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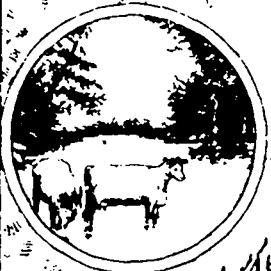
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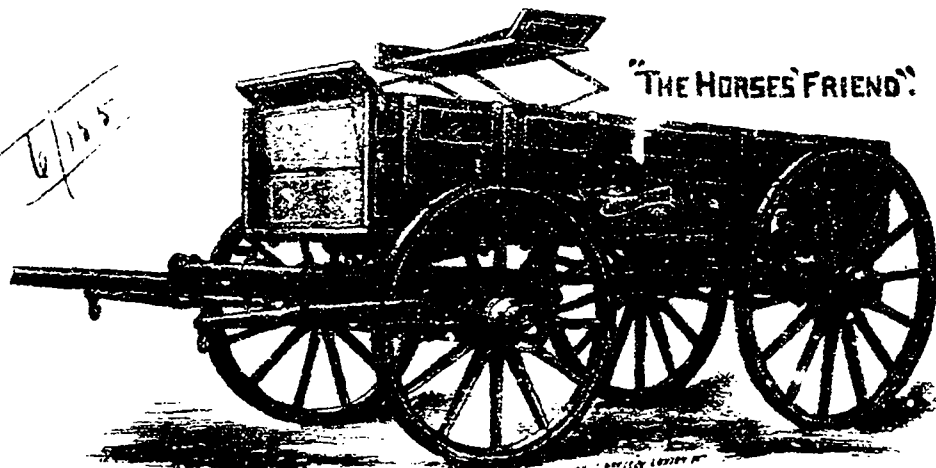
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THE CANADIAN LIVE STOCK AND FARM JOURNAL

Devoted to the Interests of the Stock-Raisers and Farmers of Canada.

VOL. VI.]

TORONTO, SEPTEMBER, 1889.

[No. 71



A GROUP OF IMPORTED STALLIONS

Owned and Imported by Mr. Jos. Vance, New Hamburg, Ont.

Our Illustration.

Better by far than the product of the most ready pen is the pencil work of our artist to convey to our readers the merit and worth of the stallions forming the stud of Mr. Jos. Vance, of New Hamburg, Ont. Though excellent to an eminent degree, yet the above illustration does not, to our mind, surpass the originals, for a finer trio of stallions has rarely come under our notice for review. Standing to the right in the upper corner is the beautifully finished Yorkshire coach stallion, Alderman Kirby, registered in vol. III. of the Yorkshire Coach Horse Stud Book. He is a foal of '87 and bred by John Kirby, Burton Fields, Yorkshire, Eng., and was imported by Mr. Vance last spring. His sire was Lord Rockingham, 743. His dam, the Countess 162, was sired by Palestine, a valuable stallion sold to the Italian Government for

use in their stud. The 2nd-dam of Alderman Kirby was sired by Inkermann Hero, 237, that has been credited with being out of the best horses of the breed that England has yet produced. Engineer, 733, owned by Wm. Walkington, near York, was the sire of his 3rd dam. The foregoing makes Alderman Kirby a stallion of first-class breeding, descended from some of the very best strains of the Yorkshire Coach. In appearance this stallion is rangy, standing firmly on clean limbs and moving easily with long and rapid stride. In color he is beautiful bay with black points. His face is distinctly featured and intelligent looking, and his neck is nicely moulded and free from undue heaviness. A grand shoulder for strength, and quick movement enables him to pass over the ground rapidly. A barrel nicely turned and long beneath with good length of quarter and strongly boned hind legs gives him a good sweep from behind.

Standing nearly 16 hands high and presenting a fine appearance, there is every indication that he will beget stock that will show to advantage before a carriage and prove good roadsters.

An excellently proportioned horse of good quality is Waterside Farmer, vol. xii, that stands to the left in the above group. Though but foaled in 1887, this horse is strongly developed, possessing joints and coupling combined with such muscle as might well be the boast of horses of more years than he. He was bred by George Wilken, Esq., Waterside of Forbes, Scotland, and was sired by Duchal (2737), vol. vi., dam, Countess of Kirkcudbright (2058), g. sire, Farmer (288), g. dam, Fanny (3104), g.g. sire, Sir Colin (3188). A pretty bay in color with two white stockings, he pleases the eye in respect to that fickle requirement; while his robust form and strong frame, covered heavily with muscle on all parts, gives birth

to the thought that he is a stallion the use of which will never be amiss on proper mares. In him the qualities of strength and activity are uniformly blended into a handsome whole, while over all a quality of finish banishes all coarseness of bone or gumminess of joint.

Covered with the honors coming from many a conquest in the show yards is the gay Wigton Lad (5441), 552, a stallion of splendid individual merit and rich breeding. A partial list of the honor record of this horse reads: for 1887, 1st at Tavistock, 1st at Shakespeare; for 1888, 1st at Berlin, 2nd at Ayr; for 1889, 1st at Ayr, 1st at Berlin, here defeating the well-known MacArthur, and 1st at Tavistock. This horse was foaled 27th of June, 1884, and was bred by John Murray, Drummond, Scotland. He was sired by Knight of Athol (2916), g. sire, Prince Charles (684), g. g. sire, Old Times (579), g. g. g. sire, Lord Clyde (478); dam, Moll (5672), sired by Lord Lyon 489, g. sire, Hercules 378, g. g. sire, Rob Roy 714. Few horses are possessed of such breeding, and still fewer are those possessing equal personal attractions. Without almost any exception every animal mentioned in his pedigree has attained some distinction in the showing, while some, such as Lord Lyon, Prince Charles, Old Times, and Hercules, are famous as prize winners and getters of stock of the first order. Prominent among the Clydesdale celebrities from whom this stallion is descended is the widely-known mare, Moss Rose. Wigton Lad is the acme of perfection in bodily structure. He presents an imposing front, being possessed of a grand crest and standing over 16 hands. Though clean limbed and smooth jointed and free from all undue heaviness, he tips the beam at 1,800 lbs. In motion he is a taking stallion, his stride being quick, regular, and clean. This horse, being used for the last few years in the near neighborhood of New Hamburg, has thus been tried, and from the reports from all sources in respect to his get, we learn that he has not been found wanting.

THE Canadian Live Stock and Farm Journal

PUBLISHED MONTHLY BY

The J. E. Bryant Company (Limited),

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All communications should be addressed THE J. E. BRYANT COMPANY (LIMITED), 58 Bay Street Toronto, Canada.

TORONTO, SEPTEMBER, 1889.

Announcement.

As will have been already observed by our readers, a new departure has been made by the publishers of this journal. Its office of publication has been removed from Hamilton to Toronto, where, at 58 Bay Street, it will be conducted in future.

In making this change the publishers are simply carrying out a purpose which they have cherished since the issue of the first number in 1883, and they do so under the conviction that the patrons of the JOURNAL will heartily concur in the wisdom of the step taken.

Many reasons can be given for selecting Toronto as the home of this journal in future, but these are so apparent it is scarcely necessary to do so. It is virtually the metropolis of Canada, and is destined to become superlatively great among her cities. Her postal arrangements are of the best, and her facilities for travel are unrivalled in the Dominion. The network of railways centreing in Toronto afford easy access to every part, a point of immense importance to any business which is most concerned with the farmers. Nearly all the meetings of live-stock associations that are held during the year are convened in Toronto, and this work of centralization is destined to increase with the lapse of years.

Every one familiar with business knows the advantages of personal interview over correspondence through the post-office. In this respect the new location will afford facilities far ahead of the old, and the place chosen we consider very favorable, situated as it is midway between the Union Station and the Market, and not far from King Street, the principal thoroughfare of the city.

We may here state that it is not the plant alone used in the publication of the JOURNAL that follows it to its new home, but the entire talent used in its production. The editor is the same, and all the contributors without exception, and to this able and efficient staff additions will be made whenever it is considered necessary.

The spirit of determination that has brought the JOURNAL to the front rank as an agricultural publication will still characterize it. It will continue to be the production of the pen, rather than of the scissors, a position which no other farmers' paper in Canada can lay claim to up to the present.

When the former editor retired nearly a year ago, the promise was made to the public that the high character of the JOURNAL would not suffer in consequence, and we confidently ask of our readers, has not this assurance been more than verified? However, when we promise, as we now do, that the JOURNAL will even improve upon its former self, in the more than fulfilment of past promises the public have a guarantee that the promises we now make will likewise be fulfilled.

Some have been readers of the JOURNAL from the day of its first appearance, and we shall hope to prove as worthy of their confidence in the future as in the past. A few have grown weary in the journey, but we expect to have them join us again, and we hope soon to make the acquaintance of others, for the mutual advantage of both parties.

Our warm thanks are tendered to the many friends who have assisted in extending the circulation of the JOURNAL, and to our numerous patrons in the advertising columns. We hope still to retain the active

co-operation of the former, and the entire confidence of the latter.

The different departments of the JOURNAL will be carried on as heretofore, with the difference that even greater efforts will be put forth to make them worthy of the farmers' paper of Canada.

We still regard stock-raising as "the right arm of agriculture." The conviction deepens with us as the years roll on that the material interests of our farmers are to grow great mainly through stock-raising, hence we shall, as heretofore, give prominence to the best methods of breeding, rearing, feeding, and managing live stock. Of all the branches of stock-keeping dairying is the most prominent, a fact that will be borne in mind in the space that shall be given to it in the JOURNAL, and in the talent that will be bestowed upon it.

Every department of farming will receive increased attention. Papers on the growing of green foods, the sustaining of the fertility of the soil, the methods of increasing this fertility, fencing, rotation, farm-buildings, drainage, indeed everything relating to progressive farming will appear from time to time, prepared with much accuracy and precision.

The veterinary department will be enlarged; the horticultural will be more varied; the poultry interest, one of much magnitude, will receive due attention; and the apiary, as heretofore, will be vigorously sustained.

Increased attention will be given, if that be possible, to the high moral tone of the JOURNAL, a feature on which its publishers have, on so many different occasions, been so highly complimented. They are still of the opinion that moral goodness is an attainment infinitely superior to ability to grow good crops and rear fine cattle, and in the future, as in the past, will try and enstamp this belief on its every issue.

Stay with us and we will do you good is an alternative that we can promise with the utmost confidence. It is a promise grounded on the experience of the past and on the reasonable expectations of the future. Visit us in our new home at the earliest opportunity, feeling assured of a hearty welcome.

The success of our effort in the past is without parallel in the history of agricultural journalism in Canada, and the horizon of the future is without a cloud at the present time. We can, therefore, look forward to a more complete realization of the fulfilment of the promise made in our initial number, when we said that it would be our effort to "immortalize the agricultural history of our country."

Remember, please, that our address in future will be THE J. E. BRYANT COMPANY (LIMITED), 58 Bay St., Toronto, which is but two streets west of Yonge.

IN sowing grain it should be borne in mind that the plumpness or the lack of this will materially affect the thickness of the crop. Grain with a large-sized kernel requires to have a larger quantity sown usually than when this is small. Nowhere is this more apparent than in the sowing of peas. If the marrowfat varieties are sown at the same rate as to measure they

will certainly be much too thin, providing the smaller varieties are sown in proper quantities. The same thing was very apparent to us when we visited the experimental grain plots at the Ontario Agricultural College in the month of July. Some plots of oats with fine stem and more slender habits of growth, appeared to be as thick as those in other plots, although we were told that the same quantity by weight was sown on each plot. This should be borne in mind in sowing wheat. Large plump samples will require a larger quantity of seed. The amount of fall wheat required varies also with the nature of the soil and the style of sowing adopted. The better the state of the preparation of the soil, the less the quantity of the seed required, as the germination is then the more perfect. About two bushels of wheat are usually sown by hand per acre, and from six to seven pecks when the drill is used.

THE old method of growing pork is destined to pass away. It has been demonstrated repeatedly that there is no money in wintering store hogs and turning them off at from twelve to eighteen months. The great weakness of such a system lies in the winter feeding, which is expensive. The young pigs should come to hand about the end of March, and by means of a liberal, but not necessarily an expensive diet, may be made to weigh 150 pounds when about seven months old. The food at first after weaning may consist of skim milk and wheat middlings. Mangolds may be gradually introduced, and then clover pasture, supplemented with a moderate amount of meal of almost any description. It is thought by some that an acre or two of peas, one or two of mangolds, and also of potatoes, harvested by the pigs themselves and supplemented by peas or corn so far as necessary would be a good ration to round up on. This method is not expensive and would produce pork of the desired quality, that is, a good proportion of the lean along with the fat. It is a fact, though it may not be generally known, that pork produced in this way is worth a cent more per lb. than the American corn-fed pork. Farmers who intend practising this method must of course lay their plans this season.

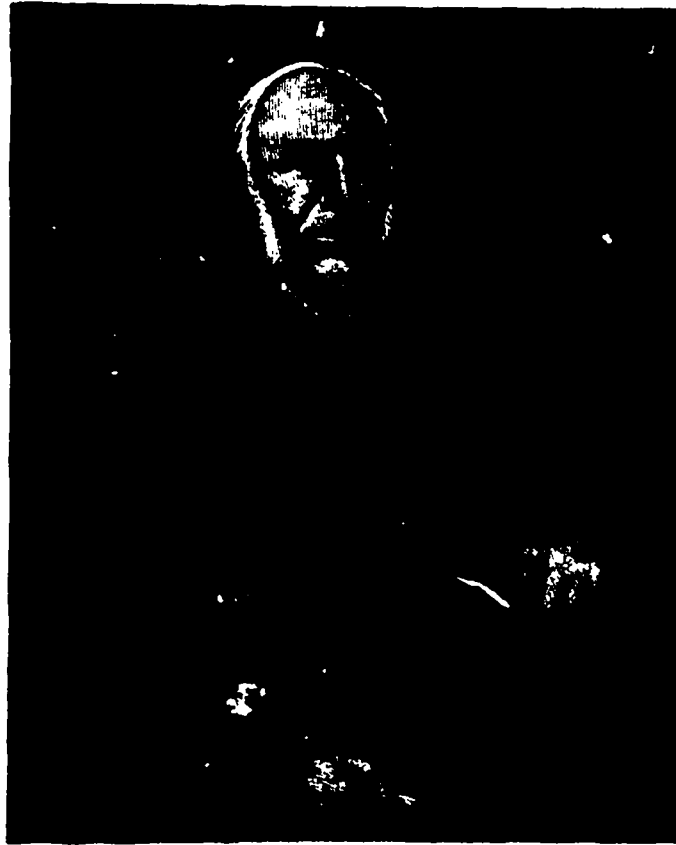
ONE great obstacle in the way of weed-destruction, is failure on the part of the farmers to make sufficiently thorough work. It may be that a field is summer-fallowed and yet a thistle here and there is left. The same holds true of the root-field, or that of growing rape. Now it is just the odd thistle left here and there that does the mischief. They at once set about propagating their kind, whereas if the work had been completely done there would be freedom from their presence, at least for a time. It is the thistle-root here and there, the stalk of wild mustard that has escaped notice, the stem of wild flax that ripened unseen, in most instances unsought, that soon smite the field with an incredible number of descendants, so that soon the fight the farmer wages with them culminates in summer-fallowing, which means the loss of a crop for a whole year and a large amount of labor. The month of September is an excellent one for making sure work with the odd thistles. Whether in the

pasture, the meadow, or the root crop, they should be cut out below the surface. After harvest they should not be allowed to get an inch above ground at any time, and if carefully cut at this time they are pretty sure to succumb. Let every farmer reader redouble his energies to rid his farm of the last weed intruder.

THE weeds growing upon the highways are in a sense the curse of agriculture. They disfigure the appearance of our roads beyond measure, and propagate from year to year a fresh army to invade our fields, and in this way to produce endless trouble to the farmer. Now, there is a way of preventing this, not difficult or costly, if farmers would only adopt it. The opportunity should be taken when the fence along the highway is to be renewed, to plough the side of the road once or twice, as necessity might require, and level as smooth as a meadow bottom. Let the fence bottom be treated in the same way, and the whole

from now until freezing-up time will largely determine the character of the crop for next year. In nineteen cases out of twenty, the other conditions being equal, ground that is ploughed in the fall will give the best crop. The reasons for this are not far to seek. The action of the frost in winter pulverizes the upturned land, thus forming a mellow seed-bed. Atmospheric influences tend to bring about that communication of particles which renders of easy access to the rootlets of plant-growth assimilable food that has been transformed from an inert condition through the action of these influences. The surface of an autumn-ploughed field is also warmer in early spring than that of our spring-ploughed, consequently germination is more rapid and vigorous. Fall-ploughing admits of earlier sowing, and therefore of earlier reaping, and experience has taught with an unchanging constancy that early-sown spring grains give best returns, not only in quantity, but also in quality. The only argu-

ment of weight that can be brought against autumn-ploughing is that it tends to foster weed-growth. This objection may be met by ploughing twice, which is very often practised now. The first ploughing takes place after harvest and is shallow, and the last one at the usual time for fall-work of this nature. In case of thistles, running over the land with a broad-share cultivator between the ploughings is attended with excellent results. Every furrow intended for spring-sowing should be ploughed in the autumn.



AMOS CRUIKSHANK, ESQ., "THE SAGE OF SITTYTTON."

seeded to grass at some suitable time of the year. If stones and other obstacles were removed from the sides of the graded portion of the road it would add to the completeness of the work. When thus sown to grass the mower could be run over every portion growing grass as often as necessary, which would soon make pretty thorough work in the line of weed-destruction and at a minimum of cost. It would also add immensely to the beauty of the country. We believe the farmer desirous of making sale of his farm could engage in the carrying out of no improvement that would give him so good a return for his outlay. Our farmers should not look upon this work as simply done for "the Queen," as they derisively put it, it is for themselves more than for any one else.

THE season for autumn work is again upon us, and the amount and equality of the work done on the farm

As a line of separation between man and the lower orders of beings, no clearer nor better characteristic could be instanced than the fact that man is pre-eminently the unsatisfied animal. As his immediate wants are met, new cravings for something yet higher guide his exertions and so continue until his life span is o'er bridged. He carries this into all spheres of work and the domestic animals in his charge come in for their share of its application. Much improvement has been made through its action, but there are also instances where too great a striving in response to this craving has hampered improvement instead of facilitating its advancement. In other cases it has given rise to much pain and annoyance to the subjects of its application and no better instance of this comes to mind than our horses upheld with taut top-checks, prevented from seeing to either side by heavy blinders, and made further sufferers through clipping. The top-check is, in the majority of cases, a more than useless appendage, inasmuch as it improves the appearance of but few horses, and causes them all, when used as customary, excruciating pain, as a horse's mouth and tongue are among the most sensitive parts of the body and when at all irritated must give rise to much agony. A number of our horsemen are advocates of clipping during fall and winter, but we as yet are unconvinced as to its merit. A horse well blanketed, always carried and brushed and humanely treated, will possess a coat that his caretaker should be proud of. We deem clipping, unless in case of some forms of sickness, or in summer, nothing more than an excuse for laziness and neglect. Blinders are in some cases a necessary evil we admit, but give a colt free use of his eyes from his younger days until matured years and

the blinders but prove agents of evil, causing shying and bolting instead of preventing it. It is said that the natives of India believing in the transmigration of souls give their dumb friends excellent care as they do not know what dear relative may be harbored in their form. Would that we had a few of these disciples on this continent and they more particularly among our horsemen, who by their actions prove themselves unworthy of the name.

The Cruikshank Tribe of Shorthorns.

THE CHAMPION BREEDER OF SCOTCH SHORTHORNS
DISPOSES OF HIS HERD.

No event of more moment to our numerous importers and breeders of the red, white, and roan, has occurred for many decades than the disposal of the entire herd of the veteran and master breeder, Mr. Amos Cruikshank, of Sittyton, Aberdeenshire, Scotland. Always accustomed to recruit their herds by draughts from that of Sittyton, this will prove a loss that will forcibly impress itself on our many admirers of Scotch blood. Not only is it an event of importance because of its effect on the direct interest of our importers, but it is also an occurrence that will stand for all time as a historical landmark by the pathway over which the world-famous and world-admired Shorthorn has journeyed triumphantly. The Scotch Shorthorn has won many friends, and they have not scored their success by blatant booming, but have wormed their way to the front by their own intrinsic value.

A couple of hours drive from the city of Aberdeen out into a comparatively bleak country, reposes the little hamlet of Kinnmuir; and to this quiet retreat has been relegated the honor of being the birth-place of the two brothers, Amos Cruikshank, born in 1808, and Anthony Cruikshank, born four years later. Their father, John Cruikshank, at the time of their birth was following the occupations of farmer and miller; but he soon afterwards devoted his attention almost solely to the former. In 1828 the father died, leaving his sons the best heritage that could fall to their lot, namely, a good sound education, such as only the parish schools of Scotland could impart. Ten years after their father's death the two brothers settled on the farm at Sittyton, and at once began their work in Shorthorn breeding that has resounded their name and fame throughout the world.

To gain an insight into the causes that led them to take up this line of work it is necessary to know something of the condition under which Scottish agriculture was struggling. A matter of sixty years ago the north-eastern part of Scotland was undergoing revolutionary changes, for the use of artificial manures, land drainage, etc., etc., were being rapidly introduced, faster, it is stated, than in any other part of the British Islands. Improved systems of farm management demanded improved stock, as did also the natural facilities of the country. In this region but little wheat could be grown, and the same may be said of the barley crop. Turnips, however, flourished and grew splendidly on the thin soil and in the cold climate of this district, and these in conjunction with oats made a ration thought to be too good for the black, "hummelled" native cattle, so that they lost preference in favor of the Shorthorn, with the result, that between the years 1825 and 1840 herds of the latter were started by Captain Barclay, of Ury; the Hays, of Shethin; and the subjects of our sketch.

In reviewing this herd the *Mark Lane Express* gives its history as follows: The first purchase was a heifer imported direct from Durham. In the following year (1838) the bull Inkhorn 6091 was purchased by Mr.

Cruikshank from the late Captain Barclay, of Ury, Kincardineshire. In the next few years several cows and heifers were introduced from Ury, Lincolnshire, and the North of England; and by 1847 there were 50 females in the herd. Of the tribes which by that date had been established at Sittyton, two, those from Clipper, by Billy 3151, and the Orange Blossoms, are of Ury descent; the Violets represent the Lincolnshire purchase—Moss Ross, by Glazier 1085; Venus, by Saturn 5089, was bought from Mr. Rennie, of Kinnblethmont, whose stock traced through the Phantassie herd to that of Mr. Robertson, of Ladykirk; the cow Premium, by George 2057, came from the stock of Mr. Crisp; and Pure Gold, by Young Fourth Duke 9037, was bred by Mr. Grant Duff, of Eden, from the stock of Mr. R. Wilson, of Brawith. In later times, Victoria, by Lord John 11731, was bought at the sale of Mr. Holmes; Sympathy, by Duke of Athole 10150, at the sale of Mr. Tanqueray; the Torworth cow Chance, by Duke of Gloucester 11382, came from Mr. Robinson, Burton-on-Trent; the Lavenders are descended from a cow bought by Mr. Wilkinson, of Lenton, from R. Colling; at Mr. Dudding's sale, Avalanche, by Sir Samuel 15302, was bought; Butterfly's Pride, by Royal Butterfly 16862, came from the Townley Park sale in 1864; the descendants of Lovely 8th, by Bosquet 14183, bought at Shethin, represent the old blood of Mr. Lovell, of Edgescott; and the cattle tracing to Sybil, by Lord Warden 7167, and Jenny Lind, by Jew's Harp 8180, are from the Wiston blood of the late Earl Spencer. All these animals have left numerous descendants, and they are all represented in the herd as it now exists.

The sires which followed Inkhorn 6091 were Toucher 6596, Premium 6380, The Pacha 7612 (the latter two from Ury), and Billy 2nd 5974. Fairfax Royal 9506, bred by Mr. Torr, was used in 1847-8-9, and during the next twelve or thirteen years sires were introduced from the herds of Mr. Douglas, Mr. Linten, Mr. Wiley, Mr. Smith, West Rasen, Mr. Chaloner, and Mr. Mark Stewart. From 1863 to 1870 the principal bull used was Champion of England 17526, bred at Sittyton, and got by the Lenton bull Lancaster Comet 11663. This fine bull did more good in the herd than any other animal ever connected with it. He was a most impressive sire, and a great many excellent animals got by him were spread throughout the northern counties. He was assisted by several of his sons; and at this period the well-known Keir bulls, Forth 17856, and his son Allan 21172, as well as Baron Killerby 23364, and Prince Alfred 27107, bred by Mr. Pawlett, were also used. Since the death of Champion of England in 1870, his sons, grandsons, great-grandsons, and great-great-grandsons, all bred at Sittyton, have been almost entirely relied upon; and they have, on the whole, proved well worthy of the trust.

Scotch Shorthorns have, of late years especially, found great favor among our breeders, and deservedly so. In the district where the Sittyton herd is established no infectious diseases such as pleuro-pneumonia, tuberculous, or rinder-pest has ever gained a foothold. The cattle have never been starved or pampered, but have always been given good care. The practice then has been to allow the calves to suckle their dams, and the heifers are served so as to come in when 24 to 27 months old. A reviewer, of some time ago, states, in writing on Scotch Shorthorns: "The result of the application of such a system for fifty years has been to produce a type of animal admirably suited to improve all native breeds of cattle. A single cross increases size, the aptitude to fatten at an early age, and produces an animal which pays well under almost any circum-

stances, for our climate is so severe, and the quality of our herbage so poor, that, wherever a Scotch Shorthorn goes, he is sure to find easier conditions; and hence he does well, and thrives in all parts of the world. Nor is a prophet without honor in his own country, for few first-rate farmers in those parts of the Lowlands where cattle are bred are contented to be without a purely bred sire." As a proof of their supremacy it is unnecessary to recount their marked successes in the show ring, for those of Mario, Field Marshal, and the victories of many other animals of this tribe, both on this and other continents, cannot be but fresh in the minds of all Shorthorn lovers.

The whole herd, we learn, of one hundred and fifty animals, that have of late years been under the management of Mr. Amos Cruikshank (his brother Anthony dying in 1879) have been sold to Messrs. James Nelson & Sons, of Liverpool, and are to be exported to South America. Our breeders will find a difficulty in securing animals of this strain, and as there are several large herds in Canada the loss will put them out considerable. Prominent among the breeders and importers of this popular tribe of Shorthorns we may mention Messrs. John Dryden, Brooklin, Ont.; Green Bros., Innerkip, Ont.; John Miller, Brougham, Ont.; Arthur Johnson, Greenwood, Ont.; H. J. Davis, Woodstock, Ont.; W. C. Edwards, Rockland, Ont.; James I. Davidson, Balsam, Ont.; A. Frank & Sons, The Grange, Ont.; J. Y. Reid, Paris, Ont.; Jas. Redmond, Peterborough, Ont.; Thos. Ballantyne & Son, Stratford, Ont.; A. Hagar, Plantagenet, Ont.; J. E. Brethour, Burford, Ont.; George Thompson, Bright, Ont.; Alexander Morris, Paisley, Ont.; W. Watt, of Sale, Ont.; David Milne, Ethel P.O., Ont.; H. H. Spencer, Brooklin, Ont.; and A. Brockie, Fergus, Ont.

The Outlook for the Live Stock Interest.

The various industries that engage the attention of any people are like the tides, which are unremitting in their ebb and flow. Sometimes the flow is stronger, owing to a conjunction of favorable circumstances, and sometimes not so strong, but it never fails to come, and is always followed by an ebb that is exactly proportionate.

To the operation of the principle of this law in nature, which governs the winds as well as the waves and all the cycles of the seasons, keeping the world in equilibrium, the live stock industry is no exception. It always has had its times of ebb and flow, and will, we suppose, to the end of time. It is ebb-tide with the breeders of some kinds of pure-bred stock to-day, and especially so with those whose leading line is making beef, but this is nothing new in the history of the live stock industry.

The time was in the history of Merino sheep-breeding when \$1000 was paid for a lamb. There followed speedily upon this period another time when a pure-bred lamb could be purchased for \$1. The long period of depression which came after was succeeded by a period when Merinos overspread the United States. To this succeeded another period of decadence, and so it is in the history of the breeds. Not so many years ago a shorthorn cow was sold for more than \$40,000, now shorthorn cows equally good can be purchased for from \$100 to \$300. Shipping steers brought from 6 to 7 cents per pound, live weight, some years since, while now equally good ones can be bought for even less than 5 cents per pound.

Because it is ebb-tide just now with beef-producers and with those in some lines of pure-bred stock, it does not follow that so it shall be. Nay, on the principle of the constant effort manifest in all nature to

seek the equilibrium, it is morally certain that this period of depression will be succeeded by one of prosperity.

It does not follow that abnormal prices, which characterise what may be denominated the *crash* periods in the history of certain breeds, will ever be obtained. It is clearly undesirable that this should be so. But it is morally certain that paying prices can be obtained for good animals of all breeds of live stock that have merit in them through all time.

We are frequently interrogated as to whether it will pay to grow beef now, as to whether the profits of dairying are not more comparatively, and if grade animals do not bring more profit than pure-breds? We have but the one answer. It is this: *Grow what nature has best adapted you and your lands for producing, giving due consideration to market facilities.* If you have proved a success in breeding pure-bred stock continue to breed it, but take what prices the market of to-day will bring you. Because you could get \$400 for a shorthorn bull calf ten years ago, that is no reason why you should keep him till near three years old to-day before you accept \$100 for him. It would be clearly more advantageous to accept the \$100 when he is nine months old. Similarly, it is much better to accept 4½ cents per pound for beef in March than to keep the same until June and then sell for 4¾ cents.

We would guard our readers against the temptation to cast aside an interest too hastily that has proved the main source of their gains in other days that they may embark in another in which they are altogether unskilled. A few may succeed in such a course, but only a few. Most men have to be content with success in a single line in life, and those who aim at more than this oftener lose than win. It is usually much better to keep on in the old lines, but always prepared for accommodation to the varying conditions of demand. The failure in the end of some of those who have persistently adhered to the breeding of one line of stock has usually arisen from adherence to old-time prices, when these could not be realised any more.

That some lines of pure-bred stock are selling for prices that are very moderate gives no ground for complaint, providing the prices are paying ones. It is to the advantage of the many that it is so, for it brings good animals within their reach.

We rejoice in the progress that the dairy interest is making in this and other lands, but we do well to remember that butter, milk, and cheese are not more essential articles of diet than meat, and that the growing tendency of our farmers to drift into dairying will some day produce the contrary tendency: to drift from dairying into meat production. Those extending the lines of their live stock operations at the present time should probably look in the direction of dairying, but those already entrenched in the meat-growing industry should look again at their entrenchments before abandoning them for new ones not yet erected.

Two things should never be forgotten by the farmers of this country. The first is that deterioration of land is always more or less rapid where meat production is not given prominence, and the second that there must be retrogression in the live stock generally in any country where the production of pure-bred live stock is not an important industry.

Dairying is far in advance of grain-farming for sustaining the land, but it is not equal to meat-growing, because of the good food being less rich in valuable manure-producing constituents, and because more of these are extracted in making milk than in making meat. The meat-grower will always be the greatest producer of good crops, other things being equal.

The world can no more do without pure-bred stock of the finest types than it can do without the binder. Nearly all the improvements made in live stock in the world have been made since the immortal Bakewell began his experiments at Dishley Hall, not much more than a century ago. These experiments have accomplished a greater material good for English-speaking peoples than the cannons of Lord Nelson at the Nile. It is not to the credit of the Anglo-Saxon race that this benefactor of the world is to-day without a monument overshadowing that of the heroes of the battlefield. The secrets which he unveiled can never again be ignored in the practice of rearing a superior class of stock, and those methods cannot be systematically carried out in the absence of pedigree.

The outlook for the immediate future in many lines of stock-breeding is reassuring at the present time. Good heavy horses from pure sires can be sold across our southern border faster than they can be raised, and the same is true of carriage and road horses of the proper types. The market for pure-bred swine has not been better for years; Shropshire sheep are at springtide, and there has been a revival in the trade in the long-woolled specimens. The same remark applies to the dairy breeds. Only beef-producing cattle are not bringing high prices, but they bring paying prices when rightly bred and reared and sold.

The extensor of the ranching interest, which led in part to the abnormal prices of recent years for pure-breds, is in turn depressing the price of meat. But this cannot remain so long. With the ranches of the northern continent well, if not over-stocked, and its population increasing at the rate of more than a million a year, the day is not so very far distant when exportation must cease because of the unsatisfied demand at home. An increase at the rate of one million a year would in about thirty years add to its population an increase equal to that of Britain at the present time, a country into which many lands are emptying their surplus.

Let the breeders of pure-bred stock increase their efforts to produce specimens of the highest types, not sparing those that are inferior, whatever be their lineage. Let them sell for prices which the market will furnish, and at the proper age for selling; let them demonstrate that the results of their efforts are unattainable by the breeders of grades, and there can be but one result, that is, ultimate success of the most gratifying kind.

Rambling.

THE DOMINION EXPERIMENTAL FARM.

Knowing that but few of our farmers are aware of the magnitude and value of the work being done in experimental agriculture at the Central Farm at Ottawa, and feeling that a brief account of this season's work, as seen by us, would perhaps prove instructive, and at least awaken an interest in an institution desirous of advancing our agriculture, we determined to visit it in person. This we did, spending a very enjoyable and instructive afternoon under the guidance of the several officials in charge; and it shall be our aim to transmit to our readers, though we can only do so in part, some of the pleasure that fell to our lot.

Though this farm has been in existence for only a few years, under excellent and energetic management and liberal encouragement from the Government authorities, rapid progress has been made in not only fitting the farm for the work ahead, but also much has already been done in shedding light on the many dark problems that perplex the agriculturist and make his

calling more than an art, and worthy of the name of a science. Too much praise cannot be meted out to the director, Prof. Saunders, and his efficient staff of co-workers, Profs. Fletcher, Shutt, Hillborn and Gilbert for the vigorous way in which they have labored in their different spheres of action. When we consider the weight of work resting upon the director in superintending the labors of the many other provincial farms, it is remarkable how rapidly the Central Farm has been brought into its present high state of cultivation. A matter of three years ago what is now a farm of four hundred acres, growing an excellent crop, was then given over to swamp, rough clearing, and bush.

In company with Profs. Saunders and Fletcher, we inspected a great many of the grain plots under experiment. As this has been a very favorable year for rust in all sections of Ontario, the Central Farm has not been exempt from its ravages, and this in itself influenced the appearance and growth of many of the grains. While some seem to be more susceptible to the attacks of the rust than the others, yet none of the varieties have completely escaped; and the difference in the degree to which they are affected may be largely accounted for by the difference in situation, whether high and dry, or low and damp. About 500 plots of grains of all kinds are being tried. Of all these no definite data could be collected until after harvest, when the straw and grain of the several grains are weighed. Speaking in general terms, of the wheats the most promising variety, all qualities considered, is the White Russian. Another variety, Williams' Red Fife, is a very heavy bearer, of good straw and with compact heads, ranging from 5 to 7 inches in length. These two are the favorites, the others, so far as known, possessing but few attributes to recommend them for our cultivation. Besides the testing of varieties of grains, another very important line of work came under our notice, viz., discovering old varieties new named. The last few years a seeming new variety of wheat, called the Eureka, was put upon the market which, it was claimed, possessed many superior qualities over all others. It has, however, proved to be the Red Fern under a new name. The resemblance is unmistakable, as could be easily seen by comparing the plots growing side by side. Of the many varieties of oats, the leading ones are the Welcome and Carter's Prize. They were harvested at the time of our visit (Aug. 14), and the Welcome has yielded the heavier of the two. Another variety, the White Wonder, looked well, and proved on inspection to be a very plump oat with a good growth of straw. The Giant Yellow, a French side oat, promises also to be a heavy producer. Of the barleys, one of the foremost varieties is the Danish Chevalier, two-rowed, with firm straw, good head, and well-filled kernels. There are also a couple of Indian varieties of the two-rowed hullless barleys that bid fair to prove of value. One variety, in particular, is very early, and of good quality in respect to both straw and grain. We saw an excellent plot of the Saale variety, two-rowed, with very heavy plump grain and short stiff straw.

A few of the plots were planted with single grains, one foot apart, in rows. When we saw them, the ground of all the plots was completely covered with a splendid crop. One clump in a plot of oats chosen at random, and by no means the largest, contained 49 stools, and most of these bearing heavy heads. This clearly shows that in the matter of seeding, our methods, where two or three bushels per acre is the rule, entail a great waste of seed. This seeding with better cultivation appear, from these experiments and those of last year, to be the most economical way of securing the best results. Passing down the other

side of the farm we were shown some excellent plots of corn, of many varieties, but the Mammoth Southern Sweet appears to be the best grower.

Leaving the fields and plots we visited the splendid barns. The main barn is of immense capacity, and is fitted with modern improvements in the way of hay-forks, etc. The stables are all in the basement, which is well-lighted and ventilated. The flooring of all the stables consists of cedar blocks that have been well packed and filled even with fine sand, and then treated with a coating of hot tar with a small quantity of fine sand in it to give it body. It makes a lasting floor, and one that is comparatively easy to clean, though somewhat slippery. At right angles to the 54 open cow stalls, all along one side is a row of 15 small box-stalls for calves. These are fitted with feed boxes that for easiness of handling and despatch surpass anything we had before seen. A plan of this is given on another page. Behind the open cow stalls, which were 4½ feet long, there is a small drop to a groove. The liquid manure is all saved by means of absorbents, such as straw and gypsum.

There are now on the farm, in all, 48 head of fine pure-bred cattle of the different breeds. Mostly all the pure-bred bulls and cows are selected from the various herds of the Province. In the stable we saw Rosy Prince, 8th, 9198, a Bates bull from the well-known herd of Mr. Richard Gibson, Delaware, Ont. This bull was got by Wild Eyes Laddie, 67992, dam Rosy Princess, 7th. He is a bull of strong frame, great constitution, and would carry an immense weight of flesh in show-ring form. He is a three-year-old, and is a beautiful red in color. Two cows were also bought from the same herds. Elmwood Garland, 3rd, got by imp. Belosh, is a fine looking red cow, with broad, strong loin, and possessing every indication of a strong constitution and good milking properties. Standing beside her was the Countess of Darlington, 12th, got by the Marquis of Kirklevington, 52664, out of Countess of Darlington, 8th. She was also a very vigorous cow, much after her companion in many respects, but a red and white in color. These were all the Shorthorns we were able to inspect, as the others were out to pasture and time did not permit our seeing them. We were informed, however, that a number of the Cruikshank strain had been purchased from the herd of Messrs. Miller, of Brougham, Ont., which in itself is sufficient guarantee as to their being of good merit and breeding. Three Booth Shorthorns were also bought from Mr. James Graham. Some of the Ayrshires, six in number, a young bull and five cows, were purchased from the herd of Messrs. D. Nicol & Sons, Catawaqui, Ont. The rest were selected from the herd of Mr. Drummond, of Montreal, one of which we saw in the stable, and a splendid-looking dairy cow she was. One of the box-stalls contained a Jersey bull, Actor, from the herd of Hon. M. H. Cochrane, of Hillhurst. He is about two years old, and is a mouse color with black points. He has an excellently ribbed barrel of great depth and volume. Two Jersey cows from the herd of Mr. McLean Howard, of Toronto, stood side by side in the stable. Though, perhaps, some would object to their small size, yet they possess good milking indications, and they ought to uphold the prestige of their kind. From the herd of Smith Bros., of Churchville, three of the Holsteins have been selected, and they certainly do honor both to the breeders and purchasers. The young bull is of the best of breeding, and is splendidly built and proportioned, with a nice front, first-class barrel and quarters. Two females were also selected from this herd, and from the passing glance we got of them in the pasture we feel sure they will give a good ac-

count of themselves. Seven head of this breed, purchased from the herd of Smith, Powell & Lamb, of Syracuse, N.Y., are at present in quarantine. The Polled Angus, numbering six head in all, were all purchased from Mr. Pope, of Cookshire, Que. They are headed by a grand two-year-old bull of excellent parts. He bids fair to be a massive bull of well-balanced proportions, and will no doubt prove himself worthy of the post of honor he holds.

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The Stud at New Hamburg.

In districts where the German element is supreme there are almost always signs present of thrift, industry, and progress; and prominent as an instance of this is the thriving community that surrounds the newer Hamburg of Ontario. The same steadiness of purpose and thoroughness of work that has placed the German Empire to the fore in scientific researches, commercial enterprises, and military achievements, has been equally the origin of their agricultural prosperity. Emigration, however, far from the fatherland wipes not out these characteristics, and the result is, though not possessed of the venture of the American that now carries him on the summit of the wave and soon perchance again in the trough, they by their fixedness of aim soon attain a permanent prosperity. Among our best horsemen and cattle feeders are to be found those of this descent, and few exceptions are to be found in the farmers in this district, as told by the splendid appearance of the farms that lined our route to the homestead of Mr. Jos. Vance. The demand of such a district, as may be inferred, is for horses of superior worth and the best of breeding, and such was the class that we found in the above stable. Being over a quarter of a century in importing stallions, mainly Clydesdales, it may be surmised that Mr. Vance is well to the fore as an importer of animals of a high quality individually and through their ancestors.

Among the horses imported by Mr. Vance that have won a name for themselves, may be mentioned the English coach stallion, Lucks All, that numbered among his many winnings six prizes at the different Provincials in six years, no less than four of these being firsts, and only two seconds. The well known Clydesdale stallion, Uncle Charles, 5419 (550), an exceedingly well bred horse, and winner of many honors both in his native and adopted countries, was also imported by Mr. Vance. Uncle Charles was sired by Prince Charlie, 629, and is a full brother to All Around, 2558. Uncle Charles succeeded in winning first at Ayr Spring Show, first at Tavistock, and first at Shakespeare Spring Show, all in 1887; and again in 1888 first prize at Ayr. Another importation to this stud that proved to be a stallion of inestimable worth was Earl Mar, 2089, a Clydesdale, sired by Baron Renfrew, 37. This stallion as a two-year-old won a silver medal amidst strong competition at Westminster Agricultural Society Show. Granite Stone, vol. vii, was one of another importation. He was sired by the renowned Pickwick, 3885, winner of many prizes on his native heath, and also of the high honor of being champion Clydesdale at Chicago. Fickle Fortune, a grand filly of last year's importation, was disposed of this spring to Mr. Geo. Thomson, of Bright. She was never beaten in either Scotland or here, and in her native home she won a silver medal.

At the present time the stable contains the three stallions shown and described on the first page, and also a very likely year old Whithorn Prince, and a few pure bred fillies. Whithorn Prince, vol. xii., is a foal of April, 1888, and was bred by John Morton, Auldbeck, Whithorn, and was sired by Prince Edward,

1254; dam, Blossom of Prenner, 1005. This young stallion is bay in color, with two white feet, and is growthy in appearance; he promises much. He has a neat head, full neck, an extra strong shoulder, and a well shapen full body. In respect to quality of bone and feather he is good, and though but young there are strong indications that he will in time prove a valuable sire.

All the stallions and mares at the stud are for sale, and Mr. Vance will be only too glad to meet any intending purchasers at New Hamburg, on the C. T. R., which is but a few miles from his homestead. We may recommend without any reservation those desirous of securing a first-class stallion or mare to visit these stables.

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Shetland Ponies.

This hardy little breed of horses is destined to make more of a stir in the world in the future than in the past. They are usually docile and kind and easily kept, and they can endure much riding or driving, when this may be required of them.

As our cities become populous and wealth centralizes, Shetland ponies will be more and more in demand, as the proportion of citizens will continually increase who can afford to provide the luxury of one or two for the use of their children.

Recognizing this fact, a number of gentlemen in the United States have organized themselves into an association, known as the American Shetland Pony Club, and established a register to preserve the purity of the breed. Our Canadian importers would do well to bear this in mind, as the day has come when animals called pure-bred will not be accepted as such unless registered, whatever the degree of their purity, or the character of their individual excellence.

The club was organized under the laws of Illinois, and has vice-presidents representing no less than fourteen different States of the American Union. The secretary is J. Murray Hoag, Maquoketa, Iowa. Each applicant for membership must be recommended by some member of the association, and upon the approval of the board of directors and the payment of ten dollars for one share of capital stock, shall be admitted.

The rules given below govern entries:

Shetland ponies, 46 inches or less in height, will be admitted as follows:

1. Shetland pony by sire and out of dam, both recorded in the Shetland Pony Club stud-book.
2. Shetland pony having four top-crosses, in each case by imported sire, or by sire recorded in the Shetland Pony Club stud-book.
3. Shetland pony imported from the Shetland Islands or Great Britain.
4. Shetland pony examined and approved by an examining committee, as provided by rule 6 of additional rules governing entries. The charge for registration to members is \$1 for each animal; to non-members, \$2; transfers, 50 cents; and certificates of registry, giving extended pedigree, 50 cents each.

Constitution.—Constitution indicated by general healthy appearance, perfect respiration, brightness of eye. Points, 10.

Size.—Ponies over 4 years old, 42 inches and under in height; two points to be deducted for every inch over 42 inches up to 46 inches, fractional portions to count as full inches. Ponies over 46 inches in height ineligible to registry. Points, 25.

Head.—Head, symmetrical; size proportionate to body, wide between the eyes; ears short and erect; jaw full and deep. Points, 10.

Body.—Barrel well-rounded; back short and level; deep-chested, good breast, compact "pony build." Points, 10.

Legs.—Legs muscular, flat-boned; hind legs not cow-locked or too crooked. Points, 25.

Mamæ and Tail. Foretop, mamæ, and tail, heavy. Points, 10.

Feet, good. Points, 10. Total number of points, 100.

Measurements required.—Height at withers, in line with fore leg, and measurement of girth around the heart to be given in inches, and the weight to be given in pounds. The measurement of ponies under four years of age is not required.

We have some fears that the milder climate and the more nutritious fare will induce a tendency in time in American-bred ponies to increase in size, but probably the skill of the breeder will be able to overcome the tendency. Selection has a wonderful influence on results in any line of breeding, and when judiciously followed out it enables the stockman to mould his materials much as the potter handles his clay.

Other breeds of ponies will also come more into demand, as the Exmoor, but none perhaps can be found equalling the Shetland in docility and hardihood. The day is coming when scores, if not hundreds, will be bred for every one bred now.

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Holstein Records Reviewed.

While writing on the best dairy cows a correspondent of our energetic contemporary *Hoard's Dairyman* overlooks entirely the Holstein-Friesians and resenting this slight Dr. E. P. Miller writes as follows: Why the writer should entirely ignore a breed that has the record back of it that the Holstein-Friesians has, is one of the curiosities of newspaper correspondence. So far as milk is concerned, almost everybody that knows anything about the Holsteins admits that they are the greatest milk breed that there is in the world; and why they should be ignored as a butter breed of cattle, when they have taken so many prizes in contests both with the Guernseys and the Jerseys, and with other breeds, we leave for our readers to decide. It is a well-known fact that in a great majority of the public tests that have been made within the last five or six years, where the Holstein-Friesians competed with the Guernseys and Jerseys, that the Holstein-Friesians have won the most of the prizes for butter. Only a few days ago, I was at the American Institute, where there was being unloaded, for sale at auction, a lot of Jersey cows, among them the noted cow, Mary Anne of St. Lambert's—a cow that the owner claims he was offered \$26,000 for a few years ago. This cow was sold at auction for \$2,100. A few years ago, the publisher of the *Breeders' Gazette* offered a prize of a silver cup to the cow that would make the largest amount of butter in a 30 days' test, open for one year from July 1, 1883. This cow, Mary Anne of St. Lambert's, was considered one of the very best of the Jersey breed. She was a competitor for this cup against Mercedes, a Holstein cow owned by Mr. Thomas B. Wales, Jr., of Iowa City, Ia., the Secretary of the Holstein-Friesian Association. At this test the Holstein-Friesian cow, Mercedes, won the cup. At the New York Dairy and Cattle show, in 1837, Clothilde, a Holstein-Friesian cow that up to that time had made the largest milk record of any cow, of any age, of any breed, won the Sweepstakes for the best butter cow of any breed, producing the largest quantity of butter during the 24 consecutive hours of the exhibition. There were 12 cows competing—among them were Jerseys, Guernseys, Ayrshires and Holstein-

Friesians; and Clothilde 2nd, daughter of Clothilde, stood second on the list. The dairy show was gotten up mostly by the Jersey breeders, and so confident were the Jersey breeders that a Jersey cow would win this prize, that the president of the Jersey Cattle club offered a special medal that had a Jersey cow engraved upon it for the cow that won the prize, and a Holstein-Friesian took the medal.

At the Ohio State fair in 1887, the first premium for the cow producing the largest amount of butter in a given time was divided between two Holstein-Friesian cows, each making the same amount of butter and the most that was made.

At the Iowa State fair in 1882, a Holstein cow won the first premium as the best butter cow.

At the Bay State fair in 1888, a Holstein cow won the special butter prize, and the special milk prize was won by a Holstein-Friesian cow at the same fair.

In 1888, two special butter prizes were won by Holstein-Friesian cows at the Dakota Territory fair. A Holstein cow won first prize as the best butter cow at the Minnesota State fair in 1886—all the prizes (three) were given to the Holstein-Friesians, notwithstanding there were a great number of Jerseys in competition. At the Iowa State fair butter test in 1886, the Holsteins again came out victors over the Jerseys.

Now after all these prizes won by the Holstein-Friesians, your correspondent is disposed to utterly ignore the breed. It seems to me he is not posted in regard to what is going on. These tests were made in public, and committees decided them, consequently there was no particular chance for the "monumental lying" that Mr. Talcott refers to. I believe that 500 cows could be selected from the herds of the Holstein breeders of this country, and put them in competition with 500 of the best Jerseys and Guernseys that can be selected and the Holsteins will come out ahead on a butter test. There is one herd of Holstein-Friesian cows in this country that 100 cows average 18.16 lbs. of butter a week; 74 cows and heifers average 20 8-37 lbs. of butter; 57 cows that average 21 lbs. of butter a week; 28 cows that average 23 lbs. a week, and 17 cows and heifers that average 24 lbs. of butter a week.

In another herd, one cow has recently made a record of 33 lbs. a week; in another herd, one has made a record of 34 lbs., and another a record of 30 lbs. a week; a four-year-old in Iowa gave 101 lbs. in 30 days, over 27 lbs. in one week. It seems to me it will hardly do at this age of the controversy, to ignore a breed of cattle that have won such prizes and made such records as the Holstein-Friesians have, and I trust you will give them a fair show.

Every Bullet has its Billet.

It is now that we begin to hear much of the merits of the different breeds, and with the return of the fall fairs comes the loud hurrahs of the victorious or the disconsolate wail of the vanquished adherents of the various kinds of domestic animals. The coals that have been smouldering are fanned into a flame by the words of strife, and the brief clash in the ring proves but the signs of a more extended battle. Since days long gone by this competition has been going on, and though the data established may be warped by prejudice and favoritism, yet they will aid to form sound conclusions if they are drawn by a free and intelligent mind. It takes more, however, than the winning of laurels to establish the fame of any herd; for these are not always nor never can be the true test of comparative worth. It is not our purpose to detract one tittle from the value of the show-ring as one of the agents that aid

in determining the true position of any herd. We would, however, ask the novice not to consider the triumphs and defeats of the show-ring as the touchstone upon which to base decisions, but to merely look upon them as one of the elements that should enter into consideration. Beyond these are the far more important questions of what their native conditions were and also the aim of the breeders that established these fames. He who endeavors to ground his decisions on the awards of the show-ring will find that he becomes entangled in a maze that baffles his most arduous and honest endeavors; for it will be found that in one year a certain breed triumphantly carries all before it at a fat stock show or dairy contest, while the next year another wins the honor, and so on, each breed advancing to the fore and receding just as they may have in their ranks single animals that are specialties.

Among the queries that reach us, not a few are those desiring information in regard to what breed of animals we would recommend for certain purposes; and a recent correspondent at the same time favors us with an opinion grounded solely on show records. The aim of our publication is to disseminate reliable knowledge in respect to the different breeds, and thus enable others to choose for themselves. The novice is, as a rule, caught with the gaudy tinsel of the show-ring, and we would here say a cautionary word against storing the mind with victories rather than with the native and inbred qualities of any breed, which should be mastered first.

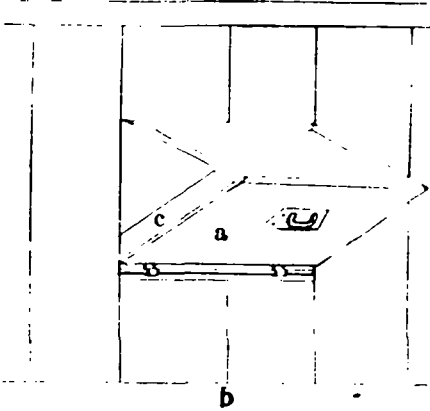
The choice of any breed depends on the ability they possess to meet the conditions to be imposed on them. As every breed possesses fixed attributes that no other breed has, so will each breed fit into conditions that no other breed could satisfy. To indulge in particulars, the central feature of the Shorthorn that places it to the fore as a stall feeder is its early maturity, producing a larger quantity of meat of medium quality in a short time. The neat and trim Doddie wastes nothing, and gives a better quality of flesh than its larger and squarer rival. The Hereford with its mossy coat surpasses either of the foregoing in hardiness and as a grazer, but as a cross on common stock to produce stall feeders they cannot be said to equal the finely-bred Shorthorn or Aberdeen-Angus. Yet they have their place and hold it with tenacity in the ranching regions of this and other continents. Where the Doddie would starve and the Shorthorn die, the vigorous Galloway with his warm covering and iron constitution would be in his zenith. And so it is with our dairy breeds. The modest Ayrshire, brought up on the humble fare of its native land, would fatten on herbage and in a climate that would prove the death of other rivals. The gentler Jersey finds its fitting home in more genial spheres, and gives in return rich milk and luscious butter. The larger and more robust Guernsey is a strong competitor of the former, as their conditions of environment have been much alike. Where cheese factories abound and milk selling is the main trade of the farm, the Holstein-Friesian comes to the fore.

Turning to sheep, we find that here also certain breeds possess special qualifications for certain localities and other conditions. The Merino possesses the valuable characteristic of being able to do well in large flocks; while their wool, for fineness of texture and lustre, is unsurpassed. For quality of flesh and wool combined with strength of constitution the Downs are the favorites; while for crossing upon grades for heavy mutton and wool production, the Leicester, Cotswold, and Lincoln secure the preference. All departments of stock raising show the same feature, emphasizing the fact that the most important question to be de-

cided in undertaking to champion any breed is to thoroughly study your own conditions and requirements, and then choose the breed, tribe or strain that best conforms with them. In doing this the old though apt saying heading our article is acknowledged, and a just value placed upon its truth.

Swinging Manger for Box-Stalls.

In the barn of the Dominion Experimental Farm at Ottawa we saw a manger in a number of box stalls that commends itself for such purposes. In the sketch below the manger (a) is shown pulled out into the passage (b) to be filled. As will be seen, it swings at the bottom on an iron rod, which is firmly attached or run into two uprights of stout scantling, one on each



side. On each of these uprights a cleat is nailed, of such a breadth so that when the cleat (c) nailed on the outer edge of the manger catches it the outer side of the manger is even with the wall of the passage. Another cleat running up the inner side of the end, as (c) on the outer, catches when the manger is open, in a similar manner to the outer one, on the cleat nailed to the upright. The manger is made wide enough at the mouth and the angles at the opposite side large enough, so that when either opened fully or closed, the manger is held firmly in place by its own weight. A wooden button on the passage wall would shut out the possibility of the box being thrown back to the passage by the feeding animals. This same idea could be made much use of in the construction of pig troughs. Anyone who has experienced the trouble in shutting and fastening doors to box-stalls and pens to get at the mangers or troughs will readily concede that the above is a great advance on the old method, and especially so for bull stalls, when the bull is very often inclined to be fractious.

For the CANADIAN LIVE STOCK AND FARM JOURNAL.

The Duchess Tribe.

By RICHARD GIBSON, Delaware, Ont.

[FIFTH PAPER.]

It is impossible to estimate the value of the Duchess blood in building up and elaborating the present Shorthorn, there being but very few tribes but what have more or less of that blood in their make-up.

The limits of this paper will only allow the mention of a few of the most prominent of the Duchess bulls. As for prices realized, both at public auction and by private sale, we shall not attempt to quote; suffice to say, that since the time they have been on the market, viz., 1850, the highest prices realized at auction each year, with scarcely an exception, have been made by Bates breeders.

What this tribe has done towards popularizing the Shorthorn in lands distant to the valley of the Wharfe cannot be told. What bull did so much missionary work on this continent as the old Duke of Airdrie? Look at McCulloch with the blood in Australia, and the rage for the same sort in South America at the present time!

Of the Duchesses we shall not write at present, except to mention (in case there are some who would ask, "Why don't you fellows show?") that they have seldom been exhibited. Mr. Bates showed but little With Duke of Northumberland and Oxford Premium cow and two Duchess heifers he took every prize he showed for at the first meeting of the Royal Agricultural Society at Oxford in 1839. At Cambridge Royal next year his Red Rose cow won, and he was first also with a bull calf and Cleveland Lad at Liverpool closed his show-yard career. Whenever they have been trained and shown they have always acquitted themselves creditably. At the Leeds Royal, Captain Gunter about swept the boards. In the cow class over three years, he was first with Duchess, 77, beating Mr. Booth's Queen Mab, Lady Pigott's Duchess of Gloucester, and twelve others. In the two-year-old class, he was first with Duchess, 78, beating R. Booth's Soldier's Bride and eleven others. In yearlings, he was first with Duchess, 83, in a class of 31 entries. Much would we enjoy writing of James Knowles and the Wetherly Duchesses; how he made a successful foray on the Booths at Warlaby and captured three females and a bull, but at a sacrifice of about \$10,000, at a time when Warlaby was at the height of its prosperity and glory; when Commander-in-Chief was lord of the harem, and amongst his placid-eyed hours were ladies Fragrant and Gaiety and Gratitude and Patricia and others, in show trim—such a grand lot of show cattle as had possibly never before been got together by one man, of his own breeding. We say after spending two days at Warlaby and having almost a surfeit of good things in colors of white and roan and red, the next day at Wetherby was indeed a surprise, when Duchess, 84, with her four daughters, 92, 94, 101, and 104, were turned out together for our inspection. We scarcely could realize what this meant. We had read "Carr," and the Booth fever was at its height. "Long legs," "wasp-waisted," "papery hides" were continually floating before the mind's eye. Yet here were mother and daughters. Never before or since have we seen such a "galaxy of bovine beauties." 4th Duke of Thorndale was in chambers, assisted by 2nd of Claro.

Would space permit we could write enthusiastically of each, as well as of Duke of Gloster, and Grand Duke; also of the Duke of Airdrie, and of the 2nd Duke of Airdrie, a prize-winner in England; of our old favorite 22nd; of 24th, of whom a noted exhibitor and often judge at the Royal wrote us: "Have just seen 24, the best Duke in England. How you can afford to let such a bull leave America I can't understand;" also of 26th.

Then of the Thorndales: 1st was McMillan's pet; 2nd, an English prize-winner; 4th, the big fellow died at Wetherby, 10 years old; 6th, the show bull; 10th, long the pride of Wright at Woodburn; 13th, one of the very best, but completely thrown away in Wis. Who has not heard of the 14th certainly proclaims he has not been to Kentucky or made the acquaintance of Mr. George M. Bedford: "The best bull on God's green earth, sir!"

Of the Genevas, 1st was exported and did great service at Penrhyn. He was H. Strafford's favorite, and eloquent would he wax over him. 3rd was exported and was a very popular sire for Mr. McIntosh, he got

several Royal winners; 2nd and 5th were both show bulls and will ever be associated with the name of Mr. E. G. Bedford, as will 4th with that of Abe Renick. Long will it be before Kentucky can boast of having such a lot again within her borders. 6th, 8th and 8th also were exported to England.

1st of Hillhurst went to Britain, and there sired the most noted bull of modern times, Duke of Connaught, long the pride of Berkeley, and when ten years old he looked not over four. It was amusing to watch him do his hornpipe when his lordship and peers entered his box-stall. That his memory will ever remain green with them all who have ever seen the three, together will readily believe. 2nd was for a time the pride of Lyndale, and we have heard many big boasts of his wonderful powers as a sire by one who had every opportunity to judge, and one who "knew 'em when he saw 'em." The Grand Dukes have been so numerous that to describe even a tithe of those we have seen in the flesh and known personally would be to spin out this yarn too long. Those who desire to see for themselves what they really are can do so, we have no doubt, by applying to the manager of the Niagara herd, who praises a Grand Duke very highly. Modesty prevents us saying more, as we assisted in his purchase.

We cannot conclude without, in justice, mentioning one bull that is well-known to most of our readers and to many others, one that has not been afraid to trail the tail of his coat through the fair, but has been ready to meet any and all comers in the show-ring. I refer to the well-known 4th Duke of Clarence, a bull that when ten years old could hold his own with any aged younger rival. He was long the pride of Bow Park, and we have no doubt, if it be true that the "goul" Queen Mary had Calais engraved upon her heart, Clarence will be found upon that of James Smith.

We have said nothing of the Gunter Dukes, or of those of York, of Leicester, of Underley, or of Ormskirk. To an American reader it would probably be but a jumble of names, but to us, as they pass along before the mind's eye, they recall most pleasant days. For example: In the spring of the year. A cherry orchard in Kent. The grass is green and fresh, the trees in full bloom, and beneath their shade fifteen or twenty massive cows. A most genial, open-hearted host, one of nature's noblemen. Other Shorthorn breeders. Can we ever forget that day? or the white Geneva Duchess, the red Oxford, the old Grand Duchess, the 4th Duke of Thorndale, *charmers*, or the Wateringbury Countesses? Such days and such company will ever make man think this is a very pleasant world, and that Shorthorns have a place therein and exercise a benign and salutary influence.

For the CANADIAN LIVE STOCK AND FARM JOURNAL.

Association Judges.

It is with pleasure I read that Mr. Nicholson did not intend to cast any personal reflections on the prominent men of the D.S.H.A., although it is unfortunate that he did not express his meaning more plainly, as other readers of THE CANADIAN LIVE STOCK JOURNAL besides myself were equally misled by the wording of his letters, and even his last letter appears to contain an innuendo of a similar kind, or what does the statement that "a long lease of power, etc., has in a measure marred their usefulness as public men" mean? Does it not imply that the gentlemen referred to are, from a long lease of power, etc., not quite as upright now as they were when they first came into power? I confess I do not admire Mr. N.'s opinion

of the human race, and much prefer that fine old English maxim, that every man is innocent until he is proven guilty. Mr. N. adheres to his statement that the D.S.H.A. are the chief exhibitors. It is true enough that some of the exhibitors are also some of the prominent men, but if reference be made to the list of officers of the Association, who are presumably the prominent men, it will be found that about two-thirds of them have not exhibited at the big exhibitions in Ontario for several years. However, it was not to defend the honor of the gentlemen referred to that I entered into this controversy, but rather to uphold the principle of the Association's appointment of judges. With regard to the picture drawn by Mr. N. of an unfortunate gentleman being promptly sat upon by the combine, as he calls it, such has not been my experience, and I believe that the remaining members of the D.S.H.A. are possessed of more courage and determination than to permit themselves to be so suppressed, if they were satisfied that any underhand work was going on; besides if the suggestion implied in an article in the January number of this paper, over my signature, were adopted, members could send in their nominations and votes for judges by mail, which would enable a timid member to put in his vote without fear of receiving a public lesson. I agree with Mr. N. that it is a startling thing to be told "that to obtain justice at the Provincial Show, it is necessary to become a member of the D.S.H.A." I was certainly not aware of it, and think in the interests of the Shorthorn world it would be more to the point if Mr. N. brought *proofs* of the truth of such a statement instead of making such startling enunciations. Now, as to the judges being jobbers or dealers, what is a dealer? A reference to a dictionary defines a dealer as a man who sells; therefore, every man who breeds Shorthorns is necessarily a dealer, unless he never sells a beast. Of course some are dealers to a larger extent than others, and as a natural sequence, the dealer in a larger way of business, from having more experience, is usually the better judge; consequently, if a judge is to be disqualified on account of being a dealer, where shall we find competent judges? In approving of the old method of appointing judges, Mr. N. appears to prefer trusting entirely to luck, in the person of the directors of the different shows appointing judges, good, bad, or indifferent, as it may chance to be, than to adopt the plan of Association judges, in which latter case he may have a voice in the matter if he chooses. I can only imagine that he has had better fortune at exhibitions under the old method than some others of my acquaintance, who have frequently been placed under the harrow by incapables in the ring, and, if such is the case, offer him my sincere congratulations.

AGRICOLA.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

A Visit to Wellington.

THE SHORTHORN HERD OF MESSRS. WATT, OF SALEM.

It is difficult to form a proper idea of the country while riding on the cars. Railroads, fortunately perhaps for farmers, appear to have, purposely or by chance, run their tracks through either the wildest or the worst lands; still, on the other hand, but a poor impression is given to the emigrant and tourist of the capabilities of the country. We have always thought that the first view of land presented to travellers on landing at Quebec affords anything but an inviting aspect to the recently arrived agriculturist, and is far from a good advertisement of Canada as a farming country. The remarks made by the new arrivals are

often amusing, and we shall not easily forget one made by a Scotchman as he stepped off the boat: "Eh, mon! but the land is a' rocks!" Such, however, is not the case in Wellington, and even from the car windows one can see that, with very few exceptions, the barns this year will be well-filled. Barley and oats looked wonderfully well, and there is every prospect of an abundant yield. In some districts we were sorry to see the yellow flower of the wild mustard abounding and successfully contending in the struggle for existence, while in one hayfield the ox-eyed daisy composed the principal part of the crop. Our destination was Elora, and stepping off the cars we wended our way towards the residence of Mr. W. Watt, passing through the village of Salem, as we were afterwards informed, for a stranger would find it difficult to say where Salem commences and Elora ends. The recently erected residence of Mr. Watt is of brick, and is pleasantly situated on a swelling bank overlooking the village of Salem, while the river Irvine, almost concealed from view by its precipitous sides, ploughs its channel deep through the soft limestone in the vale below. Having partaken of Mr. Watt's hospitality, we proceeded to view a portion of the herd which was pasturing in an adjoining field. Here we recognized imported Princess Royal, bred by Mr. W. Duthie, of Collingie, Aberdeenshire, and imported by the Ontario Agricultural College. She is a strong, massive cow, but has hardly as much quality as is desirable. Near her stood the three-year-old cow, Matchless of Elmhurst 6th, by Abbotsburn (47312), a good, thick cow on short legs, and although suckling a lusty bull-calf, keeps up her condition well. A red yearling heifer by Lord Lansdowne (51601), out of Irvine Belle 2nd, particularly took our attention, being remarkably smooth and of good quality, the sort that is apt to catch the eye of the judges in the ring. In another pasture was Moonlight, a white cow, sired by old Barmpton Hero = 324 =. She displays a great wealth of flesh laid on well-sprung ribs, but is now a little inclined to patchiness on the hind quarters, one of the results of exhibiting. Matchless of Elmhurst 4th, next claimed our attention, the more so as she is one of the best breeders in the herd, being the dam of Matchless of Elmhurst 6th, and also the red heifer by Lord Lansdowne (51601). Near by, peacefully grazing, was the two-year-old, Saucy Princess 3rd, sired by Barmpton Hero, = 324 =, who has already made her mark in the show-ring. We next proceeded to the outbuildings, which were conveniently situated at a little distance from the dwelling-house, water being supplied in the barn-yard by a windmill, and in a comfortable box, with a yard attached for exercise, we found the red stock bull Musketeer, bred by Mr. John Miller, of Brougham, and purchased by Messrs. Watts at the last Industrial Exhibition. Musketeer's dam is a cow of Campbell breeding, his sire being Vice-Consul, the imported red Cruikshank bull, which wrested the Sweepstakes last fall at the Industrial from the Bow Park bull Baron Warlaby. Musketeer has developed, as we anticipated, into a very even, smooth bull; his head resembles, in a very marked degree, that of his sire; his thighs, perhaps, are not quite as wide as one could have wished, but they are deep, and with age and condition, for he was by no means fat, will no doubt fill out. The next box contained two bull calves, the one a red and white, by Perfection, out of Matchless of Elmhurst 6th, promises to make a short-legged, thick-fleeced bull, but the pick of the basket was a roan heifer calf, by old Barmpton Hero, out of Matchless of Elmhurst 2nd. She was remarkably good over the shoulder and round the heart, with well-sprung ribs, and well let down in the thigh and

plenty of hair. Mr. Watt's stock were all in good condition, and very little feeding would put them in very fair show trim. A recently purchased farm adjoining his own homestead will prove a valuable addition in the way of pasture, as it comprises a considerable proportion of low-lying lands, which in a dry summer is a matter of no small importance, Mr. Watt's homestead being all on the high lands. Mr. Watt has not followed the prevailing fashion in sheep, but breeds Oxford Downs, of which he has a fine flock, tracing to the importations of Mr. Armstrong. Like most sheep owners, he has suffered from the dog nuisance, and at the time of our visit was disturbed by an alarm, which, however, proved unfounded. The next morning, accompanied by Mr. W. Watt, we strolled over to his brother, Mr. John Watt, who lives on the old homestead. The approach to the front is bordered on either side by a neatly trimmed hedge of cedar, whose luxuriant growth has encroached so much on the roadway that where in former days the road afforded plenty of room for a carriage, it now only permits a passage to a single pedestrian. Mr. John Watt fortunately being at home, and our time being limited, we at once proceeded to the barn, where we found three bull calves all sired by Barmpton Hero, = 324 =; one of them, a roan, with a grand coat of hair, is an inbred son of Barmpton Hero, and should for that reason prove a most impressive sire. The next box was the abode of the celebrated Barmpton Hero, = 324 =, famous alike as a sire and in the show-ring. There are few bulls in Canada that can show such a record; although 11 years old he is still used as the stock bull and with success, notwithstanding his show-yard career: a substantial proof of the correctness of Messrs. Watts' statement in one of the earliest numbers of THE CANADIAN LIVE STOCK JOURNAL, "that a bull properly handled may be serviceable and profitable until 8 years old, and even beyond that period." Age, however, is beginning to tell on him, and he no longer presents that evenness of form that he possessed when he headed the herd of 21 Shorthorns (many of them his own offspring) which wrested the Elkington Shield from all breeds at the Industrial in 1883. In the pasture was old Lovely 19th (bred by A. Cruikshank, and imported by Mr. J. Armstrong, of Eramosa), now 15 years old and carrying her fourteenth calf. She was in good order, and time has apparently passed over her with a light hand. Her white heifer calf was in the same pasture, and a good roan heifer calf by old Barmpton Hero, out of English Lady 8th, = 5996 =. In the same field we noticed the roan cow, Village Gem, by Lancaster Royal, = 1263 =, out of imported Village Blossom. She was bred by Messrs. Watt, but is of pure Cruikshank descent. The young cattle on both farms were an exceedingly good lot, and Messrs. Watt, if they exhibit, could show a very strong herd in the calf classes. F.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

Dairying and Horse-Raising.

OUR NOVA SCOTIA CORRESPONDENT CONSIDERS HIS PROVINCE SPECIALLY SUITED FOR THESE BRANCHES OF FARMING.

Our fields in the Lower Provinces are this year very productive. There is a large yield of hay, which is our most valuable crop, and grains also promise well; we will have good crops, and the barns are still well-filled with last year's surplus. Our most fortunate circumstance this year was an early spring, and that has been helped by a moist summer, the rainfall being large and, in consequence, the growth rapid.

The fodder corn crop, to which much attention has lately been directed, is again under trial, and the probability is that the result will be unsatisfactory. Our climate in northern Nova Scotia is too cold for the growth of maize in such abundance as we elsewhere hear of. If it would only produce in the same generous measure as we read of in more favored localities, it would certainly make it possible to winter a largely increased stock of animals. Our general summer temperature is too low, and the severe frosts which we often experience in June, and again in August, cut short the season of growth and consequently the yield. Our native and imported grasses, however, do very well, and the summer pasture food is the best part of our produce, being usually abundant and rarely scorched by excessive heat.

In the matter of grain, our greatest success is with the coarser kinds, and such as are generally used for stock feeding. Wheat is not a sure crop, and the quality, from a miller's point of view, is not the best. Oats, barley and peas yield well, and it is a not uncommon practice with our good farmers to grow these three grains together, the mixed grains after threshing being crushed in our stone mills for feeding to live stock.

Barley yields abundantly, but the color is not so bright as in the best Ontario counties, and of course the price realized is not so high; still the yield is very great. In one instance where three bushels were sowed on good and well manured land, the yield was 132 bushels, or 44 fold. This is a profitable yield, but is of course about twice as great as that usually obtained from ordinary land and cultivation. The fact remains, on a review of the situation, that our greatest success is with grasses and coarse grains, while wheat, maize, and the several root crops, excepting potatoes, are not so profitable. Our mission is to be a pastoral people, and our lands should be covered with flocks and herds. Perhaps, above all things, Nova Scotia should be a great dairying centre. We have many advantages for this department of farm work. Some, in reference to the feeding supplies, have been already mentioned, but besides these our cool climate is very favorable both for production of milk and for the manufacture of the best quality of butter. Even in the dog days Nova Scotia and the Lower Provinces generally do not suffer extreme heat, and the nights are always cool. Butter of the very best quality can be and indeed is now made here, and if selected parcels of this butter, under a regular brand, were sent to London or other English markets it would soon secure the highest price. As it is, however, it would not be safe to ship a large lot of our average butter. But it is not necessary for the Nova Scotia dairyman to look abroad for a market. If I am not mistaken, Nova Scotia does not supply its own markets with butter, but imports large quantities from Ontario every year. A natural and necessary appendage to the dairy is the pig-pen, or some other means of utilizing the skim-milk and butter-milk. The articles of your correspondent, Mr. Davies, of Toronto, presents the case very strongly in favor of using the pig as a producer of lean bacon, and there can be no doubt that a large field is open in connection with that industry.

There is another use to which refuse milk may be put most advantageously. We refer to the raising of colts. There is no animal raised on a farm which sells for as much as a pure-bred and well-nourished colt. Weight for weight, he will sell for about three times as much as a well-bred steer, and he need not cost much more to fit for sale, beyond the expense of handling and educating. The horse may be raised in Nova Scotia to perfection, so far at least as weaning quality

is concerned, and there is no limit to the market for the right class of horses. Hence, the most profitable line of farming for Nova Scotians, in our opinion, would be the manufacture of butter and the raising of horses. This is probably the opinion of a majority of our farmers. Hog products are not so largely produced as formerly, and indeed some of our people seem to feel a positive aversion to swine, while there is beyond all question a much increased activity in the horse breeding business. Probably never before in the history of the Province were so many brood mares kept, and the patronage extended to the various sires is very great in the aggregate. More important than all, there is a constantly growing class who are willing to pay a fair price for the service of a good horse, and the scrub is going, so far as the horse is concerned.

Again, the disposition to adopt the dairy breeds of cattle is plainly marked, while, as a rule, the beef breeds are not chosen. Dairying is the favorite occupation of our farmers in nearly all districts, and it would be well if they could be assisted so as to procure the highest prices for their products.

The effect of high prices for butter of good quality would no doubt stimulate the production of a superior quality, and with a higher class of farming, such as follows from the adoption of the best methods, there is no reason to doubt that our farm receipts would be doubled. The horse and cow can and will produce these results, when the opportunity is given them to do so.

And still we are told, and told continually, that farming will not pay; that Nova Scotia is not a farming country. It certainly will not pay to raise wheat on a large scale, but it will pay to make both butter and cheese, and it will pay to raise horses, both heavy draught and trotters. There is one class of horses which at one time was imported constantly, though not in large numbers, but of which no good specimens have been brought to this Province for some time. I refer to the English thoroughbred.

Of these I believe it may be truly said they are the foundation of all improvement in the horses for rapid movement, and a certain proportion of their blood is valuable, except in the case of the very heaviest draught classes. Of late years, in Great Britain the Government has given a bonus to the stallions winning in an open competition, on condition that they serve mares for a fee which will place them within the reach of farmers, and this bonus has been confined entirely to thoroughbred horses. In your list of contributors some who could deal with this matter may be found, and, if so, it would be a good work to call the attention of the farmers to the great value of thoroughbred blood in improving the horse, and more particularly valuable would it be if some information could be given as to the places where good, heavy and substantial sires, with large girth and good, heavy bone, could be obtained.

Quite lately a horse has become famous through the performance of his son "Spokane," who was at one time secured for the use of Canadian breeders, although now taken back to the United States. The horse in question was bought at a reasonable price, and it may be that many others of his class could be secured, and if so, they would be of great value to the country. From a careful perusal of the principal English authorities, it will be learned that the horse which would in England bring the largest price is the offspring of a second cross of a thoroughbred sire of large size on one of our large-sized draught mares. You will confer a benefit by teaching our farmers how to produce this horse.

M. R. L.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL

The Shropshire Sheep.

By EDWARD GOODWIN PREECE, LIVE STOCK AGENT,
Shrewsbury, England

[SECOND PAPER.]

A retrospect of the showyard-career of the breed from its earliest stages will be of interest as demonstrating its unprecedented success and the extraordinary manner in which it has grown into public favor throughout the agricultural world. Its first appearance in the showyard of the Royal Agricultural Society of England, was at Gloucester in 1853; when "Shropshires" competed in the open class for "Short-wooled Sheep," the successful exhibitors being Mr. Thomas Harton and Mr. W. A. Foster. Specimens were next shown in 1857, at Salisbury, where Mr. Adney and Mr. Weire won first prizes in the shearing and aged ram classes. At Chester, in 1858, special prizes for Shropshires were offered by the Hon. Robert Henry Cline, M.P., which attracted the entry of 184 animals, the prizes going to Messrs. Foster and Crane for shearing rams, and Mrs. Baker and Mr. Adney for aged rams, the two latter breeders also winning both prizes in the open class for "Short-wooled Sheep." It was not until the following year, at Warwick, that the breed was acknowledged by the Royal Agricultural Society, who then first awarded prizes exclusively for Shropshires, a result due to the instrumentality of Mr. E. G. Preece, of Shrewsbury, who had called a representative meeting of the breeders at Birmingham, presided over by Mr. Edward Holland, M.P., where a petition to the Council of the R. A. S. E. was signed and obtained the desired result. At this show the winners were Messrs. Coxon and Sheldon for shearing rams, and Mrs. Baker and Mr. Crane for aged rams. At the Leeds show in 1869, one of the judges writing on the Shropshires, reports as follows: "Perhaps no description of sheep excited more interest in the showyard than these. Here we find them in greater number than any other breed of sheep shown. It is impossible not to be struck with the appearance of these as a most useful, rent-paying kind of animal. It would be well for the breeders of these sheep to bear in mind that the qualities which have brought their sheep into notice are, their aptitude to produce great weight and quality, both of mutton and wool combined, with early maturity, while they have to be stocked more thickly than any other breeds of equal weight. In addition to these good qualities they are far more prolific than any other sheep and are capital nurses."

From this time the attention of stockmasters generally was attracted, and the breed began rapidly to spread throughout the United Kingdom, fresh flocks being established in many counties and the rams being much sought after for crossing with other breeds, for which purpose they proved exceedingly valuable on account of their early maturity, fecundity, and choice quality of mutton and wool. Flocks were founded in Scotland and Ireland, and exportations were made to the United States, Canada, Germany, France, and Belgium, in each of which countries they thrived remarkably well, and have established their superiority over other breeds so conclusively that an annual demand from abroad has sprung up and greatly enhanced the value of the breed. At the annual exhibitions of the R. A. S. E. they invariably outnumber all other breeds of sheep, while at Shrewsbury in 1884, they formed the pride of the sheep show to the number of 815 animals, from sixty different flocks, representing eighteen counties, including Ireland and Scotland, against 420 sheep of all other breeds there exhibited. The reason of

their remarkable and universal success is undoubtedly their own inherent valuable attributes possessing, as they undeniably do, a combination of the perfections of the ovine species, which is absolutely unique, and places them above all other breeds as the sheep of the present day. Remarkable alike for their fecundity, hardihood, and early maturity, they are light consumers, with wonderful powers of assimilation, and readily adapt themselves to almost all varieties of soil or country, the rich humid pastures of Ireland, or the bleak Highlands of Scotland. Their fleeces average, from an ordinary flock, $7\frac{1}{2}$ lbs. of wool, commanding the highest price in the market of any British breeds, while wethers at fourteen months old will yield a carcase of the finest mutton, weighing from eighty to one hundred pounds, free of offal, although show-wethers at eighteen months will frequently attain to 200 pounds and ewes 180 pounds of carcase. The greatest spirit and determination is evinced by the leading flock-masters to maintain the high standard of their sheep. Rams having been hired for the season at sums varying from 40 to 250 guineas, and purchased at as much as 500 guineas. Ewes from the most noted flocks have realized 37 guineas each; and when it is remembered that these high prices are given by men who breed for profit and not for fancy only, and whose selections are backed by sound judgment and experience, it is an indisputable criterion that no means are being spared to make the Shropshire the most profitable, popular, and perfect of all breeds of sheep.

For the CANADIAN LIVE STOCK AND FARM JOURNAL.

How We Breed and Train Our Trotters Without Professional Aid.

(FIRST PAPER.)

This paper is not being written so much for he who for years has made a study of how to breed a standard trotter or road horse as it is for the farmer who has not given the matter much thought. Besides it would be putting on just a little too much bush for such a "small canoe" as the writer were he to pose as an educator to those who have made the study their work for years. So to make myself quite clear, I am writing, as I say, to the farmer and non-professional breeder, and if I succeed in giving him a pointer for good on the way, then I shall be amply paid.

Well, brother farmer, one thing I have to say to you is that you must not expect to gather figs from thorns. When you undertake to breed for a trotter you must do so, with all conditions in your favor from the start. Much time is lost and many disappointments occur in not taking this into consideration.

You may have a likely looking mare of strong blood lines, leading to thoroughbred sires and dam close up, and you may decide in consequence of this if you mate her with a trotting-bred stallion you are on the right track. Such is not the result of experience, as taken from the records. If your mare is of strong trotting instinct, and the desire to trot on her part is hereditary, mate her to a stallion charged through his blood lines with the same desire, and the result of such mating, gauged by the records, will be satisfactory. Says *Saxton*: "That old axiom so familiar to breeders, and by all intelligent ones accepted as truthful, that like begets like, or the likeness of some ancestor, applies to the breeding of the trotter as it does to the breeding of the Clyd. or the thoroughbred. The more of the property you are after in the colt you purpose breeding that you can find in the breeding of the sire and the dam the greater will be your chance of getting a colt full of the qualities you are seeking. You

cannot gather figs from a haw bush or grapes from a turnip top."

Farmer, the work of establishing a family of horses, known as the American Standard-bred Trotter, has been going on for years, and the more advanced of the tribe have, or nearly so, attained that point when like begets like, or if the likeness of some ancestor, that ancestor is a trotter, and it is well that all the farmers should know this, for the production of all domestic animal kind is part of our work; and in case any of us should think after enquiry that there is a dollar for us in the breeding of the Standard Trotter, it is our duty as farmers to know just where to hitch on in the work of breeding them, so that we may not, through ignorance, lose any time threshing out beaten straw when we decide to do it.

In order, then, to define just what constitutes a trotting-bred horse, I will herein give you the rules adopted by the censors of the National Association of Trotting Horse Breeders, to control admission to the Stud book:

First—Any stallion that has himself a record of two minutes and thirty seconds (2:30) or better, provided that any of his get has a record of 2:35 or better, or provided his sire or his dam is already a standard animal.

Second—Any mare or gelding that has a record of 2:30 or better.

Third—Any horse that is the sire of two animals with records of 2:30 or better.

Fourth—Any horse that is the sire of one animal with a record of 2:30 or better, provided that he has either of the following additional qualifications: (1) A record himself of 2:35 or better. (2) Is the sire of two other animals with records of 2:35 or better. (3) Has a sire or dam that is already a standard animal.

Fifth—Any mare that has produced an animal with a record of 2:30 or better.

Sixth—The progeny of a standard horse when out of a standard mare.

Seventh—The female progeny of a standard horse when out of a mare by a standard horse.

Eighth—The female progeny of a standard horse when out of a mare whose dam is a standard mare.

Ninth—Any mare that has a record of 2:35 or better, and whose sire or dam is a standard animal.

It will be well, then, for every farmer who purposes breeding a trotter to cut out the above rules of admission and pin them in his hat, for though they are very simple, they will be found very necessary as a guide in the matter of breeding up. All standard-bred stallions that are registered have numbers; mares have not. Stallions may be registered in the non-standard class, but they also are without numbers. I mention this as a guide when mating your mare with a trotting-bred stallion. Unless he has a number he is no aid to you in breeding up; so that your colt may be registered in the standard list if your mare is by a standard-bred sire, and you have stunted her to a standard-bred stallion, then the progeny, if a female, is eligible for registration, and you are ready by the next cross to produce a colt eligible for registration, by rule 6, the highest rule in breeding.

The most sought after sires to-day are the Wilkes, the Almonts, Electioneers, Kentucky Princes, Metwoods, Dictator, Harold, Princeps, and Sultan—all, or nearly so, descendants of Hambletonian 10 and Mambrino. Kentucky Prince, a sensitive sire, is by Clark Chief 89, he by Mambrino Chief 11. Kentucky Chief's dam was Kentucky Queen, by Morgan Eagle, son of hale Green Mountain Morgan. I mention the breeding of Kentucky Prince more particularly to show that true greatness from all conditions rise, and if the trotter, like the man, bred as he may be, acts well his

part, there all the honor lies. Still the very large share of turf celebrities and illustrious sires of winners are direct descendants of but a very few families, and when you turn to the tabulated pedigree of some star of the trotting turf you will find Hambletonian 10, Mambrino Chief 11, American Star, Abdallah, and Pilot jr. 12, multiplied into greatness by in-and-in breeding the sensational trotter, whose pedigree you are conning is the result.

107 Sons of Hambletonian 10 were in turn sires of sons and daughters who made themselves standard through the performance of their get. 41 of his sons trotted in 2:30 or better, and 44 of his daughters also produced speed. His chosen son, upon whom he evidently cast his mantle of greatness, was George Wilkes 519. At the close of 1888, 59 of his get had recently ranged between 2:15 $\frac{1}{4}$ and 2:30 as trotters, with 6 additional ones with pacing records better than 2:30. 29 of his sons bred in and were in turn the sires of trotters with records of 2:30 or better. 11 of his daughters have also produced trotters with marks inside the charmed circle. George Wilkes 519 was foaled in 1856. He had a record of 2:22 $\frac{1}{4}$ he died in 1882, and when 26 years of age; had but two to his credit in the 30-list when he died. I mention this to show that it does not follow because a young stallion may not have a number of performances to his credit, if his breeding and individual excellence are all right, that with opportunity he may not have later on, and that the farmer who purposes breeding for a trotter may after all be on the right track as much when paying \$15 to \$20 for a young well-bred horse as if he paid \$100 to \$500 for the service of one whose greatness is in every one's mouth as a producer of speed or performer, but who, as I say, is really no better bred than the young and cheaper stallion who has yet his spurs to win. *Breeda to the best, and we are told that is none too good*, all of which is true, but from a farmer's standpoint the most expensive sire is not always the best for him, while under peculiar circumstances it may be for the professional breeder who finds it necessary, when he is aiming to cater to public taste, to do so, if he wishes to keep in the swim.

The farmer who owns a mare of trotting descent, and has decided to multiply that property by stinting her to trotting-bred stallions, can find suitably bred ones in almost any section of the country, and at figures well within reach; stallions many of them sufficiently well-bred to warrant the possibility of some day being quoted as sensational sires.

The great George Wilkes was once thought a failure as a sire. Pilot jr. 12 could hardly get a mare, still daughters of the same Pilot 12 to-day are the *creme de la creme* of speed producers: the famous Maud S. being out of Miss Russell, she by Pilot jr. 12, and his sire again was a Canadian pacing stallion. Truly greatness from all conditions rise, and is chained to no particular spot.

It was my intention in this letter to let you know just how we managed our young trotting-bred colts, but shall have to let it lay over for my next, this one already being too long. However, let me say in conclusion for this time: I am a strong advocate of reciprocity amongst farmers—a reciprocity of experience, one with another, such as we have an opportunity to experience through the columns of this journal. We should make known to each other more than we do our failures and successes. My mistake, if made known, may suggest success in your case, and your experience save me from error.

I have always claimed that the farmer does more work for a dollar than does any other white man, and I really do not know why he should. Sometimes I think that if we knew each other better than we do

things would not be just as they are. As a class, we seem ever ready to turn the grindstone upon which all kind, shades and colors of works sharpen. If we were a little more selfish, and worked more together and for each other than we do, - well, we might get more for our butter, at any rate, and be more thought of as a power about election times.

FARMER JOHN.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

Our Manitoba Budget.

[FROM OUR OWN CORRESPONDENT.]

The most important event of the last month, from a farmer's point of view, was the Summer Show of the Brandon Society. The right time to hold our fairs is very hard to fix, and though very few of the other societies are likely to follow the new departure of the Brandon men, this has certainly been the best show they have held for years, and in point of attendance one of the best ever held in the Province.

Every thing is good untried, and both here and on the other side of the boundary there is a big rush on horse breeding, and by the way we figure it out we contrive to show a big profit on it, as compared with any other form of stock-raising. It would not even be difficult to find sages prepared to demonstrate that a three year-old colt is as easily raised as a steer of the same age. All of us are more or less tinctured with this sanguine faith, and Brandon is the point where it is most demonstrative. This show was very much calculated to confirm that faith. There were over 260 head entered in the horse class alone, and though the cattle class was far behind this in point of numbers, there were still some capital animals, the Shorthorn herd of J. E. Smith of Beresford Farm easily taking the championship for the best herd in the show. Mr. Mansfield, another local man, showed a few very nice English-bred Shorthorns. Mr. Martin, of St. Jean Baptiste, showed a car of very well-bred Galloways, and there were one or two good Holsteins and Polled Angus.

The great strength of the show lay in the draught horses, of which there were 12 registered Clydes and 9 Shires in the stallion list. This turn-out would have done honor to the best show in Ontario, and Granite City, the crack horse of the Reburn string, won the first prize and sweepstakes at Toronto in 1888. Bounding Willow, their second horse, made first at Kingston, and some of the others were not such a long way behind them. Messrs. Everest and Kerr, the owners of this choice pair, have of late made a specialty of importing pedigree breeding horses, and besides three Clyde stallions, all prize-winners here, showed a Hackney, which was properly placed as the champion horse of the show. Mr. S. L. Head, of Rapid City, had three prizes for as many Clyde mares, besides the sweep for best mare in the show, and other local men had a fair share of the honors. Over 20 good brood mares, with their colts, were in the ring at one time, and a dozen very fine teams competed in the general purpose class.

The Shire horse is almost a novelty in this Province, but the half-dozen aged horses were so nearly equal in merit, and that of a high order, that all the judges on the ground had to be called in before a decision could be made. The Percheron is nearly gone out here, though we had one horse of the breed that has left very fine colts, and only four horses of this class put in an appearance. There was a fair string of thoroughbreds and driving horses as well, and the entire turn-out was very satisfying to all parties.

Brandon district is this year making a very mixed

record in the line of grain production. Within a mile or two of the city I could find a half-section of wheat, rarely equalled in excellence, just under the track of a day's early rain, but there will be a good many fields not worth cutting, a good many more overrun with gophers, some less than half a crop, while the general average of the district will be less than half that of 1887. Our city farmers put the provincial average at 15 bushels. I am pretty confident it will have a hard struggle to reach 12, and a month back it looked barely up to 10. Good land decently cultivated makes a wonderful yield, though sometimes seeded when very dry and afterwards blown away so as to leave much of the seed exposed; but fall or spring plowed stubble got so dried out that only a poor start was made at first, and sun and wind later on kept it from ever covering the ground. In former seasons, with a more moist seed-bed and favoring summer showers, stubble land made very fair yields, but those who depended this year on their old land have got very badly discouraged. This is, in reality, the fourth year in which we have had a minimum of rainfall, and the streams are fairly shrinking up everywhere. This is true not only of our own Northwest, but of Montana, Dakota, and Western Minnesota, to the very bottom of that State. The Minnesota river, which within the era of white settlement was regularly navigated by steamboats, is as badly shrunk just now as the Red River of the north, but they have had rain enough to mature one of the finest crops ever seen in the southern half of that State, just as we had here in 1887. In that crowning year of our crop output we had not much rain altogether, but it was always so well timed that our crops were such as we can rarely hope to see again.

The cause of this prolonged and far-reaching dearth of rainfall in the very year when you and all the Eastern States have been half drowned is a matter for serious investigation. Our driest years are noted for south-westerly winds, some of which scorch the leaves of the trees far up in Manitoba, and come direct from the great central desert of America. If Major Powell's irrigation schemes mature, that desert area will be greatly circumscribed, but the partial cultivation of Western Kansas and Nebraska is in the meantime only aggravating the evil. The grasses, which alone can live on those arid plains, are destroyed in the vain attempt to grow a crop or two, and when this partial cultivation ceases the baked earth reflects the hot rays of the sun as badly as does the sand elsewhere. The evil effect of these winds felt here is far worse further south, and if I were not a Canadian, and therefore an interested witness, I would ask you to believe that down about Aberdeen it has been over 110° at midnight when one of these sirocco winds was blowing. Only to-day I saw a man, the delegate from a Canadian colony in Foster County, Dakota, who is on his way to Calgary in search of land that will not be burnt up by hot winds.

Our prospects of winter keep for stock are improving a good deal. There is a huge area to the north of us in which the influence of the great lakes tells very favorably on all herbage, and there a great many farmers are now busy putting up hay preparatory to wintering the bulk of their stock, which they can easily do with abundance of low bush, in which, with an average of a ton of hay apiece, ordinary stock can winter very well. The moisture from the lakes has done a great deal this season for the Portage plains and the Stonewall and Selkirk districts, where the evil effects of the drouth are minimized and a very gratifying crop yield certain. The middle of August will see grain threshed in the Morden district, and the sample all over could hardly be surpassed. Of course the weather is perfect for harvesting purposes. By the

time this sees the light almost every stook will have been harvested and threshing begun, which goes on in the field till the whole crop has been put in shape for export. The sample will be as fine all over this Northwest, as well as on the upper Red River, as could be desired. I have gone over both sides in daylight and find that on the American side the great valley of the Red River presents about the same aspect, only they have nearly four times as many weeds as we have.

The railroad extensions have done much to satisfy the demand for increased transport facilities, and with our increased facilities and capital soil all we want now is favoring seasons in which we may go on and prosper.

Our Experimental Farm at Brandon, owing to the condition in which it was taken over from the last holder, has not been this year a full success. One-half the land, which was pretty thoroughly overhauled last year by Mr. Bedford, has made a capital yield in spite of its very stunted rain privileges. It has had less rain than any place near, but bears good crops. The old style sample off the same farm was no crop worth gathering. An Indian Head Mr. Mackay had no such serious difficulties to contend with, and though he has had very little rain either, he will on the bulk of his land make a big return. He has a patch of stubble plowing that makes as poor a yield as that of other poor farmers elsewhere. We will get a lot of light from these two farms before they have been many years in operation.

The Duties of Exhibitors at our Agricultural Exhibitions.

(Continued from August.)

Non-compliance with the regulations regarding the exposure of exhibits is a frequent short-coming on the part of exhibitors, one which is oftener chargeable on the exhibitors of live-stock, which arises in part from certain features peculiar to their exhibit. The exhibitor of wares of the merchant, the manufacturer and the inventor can usually bear exposure without injury for any length of time, barring injury from dust, a sort of evil genius that follows in the wake of exhibitions. But it is not so with live-stock. When in the most perfect show condition they can only bear the excitement of exposure to passing crowds for a limited period without injury, hence it is indispensable to their retention of best form and condition to have them screened from view and unmolested during certain portions of the day. But they are brought for purposes of exhibition, hence every person passing in at the wicket should have the privilege of seeing them, if they so desire it, at the time indicated in the regulations. Now, it is clearly no part of the duty of the exhibitor to screen from view his exhibit of live-stock at the time indicated, either for the comfort of the stock or for his own comfort; nor should he require an official to watch him, as though he were a culprit. Compliance on his part should be ungrudging, spontaneous and free, not arising from fear of the complaint of an official, but from the desire to do his part as a loyal exhibitor to render the show a success. Exhibitors of horses are perhaps the greatest transgressors in this respect. The doors upon the stables, with the possession of lock and key, renders the temptation peculiarly strong to screen their favourites from view to suit their own inclination and convenience, regardless of the duty they owe the management or the public. If in the future it should be found that moral principle was not sufficiently developed to lead them to give this matter their earnest consideration, I would suggest that when new stables are built for exhibition purposes it may be on a plan that will render it impossible to hide the exhibit of horses at the time indicated for having them exposed to view.

It is curious to observe the shortsightedness of many of the exhibitors of horses in their inattention to this matter. It would be interesting to know the number of what would have proved valuable newspaper notices lost to the exhibitors, and profitable sales that might have been made but for the absence of attendants at the proper time, who were sauntering about with the

keys in their pockets, of the doors they had locked, which screened their favorites from view.

When exhibitors are requested to bring their prize-winning animals into the ring there should be prompt and cheerful and accurate compliance. This should be done in no half hearted, much less a murmuring way; when a rule reads that at a certain hour *all* the prize animals shall be led into the ring, the exhibitor should so interpret it. It is not honesty on his part on such an occasion to bring out but one or two, or a part; the act savors of that spirit in the owner, of the man who once upon a time handed over to the church officials in a distant land a part of the price of a bit of land for the whole of it.

So should it be with all the other requirements of exhibitors. Obedience on their part should be cheerful and complete, and so will it be without the necessity of coercion on the part of officials where the moral sense is in a healthful condition. In the extent of their applications for passes and complimentaries some exhibitors are about as brazen-faced as was the old Colossus at Rhodes. When the conditions of entry state that so many privileges distinctly specified shall be given to exhibitors and attendants why should they ask more? Why should they be so unkind as to put a director or a secretary in the unpleasant position of refusing their request at the hazard of incurring their displeasure, or in granting it doing an injustice to the enterprise, the interests of which he has been chosen to protect. Every unmerited privilege thus granted and sought is an injustice to the giver, the receiver and to the association.

It is simply incomprehensible the littleness to which men will stoop, and the meanness which they will perpetrate in their efforts to cheat an exhibition association of the entrance fee into the same. Men regarded as honorable in their business and so thoroughly permeated with a sense of British manhood that they would scorn to cheat a customer in an ordinary business transaction, look upon it as no crime to steal or cheat their way into a show ground. Why stealing should be a crime where it affects the individual in ordinary business, and why it ceases to be a crime when it has reference to exhibition associations is an enigma which I am unable to explain. It is on a par with that low, contemptible code of morals which, while it has a scrupulous outward regard to honesty of dealing with the individual, looks upon it as no crime to cheat the government. It oftentimes requires peculiar temptations of this kind to demonstrate to the world that men reputed honest, and ordinarily so, are nursing the viper that is slowly inserting its fatal fangs, from the effects of which there will be no escape unless antidotes are promptly applied.

I admit that men often do those things from lack of thought, but why should there be lack of thought when moral principle is at hazard? Why should there be lack of thought regarding any act that is going to blot fair character? Whether this is patent to the popular gaze or screened from it, it is a blot all the same, that unforgiven will deform and defile character through all the ages.

The directorate of exhibitions requires brave men—men of strong moral fibre—if they are to stand to their guns in the hour of danger. It requires a moral hero to say to a friend: "I cannot in conscience grant you a complimentary; it is contrary to our rules." But why not say so? It may lead the applicant to consider, and may help to make him a better man. Such a course is more honorable in every way than to put him off with the genteel lie of telling him that you haven't any, and sending him off to some one else—whom he can't find—to get what he is seeking. Shame on the lack of manhood that would ask from exhibition directors, favors that are not deserved and that have not been earned, and all the more so on the part of the exhibitors who expect to be gainers through their exhibit. In almost every instance men who ask for extra passes or complimentaries are those who are not deserving of them, for those who are, have usually reached that higher stage of manhood that would lead them to prefer going without them if they were only to be had by asking for them.

Then exhibitors have duties which they owe to one another. It may be that one man makes an entry of live-stock before another, and by the rules of the exhibition is entitled to the use of the stalls with numbers corresponding to the numbers of his entries; but the stock of the second arrives first, and is checked into the stalls designed for the other. On the principle that might is right, the possession of these stalls is maintained with the persistent determination that

ignores remonstrance. Now, this is clearly a wrong done the first party that the second would not consider just if perpetrated on himself. It is clearly the duty of the departmental superintendent here to right the wrong, and, in case of failure, it is the duty of the association to come to the rescue, and to remind him of the natural infirmity of his nature in some such way as by withholding the prize money.

This is but an illustration of the many little frictions that may arise when exhibitors lose sight of the obligation that rests upon them to treat with fairness and equality those who are running the same race as themselves. Frictions may arise in the distribution of straw and feed, especially when these are scarce. At such a time the clergyman might any day find a fruitful theme for sermons, while witnessing the less admirable propensities of humanity in all the intensities of vigorous action, during a scramble for the lion's share of a little straw for bedding. Opportunities for natural forbearance occur daily, and if not improved, like the brook, they wind their way forever, never more to be righted.

I cannot but conclude that if exhibitors generally would but devote one-half the time and energies now devoted to fault-finding with the management of the show, to the rectifying of wrongs perpetrated by themselves or through their order, that it would be well with the directorate, well with the visitors, well with the exhibition, and well with themselves.

A Good Word for the Guernseys.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL.

SIR,—You invited the Guernsey breeders to hold forth on their favorites in the JOURNAL, hence this letter.

Further experience does not lessen our admiration for this admirable dairy breed. And they are specially valuable for crossing with native or grade cows. Our bull has done good service in this neighborhood. There are heifer calves here of his get which show superb quality, and the owners are delighted with them. We have from a common looking rusty brindle cow a heifer calf of his get which shows all the distinctive points of the breed and has a beautiful mellow skin.

This is seen the remarkable impressiveness of the Guernsey. But how could it be otherwise, seeing they represent one hundred or more years of "special breeding."

We give the testimony of the veteran breeder and dairyman, Lewis F. Allan, Buffalo: "I am running a butter-dairy of first quality of that article for private family and hotel use in this city, using a Guernsey bull on Grade-Shorthorn cows, and the young half-bred Guernseys have thus far proved quite satisfactory milk and butter producers, milking freely and holding out late in milk before producing their next calves. I have no pure bred Guernsey cows, being convinced that good Guernsey-Grades are as profitable for butter making as pure breeds. Although they are but few in number compared with the Jerseys, their greater size over the latter adds largely to their value, being good for beef as well as milk, which the Jerseys are not. Our confidence in the Guernseys increases with every day's experience. A young half-bred Guernsey cow brought her second calf a day or two ago, and it was impossible to dry her off before this second calf was born." As this letter is already lengthy, we will have something to say about the weight of this breed in the next number.

We recently went to Wisconsin, and picked out ten promising heifers of choicest quality and breeding from the noted herd of I. J. Clapp, Kenosha. They are now in quarantine, and our man writes us one has dropped a very choice heifer calf. This breed is much appreciated in that section (dairying is carried on there largely), and Mr. Clapp tells us he sells all his bull calves very readily at from \$60 to \$100 each.

Toronto, Aug. 9th. WM. DAVIES & Co.

The Status of Hog-Raising.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:

The many letters we are constantly receiving on the subject show that a great interest has been awakened on the question of hog-raising and feeding. As we said in our first letter, what we not only wish but absolutely need is a much larger supply. That the offerings should be so far below the needs of the trade is

one of those things that no fellow can understand, seeing that hogs are now bringing 5½c. live weight; whereas the supply of horned stock is far in excess of the demand, the market being almost continually glutted. Within a week past, good serviceable heaves, such as city butchers use, have ruled in the neighborhood of 3c. per pound in the Toronto market. That great authority on swine, Theodore Lewis, once said that the animal of greatest profit to a farmer was a good brood sow, a statement we had not seen when we wrote that such an animal was more profitable than any ordinary cow. We are pleased to find that the publicity you have given to this question is likely, in the near future, to bring about good results, not only in additional numbers, but the right sort. The improved large Yorkshires are winning their way in Canada, noted breeders are discarding Berkshires and are importing the Yorks, and every mail brings us word of their adoption in Northern Europe. A letter just in from our English correspondent, Mr. Bennett, reports: "Five Dances were over this week to see me for bacon boars; they bought 30, with some sows, paying long prices." Canadian farmers may be sure these economical, hardy Norsemen do not go so far and pay away their hard-earned money without having animals of great merit in exchange. Yours truly,

WM. DAVIES & Co.

Lice on Pigs.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:

Please tell me through your JOURNAL what you would recommend for destroying lice on pigs.

Drayton, Ont.

V. R. ADAMS.

ANSWER BY F. C. GRENSIDE, V. S., GUELPH.

Pour boiling water on bruised Stonesacre seeds in the following proportions: One quart of water to one ounce of the seeds. Wash the animals with this infusion at intervals of two or three days for three or four times. Then wash with soap and water after making the applications.

Veterinary.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.
Horses' Teeth as Age Indicators.

By F. C. GRENSIDE, V. S., Guelph.

[CONTINUED FROM AUGUST.]

The three pairs of teeth that make up the six incisors in the upper and lower jaws are referred to by special names that indicate their positions.

The pair occupying the centre are termed the *central* incisors; the teeth on either side of the centrals, which make up the next pair, are designated the *laterals*; while those that occupy the end of each row are called the *corner* teeth.

The grinders are simply numbered from before backwards: first, second, third, etc.

At birth the foal usually has the central nippers, or they are exposed shortly afterwards. In six or eight weeks the laterals are well up, and at from seven to nine months the corner ones are present.

There is seldom much difficulty in distinguishing between a colt one year old and one that is two. The woolly tail of a youngster up to a year old is characteristic, but in the nippers the most marked difference is the worn appearance of the table surface of incisors at two years, especially the corner ones, which in a one year old mouth is shell-like, the posterior margin not being up and in wear.

A comparison of the one and two year incisors shows moderately clearly the difference.

From two years up to six the age is generally easily determined, for important and marked changes are taking place. At two-off, or at two years and three months, there is evidence of the shedding of the central nippers. The gum around them seems sunken and becomes red, and on manipulation they will be found to have lost their firmness of attachment, soon dropping out and exposing a small portion of the

projecting crowns of the permanent teeth. These teeth gradually grow until at three years of age the crown all round the mark is in wear.

At three-off there is similar evidence of the shedding of the laterals, the permanent ones usually being present at three and a half years, and in wear fully at four.

Although there is a variation of a few months in different horses in the shedding of the central and lateral nippers, there is a still greater range of difference in the time at which the corner permanent ones present themselves. We have seen the corner permanent incisors make their appearance at under four and a half years, while in other cases horses are fully five before they show themselves.

As a rule, the uppers in the upper jaw are first, by a month or two, and sometimes more, to shed.

It is a pretty simple matter to tell whether a horse

age is to be obtained by the inspection of the tables of the incisor teeth, in regard to their form, the extent and depth of their central cavity or mark, and the shape of the central enamel.

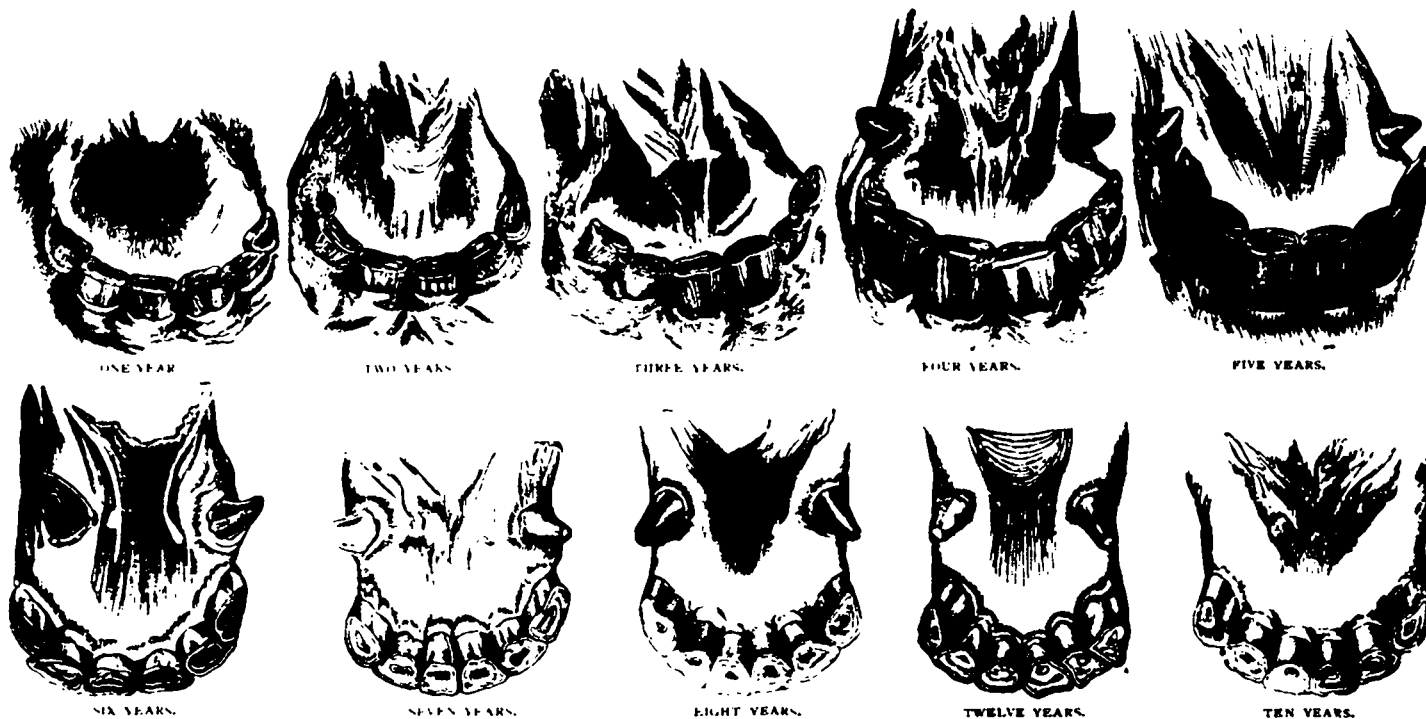
A horse has only one set of tusks or tusches. They are often through the gums at four years of age, but they are not usually fully developed before five.

At six years of age the corner teeth lose their shell-like character, and the central cavity is surrounded by a worn surface. Also, at this age the cavity in the central nippers is about worn out, while that of the laterals has become shallow, but those in the corners are still fresh; all of which is shown in the engraving. At seven years old the table surface of the central nippers approaches the form of a triangle. The mark is very close to the posterior edge of the tooth, and the central ring of enamel is becoming more oval in form. The corner incisors at this age show wear, the

old horse differ in shape, not being so broad, and being deeper from before backwards. They are also more projecting, and although a mark can be made, the inner ring of enamel cannot be replaced.

Although advantage can usually be taken in determining the age by the wearing down of the teeth, still some circumstances cause a degree of deviation from these general rules. Hardness of the teeth or otherwise, as well as the nature of the food, will influence the rapidity of wear. Grass-fed horses appear to wear their teeth more slowly than those fed on hard food. In order that the wear may take place evenly, it is necessary that the teeth come into exact apposition.

In parrot-mouthed horses, that is, where the upper overlaps the lower jaw, the marks may remain for many years. In such cases it is often impossible to arrive at a correct conclusion. Cribbers, or horses



Dentition of the Horse Fully Explained.

is two, three, or four, if one can discriminate between a milk and a horse-tooth. This can be readily done by attending to the description already given.

The horse has what is called a full mouth of permanent incisors at five years of age, but the characteristic sign of a five-year-old mouth is the shell-like appearance of the corner incisors. This is shown pretty clearly, as well as the broad mark in the central and lateral teeth.

Occasionally the milk teeth are drawn, with the object of making a three-year-old appear four, or a four-year-old pass for five.

No doubt nature does in these cases, to a certain extent, hasten the growth of the permanent teeth, but not to a sufficient degree to deceive one on the alert for such trickery; for although the milk teeth have disappeared, the newly presented horse-tooth will not be as much developed as it ought to be, and the freshly-cut teeth are apt to be irregular in their positions, from having been disturbed by the forcible removal of the milk-teeth, and having lost their natural guide to the direction and position in which they should grow by the disappearance of the milk-teeth.

After an animal gets his horse-teeth, evidence of

cavity in them getting shallow. The laterals are deeper from front to back than at six. At eight years of age the central teeth are more distinctly triangular than they were at seven; the inner ring of enamel also assuming this form. The cavities are worn out of all the teeth, but the central enamel is still well-defined.

After a horse passes eight the changes occasioned by the wear to which the teeth are subjected are not sufficiently regular to enable one to speak positively to a year or two. The above drawings, showing the mouth after eight years, being taken from animals of ascertained ages, and which were considered to be as near typical as possible of the usual appearance at these ages, are presented in order to give an idea of the changes that age brings about.

The attempt is occasionally made by low horse-dealers of giving the mouth a more youthful appearance than natural, for the purpose of deception. This trick is called "bushoping," from the name of the inventor.

It consists in excavating and blackening the table surface of the tooth by means of a hot iron, thus simulating the mark seen in a young horse's teeth, but one at all conversant with the form and structure of the teeth is not likely to be deceived, for those of an

that have a habit of biting their mangers, wear their teeth down rapidly.

As age increases, the teeth, notwithstanding they really wear down, become apparently longer. This effect is due to the fleshy parts of the gums receding faster than the teeth wear away. In extreme age, however, when the gums have receded as far as they can, the effect of wear causes the teeth to become visibly as well as really shorter.

We have so far simply referred to the existence of the molars, but will now briefly indicate the ages at which the permanent ones are cut.

The first permanent tooth a colt gets is the fourth grinder, at a year or a little before; the fifth being cut between eighteen months and one year. At about two and a half years the first and second temporary molars are replaced by permanent ones. Between three and a half and four years the third and sixth grinders are cut, so that the colt at this age, counting the four lateral nippers, is really getting twelve new teeth. From this we can readily understand his difficulty in mastication, his unthriftiness and lassitude, and consequent inability to stand much work. Small conical-shaped supernumerary teeth, called wolf teeth, are often met with in front of the first upper molars,

and are supposed to be a source of injury to the eyes, but this is no doubt an erroneous impression, and it is quite a matter of indifference as to whether they are removed or not.

Joint-III.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL

SIR,--Will you kindly give your opinion as to the cause of my colt's death and the treatment it should have received. It was doing well on the grass till nearly five weeks old, when the following symptoms appeared: Stiffness and weakness in hind-quarters, accompanied in two or three days by swelling and tenderness of the joints. Short and quick breathing at first, which grew easier till towards the end, when there seemed to be great pain. Colt steadily lost strength till unable to stand, though sucking well right up to the time of its death, which occurred in one week.

Camperdown, Ont.

E. R.

The trouble from which the colt appears to have suffered is often referred to as "joint-ill." As the questions will necessitate a somewhat lengthy reply, and as a prompt answer is not called for, we will defer treating of this subject until the October number, when it will be discussed at some length.

The Farm.

The Leaders of the Future.

Ambition is a proper thing when the object of it is laudable and the steps taken to gratify it are honorable. Nay, in such a case it is commendable. Many young men are ambitious, and it is well that it is so. Were it otherwise, the commonplace amongst men would become universal. The low level of mediocrity would sink very low indeed. Heroes on the farm and on the bench, in the inventor's hermitage and the crowded counting-house, in the legislature and in the church, would be no more, and all our progress would pine and die.

Since young men are naturally ambitious and desire to rise, it is to them a matter of much moment as to the avenue which will prove most available. Hitherto this avenue has led ambitious young men away from the farm, but it will not be so to anything like the same extent in the future. Of this there are indications on every hand.

The overcrowded state of the professions is causing some to beat a halt and to look for preferment in other openings. The growing intelligence of the farmers themselves is fast inclining them to refuse to follow leaders chosen outside the pale of their own guild. There is no place at the present time furnishing so many opportunities for preferment as the farm, if young men will but qualify themselves to fill the openings in a creditable way. This is owing in part to the numerical strength of farmers, and in part to the limited number of young men on the farm who secure the necessary qualifications.

The whole machinery of rural legislation should be committed to the hands of competent farmers, from legislation in parliament downwards. Indeed, it must be, if the work is to be done in the most effective way. In these days when experimental farms are multiplying, who are so fit to officer them as farmers? In the management of agricultural journalism, nearly all that is written worth reading must come from the pen of the educated farmer, and likewise the field of agricultural authorship must be filled from the same source.

Young men must qualify themselves, however, for filling these positions by securing a most liberal education in everything pertaining to agriculture. Where can this be secured? We answer, the foundation

must of course be laid in that grand starting-place, the common school. It should be carried on for a time in the high school, and be finished at the Ontario Agricultural College.

Young men from the farm need not hope for one moment to secure preferment in any of the lines indicated without a most liberal education, and of educated men the education which combines the theoretical and the practical will certainly be assigned the precedence.

We would not be understood as representing that young farmers only require a superior education who may be looking forward to preferment in one or other of the lines indicated. It will prove a boon to any farmer, and must place him head and shoulders above what he would otherwise have proved in the line of successful farming.

No farmer's son can take a course at the Agricultural College without being very much benefitted thereby, if he is sincere in his search for knowledge. Indeed, no person of ordinary brain-power can spend two years in the study of agriculture, without the aid of instructors, but will receive very much benefit therefrom. How much more, then, must he succeed in heaping up knowledge when half-a-dozen earnest and capable teachers are directing him and showing him from day to day, not only the best fields in which to glean, but also the best modes of gleaning.

At this institution the student is shown the best modes of performing manual work. He gets a knowledge of the best and latest systems of cultivation, and he is an eye-witness, if not an assistant, in carrying on experiments the tendency of which is to develop within him a spirit of progressive enterprise. He is taught the best methods of feeding horses, cattle, sheep, and swine, both theoretically and practically, not only as regards proper development, but in relation to the science of breeding and of fattening. He is taught the leading principles that govern dairying in all its departments, even to the best modes of marketing the finished product. The knowledge he receives in horticulture will enable him to grow fruits and vegetables according to the most approved methods, and his instruction in chemistry will free him from many a mistake in the management of soil and of manures.

Then there are those other advantages which arise from social intercourse and the polishing which always arises from mind coming in contact with mind. The physical rawness of those who have been but little away from home is removed, and a new world of progressive desire is brought before the vision of the student which can only be gratified by the constant acquisition of knowledge in coming time.

The increase in the knowledge of human nature is worth a great deal, for where it is seen in its many-sidedness as at a public institution of this kind the tendency is to make young men more wary, hence arises the difficulty that roaming swindlers find in ensnaring the graduates of such an institution.

Young man of the farm, who may chance to read this paper, it is you we are addressing. If you have chosen farming as your future life-work, send away by first mail for a circular of the college and its work. The President will be glad to send you one on application. Peruse it carefully, make up your mind, arrange the work at home, and go to Guelph the 1st day in October next to commence a two or three years' course in the study of agriculture, as you may have opportunity or ability. We are quite sure you will never have occasion to regret taking such a course, and it need not cost you more than from \$50 to \$75 per year, giving you at the same time three months at mid-summer to use as you please.

Now, a word to the fathers who may chance to scan this article. If your boy wishes to attend the college don't throw any obstacles in his way. Let him have the time and money, for soon his opportunities for reaping such advantages as the college affords will be forever gone. You can do without his assistance for sixteen months, and if you give him a chance you will some day have occasion to feel proud of his superior attainments.

Nor need mothers, in such a case, have any occasion for alarm. If rumor is true, the professors of the college at Guelph are not the men either to corrupt the morals of your sons or to neglect looking after their preservation.

The leaders of the future are to be educated men, and as we have said already, in rural districts they are to come from the farm. The young men will do well to bear in mind that those who are *first* ready will have best opportunities in the race for preferment.

The Growth of Winter Rye.

Although rye is a cereal which provides vegetable sustenance for fully one-third of the inhabitants of Europe, its growth has never been much in favor in this country, and its cultivation as a crop to be harvested when ripe is on the decrease. This may be owing to the facility with which we can grow wheat, a crop which brings a better price in the market. Yet, it should not be forgotten that if we take into account the proportion of seasons in which wheat is winter-killed or destroyed by rust, it is at least questionable if rye would not give equal returns in a given number of years.

Rye is extremely hardy. It has been known to produce a good crop on the surface of a soil frozen underneath, and though it will usually grow profitably in any part of the Temperate Zone, it succeeds best in northerly latitudes.

It should be borne in mind that though it will grow fairly well on any of the grain-producing soils of Canada, it has its favorite feeding grounds. It does not take kindly to heavy clays, but luxuriates on sandy and gravelly soils, and when sown on such locations sufficiently early is almost certain to produce a good crop, as it seldom suffers from frost when thus treated. It rarely rusts, and has perhaps fewer insect enemies than any of our cereals.

In localities where winter wheat is not a sure crop the farmers might well consider the advisability of sowing a field of rye. Timothy might then be sown with rye which would secure a good stand of grass for the succeeding crop, thus lessening the danger of failing to get a catch of grass in a dry season. It would also put the labor of sowing over in the fall and would give opportunity of harvesting at a slack time before spring grains had ripened. When the work of the farm can thus be divided the farmer can more readily undertake it, and the danger of loss from over-ripeness in the harvesting is reduced to a minimum.

Rye is very valuable as a food factor in fattening stock, although it should seldom, or never, form the major portion of the ration, owing to its stimulating character. It may be fed profitably in conjunction with oats or oats and bran, but should be fed sparingly to stock carrying their young.

The most important use of rye in the future in this country will, we believe, consist in its value for soiling purposes. It is ready for cutting for green food earlier than any other plant that we can grow. In some parts of Ontario it is quite ready for cutting as early as the 20th of May. It can thus be utilized for the double purpose of cleaning the soil and for producing

a supply of food. Take for instance the case of a field foul with thistles. It may be ploughed at once after harvest and sown thickly with rye, say two or three bushels per acre. The crop may be cut about May 24th. or when in the blossom, and the ground at once ploughed and sown to millet, or a crop of roots grown upon it. It will sometimes answer to let a second crop of rye grow, which may be ploughed under, and then sown to millet. We know of an instance of this the present season, and the millet promises to be an abundant crop. In dry seasons this could not be successfully accomplished; but from what we have said it is very apparent that the thistles in such a case must be sorely disturbed.

One very common mistake in sowing rye, either for the production of grain or for soiling purposes is, that it is sown too late. It is taken for granted by many that if sown at all before winter that it will suffice. If sown late it may survive and produce a return, but the growth in the spring will not be nearly so abundant nor so early as if sown about the same time as winter wheat. If the farmer is crowded with labor, and desires to sow both wheat and rye, then rye can best afford to wait, but neither of the two in this country should be sown much later than September 10th.

With the increase of dairying there will of necessity be an increase in the area of rye sown for soiling purposes, and it may be for grain-growing as well, for in some localities it may yet be found necessary to sow a field largely with the object of getting straw for bedding. It provides green food as early as May 20th, and will carry the cows until small red clover or Alfalfa are sufficiently grown to take its place.

Some persons advocate sowing it in August and then pasturing it in the autumn, treating it in the spring in the manner described. We have not a very large measure of faith in the utility of this. In rainy weather it could not be pastured owing to poaching of the land. Then it would be impossible to prevent the stock from eating closely, which would be adverse to the early growth of the crop in the spring.

From what we have said it is apparent that we cannot afford to dispense altogether with the growth of rye. We have not spoken of its value as a crop on which to seed down in the spring to grass. For adaptability to this purpose it will yield the palm to no crop except barley. Its open manner of growth makes it more favorable than wheat to the growth of young grasses.

Guelph Central Exhibition.

The Directors of the above Fair are putting forth extra exertions this year to make it a great success. The prize list has been carefully gone over and many improvements have been made, one is that they have left off all stallions in the different classes over two years old. This change was made on account of so many spring shows held all over the country for stallions, as it is deemed that it is not necessary to give prizes for them in the fall, and the spring being thought the proper time for showing stallions.

The principal attractions this year will be the speeding in the ring, for which liberal prizes are offered; and also liberal prizes for the person who will harness his horse, hitch it to a buggy, walk twice around the ring, trot twice around the ring and get back to the starting point in the shortest time, in this there will be strong competition and will be a great attraction. Good prizes are also offered for cattle, sheep, pigs, poultry, grain, roots, garden vegetables, flowers, fruit, fine arts, ladies' work, etc., etc.

Altogether they expect to have a good show and a good time. Be sure and see it. See Advt.

Toronto Industrial and Agricultural Exposition.

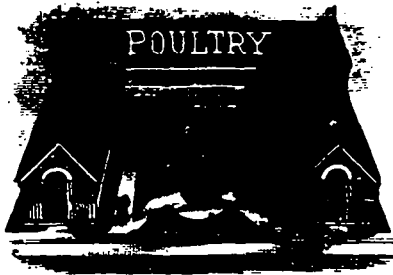
The Industrial and Agricultural Fair of Toronto, which opens on the 9th of September, and continues until the 21st of the month, will be of especial interest this year and for several reasons. The accommodation has been greatly enlarged, and a number of new buildings have been erected for the better display of the different classes of stock at a large expenditure of money. Where possible, the exhibits will be superior to those of last year; and in some instances largely increased in number and variety. The special novelties



THE NEW HORSE STABLE.

and attractions will also be away ahead of anything ever before exhibited or produced in this country. And altogether the Toronto Fair promises to draw larger crowds than hitherto, although these have steadily increased year by year. By a reference to the official programme, it will be seen that a rare treat is in store for all who visit the Exhibition.

Interesting and valuable exhibits from British Columbia will be on view, embracing its mineral and agricultural products, lumber, etc. The Ontario Agricultural College of Guelph will exhibit interesting specimens of grain and corn, with statistics of experiments, which will prove of great value to the farming community. About 600 head of cattle will be displayed, including the best herds; and 800 head of horses, embracing the finest breeds obtainable. There will also be 400 head of sheep, and about 200 head of pigs representing the different classes, and about 3000 poultry, including rare breeds of pigeons and other fowls. The horticultural section will be fully up to the mark with many additions, while the arts and manufactures will be as usual largely represented with many new and interesting features.



The total amount of prizes offered for the coming fair is \$25,000, and nearly the whole of that sum is offered for live stock, dairy, agricultural and horticultural products and ladies' work. Prizes in the horse department have been increased, and a special prize for sheep of \$100 is offered by the American Shropshire Sheep Association for that breed. The prizes in the poultry department have been increased by the addition of many new varieties, and by making all the sections for single birds instead of pairs.

Several novelties have been secured that are sure to

captivate the popular taste. One of these will be dog trotting matches. Master Willie Ketchum of Brighton, will exhibit his famous trotting setter "Doc," whose record, although yet a short one—the dog being only 2 years old—has been simply phenomenal. He is a pure Irish bred setter, a splendid looking animal, and valued at \$5000.

Another attraction of thrilling interest will be the historical spectacular production, the "Burning of Moscow," which of itself would well repay a visit to the fair. Anything approaching to it in thrilling effects, grand displays and magnificent pageantry has never before been witnessed in Canada. As a purely historical event, nothing has approached in heroism and patriotism, the burning of Moscow, of which we have any record. The circumstances that attended it, were sufficiently imposing and significant, to make its repetition in farce, a thing of deep interest to all classes of the public, and when once witnessed will not soon be forgotten.

Other attractions which will become favourites have been announced; and there will be all that one can desire to see and listen to in a single day; while the amusement, entertainment and instruction that will be had will long remain green in the mind and memory of the visitors.

Specially reduced fares will prevail on all railroads during the two weeks of the exhibition. It goes without saying that an immense concourse of people will visit the fair this year from all parts, and judging from what we can learn, the signs are already evident that this will be the case.

Unscrupulous Manufacturers.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL.

SIR,—Holy writ tells us, "Issacher is a strong ass crouching down between two burdens." For Jacob's son Issacher we might read the Canadian Farmer, who is laboring under, and many of them well nigh crushed between, the two burdens of a protective tariff and the manufacturers of farm implements. Regarding the first of these burdens I shall say nothing, because the rest of old Jacob's words to Issacher apply to the farmers as a class, "He bowed his shoulder to bear and became a servant unto tribute."

But with your permission I will take up my parable against the latter. Of them as a class it may be said, "Jeshurun waxed fat and kicked." They have most of them had a monopoly and have amassed wealth very rapidly, and as they are only human—though some of them profess to have their treasures in heaven—they have become arbitrary and extortionate; this is to be seen (1) in the prices they charge for their machines, (2) in the outrageous prices charged for repairs, (3) that they will not sell to farmers for cash any less than the latter can buy from an agent, (4) in the careless way many of the machines are turned out. I will instance. Two years ago I bought a drill, with it came a neckyoke—a special make to suit the tongue. When we hitch up ready for sowing, the ring on the neckyoke will not fit the hook at end of tongue. A big file has to be got and an hour spent to make it go. Five dollars would not compensate for loss of time at that season and loss of temper, especially the latter. Recently I bought an attachment for mower. Cutter bar was sent to manufacturer and returned with everything supposed to be complete; a certain part was too long, result, a broken lever in harvest field. A few years ago I bought a wagon from an agent at Toronto Exhibition, and a hay rack. The rack is three or four inches narrower than the wagon box. And so I might go on regarding many other implements and tools.

The makers do not intend to be so annoying, but they do not take pains to avoid these annoyances and losses to farmers. They are in a hurry to make money and so out go the machines, and when the farmer has it home he wants it of course for use, and so he puts the finishing touches to it with maledictions on the manufacturer; but as he is not an adept at letter writing he does not write to the offender or to the press.

Then what a nuisance the agents are, hindering time and wheedling the farmer into taking what he does not really need. Most of them are fellows too lazy to farm. They are the drones in the hive, and deserve to have the dog set on them when they come inside the gate.

I have written warmly because I have felt the evils of which I complain.

A YEOMAN.

The Dairy.

Attend to All Details.

To make the highest quality of butter, the process must necessarily begin, not simply when the cream reaches the churn but long before this stage, starting with the management of the cows, their food and care, and also including the important feature of treatment of the milk after being drawn. Attention to feeding, carefulness in milking, mindfulness of the health of the cows, vigilance in keeping the stables and all vessels sweet and clean, in union with intelligence in the ripening and churning of the cream and packing of the butter, and observance of strict cleanliness of person all through the process, are the many factors that determine the quality of the butter. The private dairyman has all these separate parts of the work under his own control, and hence ought to surpass the maker in the creamery who receives cream in all conditions and from many sources. The great value placed on creamery butter is because of its uniformity, but there is no reason why the private dairyman by strict attention to details cannot produce a superior article.

A New Test for Fat in Milk.

Prof. G. E. Patrick, of the Iowa Experimental Station, has devised a new method of determining the amount of fat in a given sample of milk. The principle upon which it is based is that the solids, other than the fat, are dissolved, and thus the fat is separated from the rest and it rises to the top of the tube, where it may be measured. The tube used is about twelve inches, and about three-quarters of an inch in diameter at the base, closed at one end and made smaller for a few inches near the middle. The quantity of milk taken is 10.8 cubic centimetres. To this is added 14 to 16 c.c. of a mixture composed of strong acetic acid, about 9 parts; oil of vitriol, 5 parts; and chlorohydric acid, about 2 parts, all by volume. The proportions need not be very accurately measured, as it is not essential for the exactness of the result. After the contents have been completely mixed, the tube is then set on a sand bath (a small saucer of sand) and boiled quickly for ten minutes and then slowly for ten more. The tube being then removed it is allowed to cool, when the fat will collect in the narrow part of the tube, where it may be read off with a special scale. It is somewhat the nature of the Short test, and they are about the same in respect to the easiness of carrying out the details. Though not extensively adopted as yet, many claim that it is likely to prove of value.

Sterling Advice to Dairymen.

At the last meeting of the Eastern Dairyman's Association, Prof. Robertson concluded one of his most interesting and characteristic addresses as follows: "The future of dairying, to my mind, is bound up with the future of the farmers of this province of Ontario. If by any means the farmers of this province

can have their energies awakened into action they will make lots of money out of cheese, but if they cannot be led to think and read and work for themselves, they can never by any extraneous process or method be helped very much. Therefore, let us work at the man who keeps the cow that gives the milk that makes the cheese. In doing so we get these individuals waked up into acting intelligently, and if we do so our success is assured. The foundations of the business will be established, its field extended, its profits increased, and our reputation will certainly be much higher than it is at present. We want better cows kept by better men, better and yet more economically fed so as produce better milk; we need the highest class of men that can be induced to be cheese-makers, for the cost of an extra ten dollars or so a month is nothing compared with the desirability of supporting and strengthening our prime industry of cheese-making. We require, besides, to have a cheaper summer feed for our cattle. You will find by carrying silage from one winter to the following summer that it is possible to get the cheapest food for your cows. Then, having this, you will find it possible to make cows milk at least ten months in the year, and you should begin the milking season, not in March or April, but in September or October. If you want to make the cheese factory profitable make your cows come in in September, and then when you close your cheese factory as a cheese factory, open it the next day as a butter factory, and run your one set of buildings and apparatus the whole winter through, and keep the skim milk for the purpose of raising the best class of calves. When the spring comes the calves will be raised, and you will not need the milk and can send it to the factory. I think winter dairying is full of the greatest promise to Ontario—full of great possibilities. If we only avail ourselves of these new openings for the exercise of intelligence; these starting points for new enterprise and the achievement of new results, we shall have no occasion to be ashamed of either the past, present, or future of our dairying industry."

The Direct Butter Extractor.

The latest wonder of the dairy is the above mentioned machine, invented by Mr. C. A. Johansson, of Stockholm, Sweden. The apparatus is but a modification of the centrifugal separator used in many large creameries. The milk is introduced through radial tubes, and, as in ordinary separators, the cream gathers in the centre. The cream, however, does not make its exit through a tube. In the words of the inventor: In order to separate the butter from the cream in this cream wall the apparatus is provided with a trundle-wheel, which is mounted on a shaft arranged parallel with the centrifugal apparatus. This trundle-wheel stands inside the drum, and its periphery enters the cream wall. It is free to rotate, and the rapidly revolving cream in the drum carries it around at nearly the same speed as that imparted to the cream. The entry of the staves into the cream wall and their withdrawal therefrom effects a sufficient agitation of the cream to cause the butter globules to separate and allow the particles of blue milk to escape from between them, and afterward, as these globules sink down toward the outlet, they are enabled to coalesce and form a mass of pure butter, wholly freed from blue milk. The function of the trundle-wheel is that of a revolving separator, to part the globules of butter and permit the centrifugal force to act upon and drive out the particles of blue milk thus freed; alone, the centrifugal force will not suffice to free these particles.

As the butter sinks down the particles of milk are gradually removed therefrom, and by the time it reaches the delivery point at the bottom it will be a mass of pure butter. The speed of the machine is about that of the ordinary De Laval separator, 4700 revolutions per minute. It also resembles this make much in appearance. It is stated to run easily 25 pounds of milk per minute, delivering according to the quality of the milk one pound of butter during the same time. An analysis of the skim milk showed it to contain 0.19 per cent. of fat, while the butter contained only 1.86 per cent. of casein. Whether the butter will give as good a flavor as that derived from ripened cream is open to doubt, but that butter with such a small quantity of casein and foreign matter in it will keep longer than butter made in the ordinary way does not admit of question. It means a great saving of labor to have one of these machines, but the day is yet far distant before they will come into general use. Their value will undoubtedly hasten the time when such will be the case, but the necessary cost in manufacture, etc., must limit their sale.

Churns.

Though the churn is usually the most carelessly selected fixture in the dairy, yet we are of the opinion in point of importance, not only in influencing the nature of the butter output, but also in determining the expenditure of labor, it ranks second to no other. The many varieties of churns that are distributed among our numerous farm dairies strikingly illustrate the truth of the statement that there is not enough heedfulness paid in selecting them to the features of merit and demerit. Varying greatly though they do in form, yet there is fully as much difference in their efficiency.

Though the worthy features of a good churn may be many, yet it is not, as in the case of some ideals, impossible to find one combining in itself all excellent features. The principle upon which the gathering of butter from cream depends should be known to all churn-buyers. The gathering of butter is the result of the constant impaction of one butter globule, small almost beyond measurement though it may be, against others, until these by adhering one to the other soon appear to the eye as small pellets. The ordinary dash churn possesses the feature of impaction or concussion to an eminent degree, but its other failings override this feature of excellence. The swinging churn, perhaps, shows the greatest failing in this respect, as there is but little direct concussion and much friction, which tends strongly, when the butter is in a partly gathered condition, to spoil its grain. Though the swinging churn, or those with small paddles inside, may bring the butter quicker than most others, yet it illustrates the saying of Lewis that the churn that brings butter ordinarily in five minutes has ruined the butter in two and a half. The churns that best illustrate the principle of impaction are the ordinary square box and barrel churns. The former is sometimes found with paddles arranged in the centre, but this is a feature of fault rather than of merit. The two churns mentioned, the former by being square and the latter by tumbling end over end, bring the butter within reasonable time, and besides do not injure the grain; they also get from the cream as large a percentage of the butter fat as those of most any other form, owing chiefly to the fact that the agitation of the cream is uniform throughout.

In all good churns, also, the gathered butter may be easily taken out, and it may further be easily worked in the churn while in a granular condition. The box

churn, and also the barrel churn, usually have this provided for, as in the former there is, as a rule, a large opening at one of the sides that permits easy removal of the butter, and a similar opening is usually to be found in the end of all barrel churns. This is not only very handy for the removal of the butter while in granular form, but it also easily admits of the introduction of water to wash the butter with.

Ease of working and also the amount of labor necessary to keep it clean are features that should always be considered. If there is anything that has been attributed to make the hand work in the dairy laborious, it is the ordinary dash churn. In the box churn the ease of running will depend on its character, so the aim should be to secure capacity more by length than by diameter; and in the case of the barrel churn, the easiness of running will decrease as the diameter decreases and the length increases. The difficulty in washing some churns is often very great, so that it is a point well worth considering. On this score objection may be made to all churns with such fixtures about them, such as paddles, dashes, etc., as it is a matter of much annoyance and labor to keep them clean. By the introduction of hot and then cold water into the box or barrel churn, and then giving them a few turns, they may be easily cleaned, but such is not the case with most of the others.

Objects of the Ripening of Cream.

There seem to be two chief objects in ripening cream. It is a matter of experience that the butter will separate more readily from ripened cream, and the churning therefore be easier. And it is believed by many that the butter made from ripened cream will keep longer than butter made from sweet cream. A simple explanation is suggested, if not warranted, by the facts at hand, and may be of interest to butter-makers. Dr. Babcock, of the Wisconsin Agricultural Experiment Station, has pointed out that shortly after milk is drawn from the cow there appears in it a fine, inappreciable network of fibres, which produce in the milk a slight thickening somewhat like the clotting of blood, except that it is much less marked. This, which Babcock calls "fibrin," is of an albuminous nature and will readily putrefy. When the cream rises to the surface of the milk, a considerable quantity of this so-called fibrin is entangled with it and is skimmed off with the cream. The butter globules are enclosed in this fibrin, and in churning they must be shaken out. Now, in the time that the cream is ripening the numerous bacteria are at work upon this albuminous fibrin, feeding upon it and decomposing it. The breaking down of the fibrin is also assisted by the acid that is formed by the bacteria, for it is a well-known fact that acid will greatly assist in the solution of materials similar to this fibrin. After the fibrin is thus partly dissolved by the action of the bacteria, the butter globules will much more readily be shaken free from them and churning be made easier.

The keeping property of the butter is easily explained by the same considerations. There is no doubt that bacteria are the cause of rancidity in butter. Bacteria cannot live upon pure fat, but require for food a certain amount of albuminous matter. It follows that the more albuminous matter there is in the butter, the more readily will they grow and the quicker will the butter become bad. If the cream is churned before the albuminous fibrin has become decomposed, the butter will usually contain more of the fibrin than will butter made from cream after the fibrin has decomposed. Butter made from ripened cream will naturally contain more bacteria than that

made from sweet, since the ripened cream itself contains them, but this is a matter of less importance than the ability of the bacteria to grow and multiply in the butter, and for reasons above stated this they can more readily do in butter made from sweet cream.

From this it would seem that the value of ripening cream depends upon the albuminous fibrin that is present in the cream, and any process that diminishes this diminishes the necessity of ripening, at least so far as concerns the two objects above mentioned. Babcock has shown that the quicker the cream rises the less will be the amount of the fibrin entangled with it, and that when cream is separated by a centrifugal machine a considerable part of the fibrin collects on the drum of the machine and less in the cream. It would seem, therefore, that there would be less need of ripening centrifugal cream than that raised in the more common way.

A third object attained by ripening cream is to give a certain flavor to the butter which is not obtained in butter made from sweet cream. This is a matter of as much importance to butter-makers as either of the other two, for the value of butter usually depends more upon its taste than upon its keeping properties. But the relation of the taste of butter to the ripening of the cream, and to the method of handling the butter, is a matter too vague and indefinite at present to warrant definite statements.

CLEANLINESS IN DAIRYING.

It must be remembered that many bacteria are so minute that thousands of them might occupy less space than the point of a needle; that they multiply so rapidly that millions may be produced in a short time from a single one; that organic (animal and vegetable) matters, including many forms of what are ordinarily called dirt, are media for them to grow in; that milk is especially adapted to their development, and the most minute quantities of it may serve for their dwelling-place and furnish food for their rapid growth; and that they are sure to adhere to the surface or cling in the joints of vessels that have contained milk. Bearing all of these facts in mind, the necessity for thorough cleansing of all vessels used in handling milk is apparent. To wash such vessels so that no particles of dirt will remain on the surface or in the joints is extremely difficult. It has been frequently demonstrated that no amount of washing in cold or even warm water will remove all bacteria. It is necessary to use boiling water, and to leave it in the vessels for a considerable time, to destroy the active forms of bacteria that are sure to be present. Even though the active forms may be killed by boiling water in the course of a few minutes, their spores, which correspond to seeds, will resist boiling temperature for a long time. The danger of contamination from spores is not so great but that it may be neglected for all practical purposes, and unless the vessels are contaminated with some dangerous bacteria, a thorough washing in boiling water is sufficient. But vessels in which milk is to be kept cannot be properly cleaned by pouring boiling water into one, allowing it to remain there for a few minutes, and then pouring it into another, and making one heating of the water suffice for the cleaning of several vessels. The last ones thus treated will not be much cleaner, so far as bacteria are concerned, than if they were washed with cold water. To clean vessels thoroughly it is necessary to use a higher temperature than that of boiling water, which can be readily obtained by putting them for a few minutes in a hot oven or on a hot stove. If this is thoroughly done, there is no danger of contamination of milk from the milk vessels.

The use of sal-soda in washing milk vessels is advantageous, because it acts chemically upon fatty

matters (grease), and thus helps to remove them and other materials which adhere to the vessels with them. In like manner, the use of "live steam" to "dry" vessels after washing, has the advantage of sterilizing them, i.e., killing the bacteria by the highly heated steam. - *Storrs School Exp. Sta. Bulletin.*

Red Polled Cattle.

As in many other instances, the origin of this breed is wrapped in mystery. A book published over a century ago, Marshall's "Rural Economy of Norfolk," states that the native cattle of Norfolk at that time were "a small, active, hardy race; the favorite color a blood-red, with a white or mottled face; the head, in general, fine, and the horns clean, middle-sized, and bent upwards." Comparing this with the type of the Red Poll at the present time and the change is wonderful. By some it is supposed that a cross with the Aberdeen Poll has aided in getting rid of the horns. The Suffolk and Norfolk native cattle were separated for a long time, but as they possessed many features in common, they gradually approached one another in form and qualities. Between the years 1828 and 1850 the breed of Norfolk strain became very nearly extinct, but as soon as the Red Polled Herdbook was published in 1874 they advanced so rapidly that the late number of Herdbook contained over 5000 registered cattle, and yet many were not registered by their owners. The amalgamation of the two varieties—Norfolk and Suffolk Polled—took place about the year 1846, and since that time increased progress has been made. Owing to the fact that the breed found favor among many of our southern neighbors, it became necessary to establish an American Red Polled Herdbook in 1883.

Among the qualities claimed for this breed, excellence for the dairy stands forth prominently. It is stated on good authority that a yield of 40 to 45 pounds per day of rich milk, kept up for three or four months after calving, is not uncommon. For hardiness of constitution they have few equals. A recent English writer says that "the eastern counties of England—Norfolk particularly—are exposed to the cold winds from the North Sea, yet these cattle thrive on scanty pasturages where the black and white Dutch cattle, largely imported after 1847, died from lung complications, until none are left; where the lordly Shorthorn wants something beyond what he finds in the field to keep him going." A point in their favor, certainly, is the absence of horns, and their consequent docility. In general appearance this breed is very much like the Devon, leaving out of comparison the rather large horns of the latter. In color and form they closely resemble one another.

A number of years ago we briefly noticed this breed, and we then asked the question, "Who will be the first to introduce this breed into Canada?" Mr. H. B. Hall of Rosemeath, Gagetown, N.B., to the best of our knowledge, justly claims that honor, and he places with us a notice of his herd which may be seen in our advertising columns.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

"As a Man Thinketh."

By PROF. JAS. W. ROBERTSON, Guelph, Ontario.

From force of habit and by following examples set by others actuated by like impulses, farmers have made the end of their calendar year a period for the balancing of their books and the making of plans for the following season's operations. The end of Decem-

ber is a most unsuitable time for the laying out of plans for the stock department of the farmer's business. It is then too late to determine upon the number and kind of animals that can be most profitably stall-fed. It is too late to settle the question of winter dairying for profit; and the season is too far advanced for the making of provision to rear and fatten pigs for the early spring market. The farmer's year of operations had better be reckoned from the 1st of October until the end of September. The nature of his work in Ontario readily resolves itself into two main branches, namely, the growing of plants of some sort wherewith to provide food for man and animals, and the keeping of domestic animals for the sake of their product and the services they may render.

A rough outline including the main features of the following year's work should be formed early in October. The nature of the soil, the locality, the market facilities and other minor circumstances to a certain extent determine for each farmer the class of agriculture which he can follow with most profit. In Ontario, the average farm is better adapted to the style of agriculture that sends to market most of the products of the farm in the form of animals or their products, than for grain growing for direct sale. Other countries, without our equipment of improved stock, and suitable buildings, cannot successfully compete with us in the former line of work, whereas with our high-priced land and comparatively exhausted soils, we are unable to cope in growing grain for sale, with those who occupy land costing less than one-tenth of the amount per acre and still possessing the productive power of its virgin fertility.

We can realize upon the investments in land and building conveniences best through the feeding of such stock as will concentrate the value of all products of which we have to dispose. To do that most efficaciously implies the exercise of good sound judgment in the selection of the animals that are to be kept, in the planning for the food to be grown for their support, in the provision that may be made for the manufacture of their products, and in the conveniences that may be arranged or used for the preservation and application to the soil of the manure that is formed. No system of farming can be devised or recommended which will enrich a man's farm or make himself wealthy or the community in which he lives prosperous, without the exercise of individual energy directed by clear thinking. Neither a machine nor an animal can be substituted for a man's thought. Too many farmers look upon the mere animal or mechanical conveniences of dairy or grain farming as the levers whereby they will lift themselves into a better financial position. The main force, the factor to effect this in all farm work, is good sound practical sense and clear intelligent apt thought that sees the end of the plan from the beginning of the farm practice. A man on a farm or elsewhere can never do his thinking by proxy. Farmers have failed to get the full benefit of other men's thoughts that might help them to a better practice in their own calling, because their attitude towards such thoughts, found in the agricultural press or elsewhere, has been that of men half afraid to search the opinions therein expressed and to pass a just verdict of their own upon them. A misconception on the part of both writers and readers exists when it is supposed that the former have been holding one end of the leading strings to the other end of which the said-to-be blind farmers were attached. Were they compelled in every case to follow the movements of the strings, they would become veritable jumping-jacks, whose farms would afford more occasion for the criticism of their neighbors than sup-

port to themselves or families. The value of thought that has a bearing on his work and which may come from an outside source to a farmer, resides in its power to stimulate him to think for himself and to suggest to him new and better ways of thinking and acting. Instead of presenting specific details for the practice of farmers, let me suggest some food for thought bearing upon certain courses of action with reference to the agriculture of the next ten years.

1. Farm soil is the storehouse for plant food and a convenience for the support of plants in position while living upon the food which they may find there or which they may obtain from the water and air.

2. Since the plants, which a man removes from his fields, abstract from the soil the food which they have consumed, in order to pursue his calling with a certainty of profit he must replace what the plants have removed, and thus prepare his fields for the support of other crops of equal vigor and value.

3. Cattle are to be looked upon as animal conveniences for the further elaboration into valuable and serviceable shape of the food found by them in plants. Their place is in a measure similar to that of machinery,—useful for the change of a raw material into a finished product of higher value. Hence it pays to feed well; it can never pay to keep animals otherwise.

4. The finished marketable product of the animal is not of greater value to the farmer than the waste product or what has been a product usually wasted on a farm, namely, the manure from the stables. It is the source whence the farmer is able to obtain a sufficient supply of plant-food for the maintenance of the fertility of his fields.

5. In the marketing of the animal products, the further the elaboration into reduced bulk and increased value per pound of substance disposed of can be carried, the easier becomes the task of exchanging the farm products for a large amount of money while maintaining the fertility of the fields. In this way the disposal of butter, cheese, fat-pork, fat steers and horses, are the best methods for attaining the end of agriculture in Ontario, which is the making of money or its equivalent while maintaining or increasing the reproductive power of the farms of the Province.

Silo Queries.

Editor CANADIAN LIVE STOCK AND FARM JOURNAL:

(1) I want to preserve about six acres of after grass (timothy and clover). Would it be advisable to put it into a silo, or to try and cure it, as we do hay in the early season?

(2) I want to build a silo 6x6 feet and 9 or 10 feet deep (I cannot well have it deeper than 10 feet). Would such a silo be too small to preserve fodder in?

(3) What amount of grass would such a silo hold when filled?

Any information you can let me have in the September number of your journal will help a new beginner.

South Quebec.

W. W.

(1) If the aftermath is heavy and contains much clover, we would advise you to make silage of it. The difficulty of curing such a crop so late in the season would be great, while by putting it in the silo this would be surmounted. Although the main crop used for ensilage on this continent has been corn, yet not a few have found clover to be as easily preserved, while it furnishes a richer food. In Great Britain meadow hay has been preserved with great success, it being but tightly stacked in the open, thatched, and then fastened down with wire ropes.

(2) If well packed in an air-tight silo, the ensilage will keep just as well in a small silo as in a large, the

only difference being that the proportion that spoils will be greater in the small, as there is always a certain amount that will spoil on the top, along the sides, and in the corners. You do not state whether it could be made any wider. If you can make it wider, do so by all means.

(3) Such material firmly packed would weigh about 40 pounds per cubic foot. The capacity of your silo would be 360 cubic feet, and based on these figures it should hold about eight tons.

Poultry.

The Poultry Interest.

The latest returns of the Bureau of Industries give the number of fowls in the Province for 1888 as 6,164,114. This would give an average of about thirty to each farm home, on the assumption that all the fowls in the Province are in the hands of farmers. Probably most of those from whom we get returns are farmers, hence the remarks which follow will be based on this assumption.

Thirty fowls, all told, is not a large number for each farm. There is room for extension here. On an average Canadian farm fifty fowls can be kept each year without inconvenience to the farmer. In the summer season they will gather a considerable portion of their own living, and on the approach of winter the number may be reduced.

Now, suppose the farmer used the additional two-fifths of the product of his fowls at home, he would be none the worse off as regards his present returns from this source, and would add immensely to the wholesomeness and value of his living. Fresh eggs at all times are acceptable and can be used in a variety of ways, and fresh fowls, when fattened, are justly looked upon as a dainty morsel in every country.

The living of farmers is not what it ought to be, indeed, not what it might be. That provision is not made for his table that might or that should be made, for if any one is in a position to live on the fat of the land it is certainly the farmer. With the poultry department well stocked, the garden well filled with vegetables and fruits, the farmer is in a position to enjoy everything in its season.

Why there should be a total decrease of 274,247 in the number of fowls in 1888 as compared with 1887, is not easy of explanation, nor is it to the advantage of the farming interest that it should be so, for with fowls, as with sheep, a certain number may be kept on every farm with but little or no cost virtually in the summer season, as they gather a large part of their living from sources that would otherwise produce no revenue.

Why, one fowl per week to each farm home, not an extravagant allowance, would be only fifty-two per year. This would necessitate adding more than two-fifths to the whole number of fowls now kept to supply the farmer's table alone.

The rearing of poultry is always one of absorbing interest to the little folks of the farm. They should be encouraged to give it their attention, for all such occupations are humanizing in their tendencies. No egg to a little girl of the man is half so sweet as one from her own pet bird, and a good fat chicken from the flock tended by the farmer's boy is to him more than a royal dainty. They should be encouraged in every way to take an interest in the rearing of this class of farm product. Of course suitable food must be provided, particularly for the winter season. Taking it all in all, no kind of grain is perhaps so suitable

as a winter food as wheat. An acre or two of wild-goose wheat sown at the proper time will carry a large number of fowls over the winter and in fine laying trim, with a few other food adjuncts added. We mention the wild-goose variety of wheat owing to its extreme hardness and the large yield it usually gives.



FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

Various Topics Discussed.

By W. C. G. PETER, St. George Poultry Yards, AGRICULTURE, ONT.

NOTES ON THE SEASON.

The past season, which opened so early and apparently so auspiciously, has not fulfilled the promise of its advent. So far as we have received reports, they are decidedly on the side of a poor season generally in all sections, and breeders who are too well-posted to err in caring for stock or looking to hatches have been equally unsuccessful with their novice brethren. The extremely cold weather in late April and early May depopulated the broods that were then hatching, and great loss occurred in those that were already forward enough to be shedding their down. However, most poultry-men have extended their hatching season later than was intended, and the weather has been all that could be desired for the welfare of the young stock.

GAPES, ROUP, AND OTHER DISORDERS.

In the July number there is an article on gapes. Happily this is a very rare disease here in Canada. I would like to ask Mr. Cockburn if he ever had a decided case of that disease? In all my long experience I have never had one case, and in conversation with others, some of whom have grown gray in the business of poultry-raising, I cannot find one to tell me of an unmistakable case of gapes occurring with him. It seems so easy to read the directions about putting the horse-hair down the wind-pipe with the one hand while you hold the chick and open its mouth with the other, but it takes a very smart man to do it; in fact, he must have that quality in the superlative degree. My own opinion with regard to this complaint is that it is peculiar to the soil, and it may be occasioned by a particular form of larva generating in such soil, because of its adaptability for the life of the germs. One reason for thinking this is that it is generally confined to certain neighborhoods, and if it exists at all but few yards in the locality seem to escape. I have been told by old men in the business that clay soil will always produce this complaint if the birds are kept long on one place. But I cannot speak of this from experience. A frequent source of alarm with those who have not had much work to do among poultry stock is the slight watery discharge from the eyes and nostrils, and frequent sneezing that attacks young birds when about maturing. This is often thought to be the much-dreaded roup, but it is not at all to be classed with that complaint. It is merely a form of chicken disorder, and is very common and contagious. It seems something like the whooping-cough or chicken-pox among children, for very seldom indeed does a flock escape it altogether. It is generally present in a mild form, but I have seen it at times so virulent that the hard sneezing would remind me of a person suffering from influenza. One of the best remedies that can be used, and a preventive as well, is to put into the drinking-water bromide of potassium, allowing as nearly as possible about three grains per day to each. Put the amount in the water that will be used by the flock through the day and give them no other drink, so they must drink that. If you see your chicks about four months old moping and with no appetite, and not ambitious enough to chase a grasshopper

and run him down, with watery look about the eyes and nostrils, and an occasional sneeze, then put this restorative and alterative into the water for them. If an odd one should not even care to drink, give him three grains in a pill made of moistened meal or bread. This form of chicken complaint is soon over; two or three days is all it generally runs. Many people seeing it might think to themselves, "Why, all my chicks have a cold." Roup, proper, is a scourge, and we could not advise treating a had case. The best plan, if very bad, is to kill the bird. The first loss is the least, for the victim would never be of any material use. The best plan to follow is to keep the birds clean, and thus ensure health in the flock. Under natural conditions poultry is peculiarly exempt from disease. It is only when carelessness or ignorance pave the way for it that these scourges begin the work of devastation in our flocks.

EXHIBITIONS.

A word now on exhibiting. We hope to see our farmers uniting themselves to one of the many poultry associations. So many of them are going into thoroughbred stock, and by going among breeders more often in meetings, etc., they will become better judges of what they are buying and breeding. And don't forget to show your birds, friends; take them along. They are not so much trouble to take along as pigs, but I venture to say if you have a good Suffolk or Berkshire you would not go to the show without taking it. Then why not take your turkeys, ducks, and fowls? As I have frequently remarked, you are ahead of the fancier in chances for raising prime show stock. If you get good birds to start with you can beat us every time; but you must make yourself acquainted with the breed, as you would have to do with any other stock. It will not pay you to breed a Jersey cow, or a Berkshire pig, unless you make yourself conversant with the points of excellence they must possess to be first-class specimens of their breed. You cannot breed fine poultry with haphazard mating any more than you can get fine horses by letting your mares breed from any mate that happens along. It is only common sense applied to one of the most interesting branches of farm management, viz.: the breeding of fine poultry.

The Apiary.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

Temperament of the Bee.

By R. F. HOLTERRMANN, Romney, Ont.

The question of disposition of the honey bee does not receive sufficient consideration. The agriculturist has found out that the temperament of his barnyard stock varies, and that the profits to be derived from the animals vary. But the application has not been made to the honey bee as much as it might be. Still some of our most observing bee-keepers, or more properly, bee-martys, have already made some discoveries of merit, and now that a beginning has been made it requires only that the attention of the public should be drawn to the matter to make a closer application and receive beneficial results. We have found that the high-strung, irritable races of bees, those which upon the slightest provocation will attack anything in their way, consume more stores, breed more bees when not required, and are more restless in winter than the quiet and even tempered. So far the application is correct, and it only requires that we should apply this to the individuals in the race of bees. We find individuals differing as much in disposition as

races, and I have come to the conclusion that the queen should be removed from colonies which are of a high-strung, nervous temperament; they wear themselves out more quickly and are unpleasant to deal with, consume more stores and are less liable to winter with success, as they will not settle down to that quiescent state which is so desirable for successful wintering. Either they will not settle down to that condition at all, or upon the slightest unfavorable condition being present they will awaken from it.

Then in handling the bee, how irritating to find the whole colony rush out upon the slightest mismanagement being made, and darting back and forth in front of that extremely sensitive organ, the organ of smell, and at every dart the unfortunate operator undergoes in imagination the agony of a sting. Whilst rough and rude handling is to be condemned, and will be resented by any colony, there is a great difference, and the difference should be noted and acted upon. If you make a colony queenless because her progeny is bad, do not allow the colony to raise a queen from the eggs deposited by her, as the daughter may inherit the disposition of her mother and transmit it to her progeny.

Now I am perfectly well aware there are many who will claim that the colonies I condemn give the best results; this is, however, written in the face of such knowledge, and in opposition, to a large extent, of such knowledge. There may be exceptional cases where such a colony may have an excellent honey-gathering record, but that proves nothing. No more than that many a high-strung individual of the human race makes his mark and does good vastly beyond the man of a more quiet and equable disposition. There are many of the same class, however, who do not confer these benefits, and their warmest friends admit that their average life is not so long as the more phlegmatic.

HANDLING BEES.

It is astonishing to see the difference in handling and working with bees. I can bring to mind now apiaries which I do not care to visit, and only because the bees have been handled so roughly that they resent even the sight of any one, because they recollect they have received maltreatment and nothing else from the hands of some one. Imagine a horse or a dog beaten or kicked by man whenever within reach, and again the same kindly spoken to and gently treated at all times, and you have to a large extent the difference between a colony of bees properly and improperly treated. Never attempt to handle a colony without a smoker in first-class order. If the bellows has become damaged, or any part of it is liable to fail at a critical moment, secure another, and do not grudge the paltry sum. Buy a good smoker, not the lowest priced one. I avoid saying cheapest, for the word so often proves a misnomer. Use good dry wood, or you will have a filthy deposit on your smoker barrel, and even drops of liquid from the nozzle into the hive. Be very careful not to jar the hive before smoking the bees; this angers them, so that no amount of smoking will subdue them afterwards; remove the lid gently, raise one corner of the quill and throw your smoke upon bees and combs, not in dense clouds and for over a minute, but gently and for a few seconds only; then if the combs are stuck to the hive loosen them without jarring and draw them out without crushing bees between combs, at sides, or between end boxes of frames and hive end. If you crush a bee, that bee throws off a scent which a skilled apiarist can detect frequently and which the other bees can detect every time, and it is the signal for an attack. Try to get through all manipulations before

the bees have filled themselves in part or to their full capacity with honey and have commenced rushing about in clusters all over the hive.

HONEY SHOWS.

Bee-keepers have not taken the trouble which they should to place honey before the public. It may be argued, and truly, that the various agricultural societies offer no inducements to the exhibitors of honey; but we must, on the other hand, remember that it is in our interest to make them encourage honey exhibits. A good example of this is to be found in the Brant Bee-keepers' Association. Owing to their energy the prizes offered this year in the honey and apianian supplies list is about sixty dollars. Not bad for a county show, but no more than right. The bee-keepers and their association contribute some, but they in turn know that this outlay will be more than repaid by the increased demand for honey. No one should show anything unless it is good. What will you gain by taking a miserable prize, and then have every one remark about the slovenly exhibit? Of course after a poor season the honey is generally inferior in color and even flavor, and every allowance should be made for such, but otherwise bring only an article of merit, and exhibit it in a tasty manner before the public, and in this matter you will not lose by the transaction.

PRICE OF HONEY.

It is impossible to fix the price of honey all over the country, every one must judge what price he may secure. Do not sell too soon, and on the other hand do not allow it to hang too long upon your hands. It should be disposed of at least a month before maple syrup comes in; retail when you can, and do not send it away on credit to a stranger.

Horticultural.

Securing Grape Cuttings.

At the late meeting of nurserymen across the border, an authority gave the following method of securing good grape cuttings and stocks: "There are three important requisites to be considered, viz.: Select good, strong, well-ripened wood, well-handled, and planted with care. Grape cuttings should be cut from seven to ten inches long, with two to four buds to each cutting, tied in bundles of 100 each with willow ties; never tie with wire; the rust of the wire soon penetrates the cutting to the pith, and thus renders it worthless. As soon as they are cut and tied they should be immediately heeled in the ground, or placed in the cellar in damp packing to prevent evaporation. If heeled in for the winter, invert them by placing buds up and tops down; let them remain there until planting time. If in taking them out in the spring before planting you find they are not in a good moist condition, you should either wet them well in the ground and let them remain two or three days, or soak them in water twenty-four hours previous to planting. The cuts should be planted deep enough to leave but one bud exposed. If weather is dry hoe up a little mellow soil over the buds. In order to secure best results, the ground should be put in the highest state of cultivation and given clean culture."

The Farmer's Garden.

The farmer's garden should be the object of his earnest concern, but oftener it is not. There is a great deal more bound up in its prosperity than he is usually aware of. Its value consists not so much in

the intrinsic worth of its productions as in their relative worth, viewed from the standpoint of its beneficial effects upon the health of the farmer and his family. A want of vegetables and fruits, each in its season, is a great lack.

By exercising due diligence every farmer may have a full supply of fruits and vegetables the greater portion of the year, and in the very finest and best form. Those who are not in such a position would do well to give this question their thoughtful attention at this season of the year, as the best farmers' gardens are put in shape in the autumn for the next year's production.

In laying out the farm garden a small piece of ground only is necessary. One portion of it may be entirely devoted to the production of small fruits, as currants, strawberries, gooseberries, and raspberries, and the other portion to vegetables. Where fowls are not running at large, it is better without than with a fence. It may occupy some portion of the lawn, simply in the rear of the dwelling. Where exposed to fowls, the fence should be sufficiently close and secure to protect it effectually.

The small fruits may occupy one portion, in rows of course, and so far as practicable in squares to admit of horse hoeing both ways. Rhubarb, and all plants permanent in their habits of growth, should have a place in the portion where the fruit is, which admits of the most thorough autumn cultivation of the vegetable portion without anything to interfere.

Everything should be so arranged that the horse-hoe may be used to the greatest possible extent, for hand-hoeing is diminished and growth is promoted in proportion to the frequency and thoroughness with which the horse-hoe is used.

In autumn the manure should be applied where the soil is not very open below. We need scarcely add that it should be sufficiently decomposed to prevent the growth of weeds. The ground may then be deeply trenched with the plough in the vegetable portion. Where the drainage is sufficient this will give ample time for the soil that is exposed to mellow through exposure to the weather, so that by springtime it may be harrowed down and stirred with the cultivator more or less deeply, according to the object sought, when it is ready for planting early in the season.

It is not advisable to have fruit trees growing in a vegetable garden, not even in that portion of it where the small fruits are, as they will impede cultivation and injure the crop beneath by their shade.

A garden handled according to the mode that we have given need not interfere seriously with the work of the farm. If the horse-hoeing is kept well in hand, the children of the farm will do a large portion, if not all, of the weeding, and it will be a source of pleasure to them, rather than the opposite, where the family has been rightly ordered.

A good clean farm garden is a thing of beauty as well as one of utility. The pleasure it gives and the health it promotes are an hundred fold return. The only one who would suffer by it is the physician, whose annual fees would be somewhat less.

Instead, what do we too often find? An entire blank where the garden should be, or an apology for one, deplorably neglected, the weed and the thistle growing broader and higher, as though they were in the garden of the sluggard. Many and many a farmer will take an honest pride in showing you over his farm or through his buildings, where everything is most commendable, and yet he feels ashamed to have you see his garden.

It is another instance of that self-deprivation too common in the country, where the choice of the fowls and of their products, the choice of the lambs and of many good things the rightful heritage of the farmer's

wife and children, go to feed others. With all these disadvantages, the free air and quiet habits of the farm nourish fine brains, but they would do this a good deal more effectively if the vegetable garden was of suitable dimensions and properly kept, providing in season throughout the year a large quantity of varied food well-adapted to sustain the waste of that strange thing called life.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

Top-Grafting on the Talman Sweet Apple Tree.

By D. NICOL, Catarqui, Ont.

Many of the choicest varieties of apples, such as the Northern Spy, Ribston Pippin, R. I. Greening, Gravenstein, Baldwin and King of Tomkins County, which are somewhat tender, can be grown successfully by root-grafting or by budding on common stock only in favored localities; yet by top-grafting on hardy stock they can be satisfactorily grown where only hardy varieties succeed in the ordinary way.

The Talman Sweet is peculiarly adapted for this purpose. Next to the Crab, and the Duchess of Oldenburg it is the hardiest of all known varieties. Indeed, I have found it to be quite equal to the Duchess in this respect. I have known trees of it so mutilated by cattle and horses as to be considered completely destroyed, yet when given a fair chance recovered and became remarkably healthy and good bearing trees. In fact there is no kind of apple tree that will stand as much hard usage and survive. It is less particular as to soil and situation than any other kind of apple tree. It endures dry seasons better than most sorts. Its bark being of a thick, tough, leathery nature, soon overgrows almost any wound; and good, sound grafts inserted into its branches seldom fail to grow. Its growth is very much of the same habit as that of the Duchess, throwing out its branches at nearly right angles with the trunk; unlike the Spy, which forms forked crotches that readily split when it comes to mature age. I have never known a Talman Sweet tree split at the crotches by weight of fruit, by accumulations of ice or by wind storms. In short it is the most enduring kind of apple tree that I know of.

It should be observed that in top-grafting any kind of apple tree the whole top should not be cut off at once, because the too severe check is apt to kill the tree. A far better way is to make a two or three years' process of it; the first and second year grafting only each alternate side branch, and finally the third year grafting the top branches.

Branches into which grafts are to be inserted should not be cut off too close to the trunk, where they are of large size, but rather where they are subdivided into branches about 1 or 1½ inches thick; then the joint quickly heals over; whereas, when grafts are inserted into the side of a large stump they are much more readily broken off.

There are now growing throughout the country a great many Talman Sweet trees—perhaps more than of any other variety of apple. I know of many instances where orchards were planted years ago, and now all that remains of them is the few Talman Sweet trees which constituted part of the selection.

The Talman is by common consent adjudged to be the best baking apple; yet it is hardly seen in any market in Canada; therefore it is of little value beyond what is required for family use, and for that purpose one or two trees in an orchard is sufficient. If all the others were top-grafted with choice sorts there might be much more good fruit grown.

Furthermore, I am of the opinion that in localities which are not favorable for the growth of the most desirable sorts in the ordinary way, it would be advisable to plant Talmian Sweet trees for the purpose of top-grafting with such sorts, simply because on trunks of Talmians most varieties will endure much longer than on any other kind of trunk.

The quality of the fruit is never impaired by being grown on this kind of stock, but in many cases is quite perceptibly improved, although "why" is somewhat of a mystery to me and others.

The Home.

Eventide.

- " Now I lay me down to sleep
Long and hard has been the day,
I have come a weary way
Since life's morning, but at last
Night is falling, sweet and fast
" Now I lay me down to sleep
" I pray Thee, Lord, my soul to keep
I have tried 'alas' in vain
From the world's dark soil and stain
Free to keep it. Weak and worn
With my strength all overborne,
" I pray Thee, Lord, my soul to keep
" If I should die before I wake
Treasures have slipped fast away
From my keeping day by day
And I shrink from coming ill,
This thought holdeth joys glad thrill
" If I should die before I wake
" I pray Thee, Lord, my soul to take
From all the sorrow it hath known
Sins and loss, and tear and moan
To the dear ones gone before,
To Thy presence evermore,
" I pray Thee, Lord, my soul to take
" This I ask for Jesus' sake
Name alone that can prevail,
Anchor-hold within the vale,
Every other plea has flown,
Worth or merit claim I none;
" This I ask for Jesus' sake

Kate W. Hamilton, in *Pansy*

A Great Secret.

Men have walked unconcernedly over hills that were considered worthless at the time, although deep in their bosoms were rich veins of yellow gold. Others have roamed over rich regions of wonderful fertility, content to feed themselves and their children upon a piece of unsavory flesh, where now the choicest fields of wheat are grown, and others have laid them down to die of thirst within a stone's throw of living water. All these erred in their innocency, and are more to be pitied than blamed.

But there is a class far more numerous whose whole life is a far greater mistake. They belong to no one tribe, or clan, or nation, but are in numbers wherever the human race is numerously found. One of the grandest secrets of life they have never learned, and yet it is within their reach: a secret that would moderate the cold of winter and the heat of summer, and that would make the heavens overhead, "Oh, so bright!" We refer to the great secret of knowing experimentally that *doing good is its own reward*, or, in other words, that the reflex influence arising from doing good to others abundantly repays the doer in the very act.

The motive that prompts to the deed will always have a modifying influence, the satisfaction following always being proportionate to the purity of the motive. The same act may be performed by two individuals

and very different feelings follow, because the motives that have prompted it are very different. One may give a piece of bread to the hungry out of compassion, and in the doing of it will be repaid a hundred fold; while another may do so that men may sound his praises, and thereby rob himself of the best part of his reward; and a third performs the same act, the almoner of the bounty of the state, his heart feeling no thrill of the happiness that pervades that of the first party.

This law is, without a doubt, divine in its origin, and, like every other divine law, unfolding in its exactness and the universality of its application. It has its fountain in the counsels of eternity, and flows through time a mighty river, parted into a thousand heads for the *fructifying of the desert and the waste-places of the earth*, and would, if all men would drink of its waters, make a smiling Eden of the whole world.

There is no class in life who are debarred from its benefits by any other hindrance than some barrier of their own construction, for there is not a man upon the earth who may not show kindness to his fellow-man if he so wills it. The king upon his throne and the beggar at the door of his lowliest subject may share alike of this fund of happiness that eternity itself shall not be able to exhaust.

The marvel is that the pleasures arising from doing good to others are so little known. That a man should grow gray without having tasted of those joys is strange indeed, and yet the world is filled with such. Happy is he who early in life learns the great secret, and puts it into practice all his days. He has within him a fountain of happiness, a well spring that is always running over; his whole life is a perpetual feast.

Why, it may be asked, do some pass through life with the secret unlearned? Do not all enter into relations with others whereby they must do them kindness? While this is true, the motive may be faulty. Self, that hideous spectre that haunts so many all through life, even in the apparent good they do, may be the mainspring, hence the reflex currents of happiness, congealed by the motive, refuse to flow.

And yet it is a secret so early learned. The opportunities of doing good to others are ever recurring. No day passes over us without meeting them numerous, unless when completely isolated. We meet them in the highway, in the field, in the household, everywhere, so that we never require to go in search of them. We have but to embrace these opportunities as they pass, lend a helping hand sincerely to our fellow pilgrims on the journey, and the great secret, worth more than the pearls of Ceylon, is ours.

The secret once learned, the habit of doing good usually becomes one of rapid growth. The person who has tasted of the fruit that grows upon this tree of Paradise is never satisfied, and therefore is impelled in the pathway of duty, so that his efforts to lessen the cup of human sorrow multiply as the tide rolls on.

Reader, have *you* ever felt a thrill of satisfaction such as you never felt before after doing kindness to some fellow-mortal from whom you never expected benefit in return? Ah, then you are to be pitied indeed. Your heart has been caged all your life in a dismal little prison, into the dark avenues of which the true sunlight of heaven has never shone. Go, and learn the secret before it is too late, for when once it is learned you will not require to seek the excitement of the ball-room to give you a passing gleam of earthly happiness, nor the expensive luxury, of very doubtful benefit, of the distant watering-place to drive dull care away. You will then be the possessor of what will gladden the remainder of the journey, and that will brighten all the long forever "over there."

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

His Jewels.

It is the evening of an October day. Two children of five and seven years, respectively, and their dog "Scott," make the picture.

School is dismissed, and they start homeward for a walk of a mile and a half, through woods at least one mile of the way.

Bears are in those woods, and the howl of wolves may at times be heard; a deer may see them and turn at their approach, or the partridge start up before them. They are a brave little pair, our Maggie and Freddie, as they turn eastward and face the dark shadows of the forest. The setting sun lights up the western horizon, but to it our children turn not. And why so brave? They are motherless little ones, but strong and not afraid, because they know God is caring for them, because they have perfect trust that He is with them and takes care of them. Happy the teacher and great the privilege of influencing these little ones and using it aright!

Freddie voluntarily turns to the subject, and says: "God takes care of us;" then adds in his hesitating childish accents what he shall do to please Him. And from under the broken hat rim and above the bare feet the little man shows the possibilities of the man there may yet be. Maggie follows with the reassuring "Big people are the sheep and children are Jesus' lambs, and He will take care of them."

Wise little philosophers of unwavering faith! may you ever be as now in this, and may you through life thus simply trust even as little children. You have taught your teacher a lesson, and brought her back to Jesus' feet. In that quiet walk through the autumn woods there has been found rarest pleasure; and those little pupils, with their simple faith and innocence, have shown that while grasping for barren rocks, "Christ's jewels" to use Freddie's own words—have been undervalued. Yes, *His jewels*, and precious in His sight, the highest privilege given mortal to lead, as His messenger, such little feet and turn such minds to Jesus. K. ROBERTSON.

Stralane.

Jottings.

Latest Reports from the Northwest. Our Northwest correspondent writes from Winnipeg, under date of Aug. 2nd, as follows: "Fine weather, and in respect to the crops, very fine everywhere. . . will on all good land come up to a good average. Potatoes doing well; showers this week helped them considerably. Harvest well along, and a little threshing will be done next week in the south. The prospects have brightened in many respects."

American Horses in English Market. The Aberdeen *Free Press* says: Mr. John M. Hattie, Aberdeen, landed this week from Montreal eleven very superior carriage horses by the steamship *Citrus*, four of which he sold immediately on their landing to Mr. Robb, of the Caledonian Railway Company, Glasgow, at £100 each. Mr. M. Hattie within the past few days bought several well-bred Clydesdales for Messrs. Nelson & Sons, including several of the Aberdeen winners.

Alma Ladies' College, St. Thomas, Ont.—Graduates of Alma Commercial College are now in lucrative positions in the leading cities of Canada and the United States. Full courses in Book-keeping, Phonography, Penmanship, Type-writing, Certificates and Diplomas granted. Young ladies pursuing either of the above courses can also enter for Music, Fine Arts, or Elocution, and enjoy all the advantages of residence. Rates low. 60 pp. Announcement free. Address: Principal Austin, A.M.

Changes Recommended.—Mr. John R. Martin, C.C.A., Cayuga, Ont., is now on a visit to Ireland, and writing in the *Irish Times* of August 5th, he recommends the landing of store cattle from Canada on the west coast of Ireland, instead of Scotland, and finishing them there. He argues that Ireland has a

decided advantage over the north of Scotland both in climate and pasturage. The proposal is worthy of consideration. As a return cargo, he suggests that the marbles of Comemata would answer very well, in addition to Caragen or Irish moss and other things mentioned in the letter.

A Loss that Might be Largely Prevented. The foreign live stock trade, the traffic in store and fat cattle to this country, as distinct from the necessarily careful transit of well-bred, high priced animals for breeding purposes from the United Kingdom, continues to claim a heavy total of victims. During 1888, in the course of a voyage from Canada and United States, 2,066 animals were thrown overboard, 164 were landed dead, and 1,712 were so much injured or exhausted that they were killed immediately after landing, making a total of 2,942 that were either lost on the passage or so much injured as to necessitate slaughter at the place of landing. The Society for the Prevention of Cruelty to Animals does not seem to consider that this is any call for its interference. *London Live Stock Journal*.

Testimony in Favor of the Silo. Four years' experience in feeding corn ensilage to a herd of 100 or 120 head of cattle and horses (more cows) has impressed me with the fact that for wintering stock of any kind the cost is reduced fifty per cent. Corn silage fed to milks with wheat bran crushed oats or oil cake, or a mixture of all these, makes higher and better flavored butter (nearer a June flavor) than can be made from any dry feed, and I will add, more of it. Colts, work horses, and brood mares do well on it. By doing well I mean that colts grow and keep in fine condition, work horses do good work and keep in fine, healthy condition; and brood mares bring strong, healthy colts and have plenty of milk for them. Pigs do well, but need maddings or some nitrogenous food to make a good growth. *A. Austin, in O. Field Farmer.*

The Barberry Not Accountable for All Wheat Rust. At the recent meeting of the Society for the Promotion of Agricultural Science, held in Toronto, Prof. J. C. Arthur expressed himself as being of the opinion that there was more than one species of fungus that was involved in producing what is commonly known as wheat rust, and that winter wheat would carry these newly discovered species of red rust (*Puccinia rubigo-vera*) over the winter without the agency of the barberry. He found that all the rust that was collected over the State of Indiana was of this kind, while it was formerly supposed to be due to the attacks of the other variety (*Puccinia graminis*) that requires to have the barberry as a host. This leads him to think that most of the rust on this continent is of this new variety, and hence the barberry is not accountable for all our wheat rust.

A Change for the Better. The Steele Bros. Co., Ltd., finding that their location on Front St. in this city was not suitable for the retail trade, opened extensive premises on King St., opposite the market, early in the year. They retain the old warehouse for their lumber department and offices. Mr. W. H. Maron, formerly of the firm, now one of the company, has charge of the new store, which is very handsome and commodious, the fine large plate glass windows showing the goods to advantage. We had pointed out to us several new samples of fall wheat including the now famous "Golden Cross." They have a very fine assortment of bulles. Their handsome fall catalogue of wheats, bulles and winter flowering plants is now ready. It contains information and instruction that is useful for the busy outdoor worker. When in the city at the Exhibition do not fail to call.

Manitoba Exhibit at Our Fall Fairs. The exhibit of Manitoba products which is being collected by the Government of that Province will, it is expected, arrive in Toronto the first week in September. The applications received this year for the Manitoba exhibit to be sent to fall fairs in Ontario are far in excess of those of previous years, and owing to the importunities of exhibition secretaries, and the fact that many fairs are held on the same date, Mr. McMillan, the agent here, has found it difficult to decide the various claims. In all probability the exhibit will be sent to fairs at the following places: Toronto, London, Ottawa, St. Catharines, Welland, Goderich, St. Thomas, Cayuga, Smithville, Acton, Fergus, Essex Centre, Otterville, Ridgeway, Renfrew, Belleville, Campbellford, Port Perry, Durham, Stayner, Beeton, Orangeville, Elmavale, and also to some points in Glengarry, Frontenac and Addington, which are not yet definitely decided upon.

Important Meeting of Shire Breeders and Importers. The Shire Horse Association, having been formed a short while ago, holds its first regular meeting at London, Tuesday, Sept. 10th. It is hardly necessary for us to urge it as the duty of all interested in the Shire horse industry to attend. We need only say that matters of great importance will be brought up for discussion. Being but a new association, it is in urgent need of the hearty support and full sympathy of those having an

interest in this breed. As to the benefits that shall accrue from the formation of a strong association with a long membership roll, we need not call attention, for all must feel and know that such would greatly facilitate the progress of the breed in this country and greatly aid its advancement also, as a whole. The effectiveness of the work of this association will be largely governed by the number of its members and the attendance at its annual meeting, so everyone at all interested should not fail to attend and aid in every way the association in the good work it has before it.

What our Neighbors are Doing. Our Experimental stations now employ over 170 experts in agricultural science and practice, and are supported by an additional appropriation of \$600,000, to which the States add about \$125,000. \$725,000 a year may seem like a large sum to expend annually for agricultural experiments, but it is less than 10 cents for each of the 7,500,000 farm workers of the country, less than 1/2 cent for each of the 150,000,000 of our population directly dependent upon agriculture for their support, and less than 1/4 cent for each of the 600,000,000 of our people who consume the products of our farms. The farming lands, farm implements, and live stock of the country are estimated to be worth \$120,000,000,000. The experiment stations cost us, therefore, about \$0.25 a year for every million dollars invested in agriculture. Or, reckoning the annual value of the products of our farms at \$2,000,000,000, we are now spending 1/4 cent for every thousand dollars worth of products in an attempt to increase the value of these products in future years. *Farmers Bulletin, No. 1.*

Prize on Southdowns. The American Southdown Association offers as a special prize at the American Fat Stock Show, Chicago, November 12-21, a solid silver cup, costing \$50, for the best Southdown wether, on the following conditions: 1. All competing animals to be one and under two years old; to be pure bred, the progeny of recorded sires and dams, and to have been bred by and at the time of exhibition to be the property of the exhibitor. 2. The exhibitor to furnish at the time of entry a written statement, verified by affidavit, giving the pedigree, age, weight, date, and manner of feeding, and other important facts connected with the management of each animal during the year. 3. Competition shall be open to all, but no award shall be made except there be two or more competitors. 4. The party securing the prize may hold it in trust until the opening day of the first succeeding Fat Stock Show, when it shall be placed in the hands of the American Southdown Association, to be again competed for. When taken the second time by the same exhibitor the prize shall then become his actual property.

Nursery Stock Salesmen Wanted. Being over thirty years in the nursery business, the Chase Brothers Company have earned for themselves a reputation that stands to their credit for uprightness in all their dealings, the outcome of an earnest desire to do well by those who patronize them. They have, under careful and experienced propagators and cultivators employed by them, about 200 acres of land under cultivation, and this is all needed to meet the demands of their many customers. Their head office is at Rochester, N.Y., with large branch offices at Chicago, Ill., and another at Colborne, Ont. They are always on the look-out for good, reliable salesmen to canvass for their nursery stock. The status of this firm, its magnitude, and the quality of their output should be inducements for those fitted for this work to engage with them. As an indication of the business done by this firm, we need only cite the fact that for the Springs of 1884, 1885, and 1886, they planted a total of one million and sixty-seven thousand of apples, pears, plums, etc., including all the smaller fruits. See their advertisement for salesmen.

Inflammation of the Throat. The following was received too late for classification. *Editor Canadian Live Stock and Farm Journal.* SIR, Will you be kind enough to let me know what is the matter with my cows and what I can do to cure them? They have slight coughing or choking spells, and run out their tongues and often hew when these attacks come on. They have a difficulty in breathing, and the attacks seem to be worse after drinking. One we were milking failed so much in flesh that we stopped milking her. They have the same pasture that they had last year, and have access to a small piece of timbered land and have good well water to drink. *Subscriber, Russell, Ont. Answer by F. C. Grenside, F.S., Campbell, Ont.* Inflammation of the throat appears to be the trouble from which the cows are suffering. It is very likely the result of damp weather and cold nights, especially if the pasture is low lying. Give half an ounce of chlorate of potash three times a day in chopped oats or lean mash. Put mustard, prepared as for table use, on the skin surrounding the throat. Avoid damp and cold by housing.

The Milking Trials at Windsor. The cows were classed into three sections, according to live weight, as follows: For those over 1,200 pounds; second, for those weighing from 900 to

1,200 pounds, and third, for those under 900 pounds. Prizes were offered (1) for the cow of any breed or cross giving the greatest quantity of milk, containing not less than 12 per cent. solids and 3 per cent. butter-fat, and (2) for the cow giving the greatest weight of butter-fat, the yield of milk to be not less than 25 pounds per day. The first prize for quantity of milk in the heavy class was won by a Shorthorn cross, which gave 61 lbs. 4 ozs. in two milkings. In the middle-weights, by another cross-bred cow, giving 51 lbs. 4 ozs. of milk; and in the light-weights, by a Jersey, which gave 47 lbs. 12 ozs. of milk. In the class for amount of butter fat, the winner of the first prize for heavy cattle was a Guernsey, which gave in two milkings 46 lbs. 12 ozs. of milk, yielding 2 25 lbs. of butter-fat. A Guernsey cow was also first in the middle weight, with 39 lbs. of milk, yielding 1 78 lbs. of butter fat, and in the lighter cattle a Jersey won the first prize, giving 48 lbs. 8 ozs. of milk, yielding 2 24 lbs. of butter fat. *The Dairy.*

Meeting of the Dominion Sheep Breeders' Association. In the August issue of the JOURNAL we announced in part the programme of this meeting. The programme is now completed. The meeting will be held in the City Hall, London, on Thursday evening, Sept. 12th. The following persons will read papers on the prospective subjects named: The Proper Classification of Sheep at Fairs, by J. C. Snell, Edmonton; The Value of the Silo and Sowing Crops for Sheep, by John S. Pearce, London; The Proper Method of Getting up Fleeces for Market, by Ald. John Hallam, Toronto; What a Canadian Sheep-raiser can Learn in England, by John Campbell, jr., Woodville; Protecting the Flocks from the Dogs, by John Dryden, M.P.P., Brooklyn, and David Nichol, Cataragui; The Sheep for the Farmer, by Mungo McNab, Cowal. Mr. Mortimer Levering, of La Fayette, Indiana, Secretary of the American Shropshire Association, will be present and will address the meeting on the advisability of joint American and Canadian records for sheep. The sweepstakes silver plate, given by John S. Pearce, of London, to be competed for at the Provincial Exhibition, will be presented to the winner at the close of the meeting. Hon. Chas. Drury, Minister of Agriculture, is expected to be present and will deliver an address.

Butter-Making Without Churning. Australian papers give a full description of a new process of butter-making without churning, which has been on exhibition for about two months in Australia. The butter globules are separated by passing air through the cream, and at least two advantages are claimed for the process. In the first place, there is a great saving of labor, and secondly, it is said the butter is purified by the circulation of air through cream tainted by strong fodder or by being kept too long. In a recent trial three strong glass vessels were provided for the cream, large enough to make about 80 pounds of butter at one time. To obtain the air-power water is run into an empty tank, forcing the air therein through a pipe into a second tank filled with water, with which some unknown material is mixed to purify the air passing through it. After being forced through this intermediate tank the air enters each of the glass vessels near the bottom and rises through the cream, escaping, presumably, by a valve at the top. In from twenty to sixty minutes, according to the condition of the cream, the state of the weather and other circumstances, the butter rises to the top of the vessels, and the latter-milk is drawn off from below. No details are given as to the proportion of butter to milk, or as to the percentage of butter-fat left in the latter-milk. These points must be investigated before the process can be regarded as of any value. *The Farmer.*

Live Stock Importations.—Since May 21st, 1889, the following list of stock have arrived at Quebec cattle quarantine: May 27, per steamer Nannaton, six bulles, ninety-one heifers (Aberdeen-Angus), for Union Ranch Company, Okotohs, N.W.T.; May 29, per steamer Ontario, one boar, six sows (Yorkshire), for Wm. Davies & Son, Toronto, Can.; June 28, per steamer Assyrian, one bull, two heifers (Norman breed), for Hon. L. Beaubien, Montreal, Can.; July 2, per steamer Sarnia, one Hereford bull, for Davies & Co., Lachine, Que.; July 7, per steamer Nannaton, one bull, nineteen heifers (West Highlanders), for Mr. G. D. McKay, Qu'Appelle, N.W.T.; July 8, per steamer Ontario, two boars, six sows (Yorkshire), for Green Bros., Innerkip, Ont.; July 17, per steamer Lake Winnipeg, one ram, thirty-two ewes (Shropshire), for James P. Plin, Hespeller, Ont.; July 18, per steamer Toronto, one Shorthorn bull, one boar, two sows (Berkshire), two rams, twenty ewes (Shropshire), for Dr. Bernardo, N.W.T.; four rams, seven ewes (Hampshire), one ram, five ewes (Dorset), for John Pickering, Pontiac, Mich.; July 23, per steamer Montreal, 105 Shropshires for John Dryden, Brooklyn, Ont.; twenty-five Shropshires for Robert Miller, Pickering, Ont.; fifty-five Shropshires for John Campbell, Woodville, Ont.; fifteen Cotswolds, twenty-seven Berkshires for J. C. Snell, Edmonton, Ont.; thirty Cotswolds, fourteen Berkshires for James Main, Boyan, Ont.; eight Southdowns for John Jackson, Abington, Ont.

A Plank Drag.—Cost considered, the best implement for pulverizing the soil is a plank drag, and if I must choose between this and a roller I should take the drag. To do the best work the drag should be used on fresh plowed land, or at that time after a rain when the land crumbles at a touch. One great advantage of the plank drag is that you can go over so large a breadth with it in a day. Two horses can easily draw one which covers a sweep of ten feet, and with this from fifteen to twenty acres can be dragged in a day, while with a drag eighteen feet long, and two horses at each end, from thirty to forty acres can be covered in a day, as every mile the team walks covers over two acres. All that is needed to make a plank drag is simply to bolt the planks together, lapping each plank four inches on to the top of the one in front of it. Use strong, three-eighths to a half inch bolts and iron washers, and put in enough of them to make the drag firm and strong. I find three planks two inches thick, a foot wide, and ten feet long, make a drag of just about the right weight for two horses when the driver rides. To hitch to it there should be two clevises attached at equal distances from each end, so that they will be from five to six feet apart. Attach a chain to them with enough slack so that in drawing the doubletrees will be a foot and a half from the drag. This will make it run steadily, while if the hitch is too near the centre it will see-saw, first one end and then the other being ahead.—*Waldo F. Brown in Ohio Farmer.*

Washing and Salting Butter.—To determine if salt would diffuse through butter, cups were filled with clear, fresh well-water, and covered over the tops with muslin cloths securely tied about them. The cloths were then covered with a solid layer of butter, plastered one-fourth of an inch thick, and the cups then immersed in strong brine. At the expiration of a week no saltness could be detected in the water in the cups. Other cups, similarly prepared, excepting that the butter layer on the muslin was but a mere film, and likewise placed in strong brine, gave the same results. Lard acted likewise. Butter laid upon the muslin, pressed when hard in a mould, and cut to one-fourth inch slices, passed no salt through, unless interstices existed between the granules large enough to be plainly seen with the naked eye. Tests were made upon the question of salting butter with brine. Butter placed for 30 minutes in a very strong brine, absorbed only from 25 to 29 per cent. salt. Other samples of butter, in lots having both small and large granules, were stirred in strong brine, 1, 5, and 30 minutes. The quantity of salt found in the small granules was .22, .28, and .31 per cent., and in the large granules .13, .18, and .23 per cent., according as to the time of immersion being 1, 5, or 30 minutes. Saturated brine, containing enough salt to show in flakes upon the surface, saturated the water in the butter by washing the latter when in a granular state. More salt can be incorporated into the butter if left 10 minutes in the brine than if taken out sooner. If the churn is stopped when the butter granules are very small, brine salting may be accomplished most easily.—*Minn. Agr. Exp. Sta. Bulletin.*

The New Cattle or Horn Fly.—Many notes have appeared in the papers during last summer and the present summer concerning a new pest which is worrying cattle in Pennsylvania, New Jersey, Delaware, Maryland and Northern Virginia. It is a small fly half the size of a house fly, which settles in great numbers around the base of the horns and other portions of the body where it cannot be reached by either the tail or the head of the animal. It sucks a moderate amount of blood, reduces the condition of the cattle and lessens the yield of milk from one-third to one-half. This new pest has been investigated the present summer by the Department of Agriculture through the Acting Entomologist, Mr. L. O. Howard, who has succeeded in tracing the entire life history of the pest. He finds that the fly lays its eggs, usually at night, in freshly dropped cow-dung, and that for the development from the egg through the maggot stage to the perfect fly again, a space of only twelve days is necessary. This rapidity of reproduction accounts for the wonderful numbers in which these flies appear, and it follows with reasonable certainty that the insect will pass the winter in the quiescent stage at the bottom of dung dropped late in the fall (the approximate date to be determined later). The preventative is obviously to lime the dung in the fall in places where the cattle preferably stand at night. At the present time applications may be made to milch cows and valuable animals which will keep the flies away. The applications may be (1) fish-oil and pine tar with a little sulphur added; (2) tobacco dust, when the skin is not broken; (3) tallow and a small amount of carbolic acid. The latter application will also have a healing effect where sores have formed.

The Woodlands Importation of Clydes.—We have had the pleasure of inspecting the Clydes of the Woodlands stud, owned by Messrs. D. & O. Sorby, Guelph, Ont. This is one of the largest studs in Canada, numbering 44 head, of which 37 are pure-bred, and 21 imported the present year. Of the importa-

tion of this year the grand stallion Bold Boy (4257), 5 years old, is probably the peer. He is by Lord Erskine, the sire of the famous The Granite City, brought over by R. Beith, of Bowmanville, two years ago. His dam is Lalla Rookh, and his handsome appearance and lively action are in keeping with his appropriate and significant name. He was shown at the Glasgow show as a yearling. The Granite, sired by The Granite City, and one year past, is an excellent specimen. Two of the importation are 2-year stallions, and ten of them yearlings, as fine a lot as one would wish to lay eyes on. Of the mares, one is 6 years old, one 3, one 2, and five are yearlings. The 3-year mare, Evening Star, is a beautiful animal. The 2-year mare Louise, a bay, by Baron of Threave (3403), with the great Mumford as grandsire, is one of the best of her kind in Scotland or Canada. She is out of a McGregor mare, and she won a silver cup at the Royal Northern for the best filly in the show, and also first prize in her class. Her half-sister, Sunrise, by the victorious McCammon, is a beauty. She came first at Inverwy. The 16 pure bred comprised in the stud before the last importation include 6 mares and fillies and 10 stallions, most of whom are young. The extensive stables of this firm are the best in Canada, and the high character of the horses, selected by Mr. Oswald Sorby in person, make it one of the most desirable places in the Dominion for the selection of pure Clydes.

Canadian Manufacturing Enterprise.—The J. B. Armstrong Manufacturing Co., Ltd., of Guelph, whose advertisement appears regularly in our columns, and with which all our readers are no doubt familiar, are making preparations for the manufacture of their patented specialties for the United States market. They have had a considerable demand from that source for some of their lines, and have been shipping from their Canadian factory, but the almost prohibitory U.S. tariff has necessarily limited those dealings, and with an eye to the necessity of working to the best possible advantage the largest consumers in their line in the world, they have secured land and are now building at Flint, Michigan. Their U.S. works will have a starting capacity to manufacture four times the Canadian works' output, and room for increasing this, and from the favorable outlook from present enquiries, and the general satisfactory demand that has grown up for these goods in all the markets of the world where introduced, there is no doubt that their works will be taxed to the utmost from the start. Mr. Armstrong is attending and supervising personally the building and stocking of factory and office, and says he expects to have them running on January 1st, 1890, with the most complete and best systematized carriage spring works in the world. Their main specialty for the U.S. trade will be their new Perfect Single and Plate Carriage Springs, as improved, which are now so widely and largely called for; and as to their superiority over any other spring made in any country, for light or heavy work, we might just refer to the verdict of the Melbourne (Australia) Exhibition jurors at their 1888 World's Fair—first award and gold medal being awarded: "The Jury recommend the superior excellence of these springs. The one leaf spring is the best spring ever brought under their notice, and equal in strength to any ordinary five leafed spring, being both strong and elastic." This is only one of the many decisions and opinions so favorable always to them, and the comparison as above has to be seen to be believed. The difference in favor of their two plate spring comparing with seven and eight ply common plate springs is even more remarkable. The Australian, Japan, and other foreign trade will in the meantime likely be done from Canada, if satisfactory arrangements for best working of it can be made with the Canadian Government Customs Department, but this must of course follow the move now being made for supplying the U.S. demand should circumstances so decide. We wish the Armstrong Co. every success in their new venture, and must commend their general manager's energy and determination to be in the first position only as regards his trade's wants.

Publishers' Column.

Change of place of publication.—As announced in the editorial columns, the office of publication has been removed to 58 Bay Street, Toronto.

Change of management.—The change above referred to took place on the 15th of August last. On the same date a change was made in the business management. In future the business management will be conducted by The J. E. Bryant Company (Limited).

No change in the editorial department.—We wish our subscribers to take notice and bear in mind that there is no change whatever in the editorial department of this paper. The practical and earnest-hearted men who from the beginning have given character and value to THE LIVE STOCK AND FARM JOURNAL still remain connected with it. Their efforts are to be supplemented by those of other able writers on live-stock and farm

matters. As publishers, we are bound that THE LIVE STOCK AND FARM JOURNAL shall be without a peer on this continent. The best men will be secured, in order that our subscribers may have the best information possible in regard to all matters pertaining to the farm.

Bear with us for delay.—The change of business managers and place of publication, though announced to take place all in one day, viz., the 15th of August, of course could not be effected without much trouble. Some time will be necessary to get things in good running order. But we trust all patrons of the JOURNAL will bear with us for a little while. We have received (since August 15th last) hundreds of letters containing payments of accounts or asking for information; sometimes making statements requiring minute investigation of our predecessors' books and accounts. These we shall attend to and answer as fast as we can.

If there is anything wrong, we will make it right.

—We want to assure our patrons that if now or at any time there is anything wrong in the management of the JOURNAL we will make it right. No one who has not had the experience knows how hard it is to keep straight the accounts of 10,000 people, all for small sums. But our experience is pretty large, our method of doing business very systematic, and we have little doubt but that we shall give satisfaction to our friends by our way of dealing with them. If you think that in any way you are wronged, make it plain to us, and we will make the matter right.

What we first intend to do.—We intend first of all to make the price of THE CANADIAN LIVE STOCK AND FARM JOURNAL a single round dollar. That is to say, the price of the paper is \$1.00 a year, payable in advance; but if anyone should through forgetfulness or otherwise not send us his subscription when due, we shall not ask him for an extra twenty-five cents, but simply for the dollar which is our due, and no more.

As to those who have already sent us \$1.25.—As to those who have, since August 15th, sent us \$1.25, we would say that we have credited them, one and all, with 15 months' subscription; that is, since they have sent us one dollar and a quarter, we have credited them a subscription for a year and a quarter.

We want co-workers.—We are going to make this LIVE STOCK AND FARM JOURNAL, so far as Canadian farmers are concerned, the best paper in the world. But to accomplish all we hope we need co-workers. And we are willing to pay liberally for co-operation. If our readers will only spend a little of their time now and again in making known the merits of this JOURNAL to their neighbors, they can help us very considerably and benefit themselves at the same time.

How?—We are willing to pay a good commission for every new name secured for us. The cost of running off an extra 10,000 of a journal like ours is very much less than the cost of getting up the first 10,000. That is why we can afford to give good commissions to those who get us new subscribers.

The price to new subscribers.—The price of THE CANADIAN LIVE STOCK AND FARM JOURNAL to new subscribers is just the same as to other people, viz., \$1.00 a year. But as an inducement to strangers to subscribe, we will send them the numbers of the JOURNAL from now to the end of 1890 for \$1.00; that is, we will give them the four last numbers of this year free of charge.

Sixteen numbers for \$1.00.—Therefore, kindly remember that when you try to get a new subscriber for the LIVE STOCK JOURNAL you can offer him a year and four months for \$1.00.

What we will do for two new subscribers.—To any present subscriber sending us two new subscribers, we will send him, as a reward for his trouble, any one of the great secular weeklies of Canada, free of charge, from now to the end of 1890.

Your present subscription must be continued.—But to secure this bonus you must continue your own subscription. Some people (not readers of the LIVE STOCK JOURNAL, let us believe) would, in order to secure this bonus, simply change the name of their own subscription to that of another member of their family or to that of their hired man, and then discontinue their own subscription. This is not honest and cannot be permitted.

How much money to send.—Send \$3.00. One dollar for the renewal of your own subscription for one year; and two dollars (one each) for the two new subscribers you will secure. In return you will get your own JOURNAL for a year, and a weekly paper (any one you may choose) from now till the end of 1890, and the two new subscribers you have obtained will each get the STOCK JOURNAL from now till the end of 1890.

What weekly papers we can send you.—The papers we can send you are these:

Toronto	Weekly Globe.
"	" Mail.
"	" Empire.
Hamilton	" Spectator.
"	" Times.
London	" Advertiser.
"	" Free Press.

Montreal	Weekly Gazette
"	" Herald
"	" Star
"	" Witness
St. John	" Globe
"	" Sun
"	" Telegraph
Halifax	" Herald
"	" Chronicle
Winnipeg	" Sun
"	" Free Press

Do you want a daily paper?—If you want a daily paper, and at no cost to yourself, we can accommodate you. For four new subscribers to the LIVE STOCK JOURNAL, sent as above, we will send you the *Toronto Daily World* for one year. The *World* is a very readable paper, and very popular in the city in which it is published.

What we will do for five new subscribers.—For five new subscribers to the LIVE STOCK JOURNAL, sent as above, we will send the *Montreal Daily Witness* for one year. The *Witness* is an excellent paper. Come now, consider. Just exert yourself a little during these long, beautiful autumn evenings, and you can have a daily paper for a whole year, without costing you one cent.

But do you want one of the greater dailies?—Do you want to read the *Empire*, the *Halt*, or the *Globe* for a year, or any other of the great dailies published in Canada? All you have to do is to work just a little harder, and secure for us eight subscribers to THE CANADIAN LIVE STOCK AND FARM JOURNAL, at \$1.00 a year, and we will send the JOURNAL to each of them from now to the end of 1890, and send you, for one year, any daily paper in Canada. You should have any one that you care to select.

How to send your money.—Send it by Registered Letter. This is a perfectly safe and satisfactory way. If the amount is large send by Post Office Money Order. *Never send money in an unregistered letter.* There is no means of tracing it if it is lost, and losses are sure to occur now and again.

Keep your eye on this column.—Keep your eye on this column. In it every month you will find something to interest you, and also to profit you, as we hope. Now, send in your orders as fast as you can.

The picture of the Ontario Agricultural College.—We have received from the late managers of the JOURNAL a number of fine lithograph pictures of the Ontario Agricultural College. It is a beautifully colored plate, 14x27 inches, giving a good view of the College and the surrounding buildings and grounds, and quite suitable for framing. To everyone sending us money, either for arrears or for renewals, we will send a copy of this picture until the stock is exhausted.

How to address your letters.—Address all correspondence to THE J. F. BRYANT PUBLISHING COMPANY (Limited), 58 Bay Street, Toronto. Put all matter intended for the editor, all items of news, stock notes, and matter intended for publication on separate sheets. Please bear this in mind; it saves a good deal of trouble.

Stock Notes.

Horses.

Mr. Geo. C. Stewart, Howick, Que., importer of Clydesdales, expects a large importation of new stock by the steamer Concordia, the latter part of this month, so that he will shortly have a good selection for buyers to choose from.

Mr. Charles Mason, Brucefield, Ont., sailed per the Alcides last week with four superior specimens of the Clydesdale breed for Canada. One of these was the colt Maple Leaf, which gained 1st prize and the Clydesdale Horse Society's medal at Lanark. This is a colt of much promise, which will likely be heard of again. He also purchased two useful, well-bred horses from Mr. Alexander Scott, Meams Street, Greenock, and one by Springfield Darnley from Mr. Ruddell. *N.B. Agriculturist.*

Some fine horses have recently been purchased in this country by Mr. W. H. Millman, of Woodstock, Ont. The lot included several Shires and five well-selected Welsh and Hackney ponies; one fine two year old Hackney, one two year old Yorkshire coacher; the last named is deserving of special praise. He was entered at the Royal show held at Windsor, and unfortunately Mr. Millman had to sail, so he could not be shown. Had he been, there is little doubt but he would have secured one of the coveted prizes, as he is an exceptionally fine colt, with grand legs and feet, and has beautiful action. He was bought from Mr. Crowther, Mirfield. *Mark Lane Express.*

NEW IMPORTATIONS FOR WOODSIDE FARM.

A choice selection was made by Mr. Robt. Ness, jr., Howick, Quebec, who sailed with ten head per the same steamer. Amongst these were Gallant Model, a son of the famed Top, Gallant, and winner of 1st prize at Kilmaculmish Show in June. He is a tasty colt of good quality, and was purchased from his breeder, Mr. P. Holmes, Priestside. From Mr. Campbell, Glenorchard, Campsie, Mr. Ness purchased a first-class two year old horse, named Handy Immort. This finely built animal was got by Mr. Spittal's Crown Royal, which in ribs and

back he much resembles. He moves well, and his legs and feet are placed well under him. He is descended from useful, well-bred mares, and will command a ready sale on Canadian soil. Erskine Chief, 6733, a blocky and very stylish son of Sir Hildebrand, was purchased from Mr. Walter S. Park, Hattou. He is a very gay, handsome little horse, and has been highly popular in the districts where he has travelled, his finely balanced proportions marking him as the real farmer's horse. Mr. Ness also purchased one five year old mare from Mr. Taylor, Park Mans, and a colt and a filly of good quality from Mr. R. Erskine, Underwood, Ringford. Another well-bred two year old filly, out of a prize mare, was purchased from Mr. John Whyte, Nether Craignies, Lanwood. Mr. Ness also shipped a short legged, Clydesdale-looking Shire colt, which he purchased in Leicestershire. *—Farming World.*

Clydesdales for Cairnbroch.

Another valuable lot of horses, carried by the Ocean, was fifteen head owned by Messrs. Graham Bros., Clarendon, Ont., and purchased from the Messrs. Montgomery. Chief of these, and looking very fresh and vigorous like, was the noted prize horse the Macneilage, 2992, winner of 1st prize at Dumfries Union Show in 1883, 1st at the Royal Ash in 1884 and 1885, and 3rd at the Highland and Agricultural Show at Aberdeen in the latter year. This grand specimen of a draught horse has never been in better shape than during this season, when he was the premium horse for the Lockerbie district. Another outstanding horse was the yearling colt Abstrator, winner of 3rd prize at the Royal Northern Show at Aberdeen, and a horse of excellent quality, and having good action. The two year old colt Charman, 5543, which Mr. A. Montgomery purchased at the Orchardman sale, has, as was expected, grown into a massive, big horse, and after four two year old colts give promise of making superior breeding horses. A capital yearling colt named Ravenswood, was purchased from the Marquis of Londonderry, and was got by Castlereagh, out of a St. Lawrence mare, a fine bred, to one aged stallion, five two year old stallions, six yearling colts, one three year old mare, and two yearling fillies, is of the character so long associated with the firm of Graham Bros., and likely to furnish as many prize winners as their shipments of the past. *—N.B. Agriculturist.*

THE MESSRS. COLOUGHAN, MAHAN, HALL, AND DALZIEL IMPORTATIONS.

On 12th inst. Mr. W. Colquhoun, Mitchell, Ont., shipped the colt Aitkenbrae Darnley, 5486, which he purchased from Mr. James Picken, jr., Torr, Kirkcubright, and Prince of Tynholm, 7164, purchased from Mr. Wm. Montgomery, Banks, Kirkcubright. These are a pair of useful, well-coloured horses, got respectively by a son of Darnley and a son of Prince of Wales; and likely, from their shape and pedigree, to be popular in Canada. Mr. Wm. Mahan, another Canadian buyer, purchased two yearling fillies from Mr. William Montgomery, which were shipped at the same time. A week later Mr. Hall, from Canada, shipped two well-colored, highly-bred yearling fillies named Cloudberry and Mayberry, which were bred by Goldenberry, out of first-class mares; and they give promise of growing into fine mares. A veteran importer, Mr. James Dalziel, Chesterfield, Ont., sailed along with Mr. Hall. He had with him two colts, a two year old and a yearling. The former was bred by Mr. Cleland, Snyland, Kirkcubright, and was got by the Macpherson, out of a Kirkcubright prize mare. He is a strong-boned, short-legged, deep-ribbed horse, and was greatly admired by the exporters and horsemen who thronged the wharf while the shipping was going forward. The yearling was got by the Glasgow prize horse Knight of Ellerslie, and has a deal of style and quality. Both of these colts and the Goldenberry fillies were purchased from Mr. And. Montgomery. *N.B. Agriculturist.*

MR. ROBERT BETH'S IMPORTATION.

The tenth annual shipment of Clydesdale horses made by Mr. Robert Beth, Howick, Ont., sailed per the Ocean on Friday last. It numbered seventeen head, all of which were purchased from Mr. Peter Crawford, Eastfield House, Dumfries. What sort of material this shipment was composed of may be inferred from what follows. Amongst aged stallions were Sir Maurice, 4721, winner of 4th prize at the Glasgow Spring Show in February, the Brechin premium this season, the Duke of Hamilton's premium last year, and the Clackmannan premium in 1887, when he stood far forward in the short leet at the Glasgow Stallion Show. He was second at Dalbeattie when a yearling, and second at Glasgow when a two year old, being only beaten by Cairnbroch Stamp. The advantage to the breed of the importation of such a horse into Canada cannot be over-estimated. Another notable aged horse is Paragon, 7096, one of the short leet horses at the spring show, and the Mid-Caldor premium horse this season. Amongst three year olds, Sir Walter, the Huchan premium horse of this season, and the beautiful colt Crosby Challenger, 5678, which had many admirers at the spring show in 1888, are especially worthy of mention. The two year olds are a first-rate lot. Chief amongst them we notice the finely built horse Eastfield Chief, 6715, a son of Prince Lawrence, which gained prize at Ayr, 1st at Edinburgh, and 3rd at Glasgow this season. Eastfield Laddie, 6719, a son of Old Times, and last year winner of a prominent prize at Winton Show. MacCalman, 6903, by Master of Blantyre, with 7 prizes at Lanark, as well as being out of a Lanark 1st prize mare, and Lord Gray, 6666, a colt by King of the Forest, which Mr. Crawford purchased from Mr. Houston, Overlaw, in whose possession he gained 5th prize at Kirkcubright. Mr. Beth also shipped a few superior mares, of which a Sanquhar mare, bred by Mr. McGibbon, Campbelltown, and at one time owned by Mr. Robert Renwick, Dalnair, merits more than passing notice. She is a finely-modelled specimen of the breed, and gained prizes in Dumfriesshire. There is also in the lot a beautiful yearling filly, got by Master of Blantyre, for which a stiff price was paid, as she is expected to make a first-rate mare. *—N.B. Agriculturist.*

Messrs. Ormsby & Chapman, Springfield-on-the-Credit, Ont., write us: "Our last importation of Shires, fifteen head in all, twelve stallions and three fillies, arrived in good order last month (July). We think we have some good ones this trip. Amongst the two year old stallions is a half brother to the 1st prize two year old at Windsor last month. They are all well

bred, short legged and blocky, and as we are sticking to our principle of 'Small Profits and Quick Returns,' we expect to make room for some more soon. We also received six head of pedigreed Imported Yorkshires from Mr. S. Spencer's famous herd, four sows and two boars. Good judges pronounce them the best lot we have ever imported. We find the demand for our pedigreed Yorks very good and still increasing. The following are a few of our sales. *In Shire Horses*—To Mr. E. M. Jarvis, Oakville, Ont., the Imp. Shire mare, Leake Lively, 3 years old, and the Shire mare, Judy, 4 years old, bred by Green Bros., of Innerkip, Ont. To Messrs. Dawson & Petty, Frankfurt, Ind., U.S., the Imp. Shire stallion, Leake Merry Boy, winner of 1st as a two year old at Toronto Industrial, 1st at Hamilton Central, and 1st at Brampton. To Mr. E. F. Black, Raymond, Neb., the Imp. Shire colt, Leake Staunton, winner of 1st as a yearling at Toronto. To La Helle Rancho Co., Winifred, Dak., U.S., the Imp. Shire stallions, Leake Sir Roger, winner of 2nd at Toronto and Brampton as a two year old, and Royal George IV., winner of 2nd at Hamilton Central Fair as a 2 year old. *In Yorkshire Pigs*—To Mr. E. M. Jarvis, Oakville, Ont., the Imp. boar, Holywell Wonder II., the Imp. sow, Holywell Pearl, and the sow, Waterwitch; also a boar and two sows from our last importation. To E. Jackson, Oakville, Ont., one boar; to Bennett Nutt, Hollisoke, Ont., one pair; to Neil Swartz, Beachville, Ont., one boar; to F. S. King, Beaverton, Ont., one boar and one sow in pig; to J. F. Trulock, East Middleton, Wis., U.S., one pair; to Levi Pike, Locust Hill, Ont., one boar and two sows; to Richard Hanson, Mount Forest, Ont., one boar; to C. Holmes, Richmond Hill, Ont., one boar; to Wm. Slade, Clarkson, Ont., one pair; to Sir J. Lister, Kaye Stair, N.W.T., two boars; to J. Enright, Dundas, Ont., one pair; to F. E. Stover, Norwich, Ont., one pair; to A. W. Devitt, Elora, Ont., one pair; to Wm. Goudy, Woodstock, Ont., one pair; to Wm. Bosworth, Elora, Ont., one pair; to J. T. Agar, Norwich, Ont., one pair; to N. Stauffer, Straubury, Ont., one pair; to E. Hughes, Ingersoll, Ont., one pair; to A. Gilmore, Huntingdon, P.Q., one pair; to P. B. Bowman, Florida, Ont., one pair, to W. & H. MacNish, L'yn, Ont., one pair; to Wm. Simonton, Had Axe, Mich., U.S., one pair; to D. A. McCorqudale, Keady, Ont., one pair. These are only a few of the pedigrees we have sold to, and we have over a dozen orders on hand now; but we will have a grand lot of pigs, if all goes well, for the fall trade."

Clydesdale Importations of Messrs. D. and O. Sorby, Jas. Hunter, Wm. Jeffrey, and Robt. Miller.

The shipment of twenty-one head of pedigreed horses made last week and purchased from Mr. Peter Crawford, Eastfield House, Dumfries, by Messrs. D. & O. Sorby, Guelph, Ont., is without question one of the best selections of Clydesdales ever shipped. Mr. Oswald Sorby, who selected these horses and mare, has much credit by them. The horse Bold Boy 4257, which gained 2nd prize at Glasgow when a yearling and numerous other premiums was perhaps the best animal in what was one of the best cargoes of horses that ever left the Clyde. He was looking well fresh and new, and his grand proportions were seen to much advantage as he stood on Marybank quay. A specially good yearling in this lot was The Granite, bred by Mr. James Crawford, Baskelrick Mains, Annan, and got by the noted prize horse The Granite City, winner of 1st prize at the Highland and Agricultural Society at Perth and at Glasgow in 1887, out of the prize mare Lily Agnes. This colt was and as a foal at Dumfries Union Show last year. Two of the best amongst the females were the Balmadale fillies Sonnie and Sunrise, both of which were first in their respective classes at the Royal Northern Society's Show at Aberdeen. They are both out of one mare—Sunbeam, own sister to the famed Macfarlane 2988, while the former was got by Baron and Threave 3203, which gained 1st prize at Ayr, and at the Highland and Agricultural Society Show when a yearling, and the latter by the noted breeding horse, the MacCannon. Mr. Sorby could have sold the two year old to a well-known judge in this country at a substantial profit on the purchase price. The yearling gained the female championship at Inverurie Show.

By the same vessel, Mr. James Hunter, Alma, Ont., shipped a choice colt got by Lord Lynedoch, and purchased from Mr. James Weir, Sandilands, Lanark. This colt had first-rate feet and legs, and promises to make a horse equal to his sire.

To Mr. Wm. Jeffrey, Whitby, Ont., Mr. Ferguson, Renfrew, shipped a thick, low-set horse named Scottish Leader 7243, got by the prize horse Strongbow 4045, and like him a typical Canadian horse. Scottish Leader has weight of bone and soundness of feet and legs, coupled with great depth and spring of rib, and long and well-developed quarters. His action is about perfect, and he is the kind of horse that is much favored for draught purposes in Canada, as well as at home.

Mr. Robt. Miller, jr., Brougham, Ont., shipped four well-bred horses at the same time. Two of these, Pride of Troon 7120, and Forest Monarch 5773, were purchased from Mr. Swodgrass, Portnald, Inchinnan, and are well-bred blocky horses. Glenconnell, a thick, strong colt, got by Lord Glasgow 4180, was purchased from Mr. James Andrew, Bashes Farm, Paisley, but the pick of the lot was the two year old colt Sir Edward, purchased from Mr. Armstrong, Thornhill, Ayr, and got by Mr. Kipparick's prize horse St. Blaise, out of a mare by Old Times. This beautiful colt has inherited much of the style and quality of the Prince of Wales' line, and was greatly admired by the throng of horsemen who lined the quays on Monday week. He has fine clean flat bone, and good feet and pasterns, and with depth of rib and substance to correspond, he must be regarded as one of the best two year olds shipped this season. He was commended in a good class at Ayr in April. *—Farming World.*

Shorthorns.

Mr. Wm. Douglas, of Caledonia, Ont., one of the oldest breeders of Shorthorns and Leicesters, has decided to offer by public sale some twenty of the choicest of his breeding of Bates Shorthorns, and about thirty Leicester sheep, and thirty pure bred Berkshire pigs. Catalogues are shortly to be issued. Those desiring to purchase anything in this line should avail themselves of the opportunity afforded them for the securing of prime animals. See advertisement in this issue.

Mr. Dryden writes: "Abundance of pasture and the tallest of corn has brought my Broochin herd of Shorthorns through the summer in excellent condition. The young bulls look especially well. Notwithstanding the so-called dullness there is still anxiety for and good cattle are in demand. In all, nine females have been

sold from the herd to different persons within the past few months. Shropshire sheep are quite on the boom, and are fast spreading all over North America. Since my last importation landed I have sold representatives into eight different Provinces and States of the Union, and further enquiries are constant. My importation of this season is pronounced by good judges to be the best I have ever brought over.

GOOD DEMAND FOR WARRIOR'S GET.

Messrs. R. & S. Nicholson, Sylvan, Ont., writes us: "Since our last report we have made the following sales in Shorthorns: Cow and calf to W. H. Taylor, of Parkhill; bull calf to James Brown, Thord; yearling bull to W. G. Sanders, St. Thomas; yearling bull to Stevenson Bros., Melbourne; yearling bull to S. Fitchett, Thedford; yearling bull to J. Gibbons, near Ottawa; three months' old calf to J. Johnson, Ravenswood; four months' old calf to Eastwood Bros., Mimico. All these, excepting the cow, were sired by Our (Imp.) Warrior (55173), and a better lot of young bulls have not left a herd this year. Our herd will be on exhibition at the leading shows this fall. It was never in such fine form. Warrior has developed into a grand bull; he now weighs 2,625 lbs.; he is not only large but covered with flesh of the first quality."

Wm. Lindsay, of Caledon East, Ont., writes us: "In your stock notes you might mention that last May I purchased from Mr. John Currie, Everton, Ont., the red yearling bull, Oliver Twist, sired by Imp. Baron, the great prize winner; dam, Lady Leonard, by Sir Leonard, Imp. He is a promising bull, good worker, and has served about forty cows already. I also purchased from Mr. Currie the yearling heifer, Bonny Bird, sired also by Imp. Baron; dam, red Shorthorn cow, Lottie. I sold four Shorthorn bulls this spring, viz., one to Mr. Jas. Cannington, Campbell's Cross, Chincouacousy; one to Mr. Jas. Parks, Camilla; one to Mr. Gavin Lemon, Mono Mills; and one to Mr. Allan McKinnon, Caledon East. I also breed draught horses with four imported crosses. The farmers in this vicinity are beginning to realize that there is money in patronizing the pure-bred Shorthorn bull, as I have kept the same for several years past."

THE MORETON LODGE HERDS, OWNED BY F. W. STONE, GUELPH.

The Shorthorn herd, founded in 1853, was added to in 1854 and 1855 by importations from Col. Kingscote, Mr. Jonas Welby, of Bahraham, Mr. Bolden, Mr. Bowley, of Siddington, Mr. Smythe Owen, and Mr. Ambler. Eugenie, from the last herd of Mr. Ambler, produced Third Grand Duke (17993), who was the best two year old bull at the United States Exhibition at Chicago in 1859, and subsequently at the Provincial Exhibition in 1861 took the 1st prize as a four year old, the diploma as the best Durham bull and also as one of the prize herd and the sweepstakes as the best bull of any age or breed. Third Grand Duke was the sire of several 1st prize winners at the Provincial Exhibitions, and notably of Grand Duke of Moreton, 5732, a frequent winner, and sire of winners out of Maid of Guelph and of Sanspareil 6th. Maid of Guelph was the 2nd prize cow at the Provincial in 1863, the only time she was ever exhibited, and weighed when killed, 2,005 lbs. Fresh importations have been made from time to time of Bates topped Seraphinas from Mr. Roberts and Lord Sudeley, from which spring the Seraph bulls, of the old established Craggs J., and Queen families from Sir G. Phillips, the Tellurias from Mr. Barber and Sultanas from Mr. Abbot, whilst in 1875 was purchased from the Earl of Beech the very fashionably bred bull, Baron Berkeley (36158) 22010, of the Barrington family, who was largely used by Mr. Stone until he was killed at the age of 13 years, and has left good stock. The Hereford herd was started in 1860 by the purchase of Bonny Lass, Vesta, Princess, Gentle, Hebe, a 1st prize winner at the R.A.S. of England, and Patriot from Lord Bateman, was added to in 1861 by the purchase from Lord Berwick, of Cronkhill, of Graceful, by Severn, Peach, by Albert Edward, Sweetheart and the bull Sailor (2200). Lord Berwick's herd contained at this time much of the bluest blood of the Hereford breed. The bull Sir Charles 543 (3434), bred by Mr. Stone and so well known in America, was a Graceful bull, being out of Graceful, by Guelph (2023). Sir Charles is the only American bred bull whose portrait appears in the English Hereford Herd Book, where he is the frontispiece to vol. 8. He is also illustrated with several daughters in vol. 1 of the American Hereford Record. He won 1st prizes at the London, Toronto and Kingston meetings of the Canadian Agricultural Association (the Provincial Exhibitions) in 1869-70-71, and was sold in 1872 to Mr. T. L. Miller, of Beecher, for whom he won numerous prizes at the Illinois, Indiana, and Missouri State Fairs. He was finally slaughtered in Chicago, and dressed 73 lbs. to the cwt., his live weight being 2,850 lbs. Several Graceful bulls, called uniformly Grande, are included in the sale. From Mr. Green, of Marlow, were acquired the Beauty family and the Governess bull Governor 4th, 1293 (4620), largely used in the herd and afterwards sold to Mr. Charles Gudgeon, of Independence, Missouri, whilst in 1879 an importation was made of thirty females carefully selected from several of the best known English breeders. From Mr. Benjamin Rogers, of The Grove, the breeder of the Grove 3rd, 2490 (5051), were acquired Waxy, the dam of Wanderer, Cherry 6th, Prettymaid 12th and Blossom 7th, by Sir Roger 2nd, 4110 (4993), in calf to The Grove 3rd, and Cherry 7th and Lady 2nd, by The Grove 3rd. It will be noticed that The Grove 3rd is a Blossom bull, being by Horace, 2422 (3877), out of Blossom, 2493, by Sir Thomas, 20 (2228), who is the grand or second dam of Mr. Stone's imported Blossom 7th, 12316, is of this very notable family. From Mr. A. Rogers came Morella the Cherry 2nd, 9232, by Grateful, 2572 (4622), frontispiece bull of vol. 10 of the English Herd Book, winner of a 1st prize and special prize as the best bull of the Hereford breed exhibited at the Kilburn International Meeting of the Royal Agricultural Society of England, 1879, when he beat Lord Wilton (4740), and other noted bulls, and 3pot 7th, the dam of Quebec, 9207 (6125). From Mr. Green, of Marlow, were acquired Duchess 17th and Governess 14th, of the long-lived Governess strain, and Satanella 2nd, very similarly bred to Lord Wilton (4740). From Mr. Fenn came Lady Rose and Lady Lass, and from Mr. Taylor, of Showle, the breeder of so many Royal winners, were purchased Hazel 8th and Beauty 2nd, our sister to the Royal winner, The Cheltenham Boy (4172), illustrated in vol. 8 E.H.B., and half sister to the celebrated Royal Show Bull Tredegar (5077), illustrated vol. 9 E.H.B. Representatives of all or nearly all these families are included in the sale, which Mr. Stone believes will afford an

opportunity seldom offered in America of acquiring animals representing so many of the most celebrated English breeders. The Moreton Lodge Herd of Herefords has not been exhibited during the last two years, but in 1883, when a special effort was made in this direction, it took sixty-six prizes, medals and diplomas at the Provincial, Industrial and Western Exhibitions. The sale is taking place owing to want of room. The animals are in ordinary store condition. The flocks of Cotswolds and Southdowns have been bred entirely from his own importations from the best English flocks, as also the Berkshires from leading breeders. See advertisement.

Ayrshires.

Nichol & Son, Catarqui, Ont., have sold to the Dominion Government for the Experimental Farm at Ottawa, their yearling Ayrshire bull, MacDuff, and yearling heifer, Viola—two choice animals.

Herefords.

Mr. J. W. M. Vernon, of Tushingham House, Waterville, P. O., breeder of Herefords, writes us that he has sold to Mr. G. H. Pugsley, of Lockport, N. Y., our yearling heifers, two two-year-old heifers, and a yearling bull, Tushingham 5th, by Tushingham 4th. He also informs us that he has bought from Mr. Robert Ness a two-year-old Clyde mare Lady Ruth, by Lord Erskine 1744. It will be remembered that this mare took 1st prize at Ottawa, Sherbrooke, and Huntingdon Shows last fall.

Holsteins.

Messrs. A. C. Hallman & Co. write us under date of Aug. 19: "Much as we recognize the importance of exhibiting—and great are the benefits we derived through exhibiting at the leading fairs, such as the Industrial, Toronto, different times at the Provincial and the Western at London—we still shall decline to exhibit this year. We were always crowned with success, taking more honor prizes, first prizes, diplomas and medals than any other herds we competed with, and we believe we are in better shape than ever to venture competition; but, considering the wear and the many exposures, the knocking about on the cars, the continual disturbance, and the many unpleasant features (which exhibitors only know), we have concluded to stay at home. Farm work and other duties are also pressing us very hard. Our sales have been numerous and profitable this last season. Our many customers are well satisfied with the stock they bought, and we are happy to say we have a finer and larger herd to select from than ever. Trusting our many friends will excuse our absence at the exhibitions, and give us a call at our farm; we will be glad to receive them, and are in better shape to do business than ever."

The Bollert Bros., of Cassel, Ont., write under date of August 15th, that their herd of Holstein Friesians are doing very nicely this summer; the calves, both male and female, are developing exceedingly fine, and give great promise for the future. "Our sales have been very satisfactory this season; among others we sold two very choice heifers (one two, and the other three years old) to Mr. W. Muisiner, of Port Robinson (which, by the way, is his third purchase from us); one heifer, one heifer calf, one bull calf, to Mr. D. Lindsay, Hagersville; these will make the foundation for a grand herd; they are from the very best strains. Mr. N. L. Roth got a very choice bull calf to head his herd. The demand for highly bred animals is continually increasing. To satisfy ourselves we weighed the milk of several members of the herd, with the following results: Geldertje gave 7,506 lbs. in four months, an average of 61½ lbs. per day; Emma J. Neptune, a two year old heifer, averaged 43½ lbs. for sixty days; Jennie E., 48 lbs. per day; Bonnie Queen 3rd, 40 lbs. per day. We think these very gratifying results, as they had just herd care, running out with the rest of the herd, day and night, rain or shine, and we are satisfied that every member of the herd would have done equally as well if the milk had been weighed. Though our herd is not fitted up for exhibition, we cordially invite interested parties to inspect the entire herd and compare them with the prize animals and other herds. We find it amusing to see some breeders continually write about the blood of their herds, but when it comes to performance they remain silent. Though we are strong believers in blood and high breeding, we think it loses its value if it is not combined with individual excellence and performance. We have placed our standard at 12,000 lbs. per year, and will only breed from such cows, and their offspring, as are capable of producing that, and bring a calf within the year. Our testing so far proves that many of them will exceed the mark."

A. & G. Rice, Curries, Ont., place a card in our breeders' directory and write: "We believe only our Holstein cows have record of over 30 lbs. in seven days, and only one of those has descendants in Canada. That one is Jewel 668, H.H.B. record, 31 lbs 3½ oz. (One of our stock bulls, Jewel 3rd Daisy Netherland, is a grandson of Jewel, who was never beaten in the show ring, though shown all over America, from 1883 to 1888.) She is nearly perfect as a dairy cow, scores 97 points out of a possible 100. The dam of Jewel 3rd Daisy Netherland, is Jewel 3rd. Mr. Whipple writes us: "Jewel 3rd was selected by a committee of experts to go to a New York experimental station to uphold the Holstein interests in competition with all other dairy breeds. A very high honor, considering the many choice ones examined in New York, Pennsylvania, and New England States. Jewel 3rd's record, 2,387 lbs. of rich milk in 30 days, places her in the front ranks. She is by Mahomet, he by Aegis, 15 lbs. of whose milk made 1 lb. butter. On the sire's side of Jewel 3rd Daisy Netherland, is to be found the cream of the Netherland family; space will only allow us to mention such names as Duke, Netherland, Lady Netherland, etc. We have also a fine bull, rich in the blood of the Netherlands, and the noted Promoter, whose name is Althea Promoter's Netherland. We have some choice young cows, one, Maid of Netherland, is, as the name implies, of the Netherland family. She is a very strong cow, of beautiful form, a 1st prize winner at New York State fairs, and a deep, continuous and rich milker. We have also Daisy Texal, a descendant of Lady Texal, with a butter record of 4 lbs. per day. Daisy Texal's two year old record is 48½ lbs. per day. This heifer whilst in quarantine last spring, only two years old, 13 months in milk on dry feed only, furnished milk and butter for Superintendent

and family, and he pronounces her a great butter cow. Daisy Texal dropped us a fine bull calf, which is sired by Pieterje 2nd and Holland King, whose service fee is \$500.00 per cow. The Pieterje family have the highest records ever made, viz., Pieterje 2nd, 30,318½ lbs. in one year, average over 100 lbs. for 92 days. And the calves from this cow, viz., Pieterje 3rd, Pieterje 4th, and Pieterje 5th, have the largest milk and butter record ever made as two, three and four year olds, showing that 'like produces like.' Much more has and can be written about records made by blood relations of members of our herd, but this is sufficient to show that our stock want not for pedigree or performance."

The Secretary of the Wyton Stock Breeders Association, of Wyton, Ont., Mr. Scatcherd, writes us as follows: "Our cattle never were in better condition than now, and we find each successive spring we have a larger and stronger growth of calves, the stock having become acclimated, we presume, accounts for this. We will have a very choice lot of bull calves to offer for sale in October, better than we have ever had before, and all the dams are milking on a higher average than ever before. We consider that we have the largest herd of Holsteins in Canada, and, therefore, are able to give the purchaser a greater variety of choice than if he was purchasing from a small herd. Not only have we the largest, but we consider the best bred herd, we having the only large strain of Anglies in Canada. Further, to whoever we have sold an animal, it has improved on their hands in every instance excepting where it has met with an accident. We keep our animals in good, healthy condition, not fattening them for sale, but feeding them to obtain the greatest growth. We guarantee all are thoroughbred and properly registered. It is our aim to establish a first-class reputation in Holstein cattle. We have sold since we began to breed these animals 110 head. Will have a few of our stock exhibited at the Provincial Fair in London this year, where would-be purchasers can have an opportunity of seeing them. We have good facilities at the Wyton Stock Farm (our headquarters) for taking care of all visitors, and are pleased at all times to have people examine our cattle. At a test made at a cheese factory near our farm, to which we have been sending milk, the Government expert reported the Holstein milk had a larger percentage of cheese producing qualities than any other milk that was received at the factory. We have been trying to get this report so as to send it to you, but so far have been unable to get a copy." Below we append a statement giving the records of some of the animals contained in this herd, by which it will be seen that they rank amongst the first on the continent as milk producers. This Association holds a sale the 1st of October, when many excellent animals will be offered. For full particulars see their advertisement in this issue.

Name of Cow.	Commenced Milking.	Commenced to Milk April 1st to July 30th, 1889.	Highest quantity in seven days.	Highest quantity in one day.	Average per day from first milking to July 30th, 1889.
		lbs.	lbs.	lbs.	lbs. oz.
Janek Boterryk	April 1st to July 20.	6812	512	77	60 13½
Returnah	May 12 to July 20.	4337	482	73	61 15½
Oude Boterryk	July 20 to May 19	4098	486	70	65
Viola	July 20 to May 19	3732	440	65	59 3
Ambrosia	July 20.			64	
Ellora				80	

Sheep and Pigs.

The new importation of Cotswolds and Berkshires made by the Messrs. Snell, of Edmonton, consisting of forty-five of the former and thirty-five of the latter, including a number of the prize animals at the Royal Show, arrived all safe and sound July 25th, and are doing well in their new home. They are said to be a very useful lot, combining size and quality in a high degree. Some young boars and rams are offered for sale.

"Our Yorkshires are doing capitally. Two of the last importation have farrowed. One gave us nine, the other seven pigs. They are much admired, and those who purchased young pigs from us have all expressed their great satisfaction. Glad to see this breed is attracting the attention of other breeders who are importing. They fill the bill exactly for long, lean bacon at early maturity if done well, this last goes without saying. Yours truly, Wm. DAVIES & SON."

We are pleased to know that Mr. John Dryden, of Brooklin, has landed successfully at his stock farm, Maple Shade, one hundred choice Shropshires, in prime condition. They are mostly shearing ewes and rams, including many winners at the great English shows, not omitting the Royal at Windsor. Mr. Dryden writes us: "These with my crop of lambs will help to supply the increasing demand for these sheep. We have lots of grass, but harvest, haying, and turnip hoeing are all on together." The selection was made by Mr. Dryden in person, and as a result of the trip, we are pleased to know, his health has greatly improved.

MANY SALES FROM FARNHAM.

Henry Arkell, Farnham Farm, Arkell, Ontario, has recently sold to George Mackerrow, Sussex, Wisconsin, the following Oxford Down sheep: one imported ram, one two year old ram, four yearlings and one ram lamb, four shearing ewes and one ewe lamb; to Geo. Harding, Wakesha, Wis., Secretary of American Cotswold Record, the following Cotswolds: one two year old ram,

seven yearling rams, three two year old ewes and two yearlings, and to Ulrich Privett, Greensburg, Ind., two yearling Cotswold ewes and two ewe lambs. All the above were fitted for show purposes. This is the ninth year he has sold to Mr. Privett. He has also sold a Berkshire boar to Thos. Wakelield, Bad Axe, Mich., U.S., one to Harbor Grace Agricultural Society, Newfoundland; one to James Duthie, Melgund, Manitoba, one to Andrew Cree, Balfour, and one to Capt. Macfarlane, Parry Harbor, a sow to Thos. Arkell, Arkell, and one to Wm. Leslie, Arkell, and one to H. Wharton, Framosa, a Shorthorn bull to Wm. Young, Waubano, and one to Kenneth MacKenzie, Comhin, Ont. Mr. Arkell has had the misfortune to lose his famous stock bull, sunset, purchased from Mr. W. B. Watt, Salem, March, 1886, by accidentally breaking his leg.

SHROPSHIRE FOR FAIRVIEW

We learn that since their arrival the Shropshires imported to Fairview by Mr. Campbell on the 26th of July, have fully recovered from the effects of the long trip, and are now apparently quite at home in their new quarters. A shearing ram, 1st at the Shropshire and West Midland Show, at Wellington, the week previous to leaving England, was so wanted by English breeders that a large advance on purchase price was offered. The seller, who was also the breeder, Mr. H. Williams, of Newton-on-the-Hill, Shropshire, found out too late that he could have doubled his price. A ram lamb and some ewe lambs, the pick of winning pens at same show, also bred by Mr. Williams, show he is a skillful breeder. Another ram lamb, the choice of the 1st prize pen of three at the Beth and West of England Show, and and at the Royal Show at Windsor, bred by T. K. I. Bradburne, will, barring misfortune, do good in somebody's flock. The two shear and shearling show ewes are a good lot. A pair of shearing wethers, from Mr. A. S. Berry's flock, are such choice specimens of the breed that it seems a pity they were castrated. They are of a lot which Mr. Berry is preparing for the Christmas at Stock Shows. Last year he won, among many other prizes, the £50 champion cup for best pen of three wethers of all breeds at the London Smithfield, and during the past seven years has been a very successful exhibitor of Shropshires in the leading English fat stock show rings. A pair of wether lambs from Mr. W. H. Clarke, Warrick, are in keeping with the shearlings. As Mr. Campbell intends showing some twenty-five or thirty of his importation at the leading Ontario fairs this month, any one interested in the rent-paying black-faces will have the opportunity of looking them over.

Young Stockman's Department.

Desiring to instil in the minds of our farmers boys a love for stock and the farm, we have adopted the idea of opening a department to be devoted exclusively to their interests. We hope thereby to arouse their enthusiasm in the work, and in this way stem the current that is carrying so many of the best boys from the farm, and also, while doing this, to prepare them in an interesting way for the work that will rest upon their shoulders in future years. It is our intention to conduct this department solely for the boys, writing short articles for it, answering queries, and also by offering prizes for essays to be written upon subjects bearing on stock, and the various other departments of farm work. In our next issue we shall announce more definitely the course which we deem advisable to pursue in respect to the essays, giving the subjects, and all other matters of information.

Breeder of the Stallion Prince of Wales (673).

Can you inform me who was the breeder of the entire horse, Prince of Wales (673), sold at Mr. Lawson Drew's sale, I think, to Mr. David Riddell, at Glasgow, Hoping to see your answer to this in the next issue of the JOURNAL, I am, yours truly, D. MESSINGER, Guelph, Ont.

The horse above referred to, the most famous prize winner of modern times, was bred by Mr. James Nicol Fleming, Knock-dow Farm, Maybole, Scotland, in 1866, and was sold when a three year old to Mr. David Riddell, of Blackhall, Paisley. He died in the possession of the latter person, December 31st, 1889.—Ed.

The following announcement was received too late for insertion in its proper place:

UNIQUE & ENGLISH & PEDIGREE & HEREFORDS

—SALE OF THE—

BEST HERD IN ENGLAND.

BRED FOR 60 YEARS BY

G. T. FORESTER, Esq.

Who, at the age of 84, is retiring, and has ordered its dispersion at his residence

SHERLOWE, WELLINGTON, SALOP, ENGLAND.

ON THURSDAY, OCTOBER 10TH, 1889.

—IT CONSISTS OF—

120 BULLS, COWS, AND HEIFERS

Descended direct from purchases made by him (including a bull calf by Confidence at 125 Gs.) in the years 1841 and 1844 at the unassisted sales of Messrs. Jeffries, Price and Hever (recorded in H. H. B., Vol. I., p. 207) perpetuated by such famous sires as Chance, 355; Somerset, 417; Governor, 464; Wellington, 505; Severn, 1246; and Duke, 1387, and Cronkhill and the Leen Bulls, with other importations of Plough Monday, 9034 (which cost 275 Gs. when 18 months old at the famous Leen sale), by the Grove and 3077, by Horrocks, 3877, and the two best heifers by Lord Willoughby, purchased at the great Stocktonbury sale at 400; all of which animals, with many of their produce, are in the Herd for Sale.

This magnificent herd is matchless in lineage, character, quality, size, and constitution.

Commissions executed by **E. G. PREECE**, and Catalogues, Pedigrees, and particulars, furnished by

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Advertisements.

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 make one inch); for three months, 15c. 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. Contracts broken by insolvency or otherwise will revert to the casual rate of 18c. per line each insertion. Advertisers desiring to obtain extra copies of the JOURNAL may do so at the following rates: Per dozen, \$1.00; per 100, \$7.50 (in lots of not less than 25). A reasonable number of copies will be sent at these rates to any address supplied by an advertiser, with the advertiser's own advertisement marked, and a notice on the wrapper calling attention to it. In this way the advertiser will be saved the trouble and expense of addressing and mailing.

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ROSE OF SOUBARTON, foaled 25th May, 1885; color, bay; small white spot on face; near hind foot white. Sire, Prince Royal (650), Vol. I.; Dam, Mary, Vol. XII.; Sire of Dam, General Moltke (App.), Vol. I.; Grand Dam, Susie, by Grey Comet (192), Vol. I.

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Sep-3

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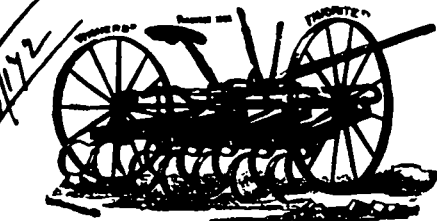
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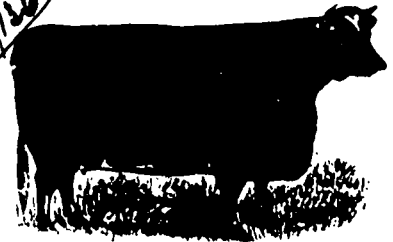
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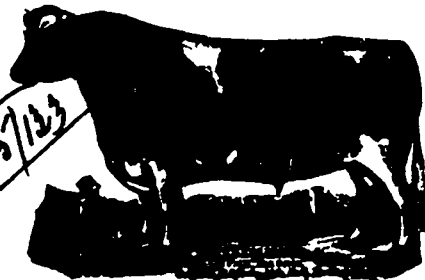
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Are daughters and grand-daughters of the renowned Island prize-winners: Excelsior 1st, Cato, Fair Lad and the famed Squire of Les Vauxbelets, of St. Andrew, Jeweler and Lord Fernwood, and nearly all the descendants of the famous Swain sisters, "Katie" and "Cottie" a strain not exceeded, if equalled, by any other. Jeweler 13th, son of Jeweler, out of I. J. Clapp's tested cow, Hazelnut 1788, leads the herd with Lord Fernwood's son, whose dam won special premium at the N. Y. Dairy Show. Squire Kent, grand son of the noted Lady Emily Foley and Squire of Les Vauxbelets and Kohinor, also winner of first premium at N. Y. Dairy Show, are coming into service. All particulars in regard to the breed and herd, individually, cheerfully given.

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Shorthorn Cattle and Berkshire Pigs Young Stock for sale. Terms reasonable.

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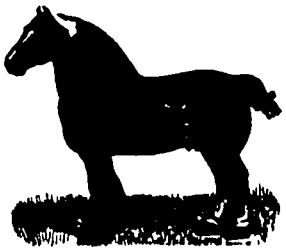
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35 PURE BREDS on hand and for sale, including gets of the following sires: Lord Lyon (489), What Care I (612), Belted Knight (1305), Goldenberry (2828), Corsewall (420), Prince Charlie (629), Sir Michael (1530), Scots Wha Hae (406), Macpherson (1225), Good Hope (1679), Lord Erskine (1744), Mitchell (2222), Golden Treasure (4417), Gallant Lad (2781), of which 15 are Stallions and Colts. Several of our mares are supposed to be in foal to our well-known Boydston Boy (111) sire of the celebrated Lord Erskine (1744).



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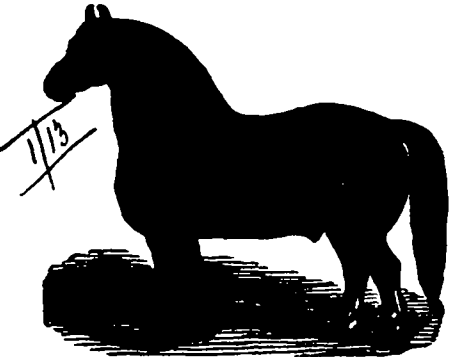
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We have the Pioneer Herd of Pedigreed Yorkshire Pigs in America. All bred from the BEST ENGLISH STRAINS. Every pedigree guaranteed. Prices low. We are now booking orders for fall pigs. Also

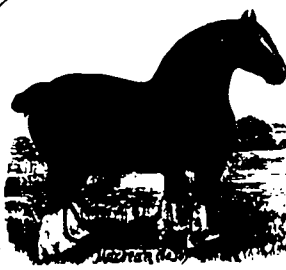
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Stallions and Mares constantly on hand and FOR SALE on reasonable terms.

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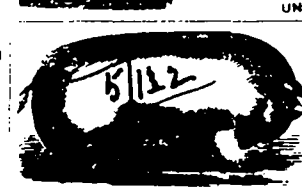
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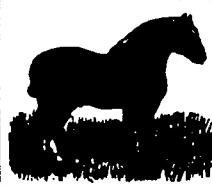


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Cards under this head inserted for one year at the rate of \$1.00 per line when not exceeding five lines. No card accepted under two lines for less than six months.

Parties desiring to advertise Live Stock will find in this Directory the names of the most reliable breeders in Canada.

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W. DAWSON & SON, Littlewood Farm, Victoria P. O., Co. York, Ont., breeders of Shorthorn cattle and Southdown sheep. Several young animals for sale.

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ALBERT HAGAR, Belleview Farm, Plantagenet, Ont., breeder of Shorthorns (Cruickshank bull "Soldier Boy" at head of herd) and Berkshires. Stock for sale. Prices to suit the times.

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W. MAJOR & SON, Whitevale, Ont., importers and breeders of Shorthorn cattle, Clydesdale horses, Shropshire sheep. Stock for sale.

DAVID MILNE, Ethel P. O., Ont., breeder of Scotch Shorthorn and Leicester sheep. Red Leicester at head of herd.

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W.M. PORTER, Cedar Grove Farm, Woodstock P. O., Ont., breeder of Shorthorn cattle and Southdown sheep. Young stock for sale.

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GEO. THOMSON, "The Farm," Ont., breeder and importer of Shorthorn cattle, Leicester sheep, C. V. R. Stock for sale.

JAS. TOLTON, Walkerton, Ont., breeder of Shorthorn cattle and Oxford Down sheep. Stock for sale.

THOS. TURNER & SON, "The Grove P. O., Co. Bruce, Ont., breeders of Shorthorn cattle, Leicester horses and Leicester sheep. All kinds of stock for sale. Cargill's, G.T.R.

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JOHN TURNER, "The Farm," Jersey Farm, Oakville, Ont., breeder of Jersey cows of the best families.

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T. GUY, Sydenham Farm, Oshawa, Ont., breeder of Ayrshire cattle, Southdown and Leicester sheep.

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