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THE CANADIAN LIVE-STOCK AND FARM JOURNAL

DEVOTED TO THE INTERESTS OF THE STOCK-RAISERS AND FARMERS OF CANADA.

VOL. IV.

HAMILTON, CANADA, JUNE, 1887.

No. 44



PRIZE GALLOWAYS.

SUSAN 12TH OF BALIG (3121) 3297.

Imported by and the Property of Thomas McCrae, Guelph, Ont.

HANNAH, I. C. R., 3343.

The Prize Galloways Susan 12th of Balig (8121), 3297, and Heifer Calf, Hannah, I. C. R., 3343.

The Galloways here shown are both prize-winners at the Guelph Provincial Exhibition of 1886. They are from the herd of Thos. McCrae, of Janefield, Guelph, who, for more than a quarter of a century, has been an exhibitor of these hardy cattle at our leading shows. Mr. McCrae is the oldest Galloway breeder in America, and many of the best Galloways in Kansas and Colorado trace back to the Janefield herd. Galloways are growing in favor on Western ranches, for which they are specially fitted. The more they are tested the better they are liked, and the past winter has again demonstrated their superior hardiness and valuable "rustling" qualities. For excellence of beef, they have no superiors, it being well marbled, fat and lean. So marked is this quality in the breed, that when fattened they conceal the fat amongst the lean so much that they always kill much better than they look. They are in special request for the Liverpool market, and those half breeds which have been fed and shipped to Liverpool have commanded an extra price. Susan 12th was prize cow at Guelph Provincial in 1886. She was bred by Messrs. R. & J. Shennan, of Balig, Kirkcudbright, Scotland. The Balig herd is an old and very celebrated one. For years past it has taken the lead in

the excellence of its bulls. These have been used by all the leading breeders, so that now the Balig blood is well distributed. Susan 12th is sired by Chelmsford (1568). 1st at Kirkcudbright, 5th at Castle Douglas and 2d at Stirling Highland Society in 1881. Her grand sire was Duke of Drumlanrig (667), 1st at Dumfries in 1876, and at Edinburgh Highland Society in 1877. He was by Black Prince (546), the greatest prize-winner that Drumlanrig has ever possessed.

The heifer calf, Hannah, I. C. R., 3343, was also first in her class. She was bred by Sir Robert Jardine, M. P., of Castlemilk, who, last year at the Highland Society Show at Dumfries, swept the Galloway herd prizes clean, and placed his name in the front rank of Galloway breeders. Hannah, I. C. R., promises to uphold the reputation of the herd from which she came. She is descended on the female side, from Hannah (214), a great prize-winner in her day, and whose progeny have taken more prizes than those of any other animal in the herd book. Her pedigree shows as sires Roseberry (1679), Beaconsfield (1344), Willie of Westburnflat (523), and Bob Burns (235), all winners at Highland Society Shows, and last, the Brother to Mosstrooper (67). Mosstrooper was winner of the gold medal at the Paris Exhibition in France. Hannah, I. C. R., was calved on the Intercolonial Railway, near Campbelltown, N. B. She landed at Guelph three days old, in mid-winter, dur-

ing a prolonged snow storm; the temperature being away down near the twenties below zero. Her dam, Hannah 3d of Castlemilk (7699), was imported by the S. S. Brooklyn from Liverpool, and was wrecked on Anticosti. The cattle were thrown overboard during a snow storm, and had a long swim for the shore. Many were killed on the rocks amongst the breakers. Those landed were left for several days till taken off by wrecking steamer. They were captured—feet tied—rolled down the bank to the beach, and thence by open boat rowed out to steamer and hoisted on board. After such an experience, they were surely hardy cattle to do so well. Hannah, I. C. R., gained her name from the place of her birth.

THE bulletin issued by Mr. Blue, of the Ontario Bureau of Industries (May 20) reports that the winter wheat is not looking very well, owing to the unfavorable weather of March and April. Winter rye is in a fairly good condition. Clover has suffered a good deal along the Lake Erie counties. The fruit prospect is hopeful. The long winter has been hard on stock, which, however, is almost absolutely free from disease. The supply of store cattle is large. The supply of farm laborers is about as heretofore, the average per month with board being \$16.36, and without board \$24.01. The spring, though late in opening, has not hindered vegetation, owing to the unusually warm May.

Canadian Live-Stock & Farm Journal

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THOMAS SHAW, RIVERSIDE FARM, EDITOR.

To Subscribers.—Subscription price, \$1.00 per annum in advance. Single copies, 10 cents each; sample copies free. No names will be removed from our subscription list when in arrears and without we receive instructions to that effect. Those in arrears will be charged \$1.25.

Clubs.—Any person is at liberty to form clubs. Clubs of five copies to any address, for one year, \$4.00. Clubs of ten copies to any address, \$7.50.

To Advertisers.—Advertisements of an appropriate nature will be inserted in the JOURNAL at the following rates: For a single insertion, 18c. per line, nonpareil (12 lines makes one inch); for three months, 15 cents per line each insertion; for six months, 12c. per line each insertion; for one year, 10c. per line each insertion. Cards in Breeders' Directory, not exceeding five lines \$1.50 per line per annum. Copy of advertisements should reach us not later than the 25th of each month (earlier, if possible). If later, it may be in time for insertion, but often too late for proper classification. Transient advertisements payable in advance. No advertisement inserted for less than 75c.

To Correspondents.—All communications intended for publication in the JOURNAL should reach us by the 15th of each month—sooner if possible. We do not hold ourselves responsible for the opinions of correspondents.

Remittances may be made in registered letter at our risk. The receipt of the JOURNAL will be sufficient evidence to subscribers that their remittances have been received.

All communications to be addressed STOCK JOURNAL Co., 84 John Street South, Hamilton, Ont.

HAMILTON, CANADA, JUNE, 1887.

If our farmers were forced by law to keep an inferior class of cattle that would give but a half return for their keep, we can imagine something of the nature of the grumble that would arise. It would extend from the ocean to the Rockies, and its rumble would shake the stability of the government which imposed this law. They bear the burden all the same nevertheless, the only difference lies in the fact that it is self-imposed. They have bowed the shoulder and have become servants of tribute placed upon them by their own hands. Surprisingly strange that so large a number will persist in throwing a large portion of their feed away, and giving a large amount of their labor without any adequate return. If scrub cattle were the most profitable, we would say, by all means cling to them, but who in the possession of his senses will say that they are?

Only as successful as his neighbors Who will be content with that dead level mediocrity? Reader, will you? Surely not. Such an ambition is not ambition at all. Almost any one can get up to the level of his surroundings, but surely you know, young man, the tremendous advantage a little elevation gives you when the crowd, standing upon the same plane, are gazing at the one object. You can easily build a little mound that will enable you to look over their heads. Earth and spades are plentiful. There is not much satisfaction in saying that your beast is as good as five hundred thousand others in the country, but when you get in among the thirty or the ten, or better still, the first three, there is some room for self-congratulation. Canada wants one hundred thousand young farmers and stockmen who will all excel their fathers. Who will enlist, and who will be the officers?

With the present low prices of grain farmers who require to call in the aid of outside help, unless they are engaged in producing some specialty, as seed grain, which they thoroughly understand and can make pay, will find it somewhat difficult to hold their

own. The difficulty is increased, in that they require the help most in that season of the year when it is dearest—the summer. The remedy will be found in growing more or better stock suitable for the production of beef and butter, or both. This feeds itself very largely in the summer season, and in winter the home help will, on small farms, usually be able for the task. In this way only sufficient grain need be grown to supply the wants of the farm, and this means less expenditure for outside labor, which is sustained, it may be, at a loss. On large farms of whatever character, outside labor can't be dispensed with, but on these the operations are on a scale sufficiently large to justify the expenditure.

It is a favorite maxim with stockmen that "the bull is half the herd." While this is true, and it may be more than true in some instances, it should be remembered that the male is not the whole of the herd, and that where he is lacking in prepotency he will not be nearly half the herd. All things being equal, the sire is half the herd, flock or stud, for he has an equal influence with every female composing these in the production of the offspring, but where he is lacking in prepotency he will prove less than half in proportion to the extent of this lack. And where this quality is strong, he will in corresponding proportion prove more than the half. It should not be overlooked, that the female may have as much influence in the production of the offspring as the male, and therefore any weed possessing a pedigree should not be relied on for breeding good stock because of the excellence of the male. A good seed bed and a good soil are equally important with the necessity of sowing good seed upon it to get a good return.

That "like produces like" is a favorite expression with stockmen, but experience has taught us that this truth has its limitations. Like will certainly produce like under certain conditions, but under other conditions it will not. Mate two animals that are good in themselves, and that possess all the desirable qualifications of the breed in their personnel, and you may get something very different. Indeed, you are quite likely to get something different unless the excellencies which they possess have been inherited through a reasonably long succession. Hence the unwisdom of concluding that simply because you have purchased two animals that have been prize-winners you will be able to produce prize-winners from them. On the other hand, if the ancestry of these have possessed for several generations the qualities which have made them prize-winners, the results are not likely to be disappointing, even though the individuals are not what they ought to be in personal appearance. When purchasing for breeding purposes, look beyond this, and ascertain if you can what the animals were that compose the ancestral record.

At a meeting of the Farmers' Institute of Oswego county, held in Oswego in March last, Mr. J. S. Woodward, secretary of the State Agricultural Society, delivered an address on the subject of "warm barns." He advocated heating the water 80 degrees for the cattle. He also took the strong ground that cattle did not require exercise in winter; they might therefore be put into the barn in autumn and left there till spring, without letting them out at all. This doctrine conflicts with our preconceived ideas, and most persons will be ready to condemn the practice. We should not be too fast, however. The safest attitude consists in readiness to receive truth supported by evidence, however startling or novel. We filled our new barn with cattle last autumn and never let them

out till spring. We did not do so because we thought it was the best plan, but because the yard was not in good shape. Most of the time it has held about 85 head, and as yet we see no evil resulting from the practice. It is well worth experimenting a little in this matter, for it is a good deal of labor to let out from 50 to 100 head of cattle once a day or even twice a week to get exercise. In Holland and Denmark many of the cattle are kept tied up most of the year, and no ill apparently results. We are so well pleased with the experiment thus far, that if no evil follows in the interval, we shall feel strongly inclined to repeat the experiment. We do not consider that they suffer any discomfort from the confinement. They are taking rest quite at ease when not eating their food.

Eating off their Own Heads.

We have often heard the expression made by farmers when speaking of feeding certain classes of cattle in a certain way during winter, that they would "eat their heads off." They meant, of course, that the cost of their keep would be more than the worth of the animal. Of no class of our domestic animals will this hold equally true as of our Canadian scrubs, particularly those of the male sex. The females have been found useful in dairying, and if taken in hand and raised to the dignity of a breed, might be made more useful for this purpose. But with the present no system of breeding, they must march steadily westward, as did the forest braves before the advancing wave of a higher civilization, until they shall only be known in the story of the past.

When good, well-bred steers brought from five to six cents per pound live weight, there was money in raising them, and undoubtedly in addition to the manurial returns, parties who can get five cents per pound live weight now from shippers, have a margin, we believe, in addition to the manure, owing to the low prices of grain, but the margin is not very much. If so, how fares it with the scrub steer which during the past winter has been bought by local butchers throughout Ontario from 2 to 2½ cents per pound?

Mr. Blue gives the number of store steers in the province in 1886 as 418,079 head over two years. Assuming that three-fourths of these are scrub, a moderate assumption, we have then 300,000 head of steers made ready for Ontario markets, or forced upon them without being made ready, which have more than eaten their heads off, every one of them. Allowing to them a weight when finished of 1,100 lbs., and a price of 2½ cents per pound, we have as the price of each steer, say \$25, and of the 300,000 steers, \$7,500,000. Here, then, we have the enormous capital of \$7,500,000, which has taken a far larger sum to produce it during three years, which has given no return.

Now, we must say that we like to see men plucky in any line of business, and if those who persist in raising scrub steers to their loss could, by evincing a spirit of manful persistence, turn this loss into a profit we would not be so much concerned; but when we see them losing money every time, and from year to year, why should we not try and persuade them better, even though they themselves should try and fix upon us the stigma of the "slanderer" of the common cattle of the country?

Come, now, my farmer friend, and let us reason together, even though you have a liking for scrub cattle. Don't you know that prejudice goes a long way in sustaining our convictions. The writer of this paper once kept scrub cattle, but he now keeps improved stock. As you have not done this, you will concede that he has one advantage over you in this

matter, that of a dual experience, and therefore is in a better position to form a judgment regarding it than you. It is surely something when he tells you that he would rather give up farming altogether than go back to the old system of keeping scrub cattle, so great is the difference in the returns, and he feels quite safe in the statement that there is no farmer in the Dominion who has made a trial of both, and many of them have, who would give up the improved for the scrubs.

You do not suppose for a moment that those defenders of scrub cattle in the agricultural press of our country are advocating the right thing. They say to you a good deal about the "organs" of improved stock "writing in the interest of the breeders," but has it never occurred to you that it is quite possible for an editor to write in favor of scrub cattle, because he writes for his readers, and in antagonism to his honest convictions? Now we know that in your heart you would have the most utter contempt for such men. Beware then, lest because of your pre-eminent prejudices you allow these men to hoodwink you, while they put on the bland smile of a deceitful friendship.

But you may fancy that we have put the price of scrub steers too low when we put it at 2½ cents per pound live weight. Allow us to ask you, did you weigh the steers you sold last winter? If we could only persuade those who sell scrub steers by the lump to weigh them, we would accomplish a great deal, as the contrast in the price compared with what is got for good steers would be very striking indeed.

It has been the result of our own personal observation that last winter the ordinary butchers picked up scrub steers far and near at the price we have quoted, so that it must be apparent to you that every one of those steers has eaten off his head.

Then why not give up a business that you are pursuing at a loss? Get a good bull of one of the improved breeds, and try the experiment. At the prices of to-day you need not risk more than \$50 or \$75 above the meat price of the beast. If we are on the wrong track, let us hear from you. We will publish your letter, for the sake of those we have been instrumental in misleading, but first we ask you to weigh the matter carefully in the balances of an unbiassed judgment.

Ayrshire Amalgamation.

The world is getting wiser as it grows older. We are much gratified to notice that the two associations representing the interests of the Ayrshire breeders of Canada have had the wisdom to sink their differences and to form a union as suggested by us in the issue of the JOURNAL of November, 1886, p. 307. Our exact words were these: "We therefore urge upon the two associations of Ayrshire breeders, indeed upon all such associations as may exist in this Dominion, as we did in the case of the Shorthorn breeders, to come together in friendly conference, with a view to amalgamation."

As in the case of the Shorthorn breeders, the two herd books will be revised, and without a doubt a number of the animals therein recorded will be rejected, involving the rejection of all their progeny, but as yet we do not hear of one of the Ayrshire breeders dissenting from the proposal, or condemning it as being unjust or unwise under the circumstances. Indeed, we have waited during all these months of herd-book controversy for some one to show a more equitable and a better basis of revision of the herd-books than the one adopted.

The 26th of April, 1887, we look upon as the brightest day that ever dawned upon the great Ayr-

shire interest in the Dominion. On that day in the Russell House at Ottawa, the rival associations buried the tomahawk, and smoked the peace pipe together, rejoicing over the advent of what they and we believe to be a new era in the progress of dairying in Canada.

Criticism Criticised.

"Moved by B. F. Irwin, Esq., seconded by Chas. Wilson, Esq., that whereas the attention of the North York Farmers' Association has been drawn to an article printed in the *Rural Canadian*, for the month of February, 1887 (for which journal, many members of said association are subscribers), claiming to be a report of an institute held in Aurora, on the 5th and 6th of January, 1887, in the interest of said association, in which, at least four charges are formulated against Professors Mills, James, and Mr. Hobson, as well as against the general management of said institute;

"Therefore, resolved that we, the above named association do, and we hereby express our disapproval of the manner in which the report is presented to the readers of the said journal, and we also challenge the veracity of the following named charges:

"1st, That there were not 50 persons present at either of the three daily sessions, and that the farmers failed to put in an appearance at the entertainment given on the evening of the 5th. In regard to the above statement, we have only to say, that we are in a position to prove that at every session, more than 50 people attended, and in one instance three times that number; also that the audience on the evening of the entertainment was composed largely of farmers and their families.

"2d, The Professors are sneered at as "Great Guns," whose addresses were on the most time-worn subjects, etc. Whatever the opinion of the writer of said article may be on the matter, we desire it to be distinctly understood, that the subjects of said addresses were chosen by a committee of management, and therefore the Professors can in no way be held responsible for the age of the subjects; and if, as time worn as represented, why reproduce one of the subjects given by Prof. James, in the March number of *Rural Canadian*, and pronounce the same to be a useful tale.

"3d, The statement that Mr. Hobson is only qualified to conduct institutes among a lot of ignoramuses, needs no comment, except to refer to the able manner in which his subject was dealt with, and the very enthusiastic spirit in which it was received.

"4th, It is also charged that Prof. Mills took up by far too much time in asking questions of farmers present, thereby resulting in the crowding out of several local papers; for the information of Mr. Lawson, we desire to say, that our institute was not convened for the purpose of bringing out local papers, but to hear from outside talent, and furthermore, we consider the course adopted by Mr. Mills in drawing out the opinions of local men by questions, to be not only justifiable, but advantageous.

"The above resolutions were carried unanimously, by a very large meeting, and sent to Mr. C. B. Robinson to publish, but he refused, consequently the Association desire that they may be published in the CANADIAN LIVE-STOCK AND FARM JOURNAL as soon as possible.

"R. W. PHILLIPS, Secretary.

"Newmarket, Ont."

We publish the above resolutions, not to get any undue advantage of our contemporary, the *Rural Canadian*, between which and ourselves relations have been, and are of the most amicable nature, as they should be—particularly so—between the members of the same family of the agricultural portion of the press, who have so great a work in hand—the advancement of the true interests of the farmer—that they cannot afford to quarrel with each other. We publish them for the reason that if any man, or body of men is criticised in any paper, it is only fair that he or they should be allowed to defend themselves in the columns of the journal where the criticism appeared. We look upon it as *unutterably mean* to attack a man through the columns of a paper, and deny him the opportunity to defend himself because you have the power. It is selfish, heartless, cowardly, cruel and eminently anti-

British. We are speaking now of the general principle and not of the particular action of friend Robinson referred to above. He may have reasons for the course he adopted, which we do not know of, and which may modify the appearance and the essence of his action.

It has pained us very much to notice, of late, a growing tendency amongst newspaper men, to take undue advantage in this way and hope the attitude we have assumed in this matter may tend to arrest the current in its accelerating flow. There is no journalist living, who would like himself to be attacked and then refused weapons with which to repel the attack, and, therefore, it is only meet that he should see to it, that others should not be put in this position through any act of his, nor allowed to remain in it when it is in his power to prevent it.

Horses for the Army.

We are in receipt of a very timely pamphlet wisely issued by the Minister of Agriculture, on the subject of Horse Breeding in Canada, containing a letter of Colonels Ravenhill and Phillips, and an address by the former to horse-breeders, delivered at the Agricultural Hall, Islington, England, in March last. It furnishes much useful information in reference to the breeding of cavalry and artillery horses of a character that can be well utilized by our farmers. We quote from the colonel's address at Islington:

Before proceeding further, the question naturally arises as to "what constitutes a military horse." They are distinctly of two different kinds, though not more "warlike" than any other good general purpose horse between 15 hands 2 inches and 16 hands high, in general use all over the country. The first, the most important and most difficult now to procure in any quantity, is that required for riding purposes, with lengthy rein, good shoulders and forehead, good back and loins, as well bred as we can get them; they must walk freely and well, and at 5 years old should stand not less than 15 hands 2 inches high; of these we should have at least three-quarters of the whole supply of 1,800 to 2,000 required in peace time annually for the army, or about 1,500 riding horses. The necessity, therefore, will be understood for our getting as much T. B. blood for this purpose as we can procure. The second, or draught horse, is a compact, short legged, quick walking, good going van horse, between 15 hands 2 inches up to 16 hands high, for Royal Artillery draught, Royal Engineers and transport purposes. These are more easily procurable all over the world, though in looking for them we prefer a tight, short legged, active horse, and before all things we look to getting one that can walk freely and well, such as one sees trotting about in parcel carts, or walking along a furrow at the rate of four and a half miles an hour.

I will now read to you the particulars laid down for guidance when we are purchasing remounts for the Royal Artillery or Royal Engineers:

(1) The age at which horses are taken is between rising four and rising seven years old.

(2) The height is nothing under 15 hands 2 inches, and nothing over 16 hands; not less than 8 inches below the knee, or 72 inches in girth.

(3) The proportions in which horses are required for the Royal Artillery at present are about half short-legged, blood horses with some length; the other half useful, quick-going, deep, weighty, strong van horses for draught purposes, and half of these must have a turn of speed for the quicker work of Horse Artillery.

(4) Of the blood horses about one-fifth must have the making of a first-class riding horse with breeding, power, shoulders, action and appearance suitable for carrying an officer, the other four-fifths must be well-bred, acting riding horses, with shoulders, action, and substance sufficient to carry non-commissioned officers or men.

(5) Bays, browns, chestnuts, or blacks of hardy color alone taken; no greys, roans, duns, cream color, or parti-colored horses are accepted, and no horses with any material blemish are purchased.

(6) It is understood that during the month of probation on trial, whilst standing at the dealer's risk, if horses on re-shoeing are found below the standard

height, with sunken soles, seedy toes, sand crack, etc., or are found crib-biting, wind sucking, or if unsound in the eyes, wind or limb, or vicious, in or out of stable, they will be returned to the dealer, who must send in another suitable horse in exchange.

(7) Government prefer taking horses that are undocked, but no horses will be accepted with a very short docked tail.

The age of a horse will be reckoned from the first of May in the year in which it was foaled, and no remount horse will be purchased prior to the first of October in the year in which it becomes three years old, except under the special authority of the Adjutant-General; or later than the 31st December in the year in which it shall have reached the age of six years. On and after the first October, three-year-old horses will be purchased at four-year-old prices.

The standard of height is fixed by the Commissioner-in-Chief. The fitness of horses in point of appearance, strength and action will be determined by the purchasing officer, and their soundness will in each case be certified by an army veterinary surgeon.

The following are some further instructions for our guidance:

Examination of the mouth and eyes, measuring and examination from near side, cannon bone, arms and thighs.

Every horse about to be examined should be taken under a shed, archway, or to the stable door, where the light is suitable. The veterinary surgeon first examines the mouth in order to determine the animal's age, and at the same time he sees that there is no defect in the jaw or teeth. The eyes should then be carefully inspected, and, if they are found to be sound, the horse may be led out for examination by the purchasing officer, care being taken that no "gingering" is practised. Any good looking five or six year old horse submitted at troop price should be treated with suspicion. The purchasing officer will measure the horse, note the color, and observe from his near side how he stands all round on his feet and legs; whether he looks small or tied in below and at the back of the knee. Every troop horse ought, if possible, to measure not much less than eight inches round the leg close under the knee, and the bigger and flatter he is here the better, for it is at this point that strength is specially required. The cannon bone should be short, and, together with the tendons, distinctly defined; the arms and thighs long and muscular, and the joints not small, but clean and well developed.

KNEES, ELBOWS, HIND LEGS, HOCKS, PASTERNS, FETLOCKS.

The knees should not be back like those of a calf, nor too much bent over, like those of an old cab horse—though of the two evils it is preferable that a horse should stand a little over at the knee rather than back; the elbows should be free; the hind legs must be well placed under the body; the hocks not too straight, yet not sickled or bent; they should be clean, well cut, and free from any enlargement inside or out, or any tendency to curb or thoroughpin; the pasterns must neither be too short or upright, nor too long and sloping; the fetlocks should not show signs of work, too much play either in these joints or in the pasterns produce overshooting, which is a decided weakness. There are occasional swellings on these parts, especially in young stock, arising from sickness, debility or contusions, which are sometimes mistaken for unsoundness.

FEET.

The feet should be of the same size, round in shape at the soles, with good open heels, not small, contracted or flat; the hoof should stand as nearly as possible at an angle of 50°, and they must not be brittle, blocky, or ring.

HEAD.

In considering the shape of the head, it is important to note the position of the eye, which should not be too low down, too far forward, nor too small; the last named defect is called "pig-eyed." The forehead should be broad and the countenance kind. Long, big ears, provided they are not lopped or drooping, are preferable to such as are small, curved or pointed, though these latter are no doubt prettier. The head should be well set on to the neck at an angle not too oblique or acute, and there should be sufficient room under the jaw. The nostrils should be large and open. The lips not drooping or relaxed. The jaws and teeth evenly placed above one another.

NECK—SHOULDERS.

The neck should be convex and not concave, which latter is a structural defect indicating weakness, and is called "ewe-neck." It should be well set into the shoulders, and these should be clearly defined, sloping well back from the points to the withers. The points of the shoulders ought not to be heavy. Fine high withers are a great attraction, and enable the saddle to retain its proper position. It is true that horses with thick or flat withers, or short, upright shoulders, may be suitable for draught, provided they have good action.

BARREL.

The barrel should be deep and arched behind the elbows, thus affording space for the development of all vital organs. Every troop horse should girth as much over 70 inches as may be procurable.

BACK AND LOINS.

A long hollow back should be avoided. "roach-back"—though ugly—is strong. The loins should be as broad and deep as possible.

TAIL.

The tail should be set on high enough to be symmetrical. Fine hair in the mane and tail shows breeding. The greater the length from nose to withers and from hip to croup, the better. Care should be taken that the withers, shoulders, back and chin are free from material blemishes.

EXAMINATION OF CHEST AND FORELEGS, ETC., FROM FRONT.

While the horse remains standing, the position of the purchasing officer may be changed from the near side to the front, so as to note how he looks from this point of view, and to see how he stands, whether he has sufficient breadth of chest. There should be no blemishes about the knees, no enlargements or scars from brushing inside the fetlocks, no marks from speedy cutting under the knees, and the situation of splints, if there be any, should be particularly noticed.

SHANK BONE.

The shank bone should be straight and square under the body, not banded or twisted, but supporting properly the weight of the body. The toes should neither be in nor out. One foot turned out or in is unsatisfactory, because it indicates uneven action with an uneven bearing of weight of the body either at rest or in motion.

EXAMINATION OF OFF SIDE AND REAR.

The off side must be examined in detail in the manner already specified for the near side. The purchaser should then walk round to the rear of the horse and notice if the hocks are very much in or bowed out—of the two the former is preferable. A horse ought to be broad across the hips, and these must be even and level; the fork should not be too much split up.

WALKING

The horse must now be led off at a walk; the purchaser should keep behind him and note as he goes from him if he turns his toes out or in, or whether there is too much play outwards or inwards in the hocks. If he crosses his hind or fore feet or legs he should be rejected. As the horse turns he should be narrowly watched, and as he walks past it should be seen that he puts his feet down even and fair. The action of his fetlocks and pasterns must also be noted. If there be decided knuckling or overshooting here, he must not be taken. The walk should be free, the stride long and clear, the hocks not bent, no dragging or catching of the hind or fore toes along the ground, no "forging" from over reaching. When the toes are out, the elbows are in, and the latter being tied, the fore action is often cramped and contracted.

TROTTING.

The animal can now be trotted, and as he goes from you it must be noted if he crosses his fore or hind legs, which is dangerous; if he dishes or turns one or both feet in or out, it is objectionable. Should he roll in his stride, this may denote damage in the loins or hocks, and the attention of the veterinary surgeon, who is responsible for soundness, would naturally be called to these points. If there is any catching in the action of the hind legs, he should be run sharply backwards to ascertain that there is no paralysis; as the horse passes it should be seen that he has good knee and hock action.

SPEEDY-CUTTING.

Speedy-cutting arises from faulty conformation of the forelegs, and also from a peculiar kind of high action in front. It is the act of striking one fore-leg just below the knee with the inner quarter of the other fore foot, a most acutely painful and dangerous thing, for which a horse should be at once rejected.

REJECT FOR ANY ONE WEAK OR BAD POINT.

Although a horse is a good colored, well topped, good going, taking animal, yet, if he have one decidedly weak or bad point he must be refused; but here the veterinary officer's opinion will be most valuable, as many horses may be quite serviceable, though not absolutely sound, and may "in time of need" be fully equal to the requirements of a campaign, and do much hard work.

RESTRICT PURCHASING TO 25 A DAY.

Purchasing horses is laborious work, and by the time that 25 or 30 have been examined, passed and registered, the officers employed will have exhausted much power, both of eye and brain. When continued daily, purchasing should be restricted to 25 a day; when working for a special object, seventy a day have often been examined, but it is not practicable to do justice to such a number. Very good and very bad animals are soon disposed of; it is the middling and doubtful horse which take up the time; further, it may be accepted as a general rule that the first impressions of a horse are the most correct and lasting.

EXAMINATION ON BEING RECEIVED INTO DEPOT, AND RETURNED IF UNFIT.

On remounts being received into depots they should be lunged at once—if fit for it—to try their wind, unless this has been done previously, and they should also be generally re-examined under the direction of the veterinary surgeon. Their shoes should be taken off and the feet examined for sand cracks, seedy toes, sunken soles, etc. They should be carefully re-measured and registered, and if, on being re-shod, they are found below the necessary height, or if any unsoundness is detected in eyes, feet, wind, or limbs, or if they are found vicious in or out of the stable, they should be returned. On the other hand, if fit, they should be branded on the hoof, in accordance with the regulations on that subject.

(To be continued.)

Meeting of Ayrshire Breeders in Ottawa, April 26, 1887.

This was in response to a circular calling a meeting issued jointly by the two Ayrshire associations, to complete and confirm the amalgamation, and for the election of officers. The circular also went over the business done at the meeting of delegates in Ottawa on 6th April.

The Revising Committee, composed of Messrs. Rodden, Garth, Drummond, Nicol, McCormick and Yuill, met on Tuesday, 26th, at the Russell House, the object of the committee meeting being to formulate a basis upon which the business of the amalgamated associations could be carried on.

The following motion of Mr. Nicol was then adopted. Mr. Drummond seconded the motion:

"That the Canadian herd-book be taken as the nucleus of the amalgamated association's herd-book, and that the revision of the pedigrees be left to Messrs. Rodden and Wade, who were to have such assistance as they required. Any difference of opinion between the two revisors to be referred to the Executive Committee for final settlement."

At the general meeting next day Mr. Rodden explained what they had done in committee, which met with the unanimous approval of the meeting.

The next thing in order was the

ELECTION OF OFFICERS, of the amalgamated associations, which resulted as follows:

President, Wm. Rodden, Plantagenet, Ont.; Vice-president for Ontario, James McCormick, Rockton, Ont.; vice-president for Quebec, James Drummond, Montreal, Que.; vice-president for Nova Scotia, C.P. Blanchard, Truro, N. S.; vice-president for New

Brunswick, — Fairwether, Hampton, N. B.; vice-president for Manitoba, Jas. Cochran, Crystal City, Man. The other provinces to be added afterwards. Secretary-treasurer, Henry Wade, Toronto; Executive Committee—Messrs. Garth, Brown, Irving, Nicol, Grey and Yuill, with the president and secretary.

Dr. Leclere, of Montreal, and Mr. Wade were each to continue the work of recording pedigrees in his province, and to report from time to time to the president, until the revision be complete. The herd-books of the two associations are to be handed over to the president, together with all necessary papers, to be revised by him and Mr. Wade.

FEES.

The members of the Canada Ayrshire Association and the Dominion Ayrshire Breeders' Association will be considered members of the new Association. And after that, members shall pay annually the sum of \$3 as a subscription fee.

For the registration of each pedigree, for member, 50 cents. For registration of each pedigree for non members, \$1 00. Certificate of same, 25 cents. Registration of transfers, 25 cents. Certificate of same, 25 cents.

The first meeting of Amalgamated Association is to be held in Ottawa on Thursday, 22d September, at 7 o'clock p. m.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL. Stable Management of Horses. BY M. C. BAKER, V. S., MONTREAL.

The first essential of the stable management of the horse consists in securing a proper stable. It should be built above ground, and kept free from impurities and with such a regard to drainage as will ensure dryness. The stable roof should be high, not less than eight feet in any case, and should be well ventilated, and in such a way that there will be no currents of cold air reaching the horses. When there is but one passage in the stable, the ventilators may ascend from this. It is well to secure plenty of light, but this should not come too directly upon the eye, as in such a case it unduly excites the horse. The stall should be 5½ feet wide and 8 feet long. If a shorter length the horse often stands with his hind feet too low; there is also danger of injury from a kicking neighbor, and of slipping the stifle. For feeding oats an iron box is the best, it is so easily cleaned. When horses are fed in a box there should be a grate in the bottom to allow of the rejected particles falling through.

The amount of feed given is to be determined by the size of the horse and the exercise or work to which he is subjected. High feeding during a period of rest induces indigestion, inflammation of the kidneys and various other diseases. The greatest mistake here consists in feeding an undue amount of hay. If a horse eats hay for one hour in the morning he has enough, at midday none at all, but at night a larger quantity, and this will apply to farm horses as well, although when the days are long they may have a small feed. Water should be given before feeding, when the horses can be induced to drink then, but sometimes they cannot after having been used with the contrary.

Much attention should be given to the shaking up of the bedding, that it may be aired. Horses should be groomed carefully; indeed, too much attention cannot be given to this particular. It is not commendable to clip horses on the approach of winter, as it is always attended with a good deal of risk, without sufficiently corresponding advantages.

When they return from a journey, a little water will

be very grateful to them, but more water and the feed of grain should not be given until the temperature becomes normal.

Our Scotch Letter.

THE "RED, WHITE AND ROAN" IN THE NORTH OF SCOTLAND.

11.

(FROM OUR ABERDEENSHIRE CORRESPONDENT.)

In August, 1847, nine years after Captain Barclay's first sale, a second event, which has a greater interest to breeders of the present day, occurred, and as it had really an important bearing on the succeeding history of the "red, white and roan" in the north of Scotland, I shall give you some details of the sale of the greater portion of the Ury herd in the year above mentioned. A preliminary account of the herd appeared in a local newspaper. It was apparently written by the owner himself or under his directions, as it was dated "Ury, 19th January, 1847," and it ran, "We are authorized to state that Captain Barclay's herd of Shorthorns, cows, heifers and bulls, are now the most extensive and equally pure with the best of the kingdom, and fast approaching to still greater perfection. We subjoin a list of his present herd. Full pedigrees would occupy too much space in a newspaper; they are therefore curtailed, but Captain Barclay can produce the most full and ample pedigrees of every animal mentioned, all with reference to Coates' herd book." (The list is then given). Then the writer adds, "The total number of cows is 51, to which may be added 16 splendid yearling heifers that will be brought into the breeding herd next spring. About a third of the cows and heifers have calved five healthy bull and heifer calves, which will be offered to the public next October" (it turned out to be August), "Captain Barclay having completed his herd. By some unaccountable omission Strafford, who now conducts the herd-book of the late Mr. Coates, has failed to insert the Pacha, the Turk, and the Duke, in his sixth volume, although furnished by Captain Barclay with full particulars in ample time." In Captain Barclay's opinion at least, we see that Ury, as a centre of Shorthorn blood, was entitled to rank in a premier position, the herd, in his own language, being "the most extensive and equally pure with the best of the kingdom, and fast approaching, we are told, to still greater perfection," and the sale itself, in some measure at any rate, justified this laudatory reference to his favorites. But at the same time one can hardly forbear a smile at the peculiarity of the terms he employed. The phrase "equally pure," is significant, marking a period when breeders in the north of Scotland were awakening to the importance of pedigree, and we can therefore pardon "the Captain" being annoyed at the "unaccountable omission by Strafford (he does not bestow on him the courtesy title of Mr.), seeing that his sale was approaching. That there was a prevailing interest in the Shorthorn at this period is proved by the following extract from a contemporary of that period, relating to a sale of polled stock at Portlethen, in Kincardineshire: "If we compare the prices realized with those of the most noted Shorthorn breeders, it will be found that notwithstanding the fashionable predilections for Shorthorns, Aberdeenshires are considered, and that, too, by breeders of no mean judgment, to be well worthy of public confidence," so that we may assume that the "red, white and roan" had by this stage begun to exercise a considerable amount of influence on the stocks of that period. The innuendo in the phrase "fashionable predilections" is meant probably to convey the intelligence that it was the landed proprietors and the moneyed farmers who were the pioneer breeders, and it is somewhat noteworthy that the name of Sir J. Macpherson Grant, of Ballindalloch, appears in 1847 as a purchaser of a bull at a sale of Shorthorns at Kingcausie. It may also be incidentally mentioned that one of the buyers at the polled sale at Portlethen was Mr. Wm. McCombie, of Tillyfour, and it is not too mild a conjecture to suppose that none but he was the "breeder of no mean judgment" who with a flash of real genius already saw what were the capabilities of the polled Scots. But to revert to the sale. Not only had the hard-headed men of Aberdeenshire begun to show a keen interest in pedigree stock, but money had got to be more plentiful, and thus we find them able to hold their own at Captain Barclay's second sale with the breeders who attended from the south. They bought freely, and many

herds in the north were either largely increased or started upon these very purchases, the most of the animals in fact being detained in the district.

The cattle were brought out in excellent condition, and the sale was considered to be such a good one that it gave a decided impetus to Shorthorn breeding in the north of Scotland. The existing herds are so much impregnated with the blood of these early purchases that I am sure an abridged list will not be uninteresting to some of the readers of the LIVE-STOCK JOURNAL, who themselves are large holders of our Aberdeenshire or Cruickshank Shorthorns. I select the following: Cows—Julia, 10 years old, by Paganini (2405); Mr. Hay, Shethin, 42 gs.; Emily, 10 years old, by Reformer (2509), Mr. Cruickshank, Sittyton, 25 gs.; Imogene, 10 years old, by Saturn (5089), Mr. Smith, Berwick, 27 gs.; Clara, 6 years old, by Mahomed (6170), Mr. Cruickshank, Sittyton, 63 gs.; Rosamond, 6 years old, by Sultan (5349), Mr. Longmore, Rettie, 73 gs.; Cicely, 6 years old, by Mahomed, Mr. Wetherell (auctioneer), Durham, 37 gs.; Jessamine, 6 years old, by Mahomed, Mr. Smith, Berwick, 35 gs.; Primrose, 6 years old, by Mahomed, Mr. Garland, Caernton, 28 gs.; Helen, 4 years old, by 2d Duke (3646), Mr. Milne, Faldenside, 34 gs.; Daffodil, 4 years old, by 2d Duke, Mr. Morrison, of Bognie, 62 gs.; Kitty, 4 years old, by 2d Duke, Mr. Ross, Upper Park, 38 gs.; Crocus, 4 years old, by 2d Duke, Mr. Harvey, Tillygreig, 39 gs.; Delight, 4 years old, by The Pacha (7612), Mr. Lumsden, Braco, 38 gs.; Fanny, 4 years old, by The Turk (7651), Mr. Hay, Shethin, 35 gs.; Empress, 4 years old, by 2d Duke, Mr. Wetherell, 61 gs.; Queen of the Meadows, 5 years old, by Mahomed, Mr. Wetherell, 27 gs.; Lady Bird, 5 years old, by Mahomed, Mr. Stronach, Ardmeltie, 43 gs.; Favorite Strawberry, 8 years old (own sister to Favorite Strawberry) by Tathwell Favorite (5400), Mr. Cruickshank, Sittyton, 44 gs.; —, 7 years old, by Youn; Frederick (3836), Mr. Cruickshank, 31 gs.; Maria, 3 years old, by The Pacha, Mr. Whitehead, Methlick, 40 gs.; Cora, 3 years old, by The Pacha, Mr. Wetherell, 21 gs.; Bashful, 3 years old, by The Pacha, Mr. Hay, Shethin, 45 gs.; Molly, 3 years old, by The Pacha, Mr. Hay, 71 gs. Two-year-old heifers—Duchess, by The Pacha, Trustees of Mr. Tower, of Kinaldie, 37 gs.; Fair Maid, by The Pacha, Mr. Tower, 56 gs.; Flower, by The Pacha, Duke of Richmond, 40 gs.; Hebe, by The Pacha, Mr. Wetherell, 38 gs.; Fancy, by The Pacha, Mr. Marr, Uppermill, 34 gs.; Malibran, by The Pacha, Mr. Chalmers, of Monkshill, 40 gs.; Moss Rose, by Earl of Durham (5965), Mr. Milne, Faldenside, 47 gs. One-year-old heifers—by The Pacha, —, Mr. Hay, Shethin, 52 gs.; by The Pacha, —, Mr. Longmore, Rettie, 21 gs.; by The Pacha, —, Duke of Richmond, 24 gs. Heifer calves—by The Pacha, —, Mr. Harvey, 41 gs.; by The Pacha, —, Mr. Campbell, Kinellar, 20 gs.; by The Pacha, —, Mr. Campbell, 9 gs. Bull calves—by The Duke (3546), —, Mr. Hay, Little Ythie, 41 gs.; by The Duke, —, Mr. Reid, Crief, 26 gs.; by The Duke, —, Mr. Garland, Ardletom, 40 gs.; by The Duke, —, Mr. Walker, Angarlow, 21 gs.

Forty two cows averaged £34 9s.; 9 two-year-old heifers, £40 2s. 8d.; 17 one-year-old heifers, £26; 10 heifer calves, £22 19s. 10d.; 12 bull calves £24 10s.; or, 90 animals an average of £35 18s. 9d. Total, £2,784 12s. 0d.

QUIDAM.

May 3, 1887.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

The Clydesdale Horse.

BY D. M'CRAE, GUELPH, ONT.

(Fourth Paper.)

THE LOCHLYOCH CLYDES.

The farm of Lochlyoch, in the parish of Carmichael, in the upper-ward of Lanarkshire, has the honor of being the original home of the first recorded Clydes. Tenanted by the Paterson family, who were, for those days, good farmers, they had the habit of noting down important agricultural items. They took especial pride in having good horses and devoted much care to the breeding of their stock of horses. The records kept of their animals is what enables us to go farther back in the history of the breed here than elsewhere. One, John Paterson, who died an old

man in 1682, took a special interest in his horses. His grandson, who had the farm about 1715, went to England and brought thence a black Flemish stallion of superior merit. He selected this animal from a considerable number of Flemish horses that had been imported into the midlands of England. The change of blood was a success, and it is claimed that this animal greatly improved the breed in the upper-ward. The Lochlyoch mares became famous amongst horse-breeders all over Scotland, and were largely drawn upon to improve the breed in other parts of Scotland. The one fact of having made the Flemish importation would single Mr. Paterson out as an enterprising breeder, but with this the family had the reputation of being exceedingly careful in the selection of their breeding stallions and mares. From Lochlyoch went many good animals that helped the breed. The most noted of these was the "Shotts Hill filly." The Shotts Hill mill was tenanted by a Mr. Thomas Clarkson, a nephew of Paterson of Lochlyoch. He had a good reputation as a breeder, and at a sale he held in 1808 there was sold a two-year-old Clyde filly to Mr. Somerville, of Lampits, in the parish of Carnworth. The Lampits stud became very celebrated, and this mare bought at Shotts Hill became the most noted breeder in it. She is to-day the most memorable animal in all the Clydesdale records, more animals in the present stud-book tracing to her and her progeny than to any other recorded animal. The Retrospective volume, published in 1878 by the Right Hon. the Earl of Dunmore, gives a chart with the names of 134 animals descended from this mare, many of these being prize winners, and amongst them are the most noted Clydes in the stud-book, and this mainly through her son Glancer (335), known as "Thompson's Black Horse," from being the property of Mr. James Thompson, Tollcross, Glasgow. He was black in color save both hind legs, which were white, and had a strong, neat body set on short, thick legs, the clean, sharp bones of which were fringed with nice flowing, silken hair. He is said to have been a very complete horse in all points, except the hocks, which were considered to be a little full. This animal is the most celebrated of the descendants of the Locklyoch stud, and has transmitted their good qualities. The Lochlyoch mares were generally blacks and browns with white faces and a little white on their legs. They had grey hairs in their tails and occasional grey hairs over their bodies, characteristics still shown by many modern Clydes.

THE BROOMFIELD CLYDES.

Broomfield is situated on the banks of the Clyde near Hamilton. Early in the present century it was farmed by Mr. James Frame, a capital judge of horses, a good farmer, and a man of more than average intelligence. His name became celebrated as a breeder of Clydesdales. He was a special fancier of bays and browns, and early discarded greys, which were then very common. He bred Glancer I (336), sired by (335) already described, and out of Darling, a brown mare of good action and described as being "as wise as a man." He was sold to go to Ireland, but before going sired Glancer II (337), out of Brown Bess, a strong, handsome mare, with a face mottled brown and white, a brown body and four black legs. Glancer was a very celebrated horse. He met with an accident while a colt and was known as "Frame's Lame Horse." He was brown with white face and white hind foot. Like his grandsire, the Black Horse, he was not a very high standing horse, but was possessed of strong bones, well-feathered legs, sound feet, a good broad head, an ample, round-ribbed body, and a strong consti-

tion. He was sire of many stallions, but the most noted of these was Broomfield Champion (95). To this horse every Clydesdale breeder can trace some of his stock. In his time the more careful noting of pedigrees began, and with it a new era in Clydesdale breeding. Broomfield Champion was bred by Mr. Orr, of Shotts, out of a grey mare, a celebrated prize winner at Highland Society Shows. The Highland Society (now the Highland and Agricultural), was formed in the year 1784. It was some years after this before much was done for the improvement of horse breeding. In 1823, prizes of 10 guineas (\$50), were given at Perth "for the best Clydesdale or other mare, well qualified for working the strong lands." In 1827 the first open show for horses at Glasgow was held. Mr. Francis secured first for a three-year-old filly, and second prize for his mare Brown Bess, already described as the mother of Glancer 2nd. The Glancer blood was well forward in the prize list; a grandson of the Black Horse (335), won first premium as best colt. About this time Mr. Wm. Fulton, of Sproullston, near the border of Renfrew and Ayrshire, came to the front as a breeder of Clydes. His most celebrated horse was Clyde, *alias* Glancer (153), sired by Broomfield Champion (95). This horse, in Mr. Fulton's hands, became renowned as the best breeding stallion in Scotland. He was a dark brown horse, with broad masculine head, and massive, yet shapely neck, and a neat powerful back; his forearms and thighs were strong, and his hocks and knees were capacious and cleanly developed. He was known as the ruptured horse, but this did not impair his usefulness. This horse was a great breeder and left many noted stallions.

THE KYNTYRE CLYDES.

The peninsula of Kintyre has become quite celebrated for good Clydes. The Kintyre land is well adapted for the rearing of horses. The pasture is rich, and the soil favorable for the growth of bone and the development of muscle. At one time the horses in Kintyre were only good strong Highland ponies. Sir Charles Lockhart owned land in Kintyre, as well as an estate in Lanarkshire, and was much struck by the great difference between the horses of the two places. About the year 1820 he commissioned one of the upper ward breeders to buy him two good black Clyde stallions. His orders were: "They are to be the very best, but they must be black, for the beggars don't understand anything except they are black like their own." Two good black Clydes were selected and sent over for the use of the tenants, and from these all the best Kintyre stock of the present day is descended. Having once seen the advantages of the Clydes, the work continued. Other good horses were taken over, notably, James' Fancy (2981), a son of Clyde or Glancer (153). Another celebrated one was Rob Roy (714), bred by Mr. Fulton. The Clydes of Kintyre have become good ones, and many have been prize-winners.

The Shorthorn Herd-Book Standard.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I notice in your JOURNAL of this month an article over the signature of John Dryden, Esq., M. P. P., President of the Dominion Shorthorn Association, setting forth the reasons for fixing 1865 as the point after which imported cows must be registered in England, a very recent date surely, when we take into consideration the fact that no Canadian bred cattle could be admitted to registration under any consideration. Then, in justification for making such a wide contrast, he says, "Many animals were brought over because of their individual merit and intrinsic value as Shorthorns." Now, sir, this is an old and perhaps not a very reliable assertion; at any rate, cattle that could not count four pure crosses to entitle them to

registration in the English herd-book should not be accepted here on mere supposition, which is simply what it amounts to in the absence of any record. Again, "But the vast majority decided that, as they were undoubted Shorthorns brought here at that time at great expense." Why were they undoubted Shorthorns, and should be made acceptable here, without being able to obtain recognition where they came from? This, to any unprejudiced mind, is quite sufficient to disqualify them for registration. The matter of the expense of bringing them here is not worth one moment's notice, as no monetary consideration or sympathy should be allowed to enter into a work of the character claimed for the Dominion Shorthorn record. Here I wish to draw attention to the fact that this thing, sympathy, or some other cause best known to the British American Shorthorn Association, brought their herd-book into bad repute and left large numbers of Shorthorn breeders minus their money and property, which they were gathering in good faith. Others, with no claim beyond the word *imported* have been brought into life, they, too, perhaps, only to be operated on for a short time, when they must go. "That it was doing justice to the early importations brought here in good faith for the improvement of our common stock." Why not have allowed them to remain with the common stock, the place they were in "good faith" intended for, then no person could be imposed upon by them hereafter. Now, when we take into consideration that some of the pedigrees in the English herd-book are not very desirable, how will it stand with the Dominion, commencing with cattle minus a record up to 1865, farther than the word imported?

Now, sir, I believe that the principle adopted by the vast majority referred to by Mr. Dryden was very irrational, and one not to be easily set at rest. "It was fixed, not in the interest of any ring or class." It may not have been so, but how will it be if another change is inaugurated, and all grades to be expunged from the record? Perhaps then no person will undertake the task of certifying to their undoubted purity, without the scratch of a pen to show they were Shorthorns, or any other breed in particular. There is one point, however, in their favor, they will never be subject to the charge of being in-bred. Now it is quite evident that the fixing of 1865 was wrong, and that no cattle should be made acceptable, only those first registered in the English herd-book. Again, "While here the crosses are started in many cases from the veriest rubbish, they r y turn out better or worse. Some continue to improve after the first cross, and some do not." Query, is it possible that there are any cattle not susceptible of improvement, or can it be that the words above quoted are those of a person desirous to fairly represent the subject which he is endeavoring to grapple with?

Now, Mr. Editor, I have endeavored to be as brief in my remarks as possible, still I find that I have occupied more space than intended, for which I beg to apologise.

JAMES GRAHAM.

Port Perry, Ont.

Dorset Horn Sheep.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I have had your valuable JOURNAL of March, 1887, sent to me by a friend in America, and in it the engraving of three "Dorset Horn Sheep." I imported 27 ewes and 2 ram lambs of that breed in the summer of 1885. They were imported through the agency of the Duke of Dorchester to Mr. E. Stanford, Markham, Ont., which of course are the same as represented in your engraving. Your description of them is quite correct; they are very prolific, often having three lambs each, and we have had them have as many as four each. They are woolled well, of the finest texture. Their mutton qualities are their great point. The four-year-old ewes are served with a Down ram and supply the London markets with the earliest lamb. It was said in the *Mark Lane Express* at Christmas, 1884, that the "Dorset horn wethers" were the best meat of the Smithfield show, it having cut up more lean with fat of any other breed of sheep.

We have won a number of prizes at local shows as well as 3 first prizes at three successive Smithfield cattle shows, for three fat horn ewes in 1884, 1885 and 1886, their weights being in 1884, 264 lbs.; in 1885, 287 lbs.; and in 1886, 271 lbs. each.

A gentleman, a perfect stranger to me, having gone the round of the sheep, said, "the wool of my ewe was the best wool in the show, and of the finest qual-

ity and texture, and appeared to have a good quantity on them." One of my prize ewes never cut less than eleven pounds of wool at a shearing. Hoping this will interest you, I will forward to you a photo of some of our sheep with a list of prizes they have won.

W. HARDING.

The Abbey, Montacute, Leominster, }
Somerset, Eng., May 4, 1887. }

Horses.

GETTING HORSES INTO CONDITION.

(Published by request.)

"Condition" in horses is not fat—far from it—it is hard, tough, elastic muscle, says Col. M. C. Weld, which may be actively worked without tiring the horse, without sweating, and without exhaustion of the vital forces, unless the exercise is utterly excessive. A horse out of condition is exhausted by a half mile or a mile trot, comes in puffing, and breaks out in a sweat, while one in condition returns all the fresher in appearance for having his blood stirred. What makes the difference? Proper feeding, good grooming and regular work or exercise, and enough of it. All exercise tires the muscles brought into play—a tired muscle needs feeding. The feed for the muscle is digested food. After any muscle has been taxed it is for some time in a condition to appropriate from the blood the proper elements to build itself up and increase its strength. When a horse is fed immediately before labor the food remains undigested until labor ceases, and then is liable to do harm. All horsemen know that a horse should not have a feed of grain when warm or until he has cooled off; yet when they start a horse off to any kind of hard work, or road work, before his food has time to digest he is liable to be injured by it. After labor, as soon as a horse cools off and is rested, the blood, which the use of the muscles drew to the extremities, returns and is ready to take active part in the work of digestion. Then is the time to feed.

To get a horse rapidly into condition, he should be well worked or exercised according to his strength; when brought in, vigorously rubbed off and down, and when dry, cool and rested, fed. His food should be good hay, when his appetite is sharpest, followed by grain (oats), which in quality should be unexceptionable, and in quantity gauged according to the work he does. Fat will sweat off, muscle will not. A fat horse is liable to indigestion, sunstroke, cold flatulence (colic), and ever so many other ills, which a horse in condition is not only free from, but if properly fed, and cleaned, and worked, is not liable to get. It is usually poor economy to reduce either food or exercise.—*North British Agriculturist.*

Parry Sound District as a Stock Country.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Since coming to this "Free grant land" district I have taken occasion to notice what an opportunity there is here for farmers' sons, just beginning, with limited capital. As the land is free, what one has may be wholly applied to getting here and making a start. There are few cattle and no good stock. By investing in some choice animals and bringing them here, one, I should think, would do well. Beef can scarcely be had at any price, while pork retails at 13 to 15 cents per pound. Pasture is plentiful, and there is abundance of water. The lumber companies in the neighborhood buy up and pay good prices for the settlers' produce, potatoes, oats and hay being most called for. They have been specially cultivated and grow well.

It is backwoods and out of the world now, but a good time to invest in land, as it will rise when the route of a contemplated railway is decided.

A WELL-WISHER OF THE JOURNAL.

Loring, Parry Sound, Ont.

THE readers of the JOURNAL, when writing concerning live-stock, implements, etc., advertised in its columns, will oblige us very much by mentioning that they saw the same advertised in the CANADIAN LIVE-STOCK AND FARM JOURNAL.

Veterinary.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

The Management of Young Horses Intended for Sale.

BY P. C. GRENSIDE, V. S., GUELPH.

The argument most frequently urged against the breeding of horses, as a profitable enterprise, and one that appears to have the most force, is that colts are so subject to casualties, that even if nothing of a fatal character happens to them before they arrive at a marketable age, still they are so subject to mishaps from injuries and the development of unsoundnesses, that their value is frequently reduced to such an extent from them, as to compromise very materially the money return that they should give. This is more particularly the case in connection with light horses.

Leaving out of the consideration the subject of selection of either sire or dam, and the production of animals that the market value of stands high, and taking it for granted that a rational course has been pursued until the colt is weaned, and that it is then sound and all right; yet there is still much in the management to be attended to that will influence the profit and loss account.

It is comparatively rarely that accidents happen to colts during the time of year that they are out at pasture. The ground they travel on being moderately soft, and with plenty of range to expend their surplus energy in traveling over, they have not to turn abrupt corners at a break-neck pace, nor run the risk of knocking off their hips from angular prominences or projecting logs, nor of slipping on their broadsides in galloping around icy yards, and in these different ways inflicting injuries that cause so much trouble in getting rid of, even when a permanent blemish is not the result. The less trouble colts give, until they are ready for market, of course the greater profit they return, so that if they are to be managed rationally they should not be allowed to run around the yard doing mischief, not only to themselves but hustling cattle and other animals, and causing general trouble. It is quite evident, however, that the necessary isolation of young horses should not be accomplished by keeping them shut up and without exercise, but that they should be allowed to run out whenever the weather will permit, and the only safe way of carrying this out is to have a good sized yard especially for them, say one of an acre in size; and it is all the better if it is surrounded by a close board fence, which will afford protection from the wind, and encourage exercise to be taken, when the colts would otherwise hesitate to face the weather. This appears a rather extensive arrangement for a colt or two, but there are many farms in this country on which there are always half a dozen of them of different ages, but not on one in fifty of these do you find the simple plan adopted here suggested. A paddock is most useful near a stable, all the year round, and when it is desirable to put it in crop it is most conveniently situated for the production and harvesting of green fodder. The first trouble and expense of such an arrangement is the only one, and it will be a constant means of saving work, annoyance and loss; for nothing is easier than to be able to open a door communicating with a yard of this sort, and thus allow freedom for daily exercise.

It is not a profitable plan to freeze colts by too low a temperature, but there is no doubt that they do not require anything like such warm housing as working animals; in fact it is a disadvantage to keep them so hot that they cannot be turned out for an hour or two a day, even if it is a cold one, without the change of temperature being too great.

Nature causes to be thrown out a heavy coat of hair, its thickness and length increasing in proportion to the coldness of the air. Now so long as colts with heavy coats are kept dry, they don't suffer much from the cold, and although they may not be in first-class condition, still practically they do as well as circumstances will usually permit. Horses can stand a good deal of cold without much loss of condition, if they are not exerted so that they sweat.

There is another point that is usually much neglected, and that is, attention to the hooves of colts. During the summer months the horn of the wall is usually worn down sufficiently, especially when the weather is dry, and the ground more or less hard; but in the winter time it is seldom under usual conditions that either breaking or wearing occurs; consequently the wall grows out to an inordinate extent, especially at the toe. In a natural state of affairs the lower rim of the wall should be short enough in order to allow the outer margin of the sole to come in contact with the ground. If the growth much exceeds this normal condition, it causes the leverage of the toe to be much increased. The result of this is that the natural relationship existing between the various structures making up a limb becomes altered, thus all structures, particularly the soft ones, and those that support the back part of the limb, are placed at a disadvantage, and rendered liable to injury, even from ordinary causes. This is one of the most fertile causes of the various ailments of the limbs to which colts are subject. The undue strain or tension to which the ligamentous and tendinous structures of the limb are thus subjected gives rise frequently to strains, which may be followed in some cases by ringbones, spavins, weakness of the stifles, etc. It is an easy matter to keep the horn within normal dimensions, by using the rasp once a month on the lower and outer surface of the hoofs; and there is more danger of erring on the side of not taking enough off than of taking too much. In some cases where much neglect is practised, even deformity or contraction of the foot may result, in an unshod colt, and defective action, in the form of dishing or straddling is encouraged.

It is astonishing how many young horses, particularly of the light class, have corns, when they arrive at the most marketable age—five years—having always been used on the farm, with the exception of doing the ordinary amount of road work incident to farm life. There is no excuse for the existence of such a defect, where the conditions are so favorable for a horse's feet as they are in the country, for those continually used on the road are much more predisposed to such trouble. Very frequently the breeder, whose mismanagement has produced the weakness, is not the chief sufferer, but the purchaser, whose work necessitates continual use on the hard roads, feels the disadvantage of having an animal subject to the development of tenderness on slight provocation.

There is a good deal of truth in the old saying, "Once a corn always a corn," for although by judicious management one is usually able to keep the ill effects in abeyance, still the heels always continue a weak spot, and subject to injury from trivial causes. In some cases the breeder suffers loss, for tenderness of a chronic character may manifest itself, and those who are conversant with the disadvantage of the presence of a corn in any stage will usually refuse to buy a horse possessing one, unless for exceptional kinds of service, and at a reduced figure. The shoeing smith is usually blamed, and in some cases he is the culprit from improper shoeing; but in many cases negligence or imaginary economy prevent farmers

from getting their horses shod as often as they should be, and thus the shoes are allowed to get sunken in the heels and produce bruising, or the heels curl in and produce the same result.

We intend taking another opportunity of treating on the subject of shoeing, so will say nothing more about it at present, except to strongly urge the necessity for re-shoeing at intervals of not longer than five weeks. Many breeders get disgusted with the lighter class of horses, if they show much spirit, and are apt to allow them to acquire bad habits when they really do not possess bad tempers. Unskilful and injudicious handling will often aggravate any natural waywardness; but there is no doubt the most prolific causes of bad manners amongst the more spirited and well-bred horses is from not keeping them steady at work during the time they are being broken in, and until they have become perfectly handy and tractable. It is not wise to break a horse's heart by over-work and under-feeding; but it is still more foolish to allow a young and spirited animal to become fractious from irregular work and too stimulating food, and thus susceptible to every form of irritation. It is sometimes the case that under-sized horses are bred, or those that are too light to take part in the regular work of the farm, and it would necessitate a loss of time in exercising them. This is another argument against the want of wisdom in breeding small horses, which, under the most favorable circumstances, seldom bring a paying price, having to be sold for a hundred dollars, when, if they were a fair size, say from ten hundred and fifty to twelve hundred, they could do almost any work on an ordinary farm and sell for from one hundred and fifty to two hundred dollars, especially if they are well bred, and show quality.

Every day a young horse is worked it makes him a more valuable animal; that is, of course, providing he is judiciously used; for it not only hardens him up and gives him thorough control of his limbs, but it gets him in the habit of doing ordinary work in a convenient and handy manner. Horses are very largely creatures of habit, and even the most high-spirited, nervous animals will usually become reliable and handy if constantly used at the kind of work for which they are required.

Many people stupidly condemn a high-spirited animal as a vicious one, and in nine cases out of ten such animals are spoiled from inconstant or insufficient use. Coupled with judicious handling, steady work would make vice and awkwardness amongst horses almost unknown.

Many young horses are allowed to get thick and gummy about the fetlock by the time they have arrived at five years of age. This often materially reduces their value in the market. Brushing or interfering in colts often causes chronic thickening of the skin to occur on the inside of the fetlocks. Bad shoeing and not shoeing often enough are sometimes the cause, but many colts strike from awkwardness, leg-weariness, or before they become able to co-ordinate their limbs properly. This is more especially the case in connection with the hind legs, and it is often wise to allow them to go without hind shoes until they threaten to become tender in the feet. But they will sometimes strike and bruise without shoes, and in that case it is better to rest them until all soreness disappears, and not work them again sufficiently to cause leg-weariness.

Until a young horse reaches maturity his circulation is not so strong as it afterwards becomes, consequently he is more subject to the ill effects of jarring from fast work, and tension from heavy drawing, which shows itself in connection with the fetlock joints by swelling

of various kinds. A majority of the light horses presented for sale in this country show anything but cleanness about the fetlocks, which often interferes with a sale, or depreciates the value of the animal. There is some difficulty in regulating a young horse's work so as to prevent filling in the region alluded to, but there is a means of prevention that is most reliable, and that is the use of suitable bandages properly applied after work, and allowed to remain on all night. This may be thought a troublesome plan, but in reality it gives little extra work, and in a horse at all valuable it well repays the trouble. The bandages must be elastic to some extent, otherwise they will not fit evenly and smoothly to the parts, and exert regular and firm pressure, thus having the desired effect of supporting the blood-vessels, stimulating the circulation and encouraging absorption. What are called Derby bandages are the best, and they can be procured from most saddlers for one dollar a set.

Veterinary surgeons are often called upon to treat swollen fetlocks after the enlarged tissue has become organized, and when it has become an impossibility to restore them to their normal condition; the owners having found out the drawback of such a condition when trying to sell. The old saying of "Prevention is better than cure," is particularly appreciable here, Rational management has more influence in keeping a young horse well mannered and free from blemish, than laborious interference.

The Farm.

THE *Breeders Gazette*, of Chicago, is responsible for this sentence, and it is certainly a good one. "The best way to lighten labor is to learn to love it." We never yet could see how workmen in any craft may content themselves in performing labor as a machine does it. Why should not every man in the world try to excel in doing everything that he does in a creditable manner. In this way the mind becomes occupied with the work. Becoming weary of work in such a case is out of the question. The doer loves to look upon it when it is done, and he is pleased to have others inspect it. It is much in his mind, and the contemplation of it affords him pleasure. While thus interested in work he never thinks of watching the sun, and has no longing for nightfall, and every day that he spends thus is adding to his self-improvement.

Handling Manure.

Of all the operations of the farm there is none, perhaps, performed so carelessly as spreading manure. It is very often just pitched about in heaps, with bare spots between, and in this condition it is ploughed under, with the result that some portions of the land get too little and the other portions too much. The evil usually commences in the laying down of the piles. These should not be more than fifteen feet each way, in which case the individual spreading has only to throw half this distance, which is not oppressive. When the piles are far apart the labor of spreading is severe, and the temptation to spread unevenly is irresistible when the workman gets a little tired.

If the piles are not evenly laid down it is impossible to spread evenly. The drawer of this fertilizer should keep constantly on the alert, for if one pile is smaller than another, the land cannot be evenly manured. If the quality of one load is better than another the same difficulty arises, unless the unloader has sufficient judgment to gauge this by the size of the piles. When manure is fresh, very great care requires to be exercised in this particular. Then again, when the

field is diversified, in soils varying in fertility, careful judgment comes into service again. On clay lands the high parts require much more feeding than the hollows. We have observed a tendency in workmen to lay down the largest heaps in the valleys. It may be caused in part by the greater difficulty of getting the team to stand quietly in going down an incline.

In spreading manure on meadows or pasture, the greatest care should be exercised in spreading it evenly. Every bunch should be shaken apart, which will require much care and patience when the manure is dry. It always spreads easier when wet, hence the day after a rainstorm, when all the teams are idle, is a gala day for manure spreading with the wise farmer who has this work on hand.

A good deal of manure drawing is done in the winter now, and we commend the practice. On level soils it does not waste much through leeching, even though spread when drawn, but on hills, quite a portion will run into the water courses when the ground is frozen hard under. When manure is drawn in the winter to be ploughed under in the spring, we favor on the whole the practice of putting it in piles, and we adopt the same plan when we use it for top-dressing pastures. When thus drawn it should be spread at the earliest possible moment in the spring.

There is one grave objection, however, to the plan. The frost remains so long in the piles some seasons that ploughing is hindered. This can be partially obviated. The different piles can be partly spread, which gives what is under a chance to thaw quickly, when the work can be completed.

One principal advantage of top-dressing pastures with green manure is this, that it acts as a mulch to the grass roots as well as a manure, which in a dry season especially, very greatly increases the yield of grass. The stock will not like it early in the season, but later, when it is wanted more, it serves a good purpose.

The proper care of manure and a wise application of it is the great fundamental of successful farming. Every particle of it that is wasted is just a waste of a reserve-fund of capital. Whatever else about the farm receives an under-share of attention, it should not be the manure heap. With this well managed it would be strange indeed if the accompanying farming were a failure, but with it imperfectly cared for, the failure to attain the full measure of success must be proportionate to the inattention given to this very important item of raw material.

Tillage in the Brockville Region.

Through Mr. D. Derbyshire, Brockville, ex-president of the Eastern Dairyman's Association, we are enabled to give the method of tillage adopted by many of the farmers of that region who are largely engaged in dairying. In corn-growing sections it might profitably be adopted wholly or in part.

A field that wants cleaning is singled out, and manure is heavily applied in the spring, which is ploughed under, and the ground finely pulverized. Corn is then planted in hills, three feet apart each way. As soon as it will admit of it the cultivator is started, and kept going frequently, until the corn gets too high, which conduces both to the perfect cleansing of the land and an enormous growth of corn.

As soon as it is sufficiently grown, a portion of it is fed to the cows, and this is continued until when the corn is in full mill; when the balance is cut, and slid off to an adjacent meadow and stacked for winter use.

Winter wheat is then sown, which is seeded with grasses in the fall, and clovers in the spring, several

varieties of each. The growth of corn, wheat and grasses secured in this way is usually very large. Another field is taken the next year and treated in the following way. The mixed grasses are mown two years and pastured three.

A favorite feed for cows in the same region is produced by sowing oats and peas, about $\frac{1}{2}$ peas and $\frac{1}{2}$ oats, which are not allowed to get very ripe. In winter they are threshed lightly with the flail and the straw fed as fodder. The grain is ground and a small portion fed to them once a day.

Destroying Quack Grasses.

This is a terrible pest, and we have often been asked to mention how it may be best destroyed. We give below the method adopted by Mr. Wm. Deeks, of North Williamsburg, Co. Dundas, Ont.:

A field is selected which Mr. Deeks ploughs once in the fall, light and late. This leaves the roots exposed to the action of the frosts as they lie near the surface, which weakens the vitality of the plant very much. By the first of June the field is ploughed again about half the usual depth. It is then harrowed and cultivated and ploughed. Manure is then drawn out on it, and it is ploughed again, the manure being turned under as soon as possible. It is then ploughed again and sowed and seeded to grass. Each of the plowings during the summer is done when the weather is dry, if practicable. Three crops of hay are cut and it is then pastured for two years.

When broken up, peas and corn is the first crop, after which comes wheat or barley, and then oats followed by summer fallow again. In this way it is well subdued, but not obliterated altogether. It should be borne in mind that in summer following it is not so much the number of plowings that makes effective work as the choice of time for doing this, and the manner of doing it. Mr. Deeks, in ploughing, always goes the reverse way of the previous ploughing.

In combatting mustard, he drags in the fall early with a drag cultivator and harrow, which induces much of the seed to come up. The ground is then ploughed later, and sowed in the spring with some kind of crop, by simply harrowing without any further cultivating, as deep cultivation would drag fresh seeds to the surface.

Scare-Crows.

In driving through the country in the latter part of May and first of June, one is very much amused at the ludicrous figures that are put up to scare away the crows. The wonder is that they do not scare away both crows and people. Forms more grotesque than *old thousand* himself greet you as you pass on the highway, which can scarcely fail to provoke merriment in the crows rather than scare them away.

We have read elaborate articles on methods that have been adopted to frighten crows from cornfields, and many of which we believe will be of no more value than the grotesque figures which give so complete an idea of the maker's view of what is the best thing in the world to frighten crows.

The plan that we have tried ourselves is a very simple one, and we have never known it fail when tried as soon as the corn was planted. It consists in driving in stakes that will be about four feet high when in position, in various parts of the field, and in stringing from one to the other of these some kind of white-colored twine, and leaving it there till the field is ready to cultivate, taking care that the string does not become so distended as to reach the ground. Twenty cents' worth of twine just strong enough so that it will not snap asunder, will suffice for a ten acre

field. The secret of the efficacy of this plan we do not pretend to be able to give, as we are not versed in the brainular structure of crows, and the relations between this structure and the manner in which external objects act upon this; but some say that the crows fancy it is a snare set for them. Whatever they may think of it, the plan has always been effective when adopted in our Riverside fields, and we presume crows are not more wise in other localities.

If any of our readers have tried this plan under the conditions we have laid down above, and found it to fail, we hope they will make the same known to the readers of the JOURNAL. If those grotesque and often outlandish figures, sometimes almost indecent, are a waste of time, they should be discontinued, and if our plan is efficacious in different localities, it should be universally adopted, owing to its great simplicity.

The Government Experimental Farm at Ottawa.

Imagine a good strong hive of bees marshalling forth on one of the most auspicious honey-gathering days of June under their respective leaders, all eager for a big find of honey, and you will have an idea of the busy scene presented at the Experimental Farm, Ottawa, at the date of our visit (May 20th), a period at which the sun went down too soon to meet the wishes of the energetic directors of labor at this vigorous young institution.

Picture in your fancy the appearance of 400 acres of rolling land made up of divers small farms, each one with its modicum of light soil-topped hills, and dreary swamp, shunned by everything save frog, and lizard, and water-loving poplar; rustically ornamented with dark pools, lazy-lying boulders of all shapes and sizes, to suit the most romantic fancy, some lying in long trenches like unburied skeletons, and others plentifully scattered over acres, and dotted in certain portions with a profusion of stubborn and charred pine stumps, ready to dispute the claims to ownership on the ground of long undisturbed possession.

Add to this picture a number of scattered homesteads in a state of dilapidation, long lines of crooked fences, the receptacles of the farm rubbish for half a century, broad acres covered with uninviting underwood, and the entire absence of uniformity in fertility of the variegated patches, owing to over and undercropping in the past. Fill up the picture with the almost total absence of suitable offices and dwellings for the workmen, the entire absence of drainage of any kind save a very few half-choked open ditches, clumps and groups and lines of green trees standing like church-door loungers, deplorably in the way, and you will have an approximate idea of the forlorn appearance of this Government farm on the first day of May—but twenty days gone by.

With this gloomy picture link the stubborn facts, that but twenty acres of the land had been overturned last autumn, that much of that to be operated on consisted of stubborn sod; that over one hundred varieties of wheat, imported from Europe, thirty-four of barley, and forty-seven of oats, exclusive of varieties gathered from the provinces, were to be buried in the earth with mathematical exactness, that over 500 varieties of fruit trees, 100 varieties of grape vines, and 200 varieties of strawberries awaited planting, to say nothing of the large number of potatoes and other vegetable products to be most carefully deposited in the soil. Add to this the clamorous cry for the distribution of seeds that arose simultaneously from all the provinces, and that the prospect of success demanded, and all Canada expected that this work must be completed by about the 25th of May, and you will have

some idea of the work that faced Prof. Saunders and his assistants, and which we rejoice to know they faced so well as they marched on to this wilderness of confusion at the head of their respective bands of workmen on the second morning of May, to set their house in order. It surely required a courage almost equal to that of the immortal lifeguard, who captured the imperial standard at Waterloo, to face the task.

We found Prof. Saunders in the field, where every farmer should be while the sun is high. He met us with the air of a working man, and with the unmistakable evidences of true pleasure that his work was to be reviewed, an omen that is always auspicious. We are soon among the vines, the trees, the wheat plots, by the new dug ditches, looking into the newly dried beds of ponds and marshy grounds, here, there, and in many places. The professor is brimful of enthusiasm, and though we catch the inspiration, we can scarcely follow the rapidity with which the plans of the present and the future are unfolded. We find Col. Blair, of Nova Scotia, vigilantly superintending the unearthing and removal of boulders and stones, and of the effectiveness of the service he is rendering we have ample evidence in the heaps and heaps of these that are lying in bye places all over the farm. Mr. W. W. Hilborn, formerly of Arkona, Ont., is busy amongst his favorites, and another leader from near London, Ont., whose name we failed to get, was down amongst the stumps and dynamite, evidently rendering substantial aid. We look around us in pleasant amazement on the sites of vanished homesteads, the trail of fences almost effaced, pyramids of stumps and underwood torn from their moorings, awaiting the fagot of the burner, and best of all, over 100 acres in crop, a very large proportion of which is awakening to life for the first time in its history in Canada, and comprising hundreds of exotic plants and shrubs, not a few of which have, without a doubt, come to abide, and will add to the richness of the present variety of our agricultural productions.

Rye is here (but of course not yet sown), which has ripened 1,000 miles to the north of us, and which will be supplied to the Scandinavian settlements of the North-west, and wheat likewise that flourishes in Russia, 600 miles nearer the icy pole. Indeed, most of the plants and trees experimented with have been brought from colder climes, in the hope that they will cheat the frosts by early maturing, which so often blight the hopes of the husbandman equally with his grains, which they wither. As in the production of stock so in grain, early maturity is the battle cry all along the respective lines.

The seed-testing apparatus has done its work and done it well, but the experiments with grasses must be deferred to another season.

This farm is pleasantly situated. It is but $2\frac{1}{2}$ miles from Ottawa, south-easterly, looking over to the city on its rocky eminence, across a lake. A minor portion of it on the cityward side is cleft by a highway, ascending from which on pretty slopes the permanent and other grasses are to find a home. The undulations are varied, and on no one system, almost positively picturesque in their variations, as it pleased nature to make them. The most commanding elevations are happily central, and here it is the barns and several of the dwellings are to be constructed. The south-easterly and other portions are at present swampy, and covered with a wilderness of encumbrances, but by the aid of dynamite and stoning machines, drain tiles and the firebrand, are to be so changed within twelve months, that the frog and lizard are to give place to the exotic of the garden.

The heaps and heaps of stones, uncouth in their ruggedness, are before next winter to be buried in a projected highway, or to form the basement of buildings. The orchard has already been assigned its northerly slope and the vineyard its southerly one, and so in the arrangement of all the other plots, a rigid regard has been had to adaptation.

The soil of the farm is a fairly rich sandy loam, on the hills so light that it must be fed, but on the whole it possesses much variety of texture. Its openness pre-eminently adapts it to the rapid growth of the various products to be tested upon it. Although some of it will require much feeding, it is near the city, and excellent use is already being made of large quantities of night soil drawn in the winter.

We came away from this busy scene with feelings of gratitude to the Giver of all good that our country possessed such an institution. Who can conjecture the real comfort that it may yet bring, and which it is sure to bring to the hardy settler of the unclaimed north, and indeed to the farmers of every part of our wide dominion: Can we for a moment suppose that the law of plant adaptation has ceased to exist, or that the limit of its application has been reached? Nay, may we not more safely conclude that this is in its beginnings? Let those who find their chief pleasure in railing at Government experimental stations think of what the removal of the potato from its native home has done for the world, and then hang their heads in all time with the ever-present consciousness of unfaithfulness to the true wants of the race.

The Permanent Central Farmers' Institute of Ontario.

April 28th, 1887, was a grand held-day for the farmers of Ontario. If we mistake not it will be chronicled as an era in the history of agricultural progress, one that we hope will be as justly prized by the farmers as was the first Olympiad by all the States of ancient Greece. The fetter of domination on the part of the various interests of the State who have fattened on the oppressions imposed upon and tamely submitted to by the farmers, was on that day placed in the farmers' forge, and if we mistake not, it will soon be on his anvil, and smashed in a thousand pieces by the sledge hammer of his unity. Who will explain the agricultural enigma of the past furnished by this extraordinary submission on the part of the farmers to a succession of burdens imposed on them by "infinitesimal minorities"? And who that breathes the free air coming from the great lake region, will not feel like singing "Happy day," as he catches the glimpses of the bright dawn of this day of deliverance?

The steps that led to the calling of the meeting are narrated in the May issue of the JOURNAL, p. 492. Its important results are detailed in a circular since issued to the various existing Institutes, and which we here subjoin:

TO THE OFFICERS AND MEMBERS OF THE INDIVIDUAL FARMERS' INSTITUTES NOW EXISTING IN THE PROVINCE OF ONTARIO.

GENTLEMEN:

You are doubtless aware, through the reports of the public press, that on April 28th, in the Court House, Toronto, a *Permanent Central Farmers' Institute* was organized, intended to secure for the farmers of the Province such complete representation as will enable them to protect their own interests without encroaching on those of other classes of the community.

At a meeting of the Executive Committee, held in the same place the following day, the following resolution was passed: "That a sufficient amount from the grant on hand be retained to cover the cost of printing a synopsis of the proceedings, to be sent to the several Institutes now existing in the province, at an early day, this synopsis to include the resolution in reference to

reciprocity, and a request, on behalf of the Executive Committee, that said resolution be brought before the Institute at its first meeting, and a resolution passed in reference thereto confirming the action of the central organization, and urging upon each member thereof to be diligent in the use of every legitimate means to secure the object sought by the said resolution at the earliest possible moment." In accordance with the requirements of this resolution we have prepared the following synopsis, which it affords us pleasure to forward to you.

At the meeting of organization already referred to, all, or nearly all, the existing Farmers' Institutes were singly, dually or trebly represented, as well as a number of farmers' clubs and agricultural associations.

The meeting was called at the instance of the Wentworth County Farmers' Institute, the president of which, Mr. V. E. Fuller, who presided over the meeting, explained at length the action which led to this meeting, and the strong reasons why such an organization should be called into existence.

Some of the necessities which pointed to a union of the farmers were as follows: (1) The markets of the world which the farmer had had in the past were diminishing, which made it imperatively necessary that they get the best possible returns therefor, without having them encroached upon by the undue exactions of combination on the part of those who handled their products. (2) Although the farmers represented three fourths of the population of the country, and paid the greater portion of its taxes, they are those for whom, as a class, the country is doing the least. (3) By united action only, such as this meeting proposed, could they secure the just and inalienable rights which hitherto they had been denied, and in order to secure which they should sink all party and minor differences and form one grand representative organization, capable of looking after their own best interests.

The objects of the organization were set out as follows:

This organization shall be designated the *Permanent Central Farmers' Institute of Ontario*.

That its object is to purchase the material interests of the farmers, by encouraging and fostering education in relation to their calling, and to afford protection from all encroachments that may come from other interests of the commonwealth. It is intended to encourage the growth of an improved class of stock; to foster the cheese and butter dairy interests; to encourage a better system of tillage; to extend and develop the fruit industry; to conserve and secure the just rights of farmers in their relation to legislators, corporations and individual industries, and to secure better facilities for the transportation of farmers' produce, and by this means extend our markets and open up fresh ones.

The following by-laws were adopted:

The Central Institute shall be composed of two delegates from each institute throughout the province who present properly accredited credentials. These representatives shall be elected annually by the respective institutes.

The officers of the Institute shall consist of a president, vice president, secretary-treasurer, and an executive committee consisting of ten members and the president, vice-president and secretary-treasurer, who shall be members *ex officio*. These officers are to be elected annually, at each yearly meeting of the Institute.

The officers elected were: President, V. E. Fuller, Hamilton; Secretary, T. Shaw, Hamilton; Vice-President, J. Dryden, M. P. P., Brooklyn. Executive Committee, J. Murdoch, Yeovil; M. D. Willard, Morrisburg; F. Kosmack, Northcote; T. Crow, Chatham; D. Campbell, Nelson; A. H. Pettit, Grimsby; J. H. Woolley, Simcoe; J. Legge, Gananoque; J. Cochrane, Kilsyth; D. M. McPherson, Lancaster.

There shall be an annual meeting of the Institute on the first Tuesday in March of each year.

Meetings of the executive committee may be convened any time at the call of the chairman and secretary in case of emergency, and five members shall form a quorum at such meetings.

The committee recommend that each farmers' institute be asked to pay the expenses of its own representatives who attend at the annual meeting, and that the Ontario Legislature be asked for an annual grant from time to time sufficient to defray the necessary expenses from year to year.

That this organization furnish a report each year of the work of the institute to the Minister of Agricul-

ture, in the hope that this report may be published along with other agricultural reports.

The following resolutions of general interest were passed:

(1) That this meeting desires to place on record the opinion that the butter industry of Canada can be best raised to the position it ought to occupy by the establishment of creameries in Canada, and that every encouragement is due to the Ontario Creameries Association in their effort to improve and establish creameries throughout Canada.

(2) That it is the opinion of this meeting that the tariffs and classification of the railroads as they now exist are prejudicial to the interests of the farmers of this country, and that a copy of this resolution be forwarded to the secretary of the Railway Commission.

(3) That in the opinion of this meeting the appointment of a practical farmer as Commissioner of Agriculture, who could devote his entire time and attention to his department, would be beneficial to the agricultural interests of this province, it being distinctly understood that this resolution does not reflect in any way on the present Minister of Agriculture.

(4) In the opinion of this Institute a removal of all restrictions on trade between the Dominion of Canada and the United States is desirable either by reciprocity treaty or otherwise, as may be agreed upon between the respective countries, and that the officers and executive committee of the Institute are hereby authorized to take such action in the premises as shall best promote the object of this resolution. In the event of fair reciprocity being unattainable, this Institute shall memorialize the Dominion Government to suggest to the Government of Great Britain the expediency of entering into a commercial union with her colonies in regard to food supplies, and of imposing a protective tariff against all foreign countries.

(5) It is the opinion of this meeting that in case the grant made by the Ontario Government does not suffice to pay the expenses of this meeting, and of the delegates attending the same, the latter should not be allowed to bear their own expenses, but that the same should be borne by the various institutes whose representatives have attended this meeting.

At the meeting of the executive committee already referred to, the additional motions were passed:

(1) In reference to the motion of yesterday, asking for the publication and distribution of the paper read by the secretary on Institutes—This committee do hereby authorize the president and secretary to ascertain what numbers of the paper read by Mr. Shaw and printed in pamphlet form would each existing Institute be willing to pay for at cost price for distribution amongst members of the Institute respectively, and to publish and forward the same in due time.

(2) That the president be requested to ask the Railway Commission to sit in Toronto on the 17th May, to hear the evidence of the farmers already volunteered in reference to the readjustment of rates, etc.

It will be seen that this meeting was one principally for organization. It was felt by those who convened the meeting that a central representative body could be best secured through the means herein set out, and this conclusion was strengthened by the grand meeting held at Toronto and the ability and earnestness which characterised the discussion of the various subjects brought before the meeting.

We beg to report to you that in accordance with the last resolution communication was had with the secretary of the Railway Commission on the 17th instant, and that the third day and the following were set aside on which to hear the evidence of the farmers at Toronto.

Steps have been taken to adduce evidence before the commission on those points on which the farmers feel they are not fairly dealt with.

THOS. SHAW, Secretary. VALANCEY E. FULLER, President.
Hamilton P. O.

The following circular accompanied the one just recorded, the publication of which precludes any further comment from us at present:

TO THE PRESIDENT OF THE VARIOUS FARMERS' INSTITUTES OF ONTARIO.

MY DEAR SIR,—It is my pleasing duty to lay before you and the members of your institute a synopsis of the proceedings of the meeting held in Toronto on the 28th ult., and the resolutions passed thereat, and to request you to be good enough to read the same and this letter to your members at its first meeting.

To all who attended the meeting it must have

been a source of much gratification to meet so large, influential and intelligent a representation of the farming community of Ontario, and to witness the earnestness which characterized the meeting.

It has been claimed at many hands that the farmers of Ontario are too apathetic to their own interest, and no union of farmers could be formed on a sufficiently broad and liberal basis to ensure success. I differed with those who held that opinion, and I venture to hope that the meeting at Toronto is but the beginning of a most complete refutation of any such charge.

You will notice that three matters require our immediate attention.

(1) Furnishing copies of the paper read by Mr. Thomas Shaw. Will you be good enough to ascertain from your Institute the number of copies required on the terms of the resolution, and intimate to our secretary, Mr. Thomas Shaw (Hamilton P. O.), the number so required.

(2) The secretary of each farmers' institute in Ontario is requested to send to Mr. Shaw the name and Post Office address of the president, vice-president and secretary of his Institute, and also the names and Post Office addresses of every member of the Institute.

(3) It was delegated to the officers and executive committee to take action to promote the object of the resolution passed with reference to "A removal of all restrictions on trade between the United States and Canada." The executive committee have requested me to address the members of each Institute through you, and to forward to you a resolution to be submitted to your members approving and confirming the action taken by the delegates to the meeting. In accordance with such instructions I now enclose you a resolution, and have to ask you to be good enough to call a meeting of your Institute at the earliest day possible and submit the same to your members, and to report to the secretary (Mr. Thos. Shaw, Hamilton P. O.) what action your members take thereon; reporting at the same time the number for and against the resolution, in order that a fair conception may be formed of the number favoring or opposing the same.

It seems proper that I should state the reasons which were advanced at the time of passing this resolution. It must be apparent to any one taking an interest in the welfare of the farmers of Ontario that their future at present is not a promising one, and that the average farmer of the day, unless he be engaged in some specialty, is procuring but very slight return, if any, for his capital and labor. If the farmers of Ontario desire to keep pace with the times and to progress in place of retrograding, they must change their modes of farming or find increased and better markets. Those who are at all familiar with the condition of the farmers of the United States and contrast it with those of Ontario cannot but be struck with the fact that the position of the American farmer is vastly superior to that of the Canadian. The farmers of Ontario are burdened with debt: whereas the farmers of the older States of the United States are rapidly paying off their debt. The ordinary Ontario farmer's life is one of extreme hardship and scant return for his labor, whereas the American farmer lives in comparative comfort and receives a fair return for his capital and labor. The natural question that suggests itself is, "What is the cause of this?" It cannot be in the soil or climate, as our surplus produces those states in which the farmers are in a flourishing condition. It cannot be in improved modes of farming, as the Ontario farmer is possessed of more perseverance, and is as a rule a better farmer than his American brother. It is not in any of these, but in the fact that the American market is a better one for live-stock as well as agricultural and garden products than that of Ontario, and that the United States possess the population, wealth and purchasing power which contributes towards making their market a better one to sell in. It will be contended that in advocating this we are lessening the sight of the English market; but who will, on equal terms, choose so distant a market when one lies at our own doors and on equal terms. It will also be argued that the "removal of all restrictions on trade between the Dominion of Canada and the United States" will strike a severe blow to our manufacturing imports. To a limited extent this may be true, but even at the worst it will be but temporary. The manufacturer's interest should not be made paramount to that of the agriculturist: its welfare is so dependent upon the welfare of the farmers that what aids and improves the position of the farmer, still more improves the position of the manufacturer. The

prosperity of the farmer means the prosperity of the manufacturer; and the poverty of the farmer means impoverishment to the manufacturer.

I cannot conceive that the majority of our manufacturers are incapable of holding their own against the Americans. This is no question of "Protection." We do not seek to give our markets to the Americans, unless they give us theirs in return. We take the broad ground that the interests of the farmers of Ontario are paramount to those of any other class, and that the progress of Ontario has been through, and is dependent upon, the prosperity of the farmers. This is an undisputable fact, and if the removal of all restrictions on trade between the Dominion and the United States will benefit you, through you it will benefit the whole country. The farmers of Ontario have ever appreciated their own importance, nor have they in the past, as a united whole, asked for that which their own good sense tells them will be for their future welfare and prosperity. Are we to continue in this condition? It rests with you to decide: the means is given you through this Institute to make your voice felt. Look to your own interests: other bodies will take care of theirs; but in doing so you will have the comforting conviction that while you are protecting and fostering your own calling, you are acting for the welfare of the whole. If you approve of this Resolution, let not the matter rest here. Use, each and all of you, your influence to make this issue a live one. Address, or see your member of the House of Commons, and make him feel that the interest of the real power of his constituency (the farmers), demands and must receive his best attention; that he represents you, not himself or any particular class. This is not a party question, but it is one in which every farmer, regardless of "party" or creed, is deeply and vitally interested. Rise equal to the occasion: lay aside all party jealousy and prejudice, and make the people feel that what the farmers are satisfied is to their best interest *shall be, because it is right.*

We ask your hearty and active co-operation in this matter. By giving us this you will strengthen our hands; you will increase the usefulness of your Institute: you will show to the world that the farmer is no longer apathetic to his own interests, and by so doing you will not only benefit yourself, but through you the whole population of the Province.

VALANCEY E. FULLER,
President of P. C. F. I.

Report of the Judges on Prize Farms for 1886.

(Continued from May.)

THE FARM OF MR. J. B. CARPENTER.

Nearly a whole day was spent in going from Chatham to Simcoe. Retracing to London we put in 15 miles on the London & Port Stanley R. R. to St. Thomas, through a country of receding goodness, till coming near St. Thomas; then 46 miles on the Loop Line to Simcoe. Mr. Carpenter was on hand at the station and drove us to the farm, which we entered on the rear, and by the time the evening shades came trooping on we had taken in with a good deal of accuracy this magnificent farm, for which nature and Mr. Carpenter have both done so much. The subjoined diagram (for which we regret we can find no space—Ed.) will give the reader a very good idea of the position of this gold medal farm of a former year, and the buildings upon it. It is simply beautiful for situation, and contains within itself all the elements for making it what it is—a first-class farm. It reminds one of a plain sloping a little towards the north and west, very gently toward the west, and also toward the north till approaching the spring creek noted in the diagram, a rivulet perennial in its flow, defying alike the frosts of winter to congeal it and the drought of summer to cut off its hidden fountains of supply. The buildings, grouped as in the diagram, have the air of a little North American village, except that the idea of repose is more unbroken, the sound of the smithy's hammer being lacking and the smoke of his forge. The ground swells upwards on the eastward rim, giving a commanding view of the other portions. The concession road from Simcoe to Jarvis, which runs across the farm, is lined with beautiful maple shades of Mr. Carpenter's planting, and in the rear of the buildings, on the bank beyond the brook, stand a remnant of ancient pines, singing to all the breezes, which have looked down upon all the changes

that have been made upon this farm since the woodman struck his first stroke into its wilderness of trees. Across its southerly tier of fields dash the Air Line trains by day and by night. The view is very beautiful from the cupola of the new brick dwelling—southward the distant pines of Woodhouse lie beyond the hills to the south east, the homesteads of Charlotteville repose upon the upland; busy Simcoe, "The City of Trees," but two miles distant to the centre, lying in the valley of the Lyn, running on to Erie's shore. Westward appear the lighter growths of Wyndham, with its sand, and north and east the fertile undulations of Townsend rise and recede with sunny slope and forest swell.

The groves of this farm are simply charming, they are kept so clean, and form a favorite resort for picnickers in summer days. That in field No. 7 consists of graceful pines and oaks, and the larger one (5 acres) of other woods shades the creek with its thirty bubbling feeders within the farm. The valley of this feeder of the Lyn is being planted with walnut trees, which will still add to its beauties. The forest, consisting of 25 acres black oak, white oak, and pine principally, has a tangled growth of underwood, as it should have, and is making a rapid growth, scoring high in this competition.

The soil is a clay loam that always works easily at any season of the year, requiring neither under-drainage nor surface furrow, and the sub-soil in general is an open clay, through which the waters percolate gently, and yet its porosity does not steal the elements of fertility from the surface soil in any marked degree, and there are no stones to make trouble. Happy are the farmers whose soil is just like that of this competing farm.

The fences are Virginia snake of cedar rails, staked and wired at the corners. Some of it has stood 33 years without renewing, and many of the rails, 85 years old, are yet good.

The buildings as shown in the diagram are numerous and complete in themselves, all bearing evidence, numerous as they are, of that oneness of design which alone can characterize thorough going minds. The buildings are so grouped that one is the counterpart of the other, each set having yard and suitable means of ingress and egress, with a suitable lead to the water in the rear. The dimensions of buildings are also very ample. The hay barn (No. 9) is 100 x 30 ft., with 16 ft. posts, the grain barns (Nos. 4 and 6 respectively) are 60 x 30 ft., with 16 ft. posts, and in threshing the straw is run into the stock barn (No. 5). The stock barn is a large building, 52 x 110 ft., with 24 ft. posts and basement above ground, the upper floor being approached by a long bridge. There are 14 double stalls on each side of the basement, 8 ft. wide and 14 ft. from manger to wall. The central division, from end to end, is 24 ft. wide, and has three large box stalls in front and one in the rear. Cedar block, Portland cement and brick pavement form the floor. Into the central space in basement the turnips are dumped in winter, a pit at a time, and the feed, cut above, is mixed. A horse power may work above, the horses going tandem. The corn crib (No. 11), is 15 x 30 ft.—that is, fifteen feet wide at the bottom and wider at the eaves. It has a drive-way through the centre. The new octagonal brick horse stable (No. 2) is a unique feature: the building is 52 ft. deep and 42 ft. in its widest part; the room at the south entrance, 26 x 30 ft., can store several conveyances. In the centre is a circular oat bin, with capacity for 125 bushels, extending into hay-loft above; around this bin is a spiral stair leading into the loft; the stalls below head toward the circular passage around the oat bin: these are seven in number, and about 9 ft. apart at rear and 4½ ft. at head. The mangers are breast high. The hay comes down in chutes from above. The partitions of stalls consist of 1½ in. oak, tongued and grooved, and soaked with raw oil, etc. The roof is cottage and covered with metallic shingling, which by the way, we may mention, cost \$5.00 a square laid and painted. A ventilator comes in from beneath the floor, and the cupola at once serves for ventilating and giving light. By the ice house (No. 15) is cooler for cans in summer, supplied by a pump. The dwelling house, built in 1883, is a two-story brick cottage, walls 26 ft. high and vestibule 8 x 3 ft., extending upwards in form of a tower. In rear wing is dining-room, winter kitchen, summer kitchen, and wood-house in the order named, with rooms for servants. The house has every needed convenience: bath-room, clothes-room, library, etc., in addition to the other requisites of a well furnished house,

and of first-class workmanship, the cellar being in keeping with the other apartments. The ceilings are high and the windows large, and every requisite for comfort has been provided. The roof is slate, which cost \$7.50 per square.

The system of husbandry may be properly termed mixed, as grain-growing, stock-keeping and dairying, but less of dairying than formerly. For the long term of 41 years past only bran has been bought—in some seasons to the extent of 20 tons.

The farm is stocked heavily. Of Shorthorns there are about 40 head, young and old, of the Bates strain. The cows suckle their own calves, which are kept in, the former coming in from pasture twice a day, and the latter getting, in addition to the milk of the dams, cut hay and some kind of meal, with grass and water supply. In winter these cows get an equal quantity of cut hay, straw and corn-stalks, no grain unless suckling calves, in which case they get ground corn, barley and oats, but in no case to exceed 8 quarts per day.

The milch cows, 25 in number, Shorthorn grades, are similarly led, with the addition of two to three quarts of bran each, fed twice a day in the form of mash. The surplus milk is now sent to the cheese factory. The sheep numbered 90 head—Cotswold, Southdown and Shropshire Down, the latter standing high in favor. The working horses numbered 6 head with 8 head of younger ones, all of the general purpose kind. The colts get hay and straw cut and mixed in winter, but no grain.

The manure is drawn to the fields in winter every day, so far as it can be, and piled, and when each pile is completed it is covered with plaster and applied on the ground, in the fall, intended for barley and for wheat. That for barley is ploughed under, but what is apportioned for wheat goes on as top-dressing. The barley ground is sown to grass, timothy and clover, about 12 lbs. to the acre, of which two-thirds is clover. The first year it is cut for hay and after for seed, and the second and third years mowed or pastured, as may be desired. Wheat and corn usually follow; hay and corn are followed by oats, which are generally sown to grass. Barley also is preceded by corn, and roots by wheat. Usually 50 acres of winter wheat are sown, 15 to 20 of oats, 20 of barley, 5 to 20 of roots, usually the crop used in cleaning the land. The wheat usually averages about 30 bus. to the acre and is sold, and all the coarse grains are fed. The general average of these is, barley 30 to 50 bushels per acre, oats 50 to 60 bushels, corn 50 bushels, shelled. There is also a plot sown for soiling annually.

Three to four men are kept the year round, each in a cottage on the farm, with a plot of ground, and in lieu of having a cow kept, get a grant of milk each per day, the workhands assisting in milking.

The orchard consists of 8 acres and is tidily kept, and the garden is neat and sufficient for the wants of the farm.

Mr. Carpenter located here 41 years ago, and while, during all those years he has taken good care of his farm, it has evidently well cared for him. Professor Buckland was right, when he named it "Model Farm." Mr. Carpenter's system of tillage is good, his management is splendid. He feeds his farm and watches over it with a vigilant eye. Waving wheat fields and shorn and unshorn meadows and strong crops of varied shades—it made a very pretty picture at the time of our visit. Then why not give it a prize? First, because this battle was one of giants—when all were strong, some of necessity were stronger; second, the out-buildings, though very complete of their kind, are of a kind older in plan than those of some others and entail more labor to accomplish a certain end—more Mr. Carpenter's misfortune than his fault, as most of them were built years ago; third, some of the fences were showing signs of age, and like the eagles, would be the better of having their youth renewed; fourth, though the tillage was clean, it was not so clean as that of some others, and fifth, although much in the way of private roads is not required on the farm, there was a minimum of labor expended in this direction. Yet it is a splendidly tilled and splendidly managed all-round farm, of which any Canadian might feel proud to be the possessor.

(To be continued.)

"Have just received a sample copy of the issue to-day, and like it very well, so find enclosed \$2.00 for the issue and one for to insert the enclosed advertisement. D. C. Gentry, Berlin, Ont.

A Scheme of Organization for Farmers.

BY H. CLAFEBROOK, SIMCOE, ONT.

(Continued from May.)

7. That the object of the organization should be promoted in the counties by the managing committee in each county establishing a central office in some place most convenient for the whole county, and employing some competent person as central secretary.

The central office should be used first as a place for the general council and the managing committee to meet in; secondly, as an office for the collection and diffusion of all sorts of useful information. For instance, any member who had anything to sell, from a bushel of grain to a farm, could leave a sample or description of it at the central office, and any one who wished to buy anything could call at the central office and ascertain whether there was such a thing for sale in the county, and where it could be obtained. Any farm hands or domestic servants who wanted employment could leave their names and addresses, with their qualifications and references at the central office, and any member wanting to engage farm hands or domestic servants could call at the central office and ascertain where he could find them. Any manufacturer wishing to bring his manufactures to the notice of farmers could send samples to the central office, and any member could at any time call at the central office and examine such samples. Quotations of the prices of all kinds of grain and other produce in all the principal markets, could be exhibited each day in the central office, and a register kept of each day's prices, so as to show the upward or downward tendency of the market; and enable any member to judge of the expediency of selling or holding his produce. Files of the principal agricultural and other papers could be kept at the central office, that any member who wished to consult them might do so. Many other means of making the central office useful would no doubt be suggested as time went on.

The central secretary should be a man of fairly good education, capable of writing a proper business letter, and possessing a competent knowledge of work, must be intelligent and courteous, in short, be such a man as would make a good clerk in a merchant's office. He should devote his whole time to the business of the central office, and should of course be paid such a salary as would make it worth his while to do so. He should be under the direction of the president of the managing committee. His duties should be to attend at the central office every day, from 8 a. m. to 8 p. m.: to take charge of all samples of grain or other produce sent by members, and all samples of manufactures sent by manufacturers, to keep them in proper order and be ready at any time to show them and give any information about them to any one wishing to see them. To keep register of all articles wanted and for sale in the county, and be ready at any time to give any information about either to any one asking for it. To keep a register of all farm hands and domestic servants wanting employment, and of all employers wanting help, and to put them in communication with each other. To keep and exhibit daily in the central office a register of the prices of all kinds of grain and other produce in the principal markets. To keep a register of the names and addresses of the presidents, vice-presidents, secretaries and treasurers of all the clubs in the county; also a list of the animals kept for service in each club, with their pedigrees and the names and location of the houses of the members keeping them. To be ready at any time to give any information or assistance in his power to any of the members, and to carry out any orders of the president of the managing committee.

By the managing committee in each county establishing a spring show at which every animal kept for service in each club in the county should be shown by the member keeping it. Each exhibitor should pay an entry fee of one dollar for each bull or horse, and fifty cents for each buck or boar, and the entry fees in each class should be awarded in prizes in the proportion of 4 10ths as the first prize, 3 10ths as the second prize, 2 10ths as the third prize, and 1 10th as the fourth prize. A charge of ten cents should be made for admission to the grounds in order to meet any general expenses, and any surplus after paying such expenses should be added to the general fund of the organization. The judges should be instructed to rule out any animal shown in too high condition for breeding purposes.

By the managing committee in each county estab-

lishing stock, grain and wool fairs at such times as they consider expedient, and in the most convenient place for the whole county, in the following manner: Whenever the managing committee think it expedient to hold a stock fair, the president of the managing committee should instruct the central secretary to write to the secretary of each club in the county and request him to make a report before a certain day of the number of horses, cattle, sheep and pigs, which the members of his club wish to sell. On receipt of such letter the secretary of each club should immediately call a meeting of the club and ask the members how many of each they wish to sell, and at once report the number of each on a post card to the central secretary. As soon as the reports from all the clubs have been secured, and it is known how many of each are for sale in the county, the managing committee should fix a day and place for holding the fair, and the president of the managing committee should instruct the central secretary to insert advertisements in the leading papers of the Dominion, giving notice that on the day and at the place fixed by the managing committee the number of horses, cattle, sheep and pigs reported, will be offered for sale. The central secretary should then write to the secretary of each club in the county informing him of the time and place for the fair, and telling him to request the members of his club to have their stock at the appointed place on the appointed day. In grain and wool the same system could be adopted, only that in these articles it would simply be necessary for each member to be at the appointed place on the appointed day with a full sample of whatever he had to sell, and be prepared to state the quantity he had for sale.

(To be continued.)

The Working of the Hay Loaders.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—In the May number of your JOURNAL you had an editorial note setting forth your objections to the hay loader being used in grain. I think I can explain those objections satisfactorily to you. (1) You wish to know how the end of the winnow near the fence is taken up. Ans. If you wish to rake the field into winnows that run north and south, rake the first winnow east and west, and take it up with the loader; then plenty of room will be left to turn with the loader, and pick up the other winnows that are running north and south, skipping every other winnow if they be too close to work in. (2) In raking barley with the horse-rake, is there not a good deal of the snapping of the head in the operation? Ans. No. If the grain be cut a little on the green. We have found that we get a much better sample of grain by cutting in this way. As the straw is much tougher, the heads are not liable to break off. By throwing the grain from the machine with every rake into light swaths no difficulty is experienced in curing or raking into winnows. (3) What is the rake attachment? The attachment consists of nine large teeth hung over the top of the cylinder encircling the dome, touching the ground just behind the pickers. Its work is to clean up any loose straw or short grain that the pickers may not have been able to gather from the winnow. This rake attachment is a most valuable part of the loader, as a considerable amount of grain would be left on the field if the loader were used without it.

J. W. ANDERSON.

Rossmore, Ont., May 19, 1887.

The Dairy.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Summer Care of Dairy Stock.

BY M. S. SCHELL, WOODSTOCK.

As the summer months approach, cows should not be allowed to fall off in their flow of milk. Pastures and feeding make cows—time and breeding being of course indispensable elements in the process, but no length of time or system of breeding can build up a race of excellent dairy cows without proper care. But with rich pastures, a plentiful supply of pure, fresh water, to which the cows have free access, freedom from restraint, gentle and familiar handling, in fact, the perfect adaptation of condition and circumstance to the development and comfort of the cow are so im-

portant that the matter of profit or loss may hinge on the attention to or neglect of these conditions.

It is more difficult to increase the flow of milk after a shortage from lack of full feed, than to keep up a high activity of secretion by supplemental food. When the habit of diminished milk secretion at a particular time of year is established, as it will be by repetition, it is not always easy to prevent it even by liberal feeding. It is said the habit will also be transmitted to the offspring as a family characteristic. In view of these facts it is important to have some green feed coming in, such as winter rye, peas and oats mixed; western corn, or a second crop of clover to supplement the pastures, which invariably begin to fail and lose their freshness as the season advances.

To prevent waste, and in order that each cow may get her proper share, it should be fed in the stable, when a small quantity of wheat bran may profitably be added. It has been proved repeatedly that a crop of good green fodder is equivalent to two or three times the amount of feed realized from an equal quantity of ground in pasture, demonstrating clearly that the soiling system not only pays, but pays so well that no progressive dairyman can do otherwise than adopt it to a large extent if he would keep abreast of the times.

In the matter of fall feeding there are very few farmers who are not open to the charge of neglect and indifference in their treatment of dairy stock, allowing them to remain out when the nights become cold and frosty, without anything to eat but what they may get from pastures that have already been cropped too close.

As the milk in autumn is usually worth from a quarter to a third more than during the summer months, if good feeding ever pays it should surely do so at such a time. Assuming that milk is worth one cent per pound, and nitrogenous feeds, as bran, pea meal, roots, etc., can be had at the usual cost price; chemistry indicates, experiments prove, and experience corroborates, that these may be fed with profit. If the cows are allowed to fall away in condition the cost of building up again will be much greater than the outlay that would have been required to prevent it earlier in the season.

In conclusion, when we view the magnitude of the dairy interest in Canada and the high position we have taken in the dairy markets for the quality of our products, it should surely stimulate us to increased earnestness in clearly, faithfully and persistently devoting ourselves to the more careful study of the science and principles underlying what in the highest sense is to be understood as good and profitable feeding.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Letter of Advice to Cheese-makers.

BY PROF. L. W. ROBERTSON, ONTARIO AGRICULTURAL COLLEGE.

It is not the purpose of this article to discuss the science of cheese making, but to state in a series of simple sentences, numbered for ready reference, the best practice for Canadian factorymen. If many of them, to the old hand, seem superfluous, their advice is not the less needed in many factories.

1. Use every endeavor to educate your patrons how to produce milk of the best quality with the most profit.

2. Give each one a copy of "Points for the Attention of Patrons of Cheese Factories."

3. Carefully inspect the milk cans, especially the seams inside the covers, once every week. Any offensive matter, appearing yellow when wet with milk, is most dangerous to the flavor and keeping qualities of the cheese.

4. Insist on a careful straining immediately after milking.

5. Send a circular or note to every patron two or three times a year, urging pains in the care of all milk.

6. Visit promptly the farm, pasture, stable, milking yard, milk house and milkstand of any patron whose milk comes tainted, after he has been notified of its bad quality. Some apparently trivial matter that has escaped attention will generally be found as the cause.

7. Where whey is returned in the milk cans, encourage the owners to empty them as soon as received and not to feed it near a milk stand, milking yard or place where milk is kept.

8. Examine carefully the inside and outside of the opening from the weighing can into the milk conductor, and just after using look into the conductor very closely for any traces of the yellow matter mentioned in No. 4.

9. Do that every day.

10. Entertain a creepy dislike for the use of a strainer cloth, dipper, pail or thermometer, which feels greasy, or that has a miser's store of matter-out-of-place in the corners.

11. Lift the pans of the milk vats out of their places for a thorough cleaning of the water pans, once a fortnight.

12. 84° or 86° Fah. are satisfactory setting temperatures, when the milk is in good condition.

13. Over-ripe or acid milk may, with advantage, be set as high as 96°, according to the degree of its ripeness. See also 20.

14. During October and November the milk, before setting, should be sufficiently ripened by the addition of old milk kept in a pure atmosphere, or by the application of heat to the whole volume of milk some hours previous to putting in the rennet.

15. In the use of coloring, the Annatto extract should be diluted to the extent of one gallon of water to every vat full of milk, and then thoroughly stirred in.

16. Pure rennet extract, or powder of known strength is indispensable.

17. The quantity used should be regulated according to the condition of the milk.

18. The first discernible action of rennet is to coagulate the milk into curd.

19. To perfectly coagulate the milk from fresh calved cows, more rennet is required than later in their milking season.

20. The more rennet there is used the more moisture will there be retained in the cheese, under similar conditions of making.

21. The more moisture there is retained in the cheese the more quickly will it cure, under equal conditions of temperature and atmosphere.

22. For quick curing cheese as much rennet should be used as will thicken for cutting in from 15 to 30 minutes at a temperature of 86°.

23. For summer and fall cheese 45 minutes should be allowed for the same process, with milk in good condition.

24. The second evident action of rennet is to effect a separation of moisture by a contraction of the curd particles.

25. The raising of the temperature up to 95° Fah. provides increasingly favorable conditions, and thus promotes the rennet action.

26. When milk is over-ripe or acid, a proportionately increased quantity of rennet should be used to effect a sufficient separation of the moisture out of the curd (often termed "cooking"), before the presence of lactic acid is perceptible to the taste or smell, or is discernible by the hot iron test. See also 13.

27. Observation of the foregoing would remedy many so-called "mushy curds" and avoid the danger of "leakers."

28. Rennet should be diluted to the volume of at least one gallon of liquid for every vat, before being added to the milk.

29. It should be thoroughly mixed by vigorous stirring, otherwise coagulation will be very imperfect.

30. The results of late investigations recommend allowing the curd to become fairly firm before commencing to cut, except in the case of a quick curd.

31. More moisture is retained in the cheese, and a better yield is thus obtained. See also 21.

32. The horizontal knife should be used first and lengthwise, and then followed by the perpendicular knife crosswise, after the whey has separated to half cover the curd.

33. The mesh of the knives should be so close that three cuttings would suffice, except in the case of a quick curd, which should be cut unusually fine.

34. The knives should be moved fast enough to prevent much moving of the curd by pushing.

35. Gentle and slow stirring should begin immediately after the cutting is completed.

36. The hands should be used to free the sides and bottom of the pan from any curd that may have adhered.

37. The application of heat should be delayed for 15 minutes after stirring is commenced.

38. The heat should be applied through the medium of warm water, to avoid scorching of the curd.

39. The temperature should be gradually raised to 95° Fah., at a rate of not faster than one degree every five minutes.

40. In the case of a quick curd, Nos. 37 and 39 may be disregarded.

41. Stirring should be continued till the curd is properly "firmed" or "dried."

42. Then when the hot iron test shows fine hairs from $\frac{1}{8}$ to $\frac{1}{4}$ of an inch long, the whey should be removed.

43. If acid be discernible by the hot iron test before the curd is so properly "firmed," the whey should be immediately removed and the stirring then continued till that firm condition is brought about.

44. In both cases the dry curd should be kept at a temperature above 92° Fah.

45. After the curd is dry or firm enough, but not before then, it may be allowed to mat into one mass.

46. It should be frequently turned and packed close, till the layers of curd are four or five deep.

47. Whey should never be allowed to gather in small pools on the curd at this stage.

48. The condition of the curd as to when ready for cutting and salting are best ascertained by the use of the senses. The usual order of reliability is by touch, smell, taste and appearance.

49. The proper degree of change has taken place when the curd feels mellow, velvety and greasy; smells like new-made butter from sour cream; tastes aromatic rather than sour, and shows a texture passing from the flaky or leafy into the stringy and fibrous.

50. When the curd is gassy or very porous, souring should be allowed to go further before it is arrested by the cutting and salting.

51. If the curd be too moist or soft it should be cut or ground at a rather earlier stage, and hand stirred some time before the addition of salt.

52. In both of those cases it should also be well aired by stirring before being salted.

53. It is generally beneficial to stir the curd for five or ten minutes after cutting or grinding, before salt is applied.

54. The results of the tests made last season (1886) for Western Ontario Dairymen's Association, indicate that Canadian salt is better for cheese making purposes than English salt.

55. One pound and three quarters of pure salt per 1000 lbs. of milk is a maximum quantity for April and early May cheese.

56. From 2 to 2½ lbs. of salt per 1000 lbs. of milk is the range for summer use on fairly dry curds.

57. Where extra rennet has been used, or where the curd is sloppy, a corresponding increase of salt should be applied.

58. One important action of salt is to dry the curd and cheese, and thus retard the curing.

59. The curd should be hooped and pressure applied within from twenty minutes to three-quarters of an hour after the salt is stirred in.

60. The desirable rosy flavor is lost by delay at this stage.

61. Pressure in the hoops should be continuous, at first light and gradually increasing.

62. The followers should be loose fitting and canvas press rings used.

63. Particular care should be taken to use only pure water when turning the cheese for bandaging before the ends are fully closed.

64. Greasy water is sure to percolate into the body of the cheese and leave nasty flavors.

65. The curd cutter or grinder must be thoroughly cleaned every day. Wretchedly bad flavors are frequently sown in cheeses from neglect of this.

66. Curd sinks should be furnished with racks having slats bevelled to an edge from both sides.

67. The racks need thorough scrubbing on both sides every day, and should be turned out for airing over night.

68. A sink cloth that shows clogging by yellow matter, should be burned at once.

69. Occasional soaking over night in a strong salt-soda solution is beneficial.

70. The curd whisk has been a fruitful scatterer of bad flavors. A hair brush is easier kept sweet.

71. The hoops and press tables require to be rinsed with hot water every day, and scrubbed on both sides twice a week.

72. All cheese should be turned in the hoops in the morning to give finish to the shape and body.

73. The press cloths should be left on for a fortnight, or till within a few days of the time of shipment.

74. No cheese should be taken to the curing room till the shape is true and the edges well made.

75. The curing room floor should be frequently swept, the shelves thoroughly cleaned after each shipment, and the air kept pure by suitable ventilation.

76. The curing is effected by fermentation, while heat (temperature), up to 70° makes a favorable condition, and cold (temperature), under 60°, an unfavorable condition for its operation.

77. A temperature of from 70° to 75° Fah. should be maintained for curing spring cheese.

78. From 65° to 70° Fah. is the best range of temperature for the curing of summer and fall cheese.

79. The cheese should be turned on the shelves once a day till at least three weeks old.

80. When press cloths are stripped off, use warm—not hot—pure, sweet-flavored grease on the rind.

81. Just before boxing summer cheese, grease them and apply scale boards while the grease is still soft.

82. Mark the weight of each cheese in neat figures on the hollow of the side of the box.

83. The edge of the box should be level with the cheese, and the cover should fit close.

84. The band of the box cover should be at least $\frac{3}{4}$ of an inch thick, to give additional strength to the package.

85. Insist on the teamsters using only clean wagon or sleigh boxes in which to take cheese to the railway station.

86. See that the flues of the steam boiler are cleaned out every week.

87. Finish all of every day's work every day, in the very best way you can.

88. Keep everything in and about the factory scrupulously clean.

89. Keep a correct and detailed record of every day's make.

90. Occasionally compare the working of your factory in all its details with the foregoing recommendations.

91. Write very briefly, stating your objections or inquiries or suggestions, to the undersigned, at Montreal. With very best wishes, I am, etc.,

JAS W ROBERTSON

Feed and Care of Dairy Cattle.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—As you request, I give you our experience of managing dairy stock. We usually have our cows come in by the first of April, and feed the calves for two weeks on new milk, which is essential to giving them a good start. We then begin to feed them flaxseed ground, or oilcake, very sparingly at first, giving to ten calves two handfuls, always soaking it for twelve hours beforehand. This quantity is increased up to eight handfuls for the same number of calves. Two pails of warm water are added, and whey, so much as will make four quarts of the mixture to the calf twice a day.

As soon as they will eat it we give each calf a handful of whole oats dry, and also some nice early cured hay. In this way we have found no difficulty in raising good calves. They simply require sufficient food to keep them growing all the time, and care should be taken not to over-feed. The quantity of oats with bran added must be increased with the age of the calf.

We always try to have our cows come out in as good order in the spring as they possessed in the fall. About the first of October they are fed hay in small quantities, morning and evening, and two quarts of ground peas and oats, in the proportion of two parts of the latter to one of the former. When they are dried we withhold the grain ration and feed instead oats cut on the green side in the straw at night, giving hay in the morning, and also mangolds to the extent of one peck for each cow. This ration is continued until January, when we begin to feed straw once a day, and hay once a day with roots, and a quart of meal to each cow, salting every morning and adding a little sulphur to each cow. They are turned out at noon to drink, and put back immediately in the stable,

except on fine sunny days, when we leave them out for a little, but never long enough to get chilly. We curry them twice a week, and consider it a great benefit to do so. They are always sleek and the hair bright, and the stable is also so warm that manure never freezes in it.

In this way the cows are always ready for sale, and by raising calves every year we have some cows to sell which are shipped to Montreal as milkers, realizing good prices for them.

We have kept dairy cows for the past 23 years. Ours was the first cheese factory in the county of Grenville. We, at its commencement, purchased 30 cows, some of which were of a poor grade. The following winter we weeded out two of these and replaced them with others. This was continued for twelve years, which resulted in securing a good lot of average milkers. Since that time we have bred our own cows, and with the most satisfactory results.

We first tried the Ayrshire cross, which gave us cows rather small for turning off profitably. Then we tried a Durham cross, which improved the size and the milking qualities also. Three years ago we bought a pure Holstein bull twelve months old, which cost us \$400, but which has proved a splendid investment, the results have been so satisfactory in every way. We find the grade Holsteins to be easy keepers. They are docile and mature early. Judicious care and proper feeding will produce easily enough 5,000 lbs. milk during the season.

HOWARD BISSELL.

Algonquin, Ont.

Poultry.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Poultry Keeping.

BY ARTHUR HARRINGTON, RUTHVEN, ONT.

(Continued from April.)

Everything that would conduce to their comfort was done for them, excepting artificial heat, and when their eggs commenced hatching so large a percentage of strong, lusty chicks, we felt that our extra trouble had not been in vain, and knew that the battle for this season was two-thirds won. Chicks from such a parentage seldom die; grow from the word go, and are a pleasure and a joy as long as they live.

When will breeders of stock of any kind learn to care for their animals rightly? We claim no especial prominence in this direction, yet we often laugh, and withal feel sorry, at the futile efforts of some farmers around us. We are straying, though. The chicks are here and need care, and lots of it. If hatched and expected to be raised under hens, do not place the tender little things on the cold ground for a day or two. Lay boards down under the coop, enough to cover the surface of the ground, and keep them there until the chicks seem strong and vigorous. Clean up every morning, feed regularly every two hours the first week, see that vermin get no hold, and when two weeks shall have expired your chicks are good as raised. To go more particularly into this matter we will give the *modus operandi* of the Essex Poultry Farm.

We hatch almost entirely with incubators (the Perfect Hatcher being used), and of course have no lice to contend with at the start. Forty are placed in a brooder and fed the first day and a half on bread crumbs only, with no water. Coarse bread and mush, surred thick enough to crumble, is then alternated for the next three days, with sweet milk to drink. (Sour milk is too constipating, and we never use it except in the hottest weather, until the fourth week). In the afternoon of the fifth day we give them each about three grains of boiled wheat; the next day we feed the wheat sparingly, mixed with either bread crumbs or corn bread, and watch its effect on the bowels closely; if everything seems right, gradually increase the amount until a full feed is reached. About this

time we add a little fresh meat, chopped very fine, to their mush, and cracked corn to their rations, feeding very small quantities at first and increasing the allowance as it is found to agree with them. A little bone meal, three times per week, mixed with their food, helps the growth wonderfully and prevents leg weakness. We omitted to mention in its place, that regularity in feeding is as important as the quality of food used, and that strict cleanliness plays no second part. We give them their feed every two hours the first week, in small wooden feed boxes; every three hours the second and third week; every four hours from the fourth to the tenth week, and three times per day from that until they commence to lay, removing them (the boxes), after every feed.

What Ailed the Turkeys?

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

DEAR SIR,—Can you kindly inform me through your columns, why young turkeys are troubled with a swelling of the eye and below the eye. Last year I had several troubled in that way, some getting it when four or five weeks old, and some when almost full-grown. At the first appearance the eye is swelled and somewhat resembles a large white pea. In a few days they will be considerably swelled below the eye, sometimes below both eyes, and very hot. They then stand around with mouth open and wings drooped for several days, gradually getting worse, and finally die. On opening the swelling all the upper part of the head is full of a matter like curd. I saved some of the affected birds by making an opening and picking this curdy matter out with a pen knife. What is the cause and remedy?

EDWARD PHOENIX.

Greenbank, Ont.

Don't Strike in the Dark.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

A short time ago a poultry fancier heard a racket in his poultry house about midnight. Hastily donning his clothes he repaired to the scene of the disturbance. Remembering that he had neglected to close the small door that afforded ingress and egress to the fowls, he took the precaution to do so before going in. On opening the door of the house he espied in the semi-darkness a pair of bright eyes in the corner. Suddenly something flapped against him and put out his lantern. He immediately began stamping and kicking. Presently all became quiet, but the bright eyes still sparkled in the corner. He then advanced and charged the eyes with a club, when, lo! an odor of such a decided character filled the air, as to leave no doubt as to what the eyes belonged. The gentleman then returned to the house, relighted his lamp and returned to the seat of war to find a skunk in the throes of death, and his new five dollar cockerel stamped to death by his own hand (or feet). Moral—Never strike in the dark; you may kill that individual skunk, but his race still exists, and you may kill your best bird in the bargain.

This little incident comes to our mind when we see people attacking others through the press under an assumed name, and such people, too, usually sign themselves "Fair Play," "Justice," etc., posing as philanthropists to (in many cases) gratify their jealous chagrin, or some other passion.

Yours, etc., J. W. BARTLETT.

The Apiary.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Comb or Extracted Honey.

BY R. F. HOLTERMAN, BRANTFORD, ONT.

The question, shall we produce comb or extracted honey, is one important alike to the beginner in bee-keeping and the advanced apiarist, and one which cannot readily be answered but by the individual knowing all the conditions which bear upon the question.

Several years of close observation as to the rapidity of sales and the season, when the honey has been

disposed of, combined with the prices realized, show that the production of comb honey, and particularly first-class comb honey, has not been equal to the demand. Year after year comb honey has been called for when no longer any could be found upon the market. As to prices, sales have been at a more uniform price, and when cost of production has been taken into account, higher than for extracted. Whilst this is the case, it is equally correct that to produce comb-honey successfully requires more skill and experience than to produce extracted, and for the following reasons:

1st. Colonies have to be strong, and unless wintered well and receiving the proper spring care, they will not be in a condition as to numbers to produce first-class honey.

2d. In order to have a colony strong as required to produce comb-honey, and yet keep them from swarming, requires a very intimate knowledge of the honey bee and its habits.

3d. To put supers on at proper time and not give them space to leave them with a great many unfinished sections, requires an intimate knowledge of honey flows and their duration in one's particular locality. It also requires a knowledge of the strength of a colony, and when they can have more room given them for storing to advantage.

4th. Colonies have to be constantly watched during the swarming and honey season when in a condition to gather to advantage a comb-honey crop.

The beginner is often at a loss to know if he shall produce comb or extracted honey, and often decides he will run a few, for both comb and extracted. This is a great mistake, and for many reasons. A few colonies should never be run for both, as the management is entirely different, different implements are required, and too often the beginner fails.

The idea that one can raise comb-honey for himself looks tempting, but if such is the desire of the apiarist, he can cut out combs of honey from the frames and have "honey in the comb" equally well. One reason for failure is often that swarms issue without the knowledge of the bee-keeper, a loss which seriously diminishes the profits, and particularly if the absconding swarm is a first swarm.

Let the beginner, then, seek to produce extracted honey. When to put on the upper stories or supers will be the question. This depends upon the honey flows and the strength of the colony. Sometimes surplus may be secured from fruit bloom, but this is somewhat rare, if done, and the conditions when such could be done would be, a colony upon the full complement of frames in the lower story, and these so well occupied that the bees are building comb between the top bars and quilts. If such honey is stored care must be taken that the honey is extracted before surplus is stored from clover, as the former is a dark honey, considered inferior, will sell for less and will lessen the value of such honey as it is mixed with. There is generally a dearth of honey between fruit bloom and clover; and should bees be in a condition as given above, yet the fruit bloom about ended, there would be no use in putting on the supers until a honey flow came. Many beginners are at times at a loss to know why their bees do not work in the upper story. The reason generally is, the conditions either as to their strength or as to honey flows are not proper, and they do not for the time being require the increased space.

As to when to extract, no fixed time can be given or intervals at which this should be done. Some years honey is gathered from the flower in a condition that

it requires less time to ripen, and the flows are more rapid. It is a safe guide to say, extract when the combs are all or almost all capped. Many extract half the combs one side of the upper story and then the other; this gives a better chance to give store-room for the bees. At the same time have the honey extracted well ripened. Others put a story between the brood-chamber and full yet unripe honey, and give the bees room in this way. The latter is undoubtedly the better way, but means an additional outlay in supplies, which many may object to make. Honey is sometimes ripe when not capped, or partially; this is when a honey flow has been checked, and the cells have not been filled, and the bees appear to be waiting for more. The cells then have a peculiar glossy appearance, and from their appearance the apiarist knows the honey is in a proper condition for extracting. In the past, however, much injury has been done to bee-keeping, and to tended lower the price of honey and lessen the demand by extracting unripe honey—if honey it can be called. Such sours early, is thin, and is entirely free from that rich flavor peculiar to honey. It will readily be seen that such sold to the public would have a depressing influence upon the market, and every honest bee-keeper should discourage the production of it. For extracted honey a perforated metal honey-board is indispensable. This should be placed between the brood-chamber and upper stories, and keeps the queen below, yet enables the bees to work and store honey above, doing away with the annoyance of having brood in the upper story, and enabling the apiarist to replace the full combs with an empty set, and so on through the apiary. If there were brood in the combs this could not be done. The perforated metal with the round-cornered perforations is preferable to the four-cornered, right angular perforations. In the production of comb-honey a half story should be put on first, when the indications are that the bees require room for storing. When the sections on the outer corners are commencing to be capped an empty half story should be slipped under the partially filled, which latter should be all filled and capped, and sections removed to be again placed between the brood-nest and upper half story, if season and honey flow warrants.

Should full sheets of comb foundation be used or not is a question upon which some of our best apiarists vary. The majority, however, are in favor of using such, the advantages being, straight worked comb, labor saved in producing the comb and wax, honey saved which is required in the production of wax. In all cases at least small strips for starters should be used, to insure combs being built regularly in the frames. Have your hives standing level. Have your entrances free from weeds and grass. Give the hives ventilation and when possible shade them from the hot sun.

Horticultural.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.
Insects Injurious to Fruit.

BY E. D. SMITH, WINONA, ONT.

PEARS.

Pears have about the same enemies as apples, though the apple seems to be preferred by most insects. There are some, however, peculiar to the pear. One of these is a small snail-like slug, known as the pear-tree-slug, which is easily destroyed by a very weak solution of hellebore and water, say half a pound to the barrel of water. With regard to the *blight*, which is

the only serious enemy except the *curculio*, nothing definite is known as yet. Investigators are busy at work trying to discover its cause, but so far without success. With reference to *curculio* I will speak in connection with plums. Saunders treats of thirty-six enemies of the pear, most of which also attack the apple.

PLUMS.

The insect which is most injurious to the plum is the *curculio*. Hitherto jarring the trees about the time the blossom falls, and catching the *curculio* upon sheets has been most effectual. Mr. Cline, of Winona, Ont., who makes a specialty of plums, has saved his crop repeatedly by this means; but now it has been found that this enemy to the plum can be killed by Paris green applied with force-pump, about the time the blossom falls, and the application repeated weekly for two or three times. Paris green, four ounces of the pure article per barrel of water, and stirred often to prevent the green from settling to the bottom, is the proper quantity. The *curculio* does not seem so prevalent of late as formerly. Probably the parasites have got the upper hand.

PEACHES.

As growing of peaches seems to be almost a thing of the past, owing to the yellows, curl-leaf and hard winters, it is scarcely worth while to speak of the *peach borer*, that at one time did considerable injury. The general opinion seems to be that hunting the larva with a knife and wire used as a probe, is the best way to rid the orchard of these, as they can easily be detected by the gummy exudation around the trunk, wherever they have formed a lodgment, chiefly near or below the surface of the ground.

CHERRIES.

The chief foe of the cherry is the *curculio*, which may be destroyed with Paris green same as on plums, also on pears. The English cherries are also of late being attacked by the black aphid, a near relative of the green aphid mentioned before, and, if possible, more destructive and injurious. Most of the trees east of Hamilton, Ont., made very little wood last season, owing to the innumerable swarms of the aphid that sucked the leaves dry, thus stunting the tree. There is a slug also on the common cherry trees similar to the pear tree slug, which also attacks the quince leaves. These should be treated to hellebore as soon as seen, as they soon strip the foliage. *Black knot* is the worst difficulty in the way of growing cherries. This is not an insect but is the favorite abode of the larva of some insect, and this is supposed by some to be the cause of the knot. I believe black knot may be kept in check entirely by careful watching at the start, cutting off and burning all diseased parts. Of course if this is neglected one season, it soon becomes so plentiful that cutting it off becomes a hopeless task.

THE VINE.

Leaving the tree fruits, we will speak of the vine, or rather of some of its chief enemies, and there is no fruit that has more foes, although many of the chief have not become numerous here as yet. Amongst the latter is the *phylloxera*, which in France and Italy has swept off thousands of acres of vines. It may be that our climate is not congenial to this insidious enemy. However, we have it here, and it may become acclimatized. It exists in two forms, leaf-inhabiting and root-inhabiting, the latter the form chiefly destructive. It appears on the leaf in the form of small galls or warts on the under side, often covering the leaves. These should be pulled off and burnt, which, if carefully done, will soon rid the vineyard of them. Many remedies have been proposed for the root-form.

The most effectual is a submergence of the vineyard under water for about twenty days in October or later part of September. But as this is seldom practicable, other remedies must be chiefly relied upon. These consist of substances inserted into the ground that will kill the lice but not injure the vine, such as by sulphide of carbon, carbolic acid one pail to fifty of water, also very heavy dressings of ashes. The roots of young vines should be examined before planting, and if found infested, which may be known by the small knotty swellings upon them caused by the phloxera, they should not be used, or if used, dipped into a solution of tobacco or soapsuds. Our native grapes are more able to resist the phloxera than the foreign varieties, and the hybrid ones.

Another enemy of the vine, sometimes very prevalent and destructive is the *flea-beetle*, a steel blue colored bug about half the size of the pea-bug, that hops like a flea. It eats the opening buds, and again a second brood feeds on the leaves. The best way to attack these as well as most leaf-eating insects is to spray with Paris green or hellebore. They may also be trapped when the first brood appears, by spreading a sheet under the vine, said sheet well soaked in coal oil. A jar of the vines brings all the beetles down, as they hop towards the ground on very slight disturbance. The fumes of the coal oil smothers them. I do not know why, but these beetles do not seem to spread continuously. They sometimes strip a vineyard and then disappear for years, or appear in some other place. The *rose-bug* has also stripped some vineyards, especially on sandy soil, which is more favorable winter quarters for the larva. These are most numerous about the second week of June, and could be destroyed by Paris green, which at this season would have no injurious effect upon the leaves, or, as they are a sluggish insect, they may be trapped in same way as the curculio or grape-vine flea beetle. The fly is about the third of an inch long, slender and tapering towards either extremity, with long, sprawling legs of a dull, pale reddish color. The joints of the feet are tipped with black, and armed, with long claws. The head, thorax and under side of the body is a shining black. Another very common source of loss is the *thrip*, which is a tiny insect of a greenish to grey color, that may be observed to rise in clouds when a vine is disturbed during the growing season, if troubled with them. Clean cultivation and plenty of air near the ground is the only remedy I know of. They seem to thrive best at the foot of the mountain, in the region where the wind has little effect. They live upon the juice of the leaf, which they extract from the under side, causing the leaf to have the appearance of being covered with countless minute spots. The leaf is thus prevented from performing its important functions and the growth of the vines checked.

Saunders describes fifty-seven insects injurious to the vine. But none of them have become very numerous here as yet, except those mentioned.

RASPBERRIES.

Attacking raspberries we have the *ane borer*, which commences its abode near the top of the cane, the portion above dying, and thus showing to the careful observer where the larva is. It then works its way down the cane. Of course these could be destroyed by cutting down the wilted ends and burning, always cutting a couple of inches below the part wilted. I would recommend the cutting out and burning of the old wood as soon as possible after the crop is gathered, for the purpose of destroying these and other insects. The only other insect very prevalent and destructive that troubles the raspberry is the larva of the

sawfly. The eggs are laid when the leaves are about grown in May, and the young larva, hatched in two weeks, soon devours the leaves, leaving only the framework or skeleton. If not taken in time they would soon denude a plantation of leaves; but they are easily killed by a solution of hellebore, an ounce to a pail of water. I should also mention the *root gall fly*, which cannot be attacked very easily, but no plants should be set that have lumps or swellings on them, as these are the home of the larva of the gall fly.

CURRENTS.

Attacking currants we have the borers, which eat out the pith of the stalk, destroying its usefulness. Canes that appear weak from some unknown cause should be cut out and burned, as they are likely to contain borers. This is about the only remedy. The *currant worm*, which attacks red and white varieties and gooseberries, soon ruin a crop unless carefully watched. If taken in time they are easily destroyed by hellebore solution, an ounce to a pailful of water. A second brood appears just before the crop matures, and these, too, must be watched carefully, as if allowed to have their own way, they get about full grown about the time the fruit is ripe, and it makes a most disagreeable mixture to gather. Hellebore will not hurt the fruit if applied in the quantity mentioned, especially if applied a week or two before the crop is gathered. Eternal vigilance is the price of fruit. Fruit growing has its pleasant features, but also its disagreeable ones, the constant battle with insects being one of the latter. But by the aid of hellebore and Paris green, a good force-pump and careful watching, very much can be accomplished; but a great deal more is done by friendly insects, which should be distinguished from the noxious ones, and be tenderly cared for by the fruit grower. But after all, one's care swarms of destructive pests may be reared by one's neighbors, and against them there is no redress. It seems to me, laws, if properly prepared, should be enacted, compelling every one growing trees to do his utmost in the best known ways, to prevent the spread of injurious insects, the same as we have in regard to the yellows in peaches, and the black knot on plums and cherries.

Mistakes in Pruning.

When attending the County of Dundas Farmers' Institute, held in February, an address was given on fruit culture by a prominent resident. He recommended the plan of keeping the top so pruned that a limb would never require to be cut off larger than one's finger. We are by no means sure that this is good advice. We have tried the following in other years: We have planted trees not more than a foot or two in height under like conditions and have kept one lot well and constantly pruned, and left the other to grow a good deal of wood that had to be taken off afterwards at intervals, and found that the trees kept so closely pruned were left quite behind in the race.

We assign the following as a reason: There is a law of equilibrium regulating the relation of growth between top and root which must be kept in due proportion or harm will follow. If this relation is unduly disturbed either way, growth is impeded. If a young tree is transplanted with a strong head, and the roots mostly cut off, it is almost sure to die, whereas if the top had been cut back proportionately it would be as sure to live under fair treatment. So when the growth is unduly clipped back when a tree is young, there is a check put upon its root development. It is better to let the tree grow like a good strong boy who goes through a good many physical antics that

he can afford to leave off when he grows older. He makes a much healthier specimen of a man than if he had been kept all his life in the straight jacket of a cruel physical precision. Restrictions that are moderate are better for the boy, and similar treatment as regards pruning is better for the tree. Every limb cut off the tree decreases its living power. There comes a time owing to the number of its leaves, that it can bear this without injury, but not too much of it when it is young. The limbs that are likely to be in the way may rather in many instances be cut back than cut off altogether.

Another mistake that this same gentleman made, as we regard it, was the recommendation to prune in the month of June. This will do if the trees can be reached without getting up into them, and if one can get the time in a season so busy, but if the pruner has to climb into the trees or get a ladder against a limb at such a season, the bark will become loosened in parts exposed to such pressure, and decay.

The best time to prune trees, all in all, is the month of March, when the weather is usually not too cold, and the bark of the tree is not too tender. Farm work is not so pressing in this month, generally termed the long month of the year. And although the wounds do not heal so rapidly as when made in June, they heal well enough when the trees are kept properly trimmed and in a good thrifty condition of growth.

The Home.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Burden-bearing.

BY MRS. HANBY, CAISTORVILLE, ONT.

If you had always plenty, and I never knew a want,
The world would be less happy, I believe.
The highest joy of living is not the getting, but the giving,
'Tis more blessed far to give than to receive.

If you were always well, and if I were never ill,
How could we know the depths of hidden love?
To pour the oil and wine, is a privilege divine,
Granted by our Father from above.

If you had ne'er a sorrow, and I had not a care,
The precious gift of cheering soon would die
The sun's full light must fall, and the darkness cover all,
Ere we see the bright stars shining in the sky.

The wheel of life keeps turning, it is turning all the time;
What is up to-day, to-morrow may be down.
The giver and receiver, they are changing places ever,
And the cross must always come before the crown.

Then let us venture forward, with a purpose brave and true,
Sowing seeds of sunlight as we go.
That when we gain the portal, where dwell the saints immortal
Our deeds of love may flourish here below.

Our School Appliances at the Indian and Colonial Exhibition.

The report of this work reached us some time ago, but owing to the crowded state of our columns we were unable to give it that notice which its importance deserves. This report was compiled by S. P. May, M. D., C. L. H., Commissioner of Education at the Exhibition. From the numerous extracts the report contains from leading English papers, we conclude the exhibit astonished the masses of merry England, and revolutionized their crude ideas regarding this land of "snow and mosquitoes," as so many of them are pleased to term it. They were very much surprised at the products of our soils, at our pyramids of dairy goods, much of which was worthy of high awards in the foremost dairy shows; with our variety of fruits, one of the most wonderful collections ever gathered in a temperate clime; at our tons of honey in the can and comb, and with the constant hum of our ma-

chinery and labor-saving appliances, much of which was in motion. The result must be gratifying to ourselves, but we do well to remember that the prime agent which gave all this a being was to be found represented in the Educational Department. The value we place upon education and the work that it is doing for us, was admirably summed up in the words of the expressive motto inscribed over the entrance to the department, "Education is the glory of Canada."

Long may it continue to be its glory. Fertile soils will not avail with an ignorant population, nor will the toughest of woods and the purest of iron ore of themselves produce labor-saving appliances that become the admiration of the world. Nay, the brains that utilize all nature's gifts to the best advantage, must be strengthened and directed from a tender age in our educational schools. Farmers should ever be more anxious to educate their children in all that constitutes the true wisdom of life than to gather for them an inheritance of broad acres or silver and gold.

They Never Strike.

There is one class of laborers who never strike and seldom complain. They get up at five o'clock in the morning and never go back to bed until ten or eleven o'clock at night. They work without ceasing the whole of that time, and receive no other emolument than food and the plainest clothing. They understand something of every branch of the economy of labor, from finance to cooking. Though harassed by a hundred responsibilities, though driven and worried, though reproached and looked down upon, they never revolt; and they cannot organize for their own protection. Not even sickness releases them from their posts. No sacrifice is deemed too great for them to make, and no incompetency in any branch of their work is excused. No essays or books or poems are written in tribute to their steadfastness. They die in the harness, and are supplanted as quickly as may be. These are the housekeeping wives of some laboring men.—*Exchange.*

Miscellaneous Hints, Rules and Tables.

A cord of stone, three bushels of lime, and a cubic yard of sand will lay 100 cubic feet of wall.

One thousand shingles, laid four inches to the weather, will cover 100 square feet of surface, and 5 lbs. of shingle nails will fasten them on.

A thousand laths will cover seventy yards of surface, and 11 lbs. of lath nails will nail them on.

Eight bushels of good lime, 16 bushels of sand, and 1 bushel of hair will make enough good mortar to plaster 100 square yards.

A stone, used by grocers, is equal to 14 lbs. It takes from 1½ to 2 bushels of wheat to sow 1 acre of ground.

To find the amount of hay in a mow, allow 512 cubic feet for a ton.

To find the number of bushels of apples or potatoes in a bin, multiply the length, breadth, and height, in feet, together, and divide this product by 8, and point off one figure in the quotient as a decimal.

A box 16 inches square and 8 2-5 inches deep will contain 1 bushel.

One cent saved each day and put out at 6 per cent. interest will accumulate to \$950 in fifty years.—*The Supplement.*

Character in Handwriting.

There are people who claim to read men's characters from their writing. As the writing of every nation is distinguished by certain strong national peculiarities, it is easy for an expert to decide to what nation a writer belongs. Having settled that, certain large characteristics which are common to all men, but in different degrees, can be seen in every handwriting. A certain number of men are calm, even lived, sensible, and practical. Men of that class are almost certain to write plain, round hands, in which every letter is distinctly legible, neither very much slanted forward, nor tilted backward; no letter very much bigger than its neighbor, nor with heads much above or tails much below the letters not so distinguished; the letters all having about the same general uprightness, and the lines true to the edges of the

paper, neither tending upward or downward. Exact, business-like people will have an exact handwriting. Fantastic minds revel in quirks and streamers, particularly for the capital letters, and this quality is not infrequent in certain business hands, as if the writers found a relief from the prosaic nature of their work in giving flourishes to certain letters. Firm, decided, downright men are apt to bear on the pen while writing, and to make their strokes hard and thick. On the contrary, people who are not sure of themselves, and are lacking in self-control, press unevenly, and with an anxious-looking scratchy hand. Ambitious people are apt to be overworked; they are always in haste and either forget to cross their t's or dot their i's. They are also apt to run the last few letters of every word into an illegible scrawl. Flurried, troubled, and conscience-tinged persons have a crabbed and uneven handwriting.—*Henry Eckford in St. Nicholas.*

The Thirteen Great Mistakes.

Somebody has condensed the mistakes of life, and arrived at the conclusion that there are thirteen of them. Most people would say, if they told the truth, that there was no limit to the mistakes of life; that they were like the drops in the ocean or the sands of the shore in number, but it is well to be accurate. Here, then, are thirteen great mistakes.

It is a great mistake to set up your own standard of right and wrong, and judge people accordingly.

To measure the enjoyment of others by our own.

To expect uniformity of opinion in this world.

To look for judgment and experience in youth.

To endeavor to mould all dispositions alike.

To yield to immaterial trifles.

To look for perfection in our own actions.

To worry ourselves and others with what cannot be remedied.

Not to alleviate all that needs alleviation as far as lies in our power.

Not to make allowances for the infirmities of others.

To consider everything impossible that we cannot perform.

To believe only what our finite minds can grasp.

To expect to be able to understand everything.

Jottings.

The First Volume of the Dominion Shorthorn Herd Book.—We have been favored with a hurried examination of this production in print, minus the cover; hence the breeders will not have to wait much longer for its advent. The succeeding volumes will follow as quickly as possible.

Farmers, Organize.—Those engaged in the varied industries of our country are nearly all combining, not for purposes of self-protection, so much as to raise the price of the commodity which they handle or produce. The farmer being the principle consumer is, therefore, *steered* on every hand. *Fellow farmers, do not submit to this organized oppression.* Form Institutes in every electoral district. Combine, not to oppress, but to secure fair play.

Punishing Fraud in Registrations.—The Legislature of Minnesota has passed a law to the effect, that any person obtaining a certificate of registration of stock from any society on false pretense, shall be liable to punishment by imprisonment for a term not exceeding three months, or a fine not exceeding \$100, and that any one knowingly representing any animal used for breeding purposes as being more highly bred than it is, shall be liable to punishment by a fine of from \$50 to \$300, or imprisonment for six months. So it should be.

Milk Fever.—We have received a paragraph from a correspondent, whose letter on milk fever appeared in last issue of JOURNAL, page 487, which reads thus: "We have again had occasion to try the hot foment as a remedy for milk fever and with the best results, the animal being unable to rise before we applied them. In an hour or so she got up with help, but immediately lay down again. We continued their application steadily for 18 hours, when we began to see some improvement. A few hours more and our cow was safe. In this case the fever set in 20 hours after calving."

Comparative Weight of Clydes for Exhibition.—"EDITOR JOURNAL SIR, Would an imported Clydesdale stallion weighing about 1700 lbs. be awarded a prize at the Industrial Fair, Toronto, over other horses weighing 2100 lbs., the 1700 lbs. horse being the best in every respect, or would he be barred from exhibiting in the heavy draught class?—W. El-

wood, S-lton, Ont." [We are not aware of any rule of the Association debarring a horse of the above weight from exhibition, and as to its chances of a prize over heavier horses, we presume the judges alone could determine.—*Ed.*]

Registering Jerseys.—"EDITOR JOURNAL: Sir, - Can one in Canada having Jersey cattle eligible for registration in the American Jersey Cattle Club Register, get them recorded in the same without first becoming a member of the Association? If so, how much will such registration cost? How much does it cost to become a member of the Association, and has the member's fee to be paid annually?—A Subscriber, Summerville, Ont." Anyone can get Jersey cattle registered in J. C. C. R., when eligible, by paying the fee, which is \$5.00 to all for bulls, and \$3.00 to non-members for females, and \$1.00 to members. The membership fee is \$700 (which is for life).

Sheep Ailing.—"EDITOR JOURNAL: Dear sir, I have a well bred Shrop ewe, which has, of late (end of April) had a bad cough and bloody discharge from the nose. I have turned her out on warm days, but put her in at night. She has been suckling two lambs. If you can give me a remedy through the columns of the JOURNAL, you will oblige.—A. Fisher, Chatham, Ont." Our Veterinary Editor, F. C. Grenside, V. S., answers: "The ewe should be well fed on grain, in addition to the grass she gets. Put in the grain, twice daily, twenty grains each of sulphate of iron and cinchona bark. Continue this for a couple of weeks."

Honor Deserved.—Mr. V. E. Fuller, of Oaklands Jersey Farm, and the President of our Central Farmers' Institute of Ontario, was honored with a public dinner in New York at the time of the holding of the great dairy show there early in May. It was attended by some of the most distinguished agriculturists of the United States, who were unanimous in telling Mr. Fuller and Canadians what we all know, that he has proved himself more than a match for them and the world in the breeding of Jersey stock and the manufacture of Jersey products. For the fourth time has the prize come this year to stock bred by Mr. Fuller, or from the Oaklands herd, for the highest prices realized for animals of this breed, at the great combination sale held annually in New York.

Dairy Herd of Shorthorns.—From the *London Live-Stock Journal* we learn that at St. Albans, England, Mr. J. N. Edwards has, for some years past, made quite a success of breeding Shorthorns, while using the dams at the same time for dairy purposes. In this herd are representatives of no less than six tribes, comprising descendants of the Kirklevington and Warlaby herds, and also shorter pedigreed cattle of other lines. Several of the cows have milked from 8,000 to 10,000 lbs. per annum, though only fed to keep them in good breeding condition. The calves are fed on skimmed milk and sundry kinds of meal, and make good averages when sold. Would it not be for the interests of both breeders and the Shorthorns to try this experiment in Canada?

A Famous Shire Stallion.—We are in receipt of a lithograph of the champion Shire stallion, Blyth Ben (4239), in the famous stud of Galbraith Bros., Janesville, Wis. We agree with those who have said that "it is one of the grandest pictures of the kind ever produced," and going a step further, we are prepared to say, it represents one of the grandest Shire stallions at present living. Blyth Ben (4239), in 1886, won first prize at Wisconsin, Minnesota and Illinois State Fairs, gold medal presented by the Shire Horse Society of England for best stallion of any age exhibited at Chicago, sweepstakes gold medal for best draught stallion any age or breed at Wisconsin State Fair, and a number of other first prizes. He is only one of a very large number of fine Shire and Clyde horses constantly on hand in the stud at Janesville.

Oaklands' Koumiss.—There is an enormous consumption of Koumiss in New York, the sale of one leading manufacturer there being 40,000 dozen per annum. At the recent New York Dairy and Cattle Show a prize was offered for the best article of this splendid beverage for invalids, and the palm was carried by the Oaklands' Koumiss, manufactured by our townsman, Valancey E. Fuller. Both in regard to its keeping qualities and for superior merit it was considered the best. Mr. Fuller has succeeded in carrying the market there, and is under contract for a very large amount to be supplied the present season. Koumiss is predigested milk food ready for immediate absorption and assimilation. It is claimed that it is *nutritive and tonic*, giving *stomachic* and slightly *stimulative* action. The following gives the composition of Oaklands' Koumiss as analyzed by W. H. Ellis, M.B., Public Analyst, Toronto: Fat .28 per cent., curd 3.02, sugar 1.75, Alcohol .85, lactic acid .83, ash .65, Water 92.62. Total 100. Carbonic acid in considerable quantities, but not determined.

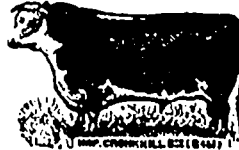
IMPROVED YORKSHIRE PIGS
SHIRE AND CLYDE HORSES. **SHROPSHIRE SHEEP.**

J. Y. ORMSBY, F. S., **ORMSBY & CHAPMAN,** **GEO. S. CHAPMAN.**
 —BREEDER—
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 All our pigs registered in the English Herd Book. "Good Stock with Straight Pedigree," our motto.
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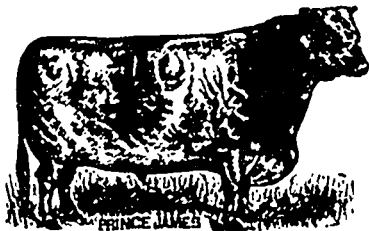


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HEREFORDS,
ENGLISH SHIRE HORSES,
BERKSHIRE PIGS.



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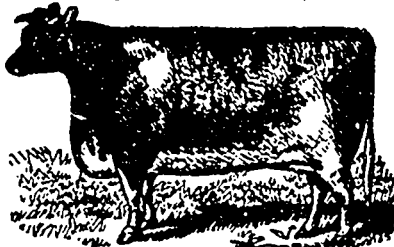
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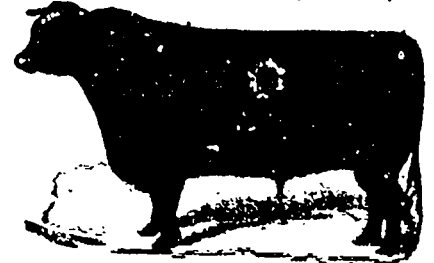
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Have a grand lot of bull calves sired by our imp. Cruickshank bull Vermillion (50587), and a very choice lot of heifers, now in calf to Vermillion; also shearing rams and ram lambs from imp. sire and dams. Prices moderate. Terms easy.

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Clydesdale Horses and Shropshire Down Sheep. A good selection of young bulls, from 4 to 20 months old, including the pure Booth Commander-in-Chief—the others are mostly Booth blood—are now offered for sale.

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18 Aberdeenshire Shorthorn Bulls
 (VERY FINE)

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The highly-bred Booth bull Lord Monrath—2298—is at the head of the herd. Lord Monrath was bred by Sir Hugh Aylmer, of West Dereham Abbey, Stokeferry, Norfolk, Eng. The Mantilina, Lady Day, Roan Duchess and Princess strain. Young stock always on hand for sale. Correspondence solicited.

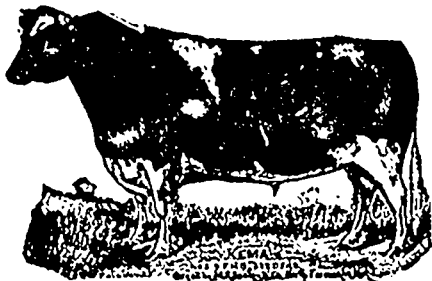
100 PURE-BRED ABERDEEN-ANGUS CATTLE.



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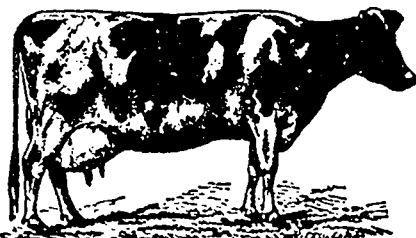
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Holland by special request, and whose 3 calves secured first
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SUPERIOR STRAINS OF HOLSTEIN-FRIESIANS



Herd headed by the famous bulls Sir Archibald, whose dam,
Krontje, has a record of 96½ lbs. of milk in a single day, and 18
lbs. 12 oz. unsalted butter in seven days, and who has won more
medals and first prizes at the leading fairs during the last two
years, both individually and as head of herd, than any other
Holstein bull in Canada. Jennie B's Barrington 4207, out of
Jennie B, who has a milk record of 82½ lbs. at four years of age,
and by the famous Barrington out of Hamming, with a record
of 99 lbs. milk in a single day. Cows all selected with great
care and from the most noted milk and butter strains. Young
Bulls for sale at a bargain. Write to us before purchasing.
Satisfaction guaranteed.

MAPLE LODGE STOCK FARM

Stables one mile west of
Lucan Crossing, of Lon-
don, Huron and Bruce
and Grand Trunk Rail-
ways.

We breed and have for
sale first-class

SHORTHORNS,
LEICESTERS and
BERKSHIRES

The choicely bred bulls
BARON CONSTANCE 5th
and **DUKE OF COLONS**
head the Shorthorn herd.
A few very fine young
bulls and a choice lot of
young cows and heifers
for sale. Prices right.

Come and see us. **JAS. S. SMITH, Maple Lodge P. O., Ont.**



A. C. HALLMAN & CO.,
NEW DUNDEE, WATERLOO CO., ONT.



Importers and Breeders of Thorough-bred
HOLSTEIN-FRIESIAN CATTLE

Herd headed by the noted prize-winner *Prairie Aggie* Prince,
H. F. H. B. No. 2, first prize at the Industrial and Provincial
in 1886, dam, *Prairie Flower*, 5 yr. old butter record of 20 lbs.
1 oz. unsalted butter per week. This herd has been crowned
with more honors in the showing than any other herd in
Canada. Selections made from the finest herds and most noted
milk and butter producing families in America. Every animal
selected for its individual merit—symmetry, size and weight a
special object. Our motto, "QUALITY." Stock for sale. Visi-
tors welcome. Correspondence solicited.

JAMES DRUMMOND,

Petite Cote, Montreal.

Importer and Breeder of
PURE-BRED

AYRSHIRE
CATTLE



Of Large Size, and from Choice
Milking Strains.

The herd numbers 65 head, and for three years in
succession has won Provincial or Dominion prize as
best milkers. The imported bull **PROMOTION**
(3212) at head of herd.

Young Stock on hand at all times
for sale. fe-ty

OAKLANDS 'JERSEY' STOCK FARM.

(All registered in the American Jersey Cattle Club
Herd Register.)



Cows with well-authenticated test of from 24 lbs. to 24 lbs.
13 oz. in one week, and from 8½ lbs. to 106 lbs. 12½ oz. in 31
days are in this herd. Young bulls (registered in the above herd
book) for sale from \$100 to \$500 each.
A herdsman always on hand to show visitors the stock,
and the stock-loving public are always welcome.

no-y **VALANCEY E. FULLER, Hamilton, Ont.**

ALTON HALL STOCK FARM.

H. SORBY, Proprietor.



IMPORTERS AND BREEDERS OF
GALLOWAY CATTLE
AND PLYMOUTH ROCK FOWLS.

Galloway Bulls, Cows and Heifers for sale,
(near Guelph.) **H. SORBY, Proprietor,**
Gourock, Ont.

LOWLANDS HERD



A CHOICE LOT OF

YOUNG HEREFORD BULLS
FOR SALE.

All eligible for or already entered in the "American Hereford
Record." Amongst the sires of my herd are Auctioneer, Care-
ful, Hayden Grove, Downton Boy, King Pippin, and Cassio.
Also a fine lot of imported

Welsh and Shetland Ponies for Sale.

E. W. JUDAH.

"Lowlands," HILLHURST, P. Q.

THE TUSHINGHAM HEREFORDS

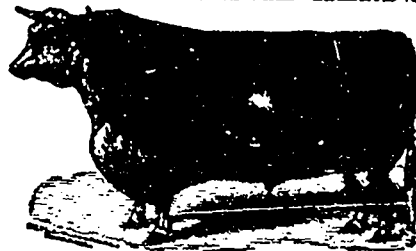


THIS herd, grounded on selections from the best
blood in England, is remarkable for the number
and uniformity of the good calves that it has produced
during the three years of its existence, owing in a
great measure to the excellence of the stock bull
Tushingham (8127), by **Charity** 3rd (6350), by **The**
Grove 3rd (5051). Several young bulls of his get
are held for sale.

J. W. M. VERNON,

Tushingham House,
Waterville, P. Q.
WATERVILLE is on the main line of G. T. R., not far
from the United States boundary.

POINT CARDINAL HERDS.



HEREFORDS

Selected with great care from the celebrated herds in England.
At the head of the herd stands the imported Marlow bull **Ram-**
bler 6th (6630) 13514.

SHORTHORNS

Heifers and bulls for sale, mostly sired by imported **Duke** of
Hazelcote 6th, 65797.

Also a number of fine Hereford grade heifers and young bulls.
sp-y. **G. F. BENSON, Cardinal, Ont.**

The Park Herd of Herefords,



THIS herd embraces over fifty head of choice
animals. All registered. Catalogues sent on
application.

F. A. FLEMING,
Weston, Co. York, Ont.
Farm, half a mile from C. P. R. and G. T. R. Stations, eight
miles from Toronto.

HEREFORDS FOR SALE.



30 Imported Yearling Hereford Heifers

Eligible for entry in American Herd Book, all of which have been bred during the past season. Will be sold from \$250 per head up.

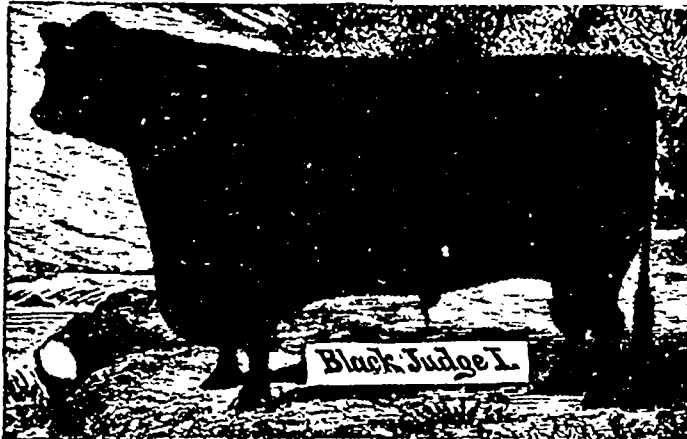
ALSO A FEW CHOICE YEARLING BULLS

R. H. POPE, EASTVIEW, COCKSHIRE, P. Q. sep-6



CANADIAN HOME OF THE ABERDEEN ANGUS-POLL

UNCONQUERABLE



BLACK JUDGE 1

First Prize Winner Toronto Industrial, 1883—1884—1885—1886. Grand Dominion and Provincial Medal and Diploma 1885. First. Medal and Diploma, best bull any age, Toronto Industrial 1885—1886. Service Fee, \$100.

KINNOUL PARK STOCK FARM, NEW LOWELL, ONTARIO, HAY & PATON, Proprietors.

WE beg to call the attention of our patrons and friends to the above splendid cut of our Champion Bull Black Judge (1), with his unapproachable record underneath. We have also much pleasure in saying that we have again taken all the leading Prizes and Honors at CANADA'S GREAT FAIR, of this year. Not once, since 1882, have we missed taking the coveted Medal and Diploma for the best herd of Aberdeen Angus-Polls, and the Medal and Diploma for best bull of any age have gone to Kinnoul Park no less than FIVE TIMES IN SUCCESSION. For four years running we have secured the first premium for cows; twice being first, second and third; once (in 1884) against a ring of fourteen of the best animals ever shown together in Canada, comprising choice herds from Messrs. J. H. Pope, Mossom Boyd, Geary Bros. and H. Walker & Sons.

We have confidence in asking intending purchasers to inspect our stock and prices before investing. We have some choicely bred Bulls and Bull calves which we will sell a price ranging from \$100 to \$500, ACCORDING TO BREEDING AND QUALITY, and we shall have pleasure in sending to any address our Illustrated Descriptive Catalogues.

HILLHURST HERDS

HEREFORD,
ABERDEEN-ANGUS,
SHORTHORN
—AND—
JERSEY CATTLE.



M. H. COCHRANE, Hillhurst, Que., Can.

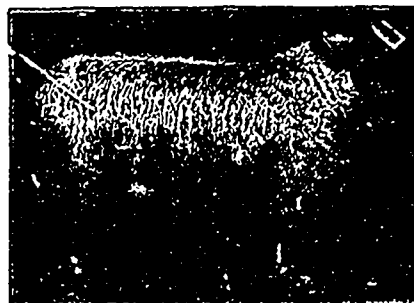
KEILLOR LODGE STOCK FARM, THE GEARY BROS. CO'Y, Proprietors.



IMPORTERS AND BREEDERS OF
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AND ENGLISH SHIRE HORSES.

Young Stock, Imported and Home-bred, for sale
The Geary Bros. Co'y, Bothwell, Ont.

BLI BRO STOCK FARM, GEARY BROS., PROPRIETORS,



IMPORTERS AND BREEDERS OF
Polled Aberdeen-Angus Cattle, Lincoln and Shropshire Down
Sheep. Young stock, imported & home-bred, for sale.
GEARY BROS., London; Ontario.

GRAHAM BROS., CLAREMONT, ONT.

RESIDENCE ONE MILE FROM CLAREMONT STATION.
Importers of Registered

Clydesdale

STALLIONS AND MARES.

We have constantly on hand and

FOR SALE



At reasonable terms, a number of superior Clydesdale stallions and mares, registered, and which have been selected from the most successful prize winners at the leading shows in Scotland. Also a few choice SHETLAND PONIES. Correspondence solicited, and visitors always welcome.

FOR SALE.

25

IMPORTED

CLYDESDALE

STALLIONS and MARES



3 Cleveland Bays, Shorthorn Cattle, Shropshire Sheep and Berkshire Pigs for sale at all times

at reasonable prices. Terms easy. Correspondence solicited. Our stations are Claremont, C. P. R., and Pickering, G. T. R., where visitors will be met by writing or telegraphing us a Brougham.

John Miller & Sons,
Brougham, Ont.

COLDSTREAM STOCK FARM, Whitby, Ontario.

We have on hand and for sale a superior lot of imported and home bred

Clydesdale Stallions

and mares. Several of them were prize winners at the leading shows in Scotland and Canada.



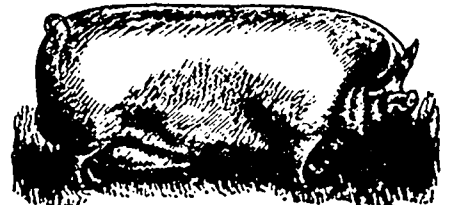
ALSO A FEW CHOICE SHETLANDS.

Prices to suit the times.

Address, JEFFREY BROS., Whitby, Ont.

MOULTONDALE STOCK FARM.

FOR SALE



Pure-bred SUFFOLK and BERKSHIRE PIGS

6 weeks to 6 months old, at reasonable prices. Bred from imported stock. Address,

F. J. RAMSEY, Dunnville, (on G. T. Railway)

Breeder Shorthorns, Berkshire and Suffolk Pigs. Imported Bates bull Statira Duke 50518 at head of herd. Stock won 243 prizes at three fairs this fall.

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Cheltenham Station, C. P. R. R.,
The Grange P. O., Ont.
BREEDERS OF

Thoroughbred Horses

Shorthorns, Southdown Sheep of highest strain and pure-bred.



SUFFOLK PIGS

, all registered. Young stock of all the above for sale. All orders promptly attended to. A number of young Shorthorn Bulls for sale at moderate prices.

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Breeders and Importers
of Registered

Clydesdales.

Sixteen imported Clydes
on hand, nearly all of them
prize winners in Scotland,
and of which four are sta-
lions. The above are



FOR SALE,

along with a few Canadian bred. Visitors welcome.

JAMES GARDHOUSE & SONS,

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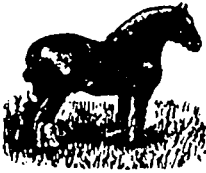
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HORSES,

Shorthorn Cattle and Berk-
shire Pigs. Young Stock for
sale. Terms reasonable.

JAMES GARDHOUSE & SONS,

MALTON STATION,
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CLYDESDALES

FOR SALE

ON REASONABLE TERMS.



NOT long arrived, a superior lot of Clydesdale
Stallions, ranging from one to four years old,
including gets of the celebrated sires Druid, Lord
Kirkhill, McCammon, Lord Erskine, Newman,
Belted Knight and Garnet Cross.

Catalogues will be published shortly.

ROBERT BEITH & CO.,

Aug. 21, '86.

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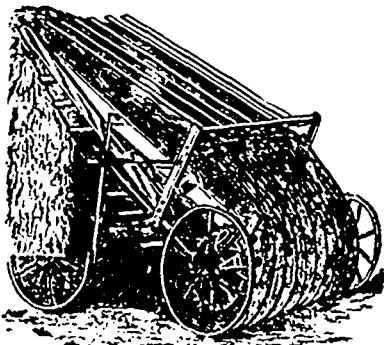
M. WILSON & CO.,

HAMILTON, ONT.,

Manufacturers of all kinds of

HAY TOOLS

Foust's Patent Hay Loader. Anderson's Patent
Rake Attachment. Grand Rapids Hay
Tedder. Wisconsin Dead-Lock
Hay Carriers and Forks.



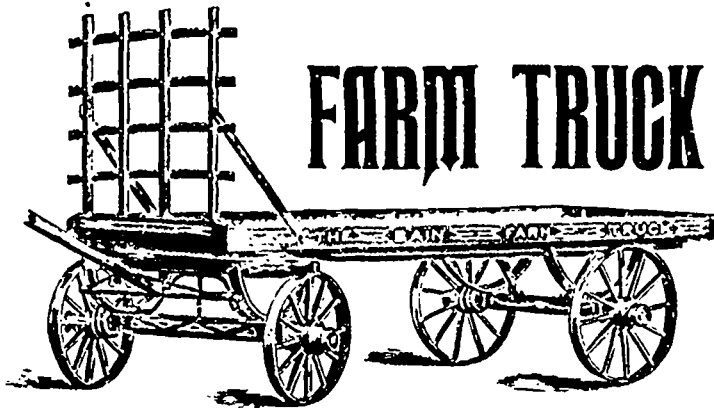
The above cut shows the FOST HAY LOADER, with
ANDERSON'S PATENT RAKE ATTACHMENT.

IT WILL TAKE UP GRAIN WITH SHORT STRAW.

It will take up grain as clean out of the furrow as on
the ridge, without the necessity of using the horse
rake. In hay it can be used after the Tedder, and
will take it from the swath without using a horse-rake.

BAIN WAGON CO'S

FARM TRUCK



This cut represents the most
convenient Wagon ever put
on the farm, because it is suit-
able for all kind- of work, and
always ready no change being
necessary. This wagon was
invented and first introduced
in Mich., U. S., and is very
extensively used by leading

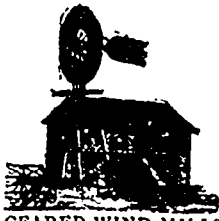
Every wagon made and sold
by us in Canada is giving
entire satisfaction. For fur-
ther particulars and prices,
address,

BAIN WAGON CO.

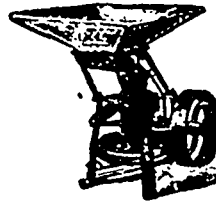
WOODSTOCK, ONT.

ONTARIO PUMP COMPY

TORONTO, ONTARIO.



GEARED WIND MILLS
For Driving Machinery.
Pumping Water, etc.
From 1 to 40 horse power.



1 X L MILL.
The Cheapest, Most Dura-
ble and Perfect Iron Feed
Mill ever Invented.



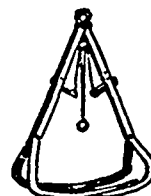
17 Sizes
PUMPING WIND MILLS
from 8 to 30 ft. diameter.



TANKS—Round or Square
Capacity from 12 to 2,855
barrels.



PUMPS,
Both Iron and Wood,
Force and Lift. We will
guarantee our Deep
Well Pump to beat
any other pump
in the market.



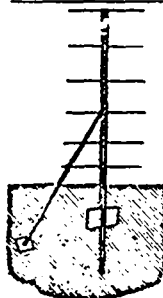
We manufacture the
most complete line of
HAYING TOOLS, such as
HAY CARRIERS, HORSE
HAY FORKS, PULLEYS,
FLOOR HOOKS, ETC.,
in Canada.

Westand ready to Guarantee
our Standard Haying Tools
the best in the market.

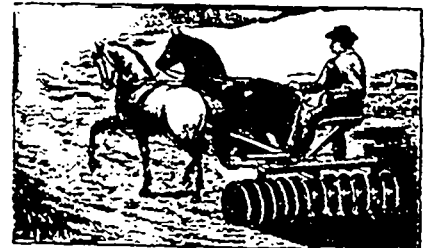
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Wire Fencing

Send to E. C. JONES,
47 King William St.,
HAMILTON, ONT.



The Corbin Disk Harrow

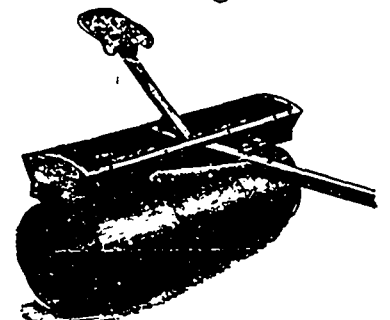


CONVENIENT, FLEXIBLE, DURABLE

and "The Best in the World."

Every farmer who has **SUMMER FARRCW** or **ROOT**
GROUND to work should try one of these Harrows. It works
more rapidly and is lighter on team than a gang plow, and
leaves land well pulverized. Send for circulars.

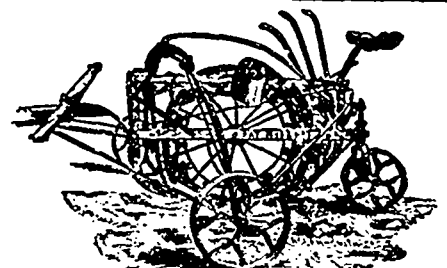
The Corbin Wrought Iron Roller



Finished bearings, babitted oil boxes and weight box, every
Roller will take a Grass Seeder.

Our sales in Canada this year are nearly double those of 1886,
and nearly altogether in sections where introduced last year.
It is comparatively cheap, silent running, durable, and war-
ranted amply strong.

The St. Lawrence Mfg. Co., of Ont., (Ld.) Prescott, Ont.
Mention this paper.



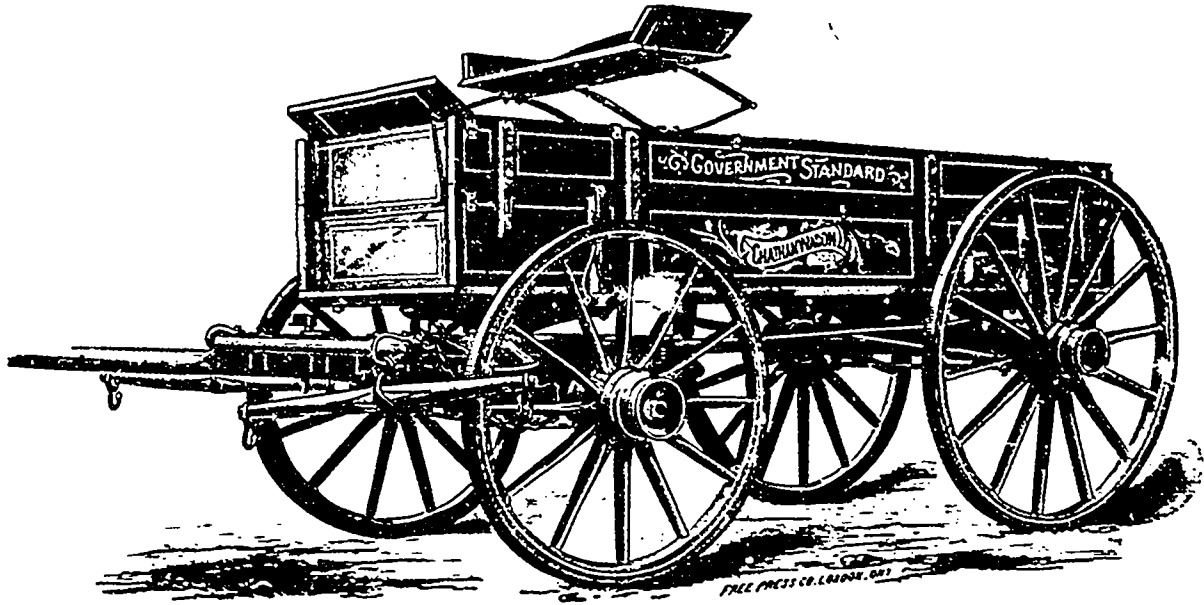
DITCHING MACHINE.

For underdraining, capable of doing more work
than 30 men with spades. Satisfaction guaran-
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WILLIAM RENNIE, TORONTO, ONT.

THE CHATHAM MANUFACTURING CO. (L't'd)

MANUFACTURERS OF

HARD WOOD LUMBER



SHIP PLANK,

THE CHATHAM WAGON

Of which wagon the above is a faithful cut, and which the Government of the Dominion of Canada has adopted as the

STANDARD WAGON

We simply ask intending purchasers, in their own interests, to send to us for particulars of the Chatham Wagon, or if there is one convenient closely examine it before purchasing any other. We also make Railway Platform Baggage Trucks, Farm and other Dump Carts, the Celebrated Maine Bob Sleigh, the Patent Champion Hay Rack, etc.

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CHATHAM MANUFACTURING CO. (LIMITED.)

CHATHAM, ONT., 7TH APRIL, 1887.

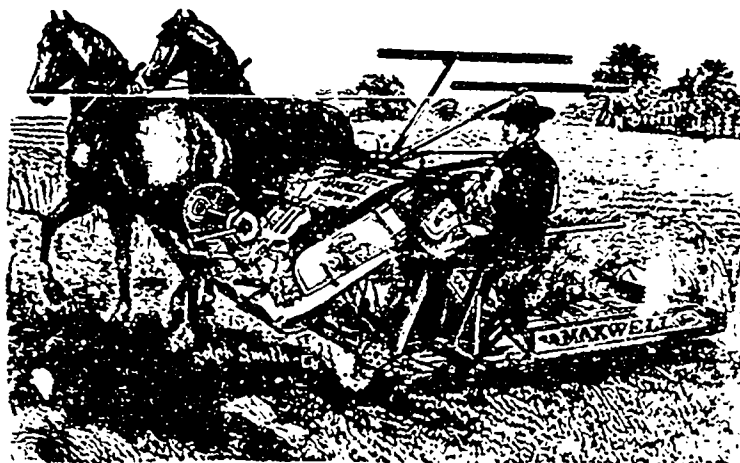
THE LITTLE MAXWELL BINDER

The Simplest

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STRONGEST

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LIGHTEST

THE ONLY RIGHT
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TO SEE THE NEW 1887 LITTLE MAXWELL

THE LATEST AND SIMPLEST KNOTTER. THE STIFFEST AND STRONGEST STEEL BAR.
NEW AND SIMPLE REEL. THE MOST PERFECT MACHINE IN THE MARKET.

Send for 1887 Catalogue.

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