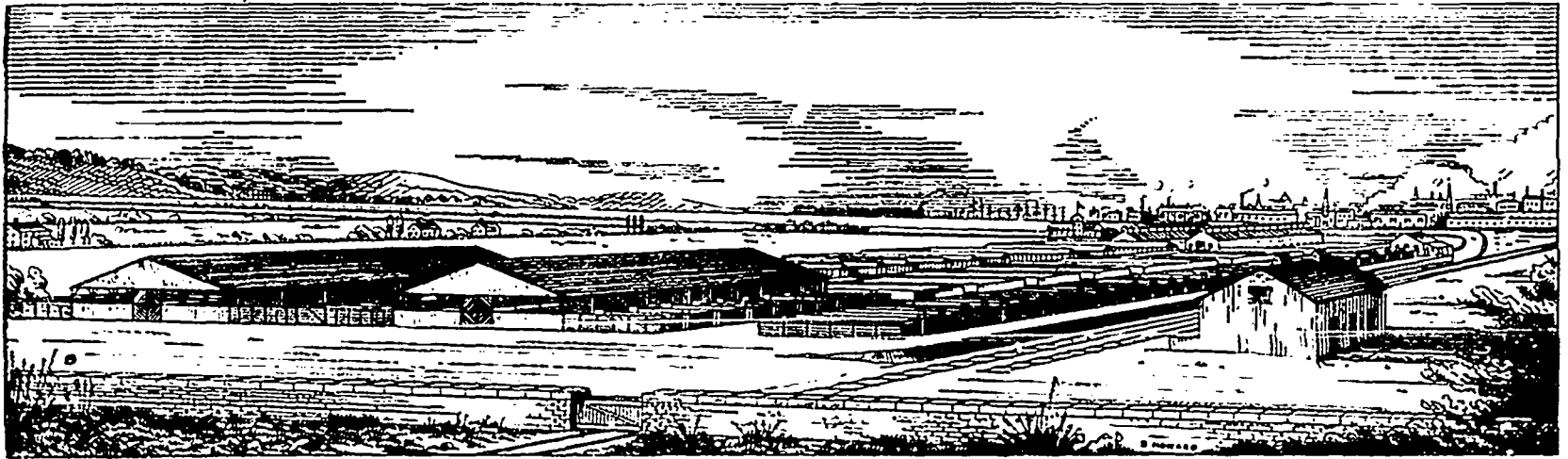
LAMBSKINS.—Receipts still on the increase but all readily taken and prices advanced to 20 to 25c. for green.

WOOL.—Sales small either to dealers or to factories. Values steady, with dealers holding off; low grades of fleece 15 to 18c. and super 20 to 22c. Factory demand quiet but dealers not offering any concession to them.

TALLOW.—Scarce and steady at 6 1/2c. for rendered and 3 1/2c. for rough with round lots held at 7c.

Steers, 60 to 90 lbs.....	\$0 09	to	\$0 00
Cows.....	0 08 1/2	to	0 00
Cured and inspected.....	0 08 1/2	to	0 00
Calfskins, green.....	0 11	to	0 13
“ cured.....	0 13	to	0 15
Sheepskins.....	1 00	to	1 40
Lambskins.....	0 15	to	0 25
Pelts.....	0 00	to	0 00
Tallow, rough.....	0 03 1/2	to	0 00
“ rendered.....	0 06 1/2	to	0 00
Wool.....			
Fleece, comb'g ord.....	0 15	to	0 19
“ Southdown.....	0 21	to	0 22
Pulled combing.....	0 17	to	0 18
“ super.....	0 21	to	0 22
Extra.....	0 25	to	0 27

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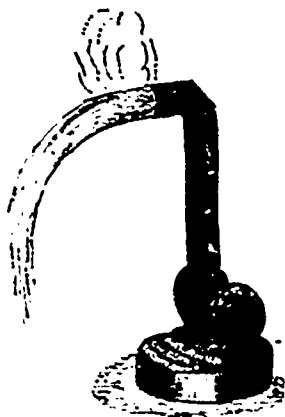
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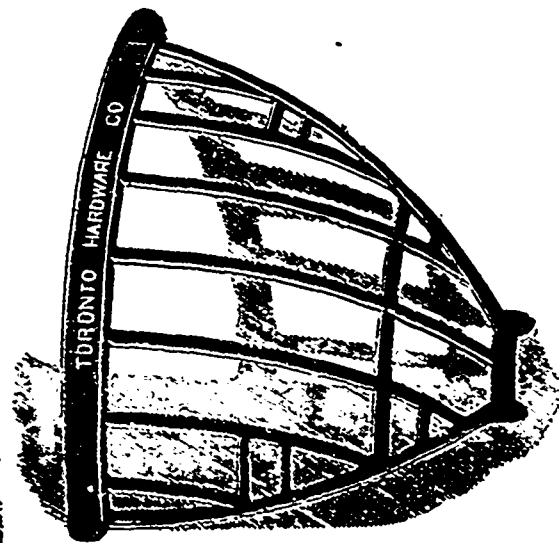
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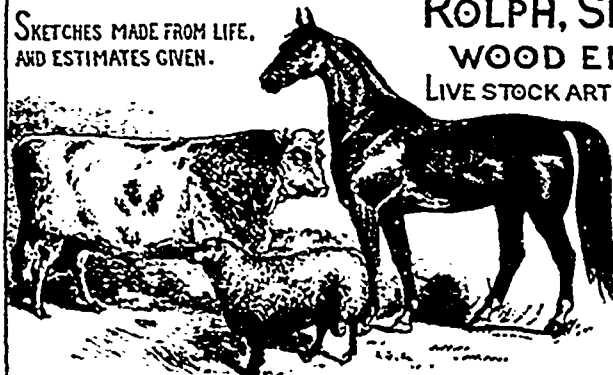
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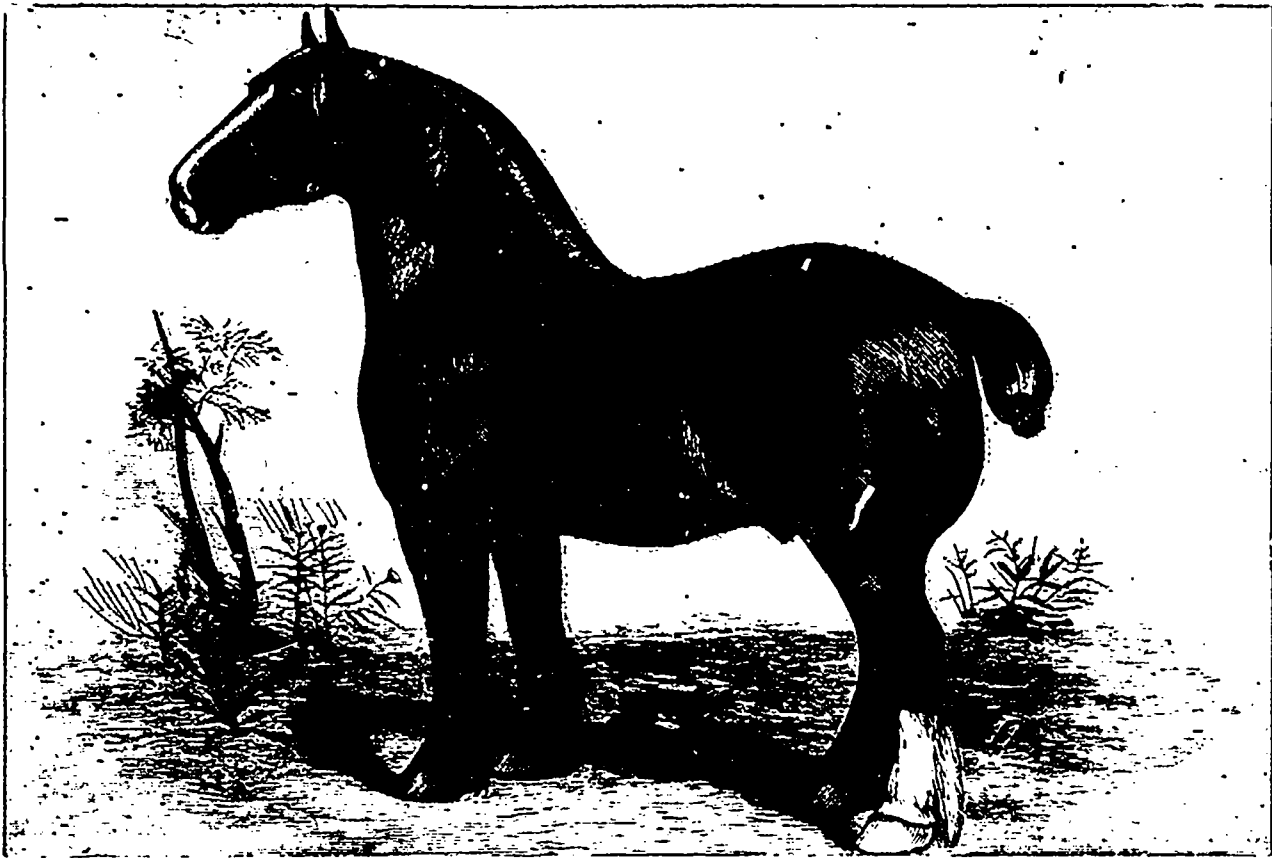
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IMPORTED DRAUGHT HORSES

IMPORTED SHIRE STALLION "DARNLEY."
Owned by HENDRIE & DOUGLAS, Hamilton, Ont.

TENTH IMPORTATION OF DRAUGHT STALLIONS.

MESSRS. HENDRIE & DOUGLAS

BEG TO INFORM

BREEDERS OF DRAUGHT HORSES

That their Importation of Stallions for this season has just arrived per S. S. MONTREAL, from Liverpool.

They have all been personally selected by MR. DOUGLAS, specially selected to suit this market and the modern taste. Bone, Hair, Action and Color, have all been specially considered. EVERY HORSE IS ENTERED IN THE STUD BOOK, and all purchases have been made regardless of expense so as to insure having only animals of acknowledged merit. Representative animals are among this importation from the Stud of LORD ELLESMERE, JAMES FORSHAW, JOSEPH WALTHAM, etc.

Intending purchasers will be met at the Hamilton Station by special conveyance upon giving notice one day ahead, addressed,

HENDRIE & DOUGLAS,
HAMILTON, ONT.

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FURNITURE

IN ALL ITS BRANCHES
Manufactured and sold at lowest rates for best goods.

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520 POLICIES FOR \$1,159,000.

GENERAL AGENTS } J. E. & A. W. Smith.
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Assurance Company.

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The Direct Route from the West for all points in New Brunswick, Nova Scotia, Cape Breton, and Newfoundland.

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OR

TO RENT.

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Thoroughbred Stallion

Five years old, standing over 16 hands high, and weighing nearly 1,200 lbs., and perfectly sound except a slight sprain in one fore leg.

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The most simple and perfect tailor system of cutting, taught in 3 or 4 days for \$5; board for pupils from a distance, 50c. a day. Miss E. CHUBB, 17 K'ing street west, two doors from St. Andrew's church.

FREE BY RETURN MAIL Full Description of Moody's New Tailor

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Awarded Diploma at Canada's Great Fair in Toronto; Western Fair London; and Central Exhibition, Guelph. It is simple, cheap, durable, labor-saving, and easily operated. See it and judge for yourselves. No matter what your prejudice may be, one trial of this Grinder will convince you that it is the only one ever invented that answers the purpose in every particular. Manufactured by

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Good reliable Agents wanted.

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(LIMITED)

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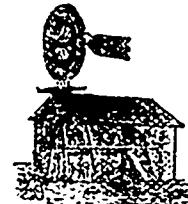
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WIND MILLS, I X L FEED MILLS,

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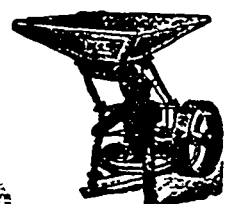
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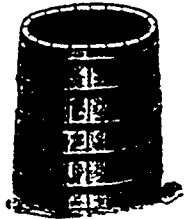
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We, the undersigned, are using one of your Geared Wind Mills, and take pleasure in stating that they are fully up to your representations, and meet our most sanguine expectations in every particular. Geo. Laillaw, Victoria Road, Ont.; John L. Howard, Sutton P. O., Ont.; Thomas I. Inson, Scarborough, Ont.; J. P. Cass, T. Original; J. R. Keyes, St. Catharines; C. Wilson (of Wilson & Young, Seaford); Jno. How, Belleville; Peter Timmons, Entarprise; R. Ball, Millbrook; John T. Haxley Mitchell, O. T. Smith, Binbrook; W. Jackson, Mono Mills.

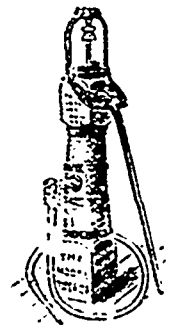


1 X L FEED MILL. The cheapest, most durable and perfect iron Feed Mill ever invented.

We, the undersigned, are using one of your 1 X L Feed Mills, and take pleasure in stating that they are all you claim for them. J. T. Barley, Mitchell, Ont.; O. T. Smith, Binbrook, Peter Timmons, Entarprise, R. Ball, Millbrook, J. R. Keyes, St. Catharines; Geo. Laillaw, Victoria Road; Thomas Inson, Scarborough.



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HALLADAY'S STANDARD WIND MILLS. 26 sizes.

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DEAR SIRS,—in regard to the 13-foot Geared Wind Mill, I will say it does good work. I use it for pumping, running a grain crusher, cutting box and root pulper. The cutting box used to take six horses to run it all day; but the wind mill does the work now, and do's not get tired either. I expect to run a cider mill with it next fall, and purpose attaching my grindstone as soon as I can get a pulley. The mill is perfectly self-regulating. The No. 2 I X L Grinder works like a charm. We can grind ten bushels an hour easily. I might also add the Four-Wheel Carrier and Four-Tined Grapple Fork I got from you are giving the best of satisfaction. The Fork is far ahead of anything I have seen.

Respectfully yours,

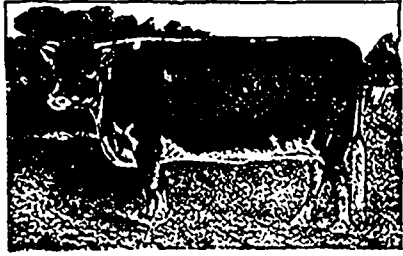
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HEREFORD CATTLE
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Have always on hand a very fine selection of

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PARTIES ON BUSINESS WILL BE MET AT THE DEPOT.

For further information apply to

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FROM THE CELEBRATED

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HIGH GRADE JERSEY COWS.

Fresh in Milk, of good individual merit, which we can offer for sale to those anxious to improve their dairy stock.

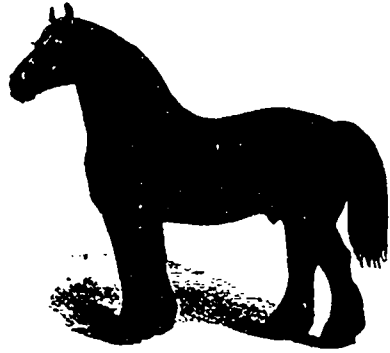
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The Jersey is the great Cream and Butter Cow Apply to

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English Shire Horses,

STALLIONS AND MARES,

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Has always on hand Stallions and Mares of the now most fashionable breed, suitable for exportation.

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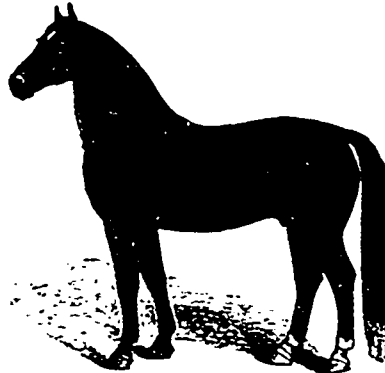
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During the last twenty years has won over 800 prizes, at all the leading Agricultural Shows in England.

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N.B.—Five minutes walk from the Station.

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THE LARGEST FLOCK IN CANADA.

From Lord Chesham, Mr. Parry, Lord Lovatt, Sir H. Alsopp, Mrs. Beach, &c., &c.

Ewes and Rams for sale.

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13 to 15 h. inds. Very hardy and perfect in every respect.

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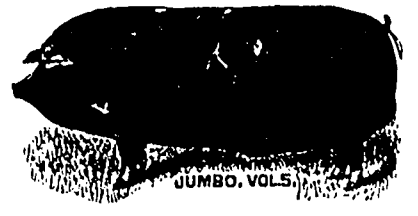
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THOROUGHbred POLAND-CHINAS,

As produced and bred by A. C. Moore & Sons (London, Ill.) The best hog in the world. We have made a specialty of this breed for 33 years. We are the largest breeders of thoroughbred Poland-Chinas in the world. Shipped over 750 pigs in 1884 and could not supply the demand. We are raising 100 pigs for this season's trade. We have 160 sows and 10 males who are breeding from. Our breeders are all recorded in American P.O.R. card Photo card of 4 breeders fairs. Swine Journal 25 cents. In 2-cent stamps. Come and see our stock; if not as represented we will pay your expenses. Special rates by Express.



J. R. BOURCHIER,

BREEDER OF

Shorthorn Cattle and Berkshire Pigs.

A FEW YOUNG BULLS FOR SALE.
Pedigrees on application.

SUTTON WEST ONTARIO, CANADA



SUFFOLK PIGS.

Bred from imported stock—the boar in use was bred by the Earl of Ellesmere, and won first prize in his class at the chief shows in Canada this year.

SEVERAL PRIZE WINNERS

in stock. Address:

GEORGE BUNBURY,

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FARM FOR SALE.

Within ten minutes' walk of the City Hall of one of the best Cities in Ontario. Splendid residence, barns, stables, &c.
This property will be sold cheap and on easy terms.

For particulars address

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100 ACRES.

Stone Dwelling, Barns, Stables, Sheep Sheds.

Soft clay loam. Water good and abundant. All in good order.

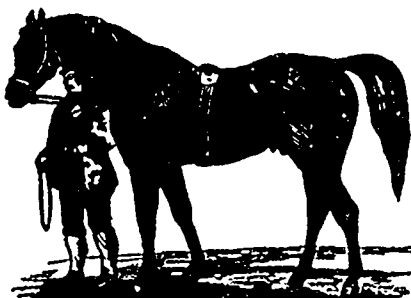
This farm is in one of the best counties in Ontario, near the City of Guelph.

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Office "CANADIAN BREEDER,"

Toronto.

THE STALLIONS



MILESIAN AND ORIOLE

WILL STAND FOR MARES AT THEIR OWN STABLES,

OAKRIDGES.

MILESIAN, by Imported "MICKY FREE," dam "MARIA HAMPTON," has been the best horse over hurdles in America, and his record in this style of racing has never been beaten either on this Continent or in England.

ORIOLE, now 5 yrs. old, by "ERIN CHIEF," dam thoroughbred mare "MORONA," by imported "THE TESTER," grand dam by "VALPARAISO," is for appearance and speed admitted to be superior to his celebrated sire.

TERMS:

To insure a Foal, \$15
Mare Leap, 10
Mares taken to pasture and carefully attended to on reasonable terms.

H. QUETTON ST. GEORGE, OAKRIDGES P.O., ONTARIO.

IMPORTED STALLIONS

YOUNG HERO (SUFFOLK PUNCH)

AND

ST. ELMO (NORFOLK COACH HORSE.)

NOTICE.

Having met with a severe accident a few weeks ago, I will not be able to travel my imported Stallions, "Young Hero" and "St. Elmo," over the route which I had intended during the coming season.

They will be kept for service, however, at their own stables, at the IMPERIAL HOTEL, GALT, where every facility will be afforded those who wish to breed from these fine animals.

Galt, April, 1885. WM. SADLER.

THE OLD HORSE

TERROR

Will Stand at his own Stables,

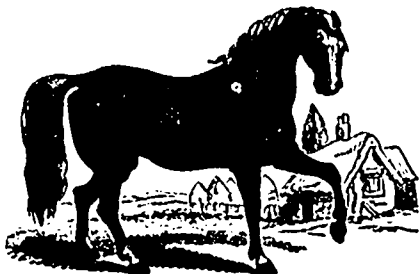
IN GALT,

FOR THE SEASON.

TERMS:

To insure Foal \$20 00
Thoroughbred 25 00
Single Service 10 00
Season Mares 15 00

\$5.00 to be paid at the time of service. Pasture provided. Will not be responsible for escapes or accidents.



SEASON OF 1885.

CLEAR GRIT STALLION

The Major.

Sorrel horse foaled June 16th, 1881; bred by Mr. James McMullin, of Seaforth, the home of old "Clear Grit," sire of Amber, 2251; Little Billy, 225; St. Patrick, 226; Clothes Pin (trial) 222; Flora F., 224; Billy M. (pacer), 2193; Fuller (pacer), 2133. The Major is a beautiful golden sorrel, with white on all of his feet and white blaze on face, stands 15 1/2 hands good, and weighs 1,100 lbs., being a splendidly developed horse of great bone and muscle, with the fine, flashing gate characteristic of the great family of Clear Grits. He also took second prize last fall at the Industrial Show against a field of eighteen. He has never been handled, but a brother of his, twenty months old, trotted 1/4 mile this winter in 45 seconds.

The Major's dam, Aunt Betsy, by P rper by Lexington, out of a Black Hawk Morgan mare, Aunt Betsy being one of the best roadsters in Western Canada, and being recently sold to Mr. George Jackson, of Minneapolis, U. S., at a large figure, for breeding purposes. The Major is considered by the best judges to be the finest bred colt left from his renowned sire, old "Clear Grit."

The Major will be located at the CITY HOTEL STABLES in GUELPH, for the season of 1885, where he will serve a limited number of mares, being stinted to 25 mares.

TERMS.—To insure, \$20, payable in January, 1886, if mare proves in foal. Season service, \$16, payable at end of season. Single service, \$12, payable at time of service. Insured mares must be returned regularly to the horse, or they will be charged for as with foal. Groom's fee, fifty cents. Best attention given, but all accidents at risk of owners.

WM. JOHNSON, GROOM. JOHN BUNYAN

CANADIAN BREEDER AND AGRICULTURAL REVIEW—Subscribe at once.

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INDIA RUBBER GOODS OF EVERY DESCRIPTION.

It will be your gain to purchase from us.

THE GUTTA PERCHA and RUBBER MANUFACTURING COMPANY,

T. MCILROY, JR.

WAREHOUSES—TORONTO, 10 and 12 King St. East; NEW YORK, 33 and 35 Warren St.; CHICAGO, 159 and 161 Lake St.; SAN FRANCISCO, Cal., 501 Market St. PORTLAND, Oregon, 68 and 70 Front St.

FACTORIES—Toronto, Brooklyn, San Francisco, Cal.

THE STANDARD BRED

TROTTING SIRE

Chicago Volunteer.

DESCRIPTION.

Bred by H. C. Goodrich, on the Farm of Alden Goldsmith, Orange County, N. Y., the owner of "Volunteer."

A dark mahogany bay, 16 hands high, and weighs 1,220 lbs.

PEDIGREE.

By Goldsmith's Volunteer; first dam Lady Diamond, by Billy Rix, by Gifford Morgan, by Woodbury, by Justice Morgan; second dam by Gamble's Grey Eagle, Grey Eagle by Woodpecker, first dam Ophelia by Wild Medley, second dam by Sir Archy, third dam Lady Chesterfield by Imp. Diomed, fourth dam Lady Bollingbroke by Imp. Pantaloon, fifth dam Cades by Wormsley's King Herod.

Goldsmith's Volunteer by Rysdyk's Hambletonian, by Abdallah, by Mambrino, by Messenger, &c., dam by Young Patriot.

Terms.—For the Season, \$20, payable 1st of January, 1886. Mares not proving in foal can be returned next season free of charge, providing Chicago Volunteer is living and in my possession. All accidents at owner of mare's risk. Good pasture at \$2.50 per month. All escapes at risk of owner of mares.

Mares from a distance will be met at train.

M. BURGESS, WOODSTOCK, ONT.

C. I. DOUGLAS,

Late of TORONTO, CANADA,

Begs to announce to Breeders and Importers of all kinds of Farm Stock that having taken up his Residence in LIVERPOOL, ENGLAND, he is now prepared to purchase and sell on commission all kinds of Farm Stock. From over twenty years' experience in the Canadian import and export trade of horses, he is in a position to offer unusual advantages both in purchasing and shipping. Parties wishing to dispose of Canadian horses in England can have them disposed of to the very best advantage. Shipping rates can be now had on the most favorable terms. Correspondence solicited.

Address in Canada, BREEDER Office, Toronto, and in England,

23 CATHERINE STREET, LIVERPOOL.

T. H. GOFF,

ARCHITECT, - Toronto.

Had ten years' experience planning and superintending the erection of Farm Buildings, and has visited many of the best Farmsteads in New York, New Jersey, Kentucky, and other States.

Correspondence invited.

REFERENCES:

GEO. LAIDLAW, Esq. 26 Brock Street, Toronto JOHN HOPE, Esq., Bow Park, Brantford.



INTERNATIONAL

AND

COLONIAL EXHIBITIONS.

ANTWERP IN 1885.

LONDON IN 1886.

It is the intention to have a Canadian representation at the INTERNATIONAL EXHIBITION at Antwerp, commencing in May, 1885, and also at the COLONIAL and INDIAN EXHIBITION in London in 1886.

The Government will defray the cost of freight in conveying Canadian Exhibits to Antwerp, and from Antwerp to London, and also of returning them to Canada in the event of their not being sold.

All Exhibits for Antwerp should be ready for shipment not later than the first week in March next.

These Exhibitions, it is believed, will afford favourable opportunity for making known the natural capabilities and manufacturing and industrial progress of the Dominion.

Circulars and forms containing more particular information may be obtained by letter (post free) addressed to the Department of Agriculture, Ottawa.

By order, JOHN LOWE, Secy., Dept. of Agric.

Department of Agriculture, Ottawa Dec. 19th, 1884.



NOTICE.

Sealed tenders, addressed to the undersigned, and endorsed "Tender for Indian Supplies," will be received at this office up to noon of MONDAY, 25th May, 1885, for the delivery of Indian Supplies during the fiscal year ending 30th June, 1886, consisting of Flour, Bacon, Groceries, Ammunition, Twine, Oxen, Cows, Halls, Agricultural Implements, Tools, &c., duty paid in Manitoba and the North-West Territories.

Forms of tender containing full particulars relative to the supplies required, dates of delivery, &c., may be had by applying to the undersigned, or to the Commissioner of Indian Affairs at Regina, or to the Indian Office, Winnipeg.

Parties may tender for each description of goods (or for any portion of each description of goods) separately, or for all the goods called for in the schedules.

Each tender must be accompanied by an accepted cheque in favor of the Superintendent General of Indian Affairs, on a Canadian Bank, for at least Five per cent of the amount of the tenders for Manitoba, and ten per cent of the amount of the tenders for the North-West Territories, which will be forfeited if the party tendering declines to enter into a contract when called upon to do so, or if he fails to complete the work contracted for. If the tender be not accepted the cheque will be returned.

Tenders are required to make up in the money columns in the schedule the total money value of the goods they offer to supply, or their tender will not be entertained.

Each tender must, in addition to the signature of the tenderer, be signed by two sureties acceptable to the Department, for the proper performance of the contract.

In all cases where transportation may be only partial by rail, contractors must make proper arrangements for supplies to be forwarded at once from railway station to their destination in the Government warehouse at the point of delivery.

The lowest or any tender not necessarily accepted.

I. VANKOUGHNET, Deputy of the Superintendent General of Indian Affairs, Department of Indian Affairs, Ottawa, 19th March, 1885.

THE PARK HEREFORD HERD.

PRIZE HEREFORDS.



PRIZE HEREFORDS.

PRIZE HEREFORDS.

I have still for sale a few young HEREFORD BULLS from recently imported stock, all eligible for or already entered in the American Hereford Record. Stock Bulls in use now are CORPORAL 4175 (A.H.R.), 1st prize Ontario Provincial Exhibition, Ottawa, 1884, and my last importation EARL DOWNTON, bred by Mr. Thomas Fenn, Stonebrook House, Ludlow, Herefordshire, England, and sired by his grand bull "Auctioneer."

FRANK A. FLEMING, Importer and Breeder,

THE PARK, WESTON, ONT., NEAR TORONTO, CAN.

In replying to this advertisement mention CANADIAN BREEDER.


GRAVING DOCK.
 BRITISH COLUMBIA.

Sealed tenders addressed to the undersigned and endorsed "Tender for Caisson, Graving Dock, B. C.," will be received at this office until **MONDAY, THE 18TH DAY OF JUNE, 1885,** inclusively, for the construction, erection, and placing in position of a

CAISSON FOR THE GRAVING DOCK
 AT
ESQUIMALT, B. C.,

According to plans and specification to be seen at the Department of Public Works, Ottawa, and on application to the Hon. J. W. Trutch, Victoria, B. C.

Persons tendering are notified that tenders will not be considered unless made on the printed forms supplied, the blanks properly filled in, and signed with their actual signatures. Each tender must be accompanied by an accepted bank cheque for the sum of \$2,000, made payable to the order of the Honourable the Minister of Public Works, which will be forfeited if the party declines to enter into a contract when called on to do so, or if he fails to complete the work contracted for. If the tender be not accepted the cheque will be returned.

The Department will not be bound to accept the lowest or any tender. By order.

A. GOBEL,
 Secretary.

Department of Public Works,
 Ottawa, 20th March, 1885.

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Spirit Merchants.

FAMILY TRADE A SPECIALTY.

WINES, SPIRITS, &c., CAREFULLY
 PACKED IN JAR, KEG
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Orders by letter will have our very best and prompt attention.

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FLOUR AND PRODUCE DEALER,

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Food of all kinds, Cotton Seed and Linseed Meal, Chopped and Ground Corn and Oats, Pea Meal and Offal, Hay, &c., at Lowest Cash Prices.

All orders and consignments will receive prompt attention. Prices for large or small lots quoted by wire or letter on application.