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CANADIAN LIVE-STOCK JOURNAL.

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

VOL. III.

HAMILTON, CANADA, JULY, 1886.

No. 7



THE IMPORTED ABERDEEN-ANGUS COW ETAINE OF ABERLOUR (8203) AND HER CALF EXILE (8204).

The property of Mossom Boyd & Co., Bobcaygeon, Co. Victoria, Ont.

Etaine of Aberlour (8203).

This beautiful specimen of an Aberdeen-Angus Polled cow so nicely depicted by our artist, along with her heifer calf, Exile (8204), one of the finest amongst the many good ones in the herd of the Messrs. Mossom Boyd & Co., Bobcaygeon, Co. Victoria, Ont., was calved March 5th, 1881. She was bred by Wm. Robertson, Aberlour Mains, Craig Machie, Scotland, and is of the Erica family, which has produced so many of the finest specimens of the Aberdeen-Angus Polls. The prices obtained for them have seldom been overtopped by anything claiming Angus blood. At the Cortachy sale, held by the Earl of Airlie, October 5th, 1882, four individuals of the breed averaged £388 10s., although one Miss Macpherson (1252) was 11 years old; and another, Ennissa (5091), was but six months. Her sire, Souter Johnny (1615), was bred by W. M. Skinner, Drumin, and her dam is Etta (2225), by Balliemore (741), and great granddam, Erica (843); by Cupbearer (59).

Etaine of Aberlour was shown at the Dominion Exhibition, Montreal as a one year in 1882, where she carried an easy first, and was again a prize winner at the Dominion Exhibition, Ottawa, 1884, where also her heifer calf Exile (8204), by the sire, Ermine Bearer (2082), was awarded a first. Her second calf Exemplar, dropped March 16th, 1885, is the best bull now on hand in the Big Island herd, and still another by

the same sire, but a few days old, is full of promise. The progeny of this cow furnish a fine specimen of that line breeding which is close enough to reproduce the best traits of the family, and yet not so persistent as to impair the constitution. The fourth dam of Ermine Bearer is Erica (843), by Cupbearer (59), which is also the third dam of Etaine of Aberlour, the anterior pedigree being almost identical. Subsequently the stream diverges, and is again reunited in the three calves of this cow.

The Dominion Shorthorn Herd Book.

The work of compiling this Shorthorn record is going steadily on. From the shattered edifices of the former records the good stones are all being selected, each one being put in its rightful place in the wall of the new building. That its completion would be slow we expected from the first as in the work of compilation the utmost care must be exercised to avoid the mistakes of the past. The volume will appear sometime in autumn, and its appearance will doubtless do much to settle the disturbed state of the Shorthorn atmosphere in the Dominion. We shall hail with much expectation the appearance of the forthcoming volume with a standard second to none in the world, and freed from all the extraneous dross of the shortcoming of former years. Mr. F. Green, of Inverkip, has, we are told, given very great assistance to the

Secretary, and his staff, in dispelling the mists that hung about doubtful pedigrees, and for this is deserving of the sincere thanks of the Shorthorn community.

We have already warned our readers against the manifestation of fickleness in the line of breeding which they adopt. To make a decided success of any one line of stock is usually the work of years, therefore he who is constantly changing need not expect to attain highest results. The same will hold true in regard to communities as well as individuals, and in regard to grain-growing as well as stock-keeping. In the latter as in the former, a change in the market usually produces a change in the methods of most men, whereas the changes in the markets are only the swayings of the pendulum, first one way and then the other, although in the case of stock the pendulum is longer. The day was when Herefords brought handsome prices, almost a century ago. Then the demand slackened, to be revived by prairie grasses in the Western States, until in 1884 prices were realized such as had never before been attained. In choosing a breed the first essential to seek is merit. Without this no breed will remain long at the front, but possessing it, it can never go out of fashion. Life is too short to admit of experimenting with several breeds in succession. If done at all, it must be done simultaneously.

Canadian Live-Stock Journal.

PUBLISHED MONTHLY BY

THE STOCK JOURNAL COMPANY,

48 John Street South, Hamilton, Ont.

Terms, \$1.00 per Annum in Advance.

THOMAS SHAW, RIVERSIDE FARM, EDITOR.

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

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

To Advertisers.—Advertisements of an appropriate nature will be inserted in the JOURNAL at the following rates: For a single insertion, 18c. per line, nonpareil (12 lines makes one inch); for three months, 15 cents per line each insertion; for six months, 13c. 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.

To Correspondents.—All communications intended for publication in the JOURNAL should reach us by the 20th of each month—sooner, if possible. We do not hold ourselves responsible for the opinions of correspondents.

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

All communications to be addressed STOCK JOURNAL Co., 48 John street south, Hamilton, Ont.

HAMILTON, CANADA, JULY, 1886.

We will take it as a great favor if "A. S. H.," who at one time was on the list of our contributors, will forward to us his address.

PARTIES sending communications to the JOURNAL for publication will please give name and address at same time, even though they don't wish these to appear. No communication will find a place in the JOURNAL where the above has not been complied with.

In this country the price paid for the different classes of wools is very unsettled, especially in local markets, where the introduction of some of the short wool breeds is but recent. There is a disposition amongst buyers to class some of the short wools as medium and the medium as long. With a view of throwing light upon this subject and bringing about a better understanding all round, we invite sheep owners from the different sections to drop us a card in time for next issue, stating the prices paid in their respective localities. To be sure this matter will adjust itself in time, but in isolated parts ventilating the subject properly will hasten adjustment.

The London *Live-Stock Journal* says in a late issue, "It is preferable that the entire supply of cattle (stores) should be bred in this country, so that the risk, uncertainty and speculation of dealing in imported stores may be avoided." It was the interest of the British farmer that the writer had in view when he penned what we have quoted; yet we feel that what he has written is quite as much in the interest of the Canadian farmer who is wise enough to finish his stores here before sending them abroad. We have repeatedly commented upon the unwisdom of sending store stock to the British markets, and only wonder that our farmers don't all see eye to eye with us in this matter. The arguments against the practice we sum up again. We pay the same for sending over a store beast that we do in sending one finished. We pay the freight on the produce we send away to finish it over the sea, and we lose the manurial product.

THE fear that owing to their rapid multiplication pure-bred cattle will soon fall so low in price that it will not pay to breed them, is a groundless one. The best of the good will never become too plentiful even in the hands of the skillful breeders, while in the hands of the careless there is a constant tendency to deterioration rather than improvement. For first-class pure-breeds there will always be a place, and they will be sold at prices that will pay the breeders well. Examine many of the herds of Ontario to-day and you will not find many choice amongst the larger number that are good, and the larger number that are only medium, and we know that Ontario in this respect will compare favorably with any other clime. Let it be the constant aim of every breeder to produce really first-class stock, and the price will take care of itself.

PEDIGREE alone will not avail unless a good constitution, good shape, good feeding qualities and the possession of other prime requisites go along with it. It is therefore not only unwise but unkind, if not positively dishonest, when stockmen retain inferior specimens for breeding purposes, especially of the male sex, and palm them off upon the uninitiated as being of the right sort. The stock interest has thus been sorely wounded in the house of its friends and its progress greatly hindered. Those who purchase for grading purposes are most prone to fall into the mistake at first of buying pedigree weeds, when the results cannot fail to be disappointing. They are selected on the ground of cheapness. Once start with a good beast, possessing a good pedigree, and the results are not likely to disappoint anyone.

A CORRESPONDENT from Winnipeg remarks in a recent number of the JOURNAL, "The word amongst our ranchers of the west now is, the scrub must go." It is very cheering to hear that such good sense is prevailing in the councils of the cattle owners of the great lone land. They have doubtless come to this conclusion from looking at the matter from a monetary standpoint. They are to be superseded by good graded cattle because the latter are more profitable. If in a country where animals are fattened solely on grass, and where land can be obtained for from two to ten dollars an acre, the scrub must pale before improved stock, how much more should it vanish in Ontario where farming land brings from forty to one hundred dollars an acre. The poor scrub has his doom written. Our western contemporary, his champion defender, had better be tuning his harp to play a lament.

A BEAUTIFUL fuschia in our office window, neglected but for one day, sadly drooped, giving evidence of languishing in every leaf. It was then supplied with a drink of water larger than usual, and in a few hours was the beautiful fuschia again. As with plant life so it is with animal, with this difference, that it is more imperative that the stomach of a beast should be regularly supplied than the rootlets and the lungs of a plant. *Unfailing regularity practiced here* might well be written over every stable door in the land. Of the millions of live-stock kept in our country, not a single one of them can be neglected without a loss corresponding to the neglect. What a comment on the indifference so lamentably prevalent that makes the feeding of animals simply a matter of convenience, as though they were not possessed of appetites or were utter strangers to the sensation of hunger.

THAT exercise and plenty of it is essential to the well-being of the horse is becoming more and more apparent. Where this is neglected, particularly in

the case of draft horses, their usefulness is greatly impaired. They are not sure as stock horses, nor do they live to that age attained by so many of the roadsters and trotting stallions. There may be considerable difference of opinion as to the best form in which this exercise can be secured, but giving it in harness is a favorite way. Turning a horse out occasionally into a paddock is not always sufficient, as with the horse that has grown fat and has not been exercised much, there is a tendency to become inert. Exercising in some way that is useful, that is, that will accomplish some other end at the same time, is preferable when this can be done, and generally it can. The horse is too expensive an animal to keep boxed up in a stall simply that he may be admired.

THE great factor of improvement in stock-keeping is the sire. This cannot be kept too prominently in view by those who are seeking for a superior class of stock. In this age of shows one of the very best tests of the value of a sire is the number of his progeny that come into the show-rings from year to year, and bear away prizes. Oftentimes we find a sire, an easy prize-winner, which seldom or never produces a descendant that enters a show-ring, while on the other hand a plainer one will produce progeny that are numerous in every exhibition in the neighborhood. Our exhibition directors should generally note this fact, as they have already done in some instances, and offer prizes for so many individuals grouped, the offspring of one sire. Where a sire of this class is found it is well that his merits be made public, and that he be not perpetually hidden by the shadow of another sire which never produced a prize-winner, and yet the fame of which resounds throughout the land. Of famous sires that never figured in the show-ring we may mention the old Knight of Warlaby, for so many years the stock-bull of the Messrs. J. & R. Hunter, of Sunnyside, Alma, Ont., amongst bulls, and amongst horses the equally renowned Hackney stallion Denmark, owned by Mr. George Bourdass, Hunmanby Yorks, England. Of renowned prize-winners that were not good stock-getters, the wonderful Hereford bull Archibald furnishes a noted instance.

A Most Destructive Fire.

About one o'clock on the morning of Sunday, 31st May, the entire outbuildings of Mr. Harold Sorby, of Gourock, near Guelph, were swept away by fire, with the larger portion of his pure-bred stock. The stock consisted of Galloways, Herefords, Berkshire pigs and Plymouth Rock fowls. Nearly all the implements, and the whole of the harness, hay and grain were wiped out of existence. But a remnant of the Galloways is left, and the milch cows and horses, which were in the field at the time.

It will be remembered by our readers that Mr. Sorby's splendid herd of Galloways had only been purchased from Mr. Thomas McCrae, of Janesfield Farm, Guelph, as recently as last winter, and that a description of it appeared in the March number of the JOURNAL, page 63. The pick of the herd were lost both male and female, as they were inside being fitted for the show-rings, including the unrivalled bull, Macleod 2nd, of Drumlanrig (1675) [553], bred by the Duke of Buccleugh, the two-year old Milligan, and the one-year McAlpine (19634), his sons, along with a number of choice calves and cows. The imported bull, Mochrum, with true Scottish determination, broke his chain, and dashed through the flames only to die by the rifle shot, mercifully aimed, to cut short his terrible agonies.

The Hereford bulls saved from the wreck of the Brooklin, at Anticosti, were only brought to perish in

the flames at Alton Hall, and the splendid herd of Berkshires, some fifty in number, including two imported boars and three imported sows, have all been lost. The buildings were in great part the work of Mr. Sorby's own hands, and were in many respects models of convenience.

The ordeal that Mr. Sorby has been called upon to pass through, has certainly been a most trying one, and we are quite sure that we will receive the commendation of every stockman in the land, when we take this opportunity of tendering to him their sincerest sympathies.

To be necessitated to witness the demolition of the gatherings of a lifetime in one short hour is a trial which very few possess the calm constancy to face unmoved, and is enough to crush the spirit of ordinary men. The origin of the fire is unknown, but it is supposed that it traces to some wandering tramp without a soul. The loss is estimated at \$11,000, and fortunately is pretty well covered by insurance, but what insurance money can put back again the comfortable outbuildings of this beautiful rural home? It cannot be done without years of patient and painstaking labor with all the worry and annoyance inseparably connected with such undertakings.

As we pen these lines the thought forces itself upon us, how many of our stockmen have shown the wisdom of Mr. Sorby in having their valuable stock insured? If we but learn the lesson written for us in the bones of the dead Galloways and Herefords of Alton Hall, amid which the ashes play with every passing whirl, what has proved so bitter an experience to Mr. Sorby may prove in a sense a blessed experience to some of us.

Our Agricultural Exhibitions.

As the season is approaching when arrangements will be made for the holding of our annual exhibitions, we earnestly ask the members of the various boards who may chance to see this paper, to consider most carefully the following resolution passed by the late Indiana State Agricultural Convention consequent upon the reading of an address by the Hon. J. N. Davidson:

"Resolved, That any county or district fair which shall allow the sale of intoxicating liquors on the fair grounds, or will not enforce the law against games of chance, is unworthy the name of an agricultural society, and meets the strongest condemnation of this delegate board."

We are delighted to see the good sense of the country thus speaking out so plainly in this matter. For the sake of revenue these condemnable features have been introduced or allowed, with the result amongst others, that the best portion of the community is either withholding its support altogether, or giving it in a half-hearted way. Like the hungry vultures which follow in the line of march of an eastern army, the carrion-devourers follow the circuit of our fairs throughout the season, laying their snares to catch the unwary; and when not allowed to come within the fair grounds they hang out their baits most dangerously near the gates. Some of our agricultural boards have already taken the firm stand that those ravenous devourers shall not gain admittance to the grounds, rather choosing the alternative of diminished revenues than to stain their hands with accursed gold brought in at the fearful price of the corruption of the young men of the country; but many of them have not yet taken this stand, and we do hope that those who have not, will weigh well the import of the grand words of that Indiana resolution which says that any local exhibition allowing these things is *unworthy the name*.

But many who in this age of Scott Act-legislation

may take the stand that intoxicating liquors should not be allowed upon the fair grounds, look differently upon games of chance. They argue that these are in a manner harmless, and that if young men are duped by these things, it is through their own simplicity. It is very thoughtless to argue thus. The young are without experience, and they carry in their bosom what is in itself commendable, a strong desire to look into what is new to them, a fallow ground from which those curses to society, the vendors of chance games, reap their richest harvests. Those men are plying a *dishonest* trade, and the board which countenances their work in any way are partakers of their wickedness. The man who takes from his neighbor, by taking advantage of the ignorance of the latter, by way of barter without giving an equivalent in value in things lawful, is dishonest. How much more then is it dishonest to do so in things that are unlawful! What equivalent do these men give? Nothing by way of pecuniary advantage, but much in the way of tainted morals. How many a promising young man have they sent rapidly on the downward road, who was ascending the difficult upgrade of rectitude till he met with them.

It is alarming to think of the extent to which those men are tolerated, and it omens ill of the state of society to know that such is the case. They could not subsist without finding prey, and prey that is drawn from the immediate surroundings. Carrion devourers in the east have been found dead from want of prey, and this would be the fate of the calling of those vultures in a community altogether virtuous. But the sure way of multiplying the evil is to give it countenance or even to wink at it. Like all pestilent weeds, it will multiply itself by an almost spontaneous reproduction, and in a rapid degree.

What do those mistaken men do for the country? They have no live-stock to exhibit; they do not bring any manufactures, the products of their skill. They have nothing to exhibit in the arts line. They do not bring bread to sell to the hungry. Their business is robbery, plunder, ill-gotten gains, trapping the unwary, sapping the foundations of moral rectitude, blasting the prospects of young men by contaminating their morals; fattening upon ill-gotten gains wrenched from the unheeding. They are accursed fountains sending forth bitter waters that smite with blasting and turn into an arid desert this land over which they flow; and all this they do under the approving nod of boards elected by the people to protect their best interests in the line of agriculture, and to further these as best they can through the medium of exhibitions.

The great wonder is that the good sense of the community has tolerated these foul blots upon the civilization of to-day so long, or the boards either, who with open arms have received them, or even given their presence a reluctant sanction within the grounds. We do not think it enough to banish them without the grounds. The legislature should say that they may not come within a certain distance of the gates. Thus deprived of the opportunity of plying their nefarious trade they would be forced to give it up, or go to foreign countries, where they could plant their standard upon a more congenial soil.

It is very gratifying to notice that our neighbors across the line are moving in this direction, and shall we on this side, who boast so much about what we have to exhibit at our exhibitions, allow them to lead the van in this?

"I think the JOURNAL the best agricultural paper in the Dominion."—JAS. E. CAMBER, Frederickton, N. B.

"I like your JOURNAL very much, and think its price is one dollar well invested."—JOSEPH BULLING, Marshville, Ont.

Dearth of Heavy Draught Sires.

There are but few counties in Canada where, at the present time, there is a sufficiency of heavy draught sires to meet the wants of the different respective communities. In some two or three of the counties of Ontario where heavy draught horses have been bred for many years, there may be an excess of stud sires, but in nine counties out of every ten, we feel quite sure that there is a dearth, more especially of imported sires. In some of these the want is realized, and in others of them it is not. The latter is the saddest plight of the two, and in no way can the farmers be so quickly convinced of the mistakes of their nondescript breeding of the present, as by sending amongst them a few good imported heavy draught horses on routes judiciously selected.

We urge this matter upon the attention of breeders and importers of heavy draughts. We would not have them embark in an enterprise that would not be attended with material gain, but we feel quite sure that in time the undertaking will pay well, even though it did not the first year. We believe that the Clydesdale Association of Canada could do something in this matter by urging it upon the consideration of the members, and we are in no doubt as to the patriotic nature of the work. It would in the end greatly strengthen the association by the impulse it would give to the breeding of Clydes, and widen the field for foreign purchasers. The Shire breeders, and breeders of Percherons might well move in the same direction, although in their case there would be more difficulty in attaining the desired end from the lack of organization.

Ontario has already become famous for the superior class of Clydes which it produces, but this celebrity is wholly due to the praiseworthy efforts of the breeders of some half dozen counties, notably the county of Ontario, which to-day possesses more good Clydes than ten other counties that might be named. Now, if the larger number of our counties produced but half the good stock of heavy draughts that is furnished annually by the county of Ontario, how much it would widen the field for purchasers, and could not fail to attract them in numbers more proportionately increased than the stock which they come to purchase.

Herein horsemen have a great advantage over the breeders of other classes of pure-bred stock. They can carry the war into the midst of the most prejudiced community, and by the resistless power of a demonstration that cannot be gainsaid—the living animal itself—they can produce conviction in the minds of the most unwilling. Other breeders must reach those sections by some far more round about way, or must patiently wait till the people come out of the hiding places within which they have curtained themselves from the advancing rays of the live-stock light of the most recent decades. A stallion may walk up and down the country with triumphant tread, the acknowledged conqueror of all the mongrels in his line, his owner located a hundred miles away, but a pure-bred bull can only drive the scrubs into the hiding places of the forest, where he has been introduced by purchase.

A good sire is used in pork production, and buyers tell us the value of the meat is increased at least one dollar per hundred pounds. A good bull is used in grading, and the increase in the carcass at two or three years old, is at least one-third; but in breeding from good stallions, the proportionate gain is as much greater as is the excess in value of a good horse over a good cattle beast.

We have viewed with much gratification the rapid encroachments made by draught horses in recent years

in some parts of the country, yet what has been done is but little in comparison with what might be done. The field is wide and very largely unoccupied. It is then the duty and privilege of the breeders of heavy draught horses to enter and take possession.

Where the want is felt the remedy is surely easy. The addresses of the breeders of heavy draughts are numerous found in the JOURNAL, and by communicating with some of these there is no doubt but that satisfactory arrangements may easily be made.

For the CANADIAN LIVE-STOCK JOURNAL.

The Red White and Roan—Which Color Shall We Adopt?

This is a question of great consequence to the Shorthorn breeders of America. While they possess cattle which both for milk and beef cannot be surpassed, they should aim to sustain all their good qualities, and, if possible, improve them. There exists on this continent a biassed opinion as regards color, which will undoubtedly prove hurtful to this unequalled bovine race. Why, I ask, should red be the favorite color? Do the admirers of the reds possess facts to substantiate the supposed superiority of their favorites? Most emphatically they do not; it is simply yielding to a popular prejudice outside of Shorthorn circles! Why not uphold the whites? This would appear most natural, as there have been more noted prize-winners among this color than of any other, from the time the Colling Bros., Maywards, Wetherells, and many others bred and improved them, till the present day. In the beginning of the present century the performances of "The white heifer that traveled" aroused public attention to their merits, and raised Charles Colling, as her breeder, to a reputation which places him foremost among the many heroes of the Shorthorn cause. Thus we are, to a very considerable extent, indebted to the whites for their original popularity; of course we are forced to make exception of Mr. Colling's "Durham ox," who, we think, was a rare bird of his flock. But the performances of this wonderful heifer fade before the victories of our great modern champion, Clarence Kirklevington, whose wonderful achievements have been so often told, and are so widely known that we need but refer to them here. This invincible steer was bred at Bow Park, and his color was white—white as the summits of our Canadian Rockies. We are thus forced to conclude what the whites have been, to a very considerable extent, the shining lights of the Shorthorn world, and although laboring under this abominable hum drum fashion, they have even here far outstripped their rivals. We Americans have evidently long been pursuing a wrong course in striving to make red and roan our colors. In fact we might say red alone, as a very large percentage even object to the roan. Has this color prejudice a tendency to improve the Shorthorns? If so, we fail to see how it will be effected, unless we are to consider the eradication of the whites an improvement. But why should they be eradicated? If done at the expense of size and quality, where will be the gain? Some of the most famous sires in England to-day are white; but in America we rarely find them at the head of even a grade herd. We have as yet failed to see a really good animal which did not either immediately descend from light-colored stock or at least contain a number of roan animals in its pedigree. The popularity of the reds dates back to the earliest importations of Shorthorns into America; and it was then found to be a very great hindrance to buyers, who, though wanting the best they could procure, objected to almost anything

but a red, and have doubtless often been forced to take animals of an inferior quality, as the English considered the roans and whites the best cattle, and therefore somewhat neglected the reds. Are we for a moment to suppose that the English breeders of those days would consider them the best if they were otherwise, or were they, like their American cousins, also prejudiced against color? If this latter supposition may be considered correct, we are the more forced to regret the state of the reds. It would certainly be a ruinous undertaking for anyone individual to champion the cause of the whites. But we respectfully ask American Shorthorn breeders to weigh well this matter before they adopt the method which is certainly not the best for improving their cattle. It is high time for us to stay our course, if we intend to increase their popularity. Shall we, as breeders, allow ourselves to be misled by this popular whim? If the welfare of our favorites is at heart, we will not! Why, I ask, should the successes of the Shorthorns be hindered by this detestable color prejudice? It is to be hoped that the day is not far distant when we American breeders will unite with unprejudiced minds in adopting animal and not color as our basis of merit.

Kossuth, Ont.

A. E. MEYER.

Our Scotch Letter.

THE FARMERS AND THE BUTCHERS.

A question which has come rapidly before the public for discussion here are the profits of middlemen and perhaps more particularly of the class known as butchers who deal in a retail trade. A cry has got up that the butchers throughout the country have been robbing either the consumer or the farmer of the benefits which ought to have accrued to them from the fall in the price of dead meat—a fall equal to at least 30 per cent. within the last eighteen months or two years. (In a recent letter of mine in the May number, the price of beef was stated at 67s., which was quite correct had the letter in question not been delayed in publication. But it may be as well to explain that 67s. per cwt. was the current price about the beginning of the year—since that time it has fallen greatly, and for some months has stood at 60s. This explanation will prevent misunderstanding.) The question has been hotly discussed in England, but the echoes of the strife have travelled to the Highlands, and if it is not as yet true that "the heather is on fire," the subject has assumed sufficient importance to be glanced at in this correspondence. The writer does not wish to advance a defence of avaricious dealers who probably exist in this, as their counterpart does in every class; or to throw cold water on co-operation on the part of farmers for the sale of their own produce direct to the consumer, but rather to insinuate a doubt whether the butchers have been making the fabulous fortunes that have been amassed for them by their critics. No class of business men that could be named have so seldom succeeded in making a competency as the butchers. A pretty large acquaintance with the trade enables me to say this without fear of contradiction. The profits, compared with the amount of capital employed on a year's transactions, are smaller than in almost—I might say smaller than in any other trade; and this arises from the exceptionally risky nature of the business. There is the risk of making a bad bargain to start with—a not uncommon occurrence, even among butchers. Appearances are often deceptive, not only as regards the quality but in respect, also to the weight of the animals bought. Good bargains are admittedly sometimes made, to be dissipated, most probably, next week in the London mar-

ket where the great bulk of the dead meat from all parts of the country is sent, the London market being, above all others fickle. Tempted by reports of a good market, the dealer consigns a heavy lot of cattle in the hope of catching the rising tide, but is too late, trade is bad and he sinks two or three hundred pounds at one stroke. A more speculative business does not exist, and that is a main reason why so few who follow this trade, succeed to any great extent. At Leicestershire has been a great centre for dealers for many years, and it has been no uncommon thing for single individuals to have an annual overturn of from £50,000 to £60,000; and yet how small a proportion of those engaged in this speculative business have been able to retire rich men—at most three or four within the last three decades—and how many have been totally ruined! It is true that the number of dealers or butchers has been largely augmented by many unskilled persons with little training, who have failed in other pursuits; but besides these there are many excellent business men of great industry, who in other callings would have made their mark.

The retail trade is generally combined with the London trade, and it may be said that in the retail trade the butcher has not the same risks. And that is so far true; but there are many drawbacks to the retail trade which those outside the business can have no idea of. A few of these may be enumerated. In the summer season the retail dealer has great difficulties to meet, which often threaten and sometimes lead to heavy losses, owing to the perishable nature of his goods; and this is a view of the matter which seems to be lost sight of by some of his critics. When the weather is very warm, and especially if it is moist at the same time, the meat goes suddenly wrong; gets "fly-blown," and must be sold at once at whatever it will bring. This is a frequent cause of loss and goes to reduce the butcher's profits. Then allowance for the great waste entailed in cutting up an ox must be made; and in retail trades where a small business is done, or perhaps more properly a business in "small's"—where the customers take their beef in cuts of a quarter, a half or a single pound—this loss is not less than one pound in every eleven pounds. This is another source of loss. Brisket, loin, skink, neck, suet, bones from roast, etc., which now-a-days will not fetch more than four pence, represent 200 lbs. in a six cwt. ox, and must be accounted for in judging of the retail prices of beef which some people are loudly crying out against. And prices which at first look high must be put upon roasts and the best boiling pieces, to leave something for risks, expenses, etc. I have been led to make these few observations because the discussion of the question here has been a very one-sided affair, and nothing has been said on behalf of a body of men who seem to me to have been somewhat hardly treated.

QUIDAM.

Morgan Horses.

BY JOHN DIMON.

(Eighth Paper.)

On looking up from my writing my eye rests on a diploma hanging over my desk, received at the New England Fair for the best of some kind of stock, I presume a horse; but over that diploma hangs a horse shoe (not a large one) half worn or more, with which is connected this little scrap of history. When the President of the United States—the late lamented Gen. Grant—visited Woodstock, Conn., on the 4th of July, 1870, the guest of H. C. Bowen, proprietor of the New York Independent, whose summer home is in

Woodstock, I was invited to act as mounted escort to the distinguished party from the depot at Putnam, to Woodstock Park, a distance of some six miles. I rode a young black Morgan mare of much spirit, and naturally nervous, but whose young colt "Shoo Fly" shut up in the barn at home, made her still more so on this occasion. As our cortege was headed by a renowned brass band from Boston, and as music of this description was both new and novel to her, I presume she showed as much style as it was possible for any animal of her size to show under almost any circumstances. At a halt on our line of march, as I chanced to ride alongside the carriage containing the President, Mr. Bowen, the Rev. Henry Ward Beecher and I think Mr. Tilden, of New York, I was honored with an introduction by Mr. Bowen to the President, General Grant, who, on acknowledging the same, remarked to Mr. Bowen that his friend Dimon rode a good horse and that he would wager it was a Morgan. In reply, Mr. Bowen complimented the rider very highly by saying, "Mr. Dimon is one of the best horsemen we have in Conn., and if he rides a poor one it is not for lack of judgment in selecting." This is but a little thing, but then, our lives are made up of little things. In memory of that event I have carefully preserved one of the shoes worn by that Morgan mare on that occasion.

In summing up the desirable qualities of the Morgan we find them, where best known, to be generally appreciated; in fact they are the farmer's pet, the hackman's pride, the liveryman's idol and the stager's bonanza. And although the height of their withers may be nearer the ground than some other breeds, yet they stand several hands higher in my estimation than the lowest half of the human species, both in intellect and morality. They endure abuse heaped upon abuse, like "the lamb dumb before its shearer, opening not their mouths."

As to the popularity of Black Hawk in the stud, his earnings for the two last years of his service life were \$20,000, although many applicants were of necessity turned away.

The Rev. W. H. H. Murray, in his book, "The Perfect Horse", in alluding to the Morgans says, "I do not purport to write the history of the Morgan horses, although to do it would be like writing the history of kings." Of Justin Morgan, alone, can it be said that he founded a family. The ignorance of some and the malice of others, cannot belittle his greatness. This stands secure, not only above the peril but even above the reach of attack.

This greatness consisted in the power to transmit his excellences to his offspring. Mr. Murray further says, that "a hardier race of horses was never bred. In the power to do hard work and keep on doing it, month in and month out (he might have said year in and year out), the Morgans stand at the head of the column. In lung power they are simply perfect; in feet and limbs, faultless; in muscular formation, marvelous; and in connection with this a nervous or vital force, equal to any effort." In breeding the trotting horse we can get speed much more easily than we can get the power to keep it up mile after mile and hour after hour. We often find on the track many young horses with speed enough to trot a mile at a marvelously high rate, but which are completely used up in scoring, before even getting the word "Go!" Old jockeys will understand this "little game," and many is the poor brute that has met its fate, not in trotting a mile, but in scoring 5 or 10 miles at a lively pace before getting the word. Consequently endurance becomes the great requisites, or at least one of the great requisites to be sought after

by breeders of trotting horses. Endurance being pre-eminently the heirloom of the Morgans, where, may I ask, can we expect to find a cross giving staying qualities to the trotter, equal to one of the old stock of Vermont Morgans, whose pedigree may be traced on both sire and dam to the "Old Horse."

Remember that the Morgans, though classed as a general-purpose and roadster family, have produced more speed than any other family in the world, and that with very much less training than have been bestowed on other families, and under much more disadvantageous circumstances than later trotting families of distinction have had to contend with.

Windsor, Ont., June 7th, 1886.

(Concluded.)

The Aberdeen-Angus Polls of the Big Island Stock Farm.

This island home of the Aberdeen-Angus Polls lies in Pigeon Lake, opposite to the lesser island of Bobcaygeon, on which the flourishing village of the same name is built, and which contains the residence and the saw-mills of the Messrs. Mossom Boyd & Co., the owners of the Big Island and its now famous herd of Aberdeen-Angus Polls. Pigeon Lake is a part of that magnificent chain of water communication, the various links of which will soon connect the Georgian Bay with Lake Ontario via Lindsay, Peterboro and the River Trent.

Bobcaygeon is an island rock, in many parts flat as a board, and nearly as level, split by ten thousand narrow fissures where most readily a walking-stick would sink down into the darkness of its crevices. It is covered here and there by numerous little groves, which obtain a livelihood on a soil where man would starve were no supplies brought in from the mainland. It seems to form the borderland between the limestone and granite formations, apparently the home where the demons of the earth held carnival while the battle of pre-historic formations still raged. A few miles to the northward the hills are being honey-combed to obtain supplies of lead and iron ore, and of late Bobcaygeon quarries are largely drawn upon for the stateliest edifices of Lindsay.

The island of Bobcaygeon lies at the outlet of Sturgeon Lake, so named from the giant denizens that fattened in its waters in great numbers before the raft of lumbermen had floated upon its bosom. The river on its southern shore is piled full of logs for the saw-mills of the Messrs. Boyd, no less famous than their herd of stalwart blackskins. It is reached from Toronto by the Midland Railway via Lindsay, some 70 miles, and is some 20 miles east of Lindsay. The communication from Lindsay is by boat, the Esturion making her two round trips a day, and connecting closely with the trains.

The sail is very pleasant. The Bobcaygeon dams have raised the waters many feet in depth, submerging the lowlands on either side of the Scugog river, making here and there vast fields of naked poles and stumps where the trees that once flourished in the lowlands sailed amid the waters of submergence. This alone is unsightly in the sail adown from Lindsay.

Our trip was made on one of those loveliest days, when June, like an unobtrusive maiden, was holding out her gentle hand, beckoning the tired brain to come and rest awhile upon her bosom. The sight of Sturgeon Point on such a day jutting out into Sturgeon Lake, was almost tantalizing, when one couldn't land to lie down and rest awhile amid the leafy boughs of the grove of beautiful oak that cover the point in all its borders. Here it is that many of Lind-

say's chieftains have built their summer cottages, and hang out an annual truce to the hard battle of life. On such occasions one feels like grasping the wheels of time, and, with superhuman effort trying to hold them fast awhile.

The late Mr. Mossom Boyd, the father of the present proprietor of his numerous estates, built his cabin in the wilderness some 53 years ago. In the long fight with the giants of the forest he conquered, and not many years since laid him down to sleep the last sleep with that noble army of pioneer heroes now mostly passed away.

The aged boatman on Pigeon Lake who told us the story of his life, had been almost a lifetime in his employ, and the old man's voice grew tremulous with emotion, as, looking back through the vista of departed years, he dwelt upon the untiring energies and the true generosity of that Celtic heart which he had served during all those years.

When the standard of the business fell from the hand of the senior Mossom Boyd it was grasped by that of the younger, and a forward march was sounded in its every avenue. The acres of sawdust that lay upon Bobcaygeon rock, were piled up higher, new stables were built at the mills to accommodate 70 horses for the lumberwood in winter and the farm in summer. The pine stumps rooted in the fields of the 400 acre farm on the mainland were torn from their moorings, and in huge bonfires turned into ashes. The stones were disturbed in their resting places and borne away, suitable barns were built on the Verulam mainland and on the Big Island, and in 1881 the first consignment of the Aberdeen-Angus Polls were brought to their new island home, the first of the breed that were owned in Ontario outside of the Experimental Farm.

After careful deliberation he (Mr. Boyd) determined to supplant the stock which he possessed with Aberdeen-Angus cattle of the purest types from which stock could be bred, the character of whose pedigrees would be unquestioned. In the summer of 1881 he therefore invested in a few specimens of the breed, and exhibited them at the Toronto Industrial, the same year, the first that up to that time had been shown at any fair in Ontario. They had been brought out by Mr. James Hunter, of Sunnyside, Alma, Ont., at the same time that he brought out the importation for the Experimental Farm. In this lot were Mayflower of Altyre 3rd (4763), of the Mayflower family, and Wanton (4610), by the Erica bull Etonian (1658), and Princess Alice, descended from Auld Granny (1). This purchase is referred to in the work of Macdonald & Sinclair, issued on polled cattle a short time after. Later in the same year he purchased from the Hon. J. H. Pope some 10 head of young females, including Dagmar 5th (4528), of the Matilda branch of the Queen tribe, Pauline (3672); of Easter Tulloch breeding; Waterside Queen (3208), of the Kinnaird Fanny family; Dominion Girl (5296) of the same, and others of equally good breeding.

In 1882 Mr. Boyd bought a lot of some five heifers from Mr. G. Whitfield, of Rougemont, Quebec. These were Coquette 10th (4668), a two-year-old bred by Sir George Macpherson Grant; of the Ballinalloch Coquette family, which produced Coquette 11th, the champion fat stock heifer at the Smithfield show in 1885. Etaine of Aberlour (8203), whose portrait appears on the first page of this number, of the Ericas; Roserine of the Westertown Rose family, got by the famous Challenger (1260), the sire of the no less famous Chivalry (1765); and the Countess of Dunboyné and Lady Abingdon, both from the renowned Kaiser (1263).

In the spring of 1883 some twelve head were added

by purchase from the importation of the Messrs. Geary Bros., of Bli Bro, London, and Keillor Lodge, Bothwell. Victoria of Aboyne (5542) came with this lot, for which the firm paid 196 gns. in Scotland; as did Morlich Isabel (6538), of the Windsor branch of the Queen tribe; Waterside Alice (6287), descended from Old Granny (1), and Duchess of Verulam, of similar descent, but bred at Bli Bro. Some other individual purchases were made, but of less moment.

From what we have thus penned regarding the grounding of the herd, it is apparent that it stands as firmly on the rock of indisputable pedigree as does the island rock of Bobcaygeon between the forks of the Bobcaygeon river. In securing cattle of this class and possessing the requisite individual merit as well, Mr. Boyd spared neither pains nor cost, paying for the animals bought from \$600 to \$1,500 per head.

After Etaine of Aberlour (8203), Pride of Findhorn 3d (4758) comes next in value. She was calved March 12th, 1880, bred by Sir W. G. Gordon Cumming, of Altyre, Forres, from the sire Black Watch (1242) and the dam Pride of the Findhorn 3243, tracing back to Black Meg (766). Then follows Lula Windsor, a pretty black two year heifer bred at the Big Island Stock Farm, sired by Lord Dundreary, of Ambleside (2946), and from the dam Lulu of Ambleside (6372.)

Where 100 head of the blackskins are kept, as at the Big Island, it is vain to particularize thus, but we would do them an injustice did we fail to mention that a large representation of the herd contain the blood of the Ericas and Prides, two strains that have covered the breed with a renown that is imperishable, even though their achievements should henceforth be confined to the past.

It will be remembered by those conversant with the story of this breed, that at the Cortachy sale held by the Earl of Airlie in October, 1882, four Erica heifers made an average of £388 10s., and that when Mr. R. C. Auld, now of Dexter, Michigan, held his sale on September 19th, 1883, four of the Prides sold at an average of £310 16s., although one was a calf but three months old. One of the lot, the one-year Pride of Aberdeen 30th (5209), brought 510 gns.

If possible the Messrs. Boyd have shown more care even in the choice of their stock bulls. Those now at the head of the herd are Ermine Bearer 2082, King of Trumps (2895), and Chivalry (1765), of Ontario show-yard renown. The young stock of recent years are mostly from the two former; many of those yet to be will be from the latter, purchased from Messrs. Hay & Paton, of New Lowell, late in 1884. The portrait of Chivalry (1765) appeared in the December number of the JOURNAL, 1883. In that year he won first at the Dominion Exhibition and at the Industrial, Toronto, and the silver medal for the best bull of any age. In 1884 he was again first in his class at both exhibitions, and carried silver medal at the Toronto Industrial. His sire is Challenger (1260), victorious at the Highland Society's shows in 1873 and 1874, and his handsome picture is honored with a place in the 5th volume of the Polled herd book.

Ermine Bearer (2082), bred by Sir George McPherson Grant, Ballinalloch, is after Young Viscount (736), an Erica sire first prize-winner at three successive shows of the Highland Society, and in 1879 the winner of the champion cup at the International show at Kilburn, and tracing through Juryman (404), Trojan (402), Cupbearer (59) and the venerable Old Jock (1), all winners at the Highland Society's shows, each in his day. His dam Ermina (4171) is also an Erica, but the inbreeding consists

only of the reunion of the strains of Erica blood separated by four generations of ancestry.

King of Trumps (2895), also sired by Viscount (736) is from the dam Kohinoor (2984), and traces back through the Prides of Aberdeen to Black Meg (766). In his ancestors on the sire's side Clansman (398), President 4th 368, Hanton (228), Angus (45), and Panmure (51), were all Highland Society first-prize winners, and Black Prince of Tillyfour (366), the sixth waymark up the stream, was the sire of prize-winners.

Our visit to the Big Island was made in the afternoon of June 11th, when the sun was sinking slowly toward the wooded Fenelon hills. Mr. James Thompson & Son and Mr. Wm. Maw, of Brooklin, were of our number, as were two young Scotch farmers, named Turner, from near Edinburgh, who had come to see for themselves of the capabilities of our country with a view to possible settlement. We can only say to all such, *welcome* to this land of opportunities, where no wail of a ruined agriculture is abroad upon the air, and where British farmers possessing a little money and more good sense and nerve, are sure to ride upon the crest of the wave of an ever rising prosperity when they locate judiciously within our borders.

Pushing out in a little fleet of three small skiffs, we soon reached the Big Island, for the waters were so beautifully calm that the "black duck with her glossy wing" might have swam upon them "silently" with the very quietest movement. Our starting point was opposite the structure where the furnace that consumes the dross from the saws is kept continually burning like some vast Gehenna fire. The cattle are taken to the island in a barge, in the spring, and remain until days when the faded leaves fall down, when they are taken to winter quarters at the steading on the Verulam mainland. A rim of forest runs around along the water's edge, within which is pasture land that has never been torn by the share of plough. Ascending an eminence far inland on this island of 1,225 acres, we looked down upon the slopes covered with heaps of stones resembling the tents of a vast encampment in the distance. All around us stumps of trees were seen that had furnished many a mast for vessels on the deep. Solitary stragglers stood here and there holding out their ragged arms for a sympathy that will never come, and broken stubs with a charred jacket spoke of past conflict with the flames. Amid the stones that lay all around, some in heaps and more alone, were piles of logs laying close in the embrace of hastening decay. Here amid such inoffensive companionship the Aberdeen-Angus polls, the Oxford Down sheep, built well upon high-pedigreed imported stock, and mares that work in the lumber woods of the north in winter, but rear their young in summer, gotten by Clydesdale sires, have all things in common, sharing the grasses one with the other, one large and happy family. After lying about an hour discussing future Angus probabilities, some on stones and some on the ground, we catch sight of moving black spectres far downward on the plain. Soon a large wing of the blackskins come trooping by with the astonished look of families in the backwoods who seldom see a stranger. Their strung bodies, well packed with flesh, and glossy as the skin of seal, call forth our commendations, and we look first at the cattle and then at the slender pastures. Some two-year grade steers among them call forth expressions of surprise when their age is told.

We were pleased indeed with the accuracy and the fulness of the private records of the herd, and with the enthusiasm of the owner, a *gute* harbinger of suc-

cess, an opinion finding strong confirmation in the statement, that in the past two years and a half but two head of cattle had been lost.

In the annual battle of the show-rings, the Big Island herd have come in for a fair share of the honors. In addition to the prizes hitherto mentioned at the Dominion Exhibition, Ottawa, King of Trumps (2895) came in for an easy first, as did the bull calf Abbotsford (3411). The same year, at the Toronto Industrial, King of Trumps was first, and also the bull calf Fairleader (3721), since sold as stock bull to Messrs. Hay & Paton, of New Lowell. At Ottawa the same year the cow Wanton 4610 came 2nd; the three-year-cows Lady Abingdon (5804) and Etaine of Aberlour (8203) were 1st and 2nd, and 1st, 2nd and 3rd were won by one-year heifers, and similar prizes for the three calves (now beautiful two-year heifers), Exile (shown in our engraving), Lula Windsor and Countess of Big Island.

In 1885, at the Dominion Exhibition, London, the ground was well contested. King of Trumps was first again, as was Abbotsford 3411 and the two-year heifer Duchess of Verulam (6832). A goodly number of prizes also went to other members of the herd.

The day of our visit was a red letter day in the history of the Big Island herd. At Lindsay, when the Esturion to the eastward sailed away, she had on board the entire county council of Victoria, in session at the time, en route for a visit to the herd of Mr. Boyd. The members of the Legislature were also on board. They were met at Bobcaygeon by Mr. Boyd with a number of carriages, and driven first to the well-kept 400 acre farm of Mr. Chas. Fairbairn, for sixteen years the reeve of Verulam, and evidently one who can till a farm as well as steer the township ship through the ever-shifting shoals of county council seas. The steading of Mr. Boyd was next taken in, and the fine specimens of the Angus Polls, with their deep, strong, glossy, rounded forms evoked expressions of admiration from the thirty representatives present. Before the Esturion cast off her moorings, three hearty cheers, that echoed throughout the Island, were given in honor of Mr. Boyd and the good work he is doing in Angus cattle.

The battle of the beef breeds in Canada is, we believe, as yet in its beginnings. The din of battle reverberating in other lands is soon to reach our shores. When the price of Angus bulls to be used for crossing comes down to the Shorthorn level in Ontario, they are going to be used, and although they may not drive the Shorthorns to the wall, they will certainly share with them Canadian pastures.

We have seen their grades in the meadows of Eastview and on the plateaus of Hillhurst, in Quebec. We have admired them at Keillor Lodge while feeding around the fringes of Underwood at Bothwell; we have criticized them severely in winter quarters at Kinnoul Park, and in every instance have we considered them a success for beef production. It only remains for our Canadian breeders of the Angus cattle to repeat in Ontario what the breed has done at the Smithfield and Chicago shows, to commend them to the favorable notice of the farmers who are intent upon producing a good class of shipping cattle.

FOR THE CANADIAN LIVE-STOCK JOURNAL.

Swine Breeding.

BY R. A. BROWN, CHERRY GROVE.

In selecting hogs to breed for profit, we must not forget the important fact that there are some points about the dressed carcass, even of those of the same breed, that materially affect their price. Animals which have the most select high priced cuts are those that must always commend themselves, both to the breeder and the butcher. A Farmers' Institute, held

at London last winter, produced a good deal of testimony on this point.

At that meeting, Mr. W. James, for twenty years past engaged in the pork business in London, bore testimony on many points of prime importance to the farmers. He stated that hogs which now bring the highest price do not weigh more than 150 pounds, and should not be over fat, but that those weighing more than 200 pounds could not be too fat. It was his opinion that the Berkshires gave the best pork for every practical purpose, and that the better their breeding, the better did they cut—being longer, wider and thicker in the ham than any other breed. Better on the flank, and their meat, thick and firm, gives the best quality of sugar-cured rolls. The shoulder, too, he thought superior cutting, more above and on the back than that of any other hog.

They were also shorter on the neck and were better flavored throughout than other breeds; and cut all in all to better profit, although they (the buyers) paid as a rule about \$1 more per hundred for them than for ordinary pork. In some hogs the belly meat has to be separated and thrown among the renderings; but they never had to do this in the case of a Berkshire. He believed that in nine cases out of ten he could pick out the carcass of a Berkshire, blindfolded, amongst a score of others, owing to its superior quality.

Nearly all the breeders present thought the Berkshire pig made more growth and gave better results from the feed consumed than were obtained from the other breeds; that they received for them a higher price and were more profitable all around. In the extra price received consisted very largely the profit.

In feeding heavy hogs for the butcher, it was thought that peas made the most complete work in fattening and that corn came next in order. For young porkers ground oats with a mixture of shorts and wheat middlings were considered best. These furnished enough of muscle and enough of fat to promote favorably the growth of young hogs. Breeding stock require a variety of foods; not that which induces the laying on of much fat, which would interfere more or less with successful breeding.

In breeding sows the writer has found a larger percentage of losses arise from over-feeding than from any other cause; but you cannot feed a sow too much when she is giving suck to her young pigs. In my own experience I feed liberally during the winter season with plenty of corn, and some bran and a careful supply of oatmeal, taking care that the sows do not get over-fat. The only change made in the diet up till the time of farrowing consists in adding more bran and lessening the quantity of roots fed for a few days preceding the time of farrowing. After that period she requires little else than plenty of warm drinks with a couple of handfuls of bran in each. After two days the food is gradually increased both as to quality and quantity. My practice is to give the sow unlimited bedding, contrary to the general opinion, and so far have had no reason to regret having done so.

A few years ago we had a sow due to farrow, placed in a pen with scant bedding and a shelving around the wall to prevent crushing them. The weather was not genial and they all perished. Another sow stole away into a hole dug into a straw stack and was there delivered of nine pigs, and reared them all, although she had to come backwards out of her self-made prison owing to its smallness. Two years ago we lost nine out of ten pigs from a sow that had been fed too much peas and not enough of the coarser foods. On the 20th December last, one of our young sows had twelve pigs and raised them all. She farrowed in a frost proof stall amid two feet of straw. The thermometer without stood at 20°.

No one likes to see well fed and sleek looking swine better than the writer, nor does any one feel more nervous on hearing their loud complaints over a short allowance, the moment the piggery door is opened. Yet it is better to keep a shade on the light side in feeding, and suffer their grumblings, than to kill them with kindness. Observation tells us that a pig does not always know how much is really good for him.

A Hackney Sire.

Mr. George Bourdass, in the London *Live-Stock Journal*, sums up the qualities of a good Hackney sire as below:

1. A good constitution, sound in wind, limb and eye-sight.

2. Well-developed muscle in every limb, and of even calibre and texture, firm attachments, so that no one can say which is the heaviest or lightest limb.

3. Even and straight action, and when sent to walk and trot slowly down an incline, on hard macadamized road, stand straight behind him and see if all the joints extend and flex evenly and straight, or as near to this as you can possibly have it.

4. A good pedigree on both sides, with a certain amount of in-breeding to keep a family likeness in your produce.

5. A horse should be in perfect health during the season. If he should fall amiss from any cause whatever, stop him of his work, as he will not get good stock out of health.

Mr. Bourdass adds that he has invariably found a sire get better stock after ten years old than before that age, and that mares, as a rule, throw better colts after that age.

Veterinary.

Diseases and Accidents Incidental to Parturition.

BY F. C. GRENSIDE, V. S.

GARGET OR MAMMITIS.

These are terms applied to a congested or inflamed condition of the udder or mammary glands. The mare is seldom affected by this trouble when compared with its frequency in the ewe and cow, particularly in the latter. This comparative immunity of the mare is due no doubt to the smaller size of the glands, their less pendulous arrangement, and to the presence of several openings, at the end of each teat, that readily give exit to any undue accumulation of milk. This affection may occur at any time during the period of giving milk, but is usually met with within a few days or weeks after birth-giving; of course direct injury may cause it, even when the gland is in a non-secreting state. The glands with their corresponding teats which go to make up the udder, are separated from each other by partitions or sheets of fibrous tissue, and are consequently independent of each other in so far as the working of each gland is concerned, and generally remain separately affected in inflammation; but in some cases the inflammatory condition extends and involves more or less of the whole bag. Resulting in the loss of one or more quarters of a bag, as inflammation often does, reduces the value of an animal as a milk-producer, especially those that are used as milking machines, as cows are, and it also is apt to lead to a recurrence of the trouble after each birth. If a quarter is lost the increased secreting activity of the remaining ones compensates to some extent, but does not entirely make up for the partly impaired function.

SYMPTOMS.

The primary stage of "Garget" consists in a congested or caked condition of the udder, which is a more or less stagnant state of the circulation in the part. The bag becomes somewhat hard and enlarged at the affected part, but there is not the heightened color, and increased sensitiveness, which are such prominent symptoms in true inflammation, that so frequently occurs as a sequel to the congested or caked condition. In congestion the secretion is not at first much altered in character, the major portion of the milk appearing of its natural color and consistency, but there is often difficulty in drawing it owing to thread-like clots stopping up more or less the milk ducts and leading to the impression that there is no more milk present.

If prompt measures are not taken to remove the state of congestion we have to deal with the more serious trouble of inflammation, and its too frequently occurring untoward results. When the transition comes

from congestion to inflammation, it was stated that, in addition to an increased accession of swelling there was evidently more pain in the part, as well as greater hardness and heightened temperature.

The secretion of milk, which is now much lessened in quantity, becomes altered in character, being of thin consistence, colorless or straw colored, and semi-transparent, or it may be streaked with blood, and is sometimes curdled. The tenderness of the udder on the affected side gives rise to a stiffness of movement in the limb of that side, and there is often an indisposition on the part of a suffering subject to lie, for any length of time, on account of the pressure causing increased pain. When the inflammation is anything like intense, constitutional disturbance is evident, shown by impairment of appetite, dryness of muzzle, in the cow, at times, roughness or diminished sleekness of the coat, with a varying degree of constipation, and, in some cases, suspension of rumination.

CAUSES.

From the sudden manner in which the mammary glands are called into active operation after birth, and from the greatly increased quantity of blood sent to those parts, constitute a predisposing cause of inflammation. Although to mismanagement, in many cases, should be charged the existing cause of this trouble, yet in numbers of others it is hard to determine any tangible influence that can be said to operate in bringing about this condition. Of the existing causes the imperfect removal of the milk is the most constant. The reasons for this are carelessness on the part of the milker, or fear, if there is soreness in a teat. Cows should be stripped regularly twice a day when suckling their calves, for several weeks after calving, or until there is no chance of there being any surplus secretion.

Soreness or ulcers on a teat cause the mother to resist its young's desire to empty a quarter, which state of affairs may remain unnoticed until irritation results. Conditions which cause complete or incomplete occlusion of the milk duct; as little tumors, thickening of the lining membrane, constrictions in some part of the canal, or at the point of the teat, as also milk concretions.

Cows in which the secretion is very profuse should be milked three times a day; and mares absent from their foals for any length of time are relieved by the abstraction of their milk. Exposure to draughts or sudden exposure to cold, especially when heated, are recognized causes. In speaking of the undue accumulation of milk, as a cause, it should be mentioned that when the secretion is profuse prior to birth, it should be removed, otherwise garget may result. Amongst cows, and more particularly amongst sheep, in some cases it assumes an epizootic or an enzootic form, leading certain observers to conclude that it is a contagious affliction. In support of this theory fluid products of diseased milk glands have been injected into healthy teats, and there produced the disease, but this is not conclusive evidence of its being a specific disorder, as it may have resulted from the irritating character of the fluid, and like inflammations, might be caused by any other irritating or disease-producing matter. It is said that deep-seated inflammation of the udder often occurs during the existence of foot-and-mouth-disease, the virulent matter finding its way through the canal of the teat into the substance of the gland, and thus producing the trouble. From such evidence it is rational to assume that the existence of a virus peculiar to this malady is not essential to its production, in a herd or flock, when it attacks a number of animals. We have seen the dis-

order occur in a number of cows in a herd simultaneously, and likewise in flocks, when no palpable reason could be assigned for its appearance; but it was always during the setting in of warm weather, and lying on heating excrement we have been inclined to blame in some cases. Inflammation of the womb and the vagina, and prolonged retention of the after-birth are considered to act as causes, from their deranging effects upon the vital fluid.

COURSE AND TERMINATION.

Resolution, or the return of the part to its natural condition, is of course the most favorable result, and it sometimes takes place in from four to six days in cases of moderate intensity, if circumstances are favorable. Unfortunately other results, of a less favorable character, are the rule, and on the subsidence of the acute inflammation, in many cases a hardened condition with more or less enlargement remains; in other cases a shrinking and softening takes place, either of which states proves destructive to the function of the part, by destroying the integrity of the gland tissue, thus interfering with its secreting ability. In other subjects matter forms in the bag as indicated by the existence of a soft fluctuating patch surrounded by a hardened ring. If this is not opened, bursting occurs, after a time, leaving a ragged-edged sore, from which escapes thick and fetid pus, interspersed with shreds of solid gland-tissue; thus a varying sized portion of udder is absolutely got rid of, and as a rule more or less of the surrounding portions are hardened. A still more unfavorable sequel takes place when mortification occurs, for not only is a considerable portion, and in some cases the whole of the udder disorganized, but not infrequently it causes the death of the patient, particularly if it happens to be a ewe, with the intolerance of disease natural to its species.

TREATMENT.

Simple congestion in some cases passes off without much treatment, but a vigorous hand rubbing, facilitated by the use of some oily substance, in addition to repeated removal of the milk, which a vigorous calf will do thoroughly. If the canal in the teat seems obstructed from curdled milk, the cautious use of a fine knitting needle will result in the removal of theropy clot. It is a wise plan in the initial stages of either congestion or inflammation in the organ under consideration, to purge briskly: Epsom salts and Croton oil for the cow; five or six ounces of the former for ewes, and an aloetic ball for the mare. When inflammation has set in, warm water fomentations are beneficial, but the support afforded by a properly applied poultice, in addition to its soothing effects produces even more satisfactory results, but can only be conveniently used for the cow. A band of strong factory cotton, broad enough to envelop the udder, and long enough to pass over the loins and teats, should be used. A couple of tails of the same material attached to this band behind the udder, and passed up one on either side of the tail, and fastened to the band on the loins will keep the poultice in its proper position. But holes for the teats to pass through must be made. Any material that will retain moisture will answer for a poultice, as boiled and mashed roots or linseed meal, but spent hops are particularly useful on account of their lightness. The poultice should be kept damp and as warm as possible. Any waterproof material is very suitable to envelop the poultice in, and place inside the bandage immediately over the udder. A great many medicinal agents are recommended for the acute stage of "Gorget," but we have found an ointment made of the fresh solid extract of belladonna—one part to four of vaseline—the most satisfactory in its effects. It should be well rubbed on

the inflamed part three times a day. The bag should be frequently relieved of its milk, and if there is any difficulty in accomplishing this in the ordinary way, a teat syphon should be used, having been well oiled before passing into the teat, and carefully passed so as not to irritate or injure the bag in any way. These teat-syphons are very cheap, and can be procured from any instrument maker. As soon as the heat and tenderness leave the bag, if there is any hardened or enlarged portion remaining, iodine ointment should be rubbed on to it freely. If matter forms, the part in which it is situated should be opened and kept well syringed out with water, followed by a two per cent. solution of carbolic. Mortification having set in as indicated by the appearance of a dark patch of varying size, being of a purple or blue-black color, and coldness and insensibility in the part, will necessitate the removal of the dead portion. Sometimes the gangrenous part, if not too large, will fall off, but its removal with the knife is the most expeditious and rational course to pursue.

Inquiries and Answers.

EDITOR CANADIAN LIVE-STOCK JOURNAL

DEAR SIR,—I have a two-year-old heifer that is not in calf, and she has made bag and has quite a large bag now, and her teats are full, as if she needed milking. Can anyone tell me, that are readers of your JOURNAL, whether I will have to milk her, or will it go away and not do any harm if I should let her go? Anyone giving me information in your next JOURNAL will much oblige a

SUBSCRIBER.

ANSWER BY F. C. GRENSIDE.

So long as the milk does not seem to cause any inflammation in the bag, it will be as well not to remove it; but if it should do so, it should at once be drawn off frequently, until subsidence of tenderness and swelling. Such cases as the one described have been frequently recorded.

EDITOR CANADIAN LIVE-STOCK JOURNAL

SIR,—Will you be kind enough to let me know through the columns of your paper, what will cure scratches and wind gall, or puffed, as some call it, and if ankle cocked or knuckled can be cured? I have two horses troubled with these diseases. By doing so you will very much oblige

A. SUBSCRIBER.

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

Scratches are curable, unless neglected for a length of time, and thus allowed to become chronic. It is important to recognize the cause of this condition, as they can in some cases be removed. The uncleanness in the management of stables, as not cleaning out often enough, and the accumulation of filth underneath the floors, acts as a cause. Ill-health due to derangement of the digestive organs or blood, may show itself in connection with the skin, in the form of eruptions of various kinds, with dryness, scalliness and a tendency to crackling. Profuse sweating sometimes causes the condition, this time of the year; the sweat running down the legs into the hollow of the heels and causing irritation and inflammation where that covering is thinnest, most tender, and consequently most subject to inflammation, which scratches in reality is. In addition to the tenderness of the skin in this situation, the active movements of flexion and extension in this part predispose to inflammation. Cold and moisture are very frequent causes, hence the greater prevalence of this trouble in the spring and fall.

TREATMENT.

Remove the cause, if possible, and if due to digestive or blood derangement, and if there is no marked debility present, give a purgative of aloes. Take of powdered Barbadoes aloes from six to ten drachms, according to the size of the horse, and four drachms of ginger, and make into a ball with glycerine.

The local treatment should consist in the application of a poultice if the part is very tender; after which astringents should be used, sugar of lead one drachm mixed with a wineglass full of water, and applied twice a day, will tend to dry up the part, which should be washed as little as possible, or only when the presence of matter and loose scabs demand it.

When the part is inclined to crack from dryness, roughness, and thickening of the skin, use glycerine and carbolic acid, one part of the latter to eight of the former.

There is no doubt that allowing a horse to keep perfectly quiet in a stall is most favorable to getting rid of the trouble, under all circumstances, but this is more particularly the case when a subject is exposed to cold, dampness and dirt.

When a horse is brought in with his legs wet and damp, it is better to allow them to dry off of themselves without washing or rubbing, for the friction necessary to dry the legs causes irritation of the skin and often excites scratches. Such dirt can be thoroughly removed with a brush, when dry. The irritation caused by sweat can be prevented by rubbing on the skin of the heels a little oil or glycerine.

WINDGALLS.

The prevention and removal of windgalls is best effected by careful bandaging. The bandages, which should be woollen, and consequently elastic, should be kept on the greater portion of the time, when a horse is idle, and particularly for a few hours after work. In well established cases it is impossible to cure and difficult to palliate windgalls, if much work is expected of a horse. We referred to knuckling in the June number of the JOURNAL, which please see.

The Farm.

Summer Fallowing.

It is not our purpose to treat of the different modes of summer fallowing in this paper, but rather to impress upon our farmers the necessity of making very thorough work whatever mode of summer fallowing may be practiced. At the best we deem it a costly work, and where the end sought is not attained, it becomes much more so.

The great object of summer fallowing, as we understand it, is to clean the ground rather than to produce an increased return, although in securing the former the latter end is also attained, as every weed that is allowed to grow feeds upon the fatness of the soil just as much as every blade of grain, so that where these are allowed to struggle for the mastery at the same time, the prosperity of the one is largely dependent on the feebleness of the other.

Many undertake the management of a summer fallow with perfectly good intentions; indeed, perhaps all do, but fail from want of thoroughness in the end. A field is ploughed perchance in June, and after laying awhile untouched (the proper method), is pulverized and made ready for a second ploughing. Haying and harvest rush on apace with their accumulated labors, and oftentimes the summer fallow is forgotten with its young crop of weeds and thistles growing as in a hot-bed. Soon they blossom, and before one is aware of it a fresh crop of them is storming the land, if annuals. When thistles are allowed thus to grow, the rootlets spread with amazing rapidity, and when autumn comes the last state of that summer fallow is worse than the first, so far as cleanliness is concerned, and thus the principal object of the work has been lost.

It would have been much better to have pastured the field and run the mower over it often enough to have prevented any of the seeds ripening. Where the plough is relied upon as the principal implement in clearing the land, the fallow should be ploughed several times during the season. This is a very expensive method, and especially in wet seasons conducive to growth. But it has this advantage, that where the soil is filled with weeds that have not germinated, by turning them up to the soil they are induced to sprout and may thus easily be destroyed. When the one ploughing system is adopted, the surface must be kept clean by some other means, as frequent surface cultivation. The form of implement to be used will de-

pend largely upon the nature of the soil, but it must be of that cast which will cut off every living thing that appears on the surface. The number of turns which it shall thus be gone over must be determined by the requirements of the case, but should be sufficiently often to completely accomplish the end sought, the perfect cleaning of the land.

Summer fallowing is at the best an expensive business, and cannot be undertaken with too much caution. There is first the loss of the crop for one year; then there is the great amount of labor when the work is done well, under the most favorable circumstances, and the liability in heavy clay soils to lose the following crop when the autumn seedtime is unusually wet. Where the first results, then, are an increase rather than a decrease of weeds, it is simply ruinous, and cannot be largely engaged in without drifting him who pursues it toward bankruptcy.

When summer fallowing is engaged in at all, the most thorough work should be made of it. Neither the business of haying nor the rush of harvest should be allowed to interfere with the care of the summer fallow. So thorough should be the work, that when completed, the following crop shall flourish out of the ashes of the decay of the intruders that preceded it.

Specialties vs. Mixed Farming.

A good deal is said about the wisdom and unwisdom of adopting *special* lines in farming in these latter days, in contra distinction to what is usually termed *mixed* farming. We have thought that a good deal of printer's ink might be saved, and much valuable time devoted to better purpose, if we editors and writers on farm topics could obtain a consensus of opinion, which would decide definitely as to what is meant by these terms. For some years past we have patiently waded through eloquent effusions on this subject, and listened to references without number as to the advantages of mixed farming, but we have never yet been able to determine exactly what the speaker or writer meant by the use of the term. If it means that the farmer should grow indiscriminately all kinds of crops usually grown in the country, without regard to soil and peculiarities of season, then we are strongly opposed to it. If it means that he adopt this system in conjunction with indiscriminate stock-keeping, we are equally opposed to it. If it mean that he shall combine grain-growing and stock-keeping, giving one kind of stock and one kind of grain the lead, growing other kinds of feed as auxiliaries, we are less opposed to it. If it mean that he grow principally one kind of stock and sufficient feed to sustain them, and keep them in sufficient numbers to consume that feed, then we give the system our unqualified approval. But it will be observed that last is a definition that we can apply equally to the specialist in farming, and where this system is the subject of the specialist's advocacy, then we are in favor of specialists in farming. It will thus appear that the line of demarcation may be so faintly drawn between the advocates of mixed and special lines in farming, that the champions of the two systems may be compared to men fighting over the site of a line fence where the stakes of the original survey have been lost. It is surely time that there was a new survey, and that every man who wrote upon the subject henceforth should swear to abide by it.

In the absence of a corner stake we set up one for ourselves, and here it is: In farming we believe in that *special system which gives prominence to one line, and which so concentrates the energies upon it that all the other labors of the farm subserve to its furtherance.* What that special line shall be is worthy of the most

careful thought; and before it is determined, many things should be well studied—as location, adaptability of soil, market, and above all natural fitness for the work. This done, a mistake may still be made. A man may grow grain well, who will never excel as a stockman; and when once a mistake of this kind is discovered, the unfortunate cannot be too diligent in retracing his steps.

It is clear that specialists may succeed under very different circumstances. One living near a town may grow principally one kind of grain or grass, and keep his grounds enriched by the application of suitable manures and have a margin every year. The same system remote from the town would ultimately lead to ruin. Another may keep a dairy and make large returns, while on a different kind of soil he would not succeed. And a third may succeed well in fruit growing where his advantages of situation may facilitate his securing purchased supplies of nutriment, while in another case it would pay him better to raise his supplies of the same, through the channel of stock-keeping. It is thus apparent that convenience and suitability of location, as well as adaptability of soil wield a powerful influence in special lines of farming. The special system which we favor, while it covers a good deal of ground, makes everything conduce to the one end, so that it may cover nearly as much ground as is gone over by the non-specialist, but with this great difference, that while the latter is in a sort of aimless way trying to get all that he can from the soil, the former has a fixed definite plan, and all the variations in system and culture are intended to further this one object. There need be no great difficulty in deciding who will succeed the best. The young man entering the university who has his life-course lined out at the outstart, and who keeps the line steadily in view, will succeed better than he who is only intent on passing his examinations. He will forage most in those fields of learning where there are ample stores bearing on his future calling, and so the one who, on a journey, makes a bee-line for the intended goal, will get there much sooner than he who dilly-dallies in the by-ways.

The specialist in stock-keeping will succeed best who turns his attention principally to the keeping of *one* kind of stock, and for many reasons. The concentration of our energies on one thing is necessary to highest attainment, from the limited capacity that has been given us, and on account of the brief space allotted for its development. A less amount of capital is required to commence and sustain it in one line, and a less varied crop-production is required to sustain it. There is also a likelihood that there will be less of excellency in the quality of the stock. M. W. Dunham would never have been crowned king of the Percheron men of America had he kept Shire and Clyde horses as well. Nor would Amos Cruikshank have set the buyers of the west in a scramble for his cattle had he kept blackskins as well. If a diffusion of the gifts of great men impairs the products of their minds, how much more must it do so in the case of those of lesser capacity!

A special line in stock-keeping involves a good deal, if we affirm, as we do, that when once fully started, the stockman should grow all or nearly all his own feed. Spring grains of various kinds, different sorts of grasses, and wheat in one or other of its forms (the latter to provide plenty of bedding) will be the objects of his labors, and he will adjust the areas allotted to each, not by the whims of the market but by the requirements of his stock. Specialism in stock-keeping, then, puts a man no more at the mercy of the vicissitudes of the seasons than the ordinary

grain-grower who gets his gains from the crops sold. The specialist in stock-keeping, then, is virtually a mixed farmer, and by virtue of the necessity of his own special work.

We do not favor grain-growing for the purposes of making money direct, as it cannot usually be done without deterioration of the soil. And this we have set our face firmly against; but where it is done we see no reason why a grain-grower may not be a specialist. If the land is better adapted to the production of some one kind of crop, why not grow it? This would not exclude growing other grains in degree, for we presume that no sane man can hope very long to get a return from Ontario lands at least, who does not make stock-keeping the auxiliary to his work, and the other varieties will feed these. It may be objected that he is liable to very heavy losses in years when his favorite crop fails, but he is equally likely to reap large gains in those years when it succeeds.

The fruit-grower, too, will probably succeed best who grows but few varieties, and aims at highest excellence in these, or in other words, who becomes a specialist in fruit growing. But there is more reason in the fruit-grower increasing the number of his varieties, owing to the short duration of the harvest time with several of these. This argument applies also to grain-growing, but in a much less degree, while in reference to stock-keeping, it does not apply at all, as the whole ground covered by the grain-growing must be gone over in carrying on the latter pursuit.

If mixed farming means aimless, hap-hazard work, we have no faith in it. By aimless work we mean sowing that kind of crop most largely which at the present time may command the best price, and by hap-hazard work, sowing what feed we have on hand just because we have it, regardless of the consequences.

Whatever line of farming a man adopts we cannot but think that he should keep his eye firmly fixed upon some one object of attainment worthy of his effort, and at the same time feasible. Though vicissitudes of tide and weather may veer his bark for a time, he will as soon as possible head again in the direction of the object of his search. With proper diligence, if years are given him, this man will reach the goal, while he who, like a reed shaken with the wind, is looking in every direction, will prove a certain failure.

The Provincial Exhibition.

The 41st Provincial Exhibition will be held in the city of Guelph, commencing on Monday Sep. 20th, 1886 and continuing until Saturday Sep. 25th. It will thus be held in the centre of a rich agricultural district, long noted for the numbers and the excellence of the live-stock which it contains, so that we can fully expect at this exhibition a large representation in this department. The prize list has reached us and it is very full this year again, especially in everything relating to the great live-stock industry.

The Clydesdale Association are giving a special sweepstakes prize of \$50, for the best Clydesdale stallion of any age, to be recorded in the Clydesdale Stud Book of Canada.

Be it observed that Durhams competing must be entered in the Dominion Shorthorn Herd Book. In the class for Durhams there are two specials, in each of which \$40 is given as a first, and \$25 as a second, the former for best herd of Durham cattle, consisting of 1 bull and 4 females, imported, and the latter for the same, Canadian bred, and silver medals are given for the best pens in nearly all the sheep class, both for those imported and for those Canadian bred, and the

same in several of the pig classes, a very commendable step. Silver and Bronze medals are to be given for best milch cows in nearly all the classes. The Prince of Wales prize this year goes for best five females (Durhams), three years old and under, bred and owned by the exhibitor. In the dairy department the prizes are full and ample in which specials offered by the Oaklands Jersey Dairy are conspicuous.

Copies of the prize list can be had by applying to H. Wade, Secretary of the Agricultural and Arts Association, Toronto.

Waterous Portable Saw-Mill.

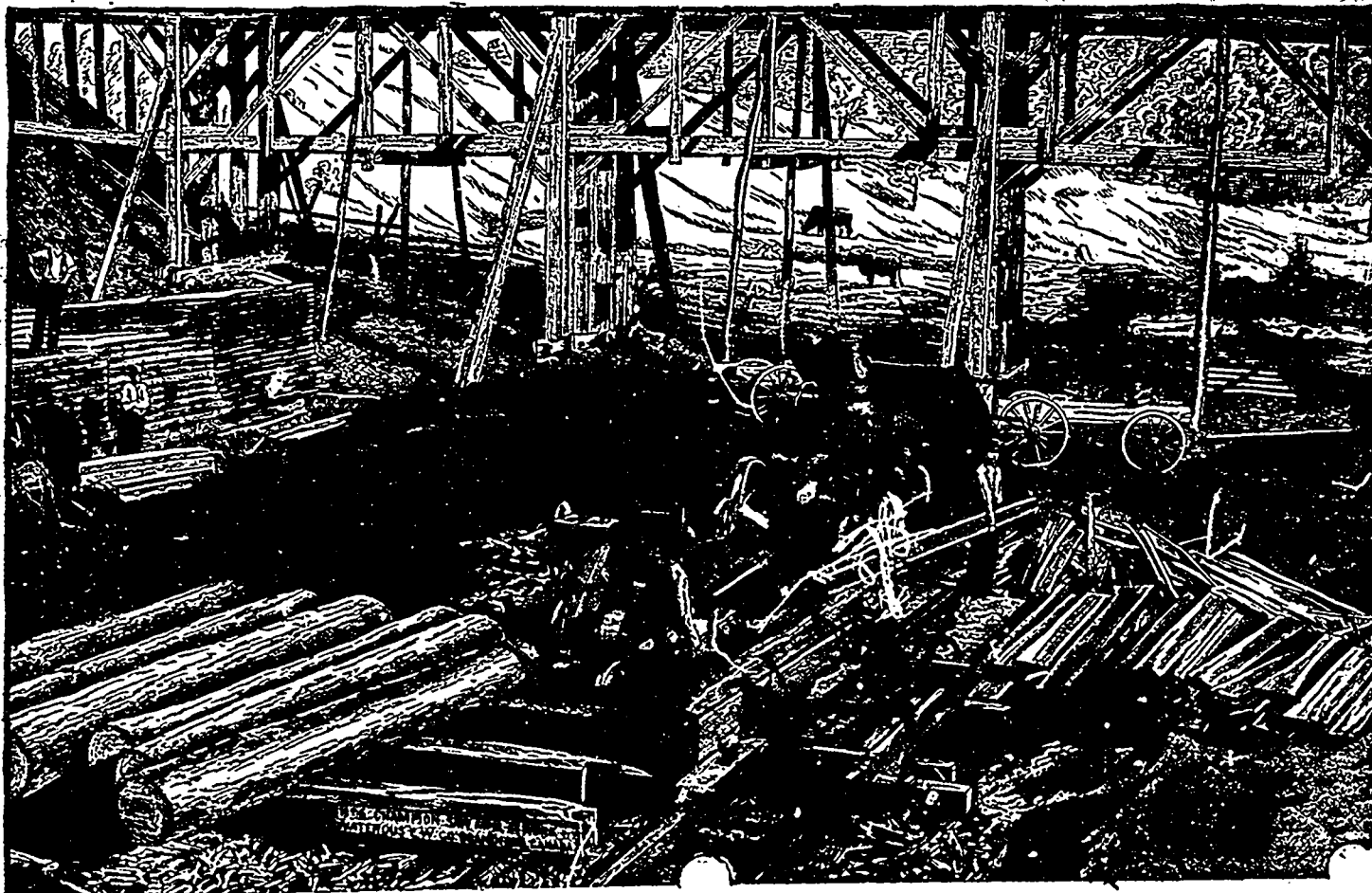
The saw-mill engraving below illustrates very clearly a portable saw-mill at work. These mills are specially useful for cutting ties, bridge timber and lumber for

riably to be 2 inches thick. The track and carriage are generally out of line, so that true lumber is the exception in place of the rule.

The mills are made with return tubular horizontal boilers on skids or wheels, as well as the upright shown in the cut. The engine can, when horizontal boiler is used, be placed on the top of the boiler, or, as is more usually the case, on a piece of timber at one side of it.

These mills are manufactured by the Waterous Engine Works Co., of Brantford and Winnipeg, who make a specialty of portable saw-mills, but build, as well, heavy saw-mill machinery; shingle mills, wood-working machinery, chopping-mills, flour-mills, etc. Their new saw-mill catalogue they send free to all requiring it.

years, and have been succeeded by the best natural grass that the highly cultivated field, selected as the arena of experiment, may naturally produce. Grass is the Boss weed, and if undisturbed by the plough, or fire, grows thick enough at the bottom to prevent the germination of the thousands of weed seeds lying under every square foot of sod. There are first-rate permanent pastures in Canada, top-dressed with mud dust, along the concession roads, and the exceeding shortness to which they are cropped by sheep and cattle proves the sweetness of the feed. Note also that in some townships happily blessed with by-laws against the roaming at large of live-stock, this roadside grass attains quite a fair height, evidencing the good bite got off it where it is grazed by the vagabond quadrupeds of the neighborhood. It is generally very



railways, being easily moved and erected, keeping pace with the extension of the road; also for new districts where the small demand for lumber will not warrant a greater outlay; or for old well-settled districts where the only remaining timber is in farmers' hands, two or three of whom will form together in different places and skid up 70,000 to 100,000 feet in one place near their home. This small mill is then moved from place to place, cutting up these small lots, and procuring in this way a good season's work.

It pays the farmer in saving of haulage of logs to the stationary mill, and hauling lumber back; also in saving to him of the refuse, such as slabs, edgings, etc. The mill, being the latest improved machinery, cuts the lumber perfectly true, and cuts the last board 1 inch or $\frac{3}{4}$ inch thick, if desired. In the old-fashioned stationary mills, found in settled countries, the irons are so constructed that the last board has inva-

For the CANADIAN LIVE-STOCK JOURNAL.

Permanent Pastures.

There is much talk about permanent pastures, and no doubt, in the honest propagation of agricultural knowledge, the authorities at the Guelph College have done much to keep the ball rolling, which one or two enthusiasts set in motion. It hurts nobody very seriously and helps the leaders; but the outcome of it all will not be any radical change in our present system. Granted the very best and cleanest seed bed, the foreign grasses, recommended by the faculty, may come up, and they will thrive for a time. But having regard to our climate and the ordinary condition of our soil, it may well be doubted if any great outlay on artificial grass seeds will be warranted by results. In some few cases of high farming it may be expected that the strong native grasses will not push out the more tender alien; but generally speaking the imported plant will have disappeared in three

close and thickly mixed with white clover, and always superior to the ordinary pasture land inside the road fences. This is attributable to the continual top-dressing it receives from passing vehicles, and to the pressure of the animal's feet that wander up and down on it. Taking a lesson from this every day spectacle, all we have to do is to feed our natural pastures with liberal doses every three or four years of good strong manure—say the droppings of beasts fattened for the export market, and bedded on cut straw or hardwood sawdust. Iron harrows should then be relentlessly applied, after the manure has been well dispersed with chain or brush harrows. The hired man will think he is tearing your field to pieces, and that his master is as mad as a hatter; but probably a case was never seen where the harrows were too severely applied. In all our western counties the most of the grass following this treatment is blue grass and white clover, and if the narrow-leaved plantain

gets in, and the wider and rounder-leaved varieties stay out, it does not signify what constitutes the balance of the sward. Red clover and timothy will get there, as sure as a potato bug strikes the most secluded potato patch. In a word, top-dressing and care will, at no expense for seeds, produce a permanent pasture, and sheep and cattle will keep it where it is, and even thicken the elastic bottom on which a man treads as if on a velvet-pile carpet. In speaking of permanent pasture it is generally taken for granted that they will not be mowed: but such an one as has been described will pay for mowing, and it should be mown at least a fortnight before the ordinary haying, or say by the 12th of June, that is to say before the blue grass is dead ripe. A crop of a ton to the acre pays well for the work; and the aftermath will carry the ewes and lambs at once, and afford double the feed that follows the heaviest crop of timothy harvested in Ontario. Moreover, experienced butchers will admit that cattle fed on pasture of this kind always dress better and are choicer meat than beasts fed on clover up to their knees, or soiled on lucerne, vetches, etc. Sheep, cattle and horses turned out alternately will soon destroy any weeds that the grass does not choke, each animal having its own fancy in that line; but if a specially noxious and unpalatable enemy should show signs of taking up his abode in your pasture, go for it with the corner of a sharp square-set hoe. The time is well spent, and mallow, yarrow, tansy or any other invader can be speedily put out.

It would be opening up a very wide question were the discussion to be extended to the advisability of certain stock-farmers having their entire farms laid down in natural permanent pasture as soon as the change can be effected. Where men are selling calves for \$150 to \$200 each and sheep for \$50 a head, and rearing a few choice colts to be sold at fancy prices, it may be that the less farming the better. For all the difference of cost in producing or buying oats, turnips and hay, breeders of the highest priced stock need not be scared. The man who deals in staple articles at market price—in other words in beef, mutton and wool, must save all he can in the cost of what he puts into his stock. But with the fancy breeder the conditions are entirely different, and he can afford to buy his oats as he now, as a matter of course, buys his bran and his oil cake. The manure will keep his meadows improving, and at \$7 for hay, 10 cents for turnips and 30 cents for oats, he had better postpone breaking them up till he is forced to do so. Occasionally from one cause or another a meadow will "play out," and he should break that with a pea crop, following it with winter wheat sown down with timothy and clover. Here he has two tons of hay to the acre, diminishing to one ton as the artificial grasses yield to indigenous plants. Taking the cost of land at an average of \$60 an acre, which it will be in such neighborhoods as are affected by the best stock raisers, and putting \$10 as the lowest worth of the year's feed off permanent pasture, the investment is good enough, the labor account being nearly nil. The worst risks of farming are avoided, his wife's life is not made a burden by reason of "the crowd in the kitchen," and his bills for machines, implements, harness, hardware, blacksmithing, seeds, tools, horse-flesh, become a mere bagatelle. There are, in fact, a class of farmers who also have invested in the highest class of cattle, sheep or horses, and who have established a reputation as first-class breeders and fair sellers who should as readily sow wild mustard seed over their acres, as ever put a plough into an old sod till they have tried to make the most of it as it is, by

draining, top dressing and hard harrowing. It is not easy to keep a fair account with a field; but at the end of twelve years the profit and loss account of the permanent pasture field will compare very favorably with that of the field three times submitted to the ordinary rotation of farm crops.

First Prize Essay.

ON THE BEST METHOD OF UNDERDRAINING THE DIFFERENT SOILS OF ONTARIO, THE COST AND THE PRACTICAL BENEFITS RESULTING THEREFROM.

(By the Editor.)

(Continued from June Journal.)

We have thus given what we consider the best method of under-draining clay loam, which, as we said before, is a fair type of the method of procedure in draining most soils. We now take up the laterals of divergence, or the variations of method that apply to other soils.

The best method of draining the extensive *fens* of Welland and Essex, and the lesser ones of various other counties, brooded over by surface water for so large a portion of the year, is to seek Government aid in one or other of its forms to open ditches that will carry away the surface water and drain into these as described above. Lesser *marshes* may be drained by individuals in the same way by private enterprise. The work will be more comfortably done in autumn when these are partially or wholly dry. When soaked full of water, the under drainage must of course proceed from the outlet upward. In sub-soils, with more or less of *quicksand*, drains are difficult to construct. They must be sunk a little deeper than the depth intended for the tile, and a board placed in the bottom or, better still, hard clay, packed in for the tile bed; and around the tiles, which tends to keep out the silt deposit that waters running through *quicksand* are sure to carry with them, and also aids in keeping the tiles in their proper place.

Springs lands that are always wet are difficult to dig, owing to the constant tendency to cave in. It is advantageous in such a case to dig in successive periods a portion of the depth at a time, completing the work in the dry weather of autumn.

Wherever proper supervision of labor on the farm is neglected, it should not be in the construction of tile drains. It is of the utmost importance that the work be *thoroughly* done. On its efficiency will depend the return to be reaped, whether in the form of satisfaction or increasing bank deposits. Unlike many other investments, the measure of duration is the mighty factor which decides its whole worth. How truly then, is the worst laid tile the "measure of the goodness and the permanence of the whole drain, just as the weakest link of a chain is the "measure of the strength." As but one jar in the mysterious providential government of the universe would destroy the harmony of all succeeding ages, so would one defective or improperly laid tile, though on a scale infinitely lower, impair the usefulness of the entire system of which it forms a part. No ordinary landowner can therefore afford to bury so much money in the earth without either exercising the utmost vigilance himself as to how it is done, or employing some one competent and tried to inspect the work for him.

It is not enough that water runs freely in drains when newly made. This is likely to be the case with any form of drain. It is when the old man, white and hoar, revisits the drains of fifty years before, made by his own hands, and finds them working as at the first, as did Mr. James Thompson, of Whitby, that there is deep satisfaction in the work. The drains we want are such as will work as ungrudgingly for

those who shall come after us as for the hands that first laid them, the rich fruits of their beneficent labor going down to succeeding generations.

THE COST OF UNDER-DRAINING.

While some of the departments of under-draining should differ but little in the outlay they entail, in others the variation is great; therefore it is impossible to fix upon a sum that will apply to all soils. We can only arrive at an approximation. Usually there should not be much difference in the outlay in *laying out the drains*, but even here a varied surface will give much more labor than one where there is but one slope, and that possessing considerable uniformity. For *cutting the ditches* there will be a difference that is simply astonishing. In free soil with a sub-soil not very retentive, the ditcher will get over three times as much work as where the subsoil is hard, and when he meets with the occasional obstruction of a huge stone. The crossing of a water-course, the springing of a spring, the contest with water of springy land, all increase the cost of laying open the ditch; as does the extra widening of the same where soils are soft, thus furnishing many items of variation of a sort of intangible nature, which it is exceedingly difficult to reduce to figures. Indeed, it seems impossible to give an accurate estimate that will apply to every phase of soil. The *grading* of the drains with *quicksand* bottoms will cost much more than will those of a different nature. The laying of the tiles should cost about the same, and also the tiles themselves, with allowances made for the differences in distance of drawing. Nor should there be very much difference in the filling of the drains. The virtual cost of labor, too, to the farmer may be greatly qualified by the amount of it which he performs himself in seasons that are less busy, although this should not be considered by the essayist in the computation. We see no better plan, therefore, than to compute the cost of underdraining one rod of clay loam with a subsoil of clay more or less retentive, as a basis of computation, which may be done with some accuracy, and content ourselves with the simple statement of the variations as given above, which will avoid a complication of figures that might in the end mislead. The cost of draining an acre on the proposed basis may then be easily made by any one desiring the information, which will, of course, depend upon the distance of the drains apart. Canadian practice gives the cost of cutting such drains (three feet deep) and laying the tiles as 15 cents per rod—board of ditcher, 5-7 cents at 40 cents per day, cost of two and a half inch tile at \$10 per thousand, 10 cents, and we allow 4-7 cents for contingencies, as laying out the ground, supervision, drawing tiles, filling the ditch, etc., which runs up the cost to 35 cents per rod when the work is done by hand, and this may be looked upon as a minimum, owing to the kind of soil.

The cost of two inch tiles in the yard is usually \$8 per thousand, two and one-half inch \$10, three inch \$12, four inch \$18, five inch \$30, and six inch \$40. These prices are higher than they should be, and than they will be in all probability when there is sufficient competition between the makers. Ontario wants many more of them, and the prospect of an increasing demand is sure.

But why persist in digging drains by hand when there is an almost infinitely more speedy way? Why rest content to pay 15 cents per rod and board for opening drains when the same can be done for one-third of the amount? The "Elevator Ditching-Machine," already referred to, will do this and more, as we shall presently see. Mr. A. Hood, of Markham,

was the first man in Canada to run this machine in its perfected form. He it was who drove it on that eventful day at Columbus, Ohio, when it won such laurels for its owner and for Canada. With one of them he has cut twelve miles of drains on his own farm and eight miles for other farmers. He assures us that it will easily cut two hundred rods of three feet drain in a day in a clay soil free from obstructions, and that it will work in any soil save gravel, which needs little or no draining, providing the ground is sufficiently soft to bear up the four horses working it. In hard part it is necessary that one or two hands loosen the earth with picks, and where stones abound these must be thrown out by one or two assistants. In one day Mr. Hood cut one hundred and fifty rods of drain, from which seven waggon loads of stones were drawn.

Allowing one hundred and fifty rods of three feet drain as an average day's work for the "ditcher" in a clay soil, and seven rods as that of an average ditcher, who is allowed 15 cents a rod and board, the cutting of one rod in the first instance costs four cents, and in the second twenty and five-sevenths cents, a gain in favor of the machine of 16 5/7 cents per rod. We apprehend the machine will not grade the bottom of the ditch with perfect evenness. We therefore allow one cent per rod for grading, and a similar sum for interest on money invested in the machine (a liberal allowance), and still the machine has the advantage to the extent of 14 5/7 cents (nearly 15 cents) per rod.

We look upon the inventor of the "Elevator Ditching Machine" as one of the truest benefactors of his country. Mr. Rennie is worth a thousand of those oratorical charmers whose only aim is to make stepping-stones of the unwary. If the oarsman who beat the world was deserving of the freedom of a metropolitan city, how much more is the inventor of this machine worthy of the freedom of our wide Dominion? We predict for him an immortality in the grateful remembrance of true-hearted tillers of the soil, so long as there are soils to drain and waters to percolate in the drains. Now the sturdy yeoman seated upon the ditcher drawn by his own stout horses, can tear open the bosom of his ground from morn till dewy eve, and cut the earth in channels at his will. In a few brief years very many of our farmers shall have filled their grounds with those silent workers which so surely attract the surplus waters, and bear them away. And thus the grievous waste of fertility which has run away in our water-courses since first our lands were cleared shall have received a perpetual check.

(Concluded in our next.)

FOR THE CANADIAN LIVE-STOCK JOURNAL.

Farming as an Occupation.

BY D. NICOL, CATARAQUI.

(Continued.)

It is a profitable occupation, notwithstanding all the assertions to the contrary. When intelligently and industriously pursued as a business, it does pay; this is made evident by the fact that so many uneducated, plodding, shiftless beings, make a livelihood at it; and although it is true that many of this class do little more than make a livelihood for themselves and family, there is no want of proof to show that many farmers have become rich, and that many have more than a competency. While it may be a slow road to fortune, there is no other business in which success is nearly so certain. It is calculated that of every hundred men who embark in trade, about ninety-five of them fail. This may be an exaggerated

proportion, but since competition is so eager, and traffic is so enormously overdone, it is certain that a large majority of them must and do fail. If fifteen men undertake to support their families by merchandize in a township in which there is but adequate business for five, a majority of them must fail, no matter how judicious their management or how frugal their living. But you may double the number of farmers in almost any district without dooming one to failure, or of even abridging the gains of any.

If the patent right vendors, tree agents, peddlers and quacks, along with all the other bloodsuckers of the community, and half of the merchants and professional men, were to betake themselves to farming at the present time, they would not render the pursuit one whit less profitable, while they would largely increase the comfort and happiness of the people, as well as considerably add to the wealth of the nation.

Horace Greeley said, "I have never heard of a temperate, industrious, frugal and energetic farmer who failed to make a comfortable living for himself and family, or who, unless prostrated by disease, or disabled by casualty, was precluded from securing a moderate independence before old age and decrepitude divested him of the ability to labor."

Among those who assert that farming is unprofitable, some have a habit of charging the interest against stock, but omitting the cost of living for himself and family, and by this theory, which is unusual in every other business, they figure that they realize only seven per cent. on the investment, when the fact is, it is seventeen per cent.

All the failures I have ever known could be easily attributed to either ignorance or indolence, or mismanagement. Ontario is admirably adapted for a mixed system of husbandry; yet many launch into specialties, which at best are very uncertain, and are frequently followed by disastrous results. At a time when wool is in demand at a high price, an enthusiast starts the business of sheep-raising exclusively, on an extensive scale, but no sooner has he got in a good stock of animals best adapted to the purpose, than down goes the price of wool below paying rates. He quickly determines to get rid of his sheep at whatever they will sell for, and commence operations in a new line by building a cheese-factory, prices just then being encouraging; but suddenly the current again changes to another direction, and on account of the exceeding high price of hops, all the specialists become hopping mad.

The productions of a few propitious seasons largely exceeds the demand for consumption; prices fall, producers are disgusted and rush into something else, which, for the time being, promises more remunerative results, and this in turn becomes overdone. This impatience under adverse circumstances brings discontent and the denouncing of the whole business of farming as risky and unprofitable, and the one-ideaed disappointed ones turn away from it like children in a pet, whereas had they started with a mixed system of husbandry and judiciously followed it, they would doubtless have been encouraged by success. They would certainly have received remunerative prices for most of their commodities, and would not have been seriously affected, even if other portions had to be disposed of at a low price. Periods of hard times do not affect the farmer as it does others: he is concerned only in the price of his surplus produce.

IT IS AN HONORABLE OCCUPATION.

The silent biographies of the great men of former ages are eloquent in praises of the farmer, evidencing that with few exceptions the men of genius were sons of the cultivators of the soil. Cincinnatus, the great

Roman dictator, was a farmer and cultivated his land with his own hands. After conquering the Roman army and defeating the enemy he returned to his farm to live, until at the age of eighty he was again called to the dictatorship. Garibaldi was a farmer, and so was Cromwell. Washington and Jackson were also farmers; and thousands of others of the most eminent men of the world have been proud to say that they belonged to the agricultural class. I pity the man who is forgetful of his descent from a worthy farmer. What though the idle and vain do not honor and respect him; better by far is his own self-respect and the approbation of his own conscience, sustained by the approval of his Creator, and by the most generous benefactors of the human race.

I pity the young woman who is ashamed of the labors of her grandfather who was an honest cultivator of the earth, and the more so, when I see that instead of that of an independent young farmer, she pursues the attentions of the gay city swell, even if she knows that his means of support are doubtful and precarious. The orthodoxy of true, manly fellowship is not to be tested by birth or fortune, but by intent, ability and moral character. "There's true nobility in humble life, and honor in honest toil." The money which the husbandman receives for the fruits of his labor is the cleanest money that is earned—his gain is no man's loss, but the more he makes the better for the world at large, prosperous farmers make a prosperous people.

It is said there is an increasing tendency of the times to lead farmers' sons to leave the occupation of their fathers and engage in other pursuits. There is a period in the restlessness of youth when the world is tinged with romantic colors, and the desire to go abroad into the excitement which exists where great masses of men are congregated, is controlling; but if both sides of the picture could be clearly seen by every farmer's son who stands at the turning point of his destiny, I am persuaded more of them would be content to follow the noble and honorable occupation of their fathers, when they could become the owners of land and have a happy home in the country, with the privilege of enjoying all that legitimately belongs to life, and of partaking of the pleasures and comforts which God has provided for them, rather than hazard their prospect of the future enjoyment of life to taste of the fruit of some forbidden or fabled tree which fancy paints in the distance. Before young men decide to leave the farm they should be led to consider whether or not, on the one hand is certainty, respectability, independence, health, communion with nature, and a reasonable competency; or whether or not on the other side is uncertainty, dependence, the merciless struggle for power and place in which the heart writhes and the brain burns; and the exposure to all the nameless temptations of corrupt practices and artificial life, the placing of the affections upon things which, if they fail, are followed by blighted hopes, despair and criminal recklessness. Go to the cities, and where you can point out to me one country boy who has grown to wealth and fame, I will and you five going through the last stages of degradation ever they find a resting place in the Potter's field. Yet they went from pleasant country homes with innocence and hope, but were overcome with temptation. Now since the forsaking of the farm for city life is one of the great evils of the times, does it not become the duty of parents more generally to adopt the means which lie within their power to counteract the evil, and to induce sons who are capable, to remain on the farm, and here, besides benefiting themselves, it will be encouraging, stimulating and developing the agricultural resources of the country.

EDUCATION.

There has been a prevailing notion that the farmer could not be benefitted by a technical education; there never was a more egregious mistake. There is no occupation under the sun to which knowledge is more essential. Many farmers of the present day cannot appreciate, since they do not understand, the scientific principles upon which farming should be conducted; and as the attempts at the application of principles not understood are usually unsuccessful, many sneer at the word "science," which is merely the word "knowledge" translated, and are content to continue on the old beaten track of their grandfathers.

It is an error to suppose that we can over-educate anybody, but more especially young men of the agricultural class. I have heard it stated that higher education leads them to acquire notions that unfit them for their occupation; but this need not be so; even an agricultural laborer who understands the scientific principles upon which his industry is based, must rise in the profession; he is raised over the heads of his ignorant competitors, being as it were forced upwards by the dull beings around him. If the masses, including the agricultural laborers, were educated as they should be, they either would not become inflated with high notions, or the inflation would be general and beneficial, and the relative position of man to man would be the same; those possessed of special aptitude and natural abilities would rise the highest. The only difference would be that the wave of civilization would rise higher and the tone of society would be vastly improved, intellectually, morally and physically. It is generally admitted that a good education is a most useful acquirement in any other business or profession, and renders the possessor, when he utilizes his talents aright, a more useful, contented and prosperous man.

In all learned professions a thorough training is necessary for success. In architecture, surveying, engineering, and navigation, definite rules and instructions lead the student on to safe knowledge of the art: yet the farmer is not supposed to have or to require much idea of fixed principles. Many regard the whole business as entirely independent of rules, not to be brought under subjection to order or reasonable certainty, but examination of the whole subject shows clearly that every process in agriculture is as capable of being reduced to system and order, and as capable of being taught as other applications of the natural sciences.

This popular error arises from a false estimate of the principles on which agricultural knowledge is based; for although even the uneducated farmers often receive ample requital in remunerative harvests, in order to secure continued success, the highest order of talents, cultivated by a thorough education, is required. The progressive farmer must be educated in the principles which underlie his practice; he must be an accurate observer; he must be able to experiment, analyze and compare experiments. Therefore he requires a knowledge of chemistry, geology, vegetable physiology, mineralogy, meteorology, entomology and botany.

Agriculture does not consist altogether in practical manipulations; it is an intellectual pursuit; the natural sciences are the farmer's servants, and in farming the most clever professor may find scope for all his learning. Instead of the drudgery that it is to the ignorant, it becomes a manly exercise directed by science, for all the processes on the farm should be governed by definite knowledge and conducted under as exact rules as are mechanics or engineering. The suc-

cessful breeding and rearing of stock requires a knowledge of the laws of life, both animal and vegetable. The intelligent feeder requires a knowledge of the structure and functions of the animal he grows; hence he should be educated in the veterinary science. He should know that the food must be adapted to the purposes intended; that as the animal has no power of transforming one element of food into another, but can only appropriate that which it finds prepared for it, the food must contain just such elements, and in the proportion required to build up the frame, the muscle, and lay on fat. That the starchy elements of food supply animal heat, and that if the animal is exposed to a low temperature it will require just so much more food to keep it warm than if in a stable of uniform and moderate temperature. He must understand, too, that vegetables, like animals, must be fed, and that the food should be exactly adapted to their wants.

At a meeting of the New York State Agricultural Association some years ago the president in his speech remarked that "The world is getting to realize that knowledge in connection with agricultural industry is the true elevator of the race, that it is the great prerequisite to success, that there can be no excelling in it more than in any other department of life, physical, intellectual or moral, without it. That no man can be a power in this more than in any other profession or calling until he has learned the realities of his vocation. We have too long unheeded the lessons which history, sacred and profane, has been rehearsing to us, viz., the pre-necessity of knowledge in connection with labor, to useful mental development. Knowledge is power, and it is only by mind enlightened that the earth and all its forces are made largely available; nowhere do intelligence and taste so nearly yield creative power and so readily and surely ripen the conceptions of the mind into utility and beauty as on the farm."

It is now very evident that the rising farmer, in order to ensure success, must have an education calculated to fit him for the business of farming. The conditions of farming are not now as they were even a few years ago. This is an age of progress in every department of life. Since there is such a strife between capital and labor, higher intelligence and special training is required in order to secure the best and most proper use of capital. Here naturally arises the question, How is this special training to be acquired?

The average farmer of the present day does not possess the learning that will be required by the sons, if they would keep abreast of the times. When the present farmers were young men, the sciences that are now announced as all-important, were unknown to them. The farmer of this age requires more knowledge than can be acquired at home on any ordinary farm.

All other sciences are now taught at institutions specially devoted to the purpose, and is it unreasonable to deny the student of agriculture (after having learned the ordinary routine of farm work at home) the privilege of studying at an institution calculated for the promotion of agricultural science, where he can obtain a sound knowledge of both theory and practice of farming in all its branches, added to actual experiment and proof of results?

(To be continued.)

An exchange states the second or seed growth of clover starts much more rapidly, if the first cutting has not been too close, and that a first stubble, two or three inches high, will generally insure a good seed crop.

The Dairy.

FROM *Hoard's Dairyman* for June, 1886, we learn that Mr. T. R. Proctor, of Utica, N. Y., sent the report of an analysis of the milk of two of his Jersey cows to the *Country Gentleman*, as made by Professor Moore, of the New York School of Mines, which shows that one yielded 8.19 of fats and 17.72 of solids, and the other 9.48 of fat and 19.89 of total solids. The Professor says, "Sample No. 2 is the richest milk that I have ever analyzed."

The Merits of Ayrshires.

A correspondent writing us not long since, makes the following pithy remarks regarding Ayrshires: "As the Ayrshires have had no one so well qualified to undertake and champion their cause as some of the other dairy breeds, it is only a wonder that they have not become extinct altogether. It can only be attributed to their inherent good qualities that they have held the fort, especially in this clamorous age, when there have been such strenuous efforts put forth by the advocates of the other rival breeds. These breeds may have some good qualities and be better adapted to certain localities, but for general usefulness and making the best returns for the money invested and amount of food consumed (the only true test), all rivals in the dairy line will have to succumb to the modest and unpretending Ayrshires."

More than two years ago, in a leader on the subject we took the position that at the Experimental Farm it would form a very interesting test to try the merits of Ayrshires, Holsteins and Jerseys, the trial extending over a term of years, and a careful record kept of the food consumed. So far as we know the comparative amounts of food consumed in an ordinary (not forced) test, have never been given to the world. He who wishes this piece of information will have rendered a valuable service.

Jerseys for England.

Early in June a Jersey bull was shipped from Waterdown station (near Hamilton), the station adjacent to the Oaklands Jersey Stock Farm, consigned to Mr. H. Shorland Watts, of Yeovil, Somersetshire, England. The sire of this bull calf is Canada's John Bull, almost full brother to Mary Anne of St. Lambert. The dam is Victor, well known in the show-ring as a cow which has won a great number of prizes throughout Canada, and which was so named owing to her having been so often victorious in the show-ring on the Island of Jersey. The bull was bred and owned at the time of shipment by Mr. Valancey E. Fuller, and we believe we are correct in saying that it is the first bull that has been re-shipped across the Atlantic. We use the word "re-shipped" because all Jerseys came originally from across the Atlantic, on the Island of Jersey, and this novel sale is worthy of recognition as being a new departure.

We are credibly informed that Mr. Fuller could have made sales to the Island of Jersey itself, did the laws permit of the landing alive of bovine animals on the Island, but so careful are the breeders there to preserve the purity of the breed, that they have had a law in existence for 200 years, which debars the landing of any cattle alive on the Island under a very heavy penalty, and all beef is taken in as dead meat.

Shorthorns have been shipped to England before now from Canada, but it has remained for Mr. Fuller to have the honor of being the first shipper of Jerseys across the Atlantic.

Butter-making.

This paper is a digest of one read on the above subject by the Hon. Thomas Lewis, of Frankfort, N. Y., at the Western Dairyman's Convention, and prepared for this journal:

Butter that looks neat and tastes good is acceptable to everybody, and always finds a ready market at the highest price. In fact, it creates a demand which has never been fully supplied, always selling itself and always creating a demand for more of the same quality.

We have another kind of butter which looks repulsive, smells bad, and by putting the looks and smell together you very nearly get the taste. These two kinds of butter cost the producers the same price, when put upon the market; but while the one kind will sell for 45 cents per pound to-day, the other will not sell for more than 10 cents per pound, while this kind of butter is almost a total loss to the entire dairy interest, in so far as it defeats consumption and demoralizes the market.

The quality of the butter depends much on the maker. It is a well-known fact that butter made from the milk of the same herd, with the same appliances, without change of conditions by two different persons on alternate days, was so unlike that one make was good and the other very poor. The butter-maker, then, is of the first importance, and must possess a good share of common sense, to learn the art properly.

How shall the dairy-house be constructed? With two rooms, one for the milk and cream, the other for the work-room, where the churning, working and packing of the butter will be attended to. It should be so constructed as to maintain as even a temperature as possible. No person, however skillful, can make a good cheese without a thermometer. This in the dairy may be compared to the chart and compass on the ocean.

Which breed of cows is required to assure success in butter-making? Good butter is produced by all the known breeds, but of varying qualities under the same conditions of care and feed. The Normandy cow, with her descendants and grades, are perhaps superior to all other breeds for the production of butter. The Guernsey and Jersey are both descended from the Normandy cow, and are more distinctly bred than the original ancestry, for the reason that the Channel Islanders, many years ago, believing that their cows were the best in the world, prohibited the importation of all other neat stock. Hence they have been bred in and in until the Guernsey and Jersey have become well defined, distinct and well-known breeds.

The four items in the care of the butter dairy—salt, water, food and kindness—tell a wonderful tale in the qualities of milk.

MILKING.

The milking should be done at regular periods, and at least twice every day. No milk from any cow is fit to use for any purpose whatever, if left in the cow's bag much over twelve hours.

Having tried nearly all the methods now in use for retaining the cream except the centrifugal, I have chosen the large shallow pan, keeping the milk at 60° Fahrenheit, as nearly as possible. Milk at a depth of four inches or under, at the above temperature, will throw up all its cream in about twenty four hours or less. The cream should be removed from the milk as soon as any acidity is perceptible in the milk. In removing the cream use a scoop somewhat like a dust pan, instead of a skimmer.

A tin can of sufficient size to hold a churning of cream, somewhat like the ordinary milk-can used for carrying milk to the factory, should be in possession of

every butter-maker. Put the first cream removed from the milk into the cream-can and stir into it about an ounce of salt for each gallon of cream, and every time more cream is added, stir all gently together, until a sufficient quantity of cream for a churning is obtained. The churning should be done about ten or twelve hours after the last cream is added, as soon as the cream has become a little sour.

KIND OF CHURN.

The old dash churn has never yet been improved by all the thousands who have tried. The principle upon which it brings the butter, that of concussion instead of friction, is correct. Any churn acting on the same principle, easy to operate and convenient to use, will answer every requirement.

CHURNING.

The churn should be scalded with water boiling hot, and then rinsed with cold water, bringing its inside temperature to 60° Fah. before putting in the cream, which should be at 60 degrees in summer and 62 degrees in winter.

If from any cause the cow fails to give to the butter that bright golden color so pleasing to the eye of the consumer, and so much desired by the dealer, give the cow what aid she may require, by adding to the cream, when put into the churn, just enough good butter color, prepared by some one who understands the business to make the butter the precise color the cow would make if she could.

The time of churning ordinary good cream to produce good butter varies from twenty to fifty minutes, according to the ripeness of the cream and its temperature. When the butter appears the size of wheat kernels my practice has been to draw off the buttermilk and turn water into the churn at the temperature of 55 degrees, gently agitate the churn, draw the water off, and repeat the washing until the water is clear. Generally the second application is sufficient to free the butter from the buttermilk, when the butter is placed on the table of the maker to drain.

Salt is now applied through a fine sieve, the quantity used in proportion to the weight of the butter and the amount of water remaining in the butter, and must always depend upon the judgment and experience of the makers to some extent. The salt is now mixed with the butter evenly, by the aid of two narrow paddles, one in each hand.

The butter is now on the worker with the butter milk all out, and the salt thoroughly incorporated with it, without any injury being done to the grain of the butter, ready to be worked sufficiently for packing. The working is done with a large roller with a downward pressure, and a careful rolling motion until the surplus brine is expelled, and the butter firm enough to pack.

KIND OF PACKAGE.

The Welsh butter-tub, holding about fifty pounds of butter, suits the trade as well as any style of package. These Welsh tubs are now made of white oak, spruce and hemlock. Before using, the woody flavor peculiar to the wood of which they are made should be taken out by first filling the tub with hot brine. After this gets cold, throw it away, fill the tub with pure cold water and stir in a quart of salt. Allow this cold brine to remain in the tub one or two days before using. The tub is in the best condition to receive the butter very soon after the brine is turned out, and before it dries. Salt should not be sprinkled on the inside of the tub before packing the butter.

Fill the package within one half inch of the top; place over the butter a piece of clean muslin and fill even with the top of the package with salt. If the

salt is moistened it will aid in excluding the air from the butter. The butter is now ready for market, and if held, should be kept at the temperature of 60 degrees or a little below; but the best way, as a rule, with the butter-maker, is to put his butter on the market about once a week, and let the consumer have it while it is new and good.

KEEPING BUTTER.

Butter hermetically sealed or submerged in saturated brine, will keep well for a year or more, but when compared side by side with butter direct from the worker, it would not sell in competition with it on any market at the same price. Butter made from sweet cream or from the milk of the Jersey or Guernsey cow, will not keep very long and retain the aromatic flavor so highly prized when new. Let us conclude, then, that keeping butter a long time and retaining its pleasant flavor and delicious taste is one of the lost arts, and in the future place our butter in the hands of the consumer while it is good and nice and new.

WINTER BUTTER-MAKING.

If one-half or more of our butter dairymen would turn over a new leaf and make their butter mostly during the winter instead of the summer as now, the question of keeping butter would be settled for ever.

By supplying the markets with new butter all the year, the demand would be largely increased, and prices now grudgingly paid for old butter would advance for new, and be paid gladly. The advantages of winter butter-making over summer-making are so many and so great that I am astonished that all do not go into it.

FOR THE CANADIAN LIVE-STOCK JOURNAL.

"The Proper Temperature of Cheese Rooms."

BY JAMES WILLIAMS, CULLODEN.

Much has been said and written about the proper temperature of the cheese curing room and but little on the proper temperature of the making and press rooms. The temperature of these latter is quite as important as those of the former, for it is here that the quality of the make of the cheese may be said to begin, and if not properly begun and continued it is not likely that it will end right, even in the best regulated curing room, as it should.

The temperature has much to do with the quality of the cheese, therefore the necessity of buildings where the temperature can be regulated as much as possible. Why there should be so much indifference in reference to this matter with men whose milk, or the proceeds therefrom, is perhaps the backbone of their farms, I cannot understand.

When the business is controlled by stock companies, one would suppose they at least would supply proper buildings, even though the patrons of private factories do not allow a sufficient percentage to provide them. Many factories have no way to make them sufficiently warm or comfortable for the purpose of turning out the highest quality of product. Many of the rooms are so open in structure that a stove would have but little influence in producing a uniformity of temperature.

Making and press rooms should be so constructed that they can be easily kept at a temperature of about 75 or 80 degrees in the spring and fall, and they should also have plenty of ventilation. Particularly in summer every care should be taken to secure a pure atmosphere. The advantages of a proper temperature are many. In a cool room the temperature cannot be kept up even by covering the vat, as is generally done, without frequently applying the steam, in which case

It must be stirred, and this stirring allows more butter to pass off in the whey than would if a higher temperature could be maintained in the room.

When the vat is set in a cool room it will not retain the heat as desired and does not coagulate properly. It becomes too cold, even with covering, and when cut it will be soft and the whey white, showing that a considerable quantity of cheese is passing off with the whey.

After the curd is scalded, unless the temperature of the room is warm the steam may require to be applied repeatedly to avoid a whey soaked curd, which too often occurs in spite of every precaution taken when made in cold rooms. When the cheese thus made are cured they are off flavor, salvey and soft.

Again, while dipping the curd from the vat to the sink, where it lies to mature, and that the whey may drain preparatory to grinding and salting, before putting to press it frequently becomes so cold while undergoing the necessary amount of handling in cold rooms that the whey will not leave it, and if you do not get a whey soaked curd in the vat, you probably will get it in the sink, and when put to press it has become so cold that it will not adhere properly, the whey will not leave it, and the result most probably will be a soft spongy, rindless, unfinished mass of whey soaked curd, and after being kept in a curing room of the proper temperature for a few days the whey will in all probability start to run from the cheese to the floor and in time will be a soft, bitter, discolored and bad flavored cheese.

I have noticed during the past two seasons that some makers have made really fine cheese in the warm months. On visiting their factories after their October and November make was in the curing room some time, you would suppose by the appearance of the soft, spongy, huffy cheese, that you had made a mistake in the factory, or that a new maker had been employed. The principal cause was a cold making room and a cold press room. In a cold press room the work of pressing will be improperly done, the curd will not adhere properly, the bandage will not be on properly, nor will there be a proper rind.

I cannot see why with making and press-rooms of the proper temperature, and the necessary attention on the part of the cheese-maker, that better cheese cannot be made in October than in any other month in the year, and in the first half of November quite equal to the first half of September.

The loss sustained every season by cold making and press rooms would go a long way in providing rooms where the temperature could be so regulated that the business could be carried on with much greater success and profit.

In the curing room a pure atmosphere is necessary, and a well regulated temperature of about 70 degrees, if a fine quality of product is to be obtained.

Curd when put to press should be at about the same temperature as when pressed into the shape of cheese. The curing process should never stop, but should proceed gradually from the curd sink until finished.

Those having curing rooms not so easily regulated as they might be, can do much by attention to the temperature. It can be regulated by opening the windows in the cool of the day, closing them in day time, and by having ventilation through the floors. Keep a reliable thermometer or two or three of them in different parts of the room, and do not forget to look at them.

In the spring as the quality of the milk is poorer or contains less fat, it is necessary to cure at a high temperature—80 degrees—and it is better if steam can be introduced, lest the air becomes too dry. In June, July,

August and the first half of September, the temperature should be kept as near 70 degrees as possible; for the balance of the season about 65 degrees.

Holstein-Jersey Controversy.

EDITOR CANADIAN LIVE-STOCK JOURNAL.

I had hoped at the commencement of this controversy that everything of a personal or dishonorable nature would be avoided; but when Mr. Fuller divests the question of all argument and makes it entirely a matter of integrity and veracity; when he asserts or insinuates that Holstein records are all fraudulent and their owners, individually and collectively, rogues and scoundrels, he is unwittingly casting a slur on the honor of all dairymen who choose to keep records of the performances of their herds, and further discussion of this matter is almost useless.

I have strong reason to believe that the evidence given by a patent right man somewhere out west, to the effect that the Jersey milk gave five times as much cream as that of the Holstein, is about as reliable as the yarn concerning the quality of the butter made by Mr. Yeoman's cow, which has since been retracted.

When Mr. Fuller is forced to rest; the superior claims of his breed over the Holstein on the evidence of an irresponsible man, whom nobody knows, and common hearsay obtained from very doubtful sources, it but goes to prove the desperate straits to which he is driven, and is hardly consistent with his former attitude towards this kind of evidence.

Mr. Fuller says that "we cannot take individual tests as proving the averages of a breed as a whole." This I have always maintained. Admitting, for the sake of argument, that Mr. Fuller or any other Jersey breeder has one or two cows capable of beating in a butter test every Holstein in the country, it would, after all, prove absolutely nothing, and would have no perceptible bearing on the relative average merit of the two breeds as a whole.

To show that the Holstein is capable of giving only "watered milk" (along with the Ayrshire and Short-horn) he cites the extensive tests carried on by the Massachusetts Board of Health, when the milk of 607 cows of different breeds were examined, and a fair average of the quality of each was obtained. Observe that this is of his own selection, doubtless from a number of other tests not so favorable to his case. Supposing that the results there given are a fair criterion of the average standing of the two breeds as Mr. Fuller asserts, I will show that the Holstein again leads for milk, butter and cheese, by applying this basis of quality quoted by Mr. Fuller: to the amount of milk produced (first) by essentially representative herds of each; (second) by each breed as a whole, taking Mr. Fuller's authority, Prof. Brown, as a guide in obtaining the average.

For convenience I will repeat the tabular statement of these tests given by Mr. Fuller, omitting three of the breeds not interested:

| No. cows | Breed | Fat | Solids not fat | Total solids |
|----------|-----------|------|----------------|--------------|
| 17 | Jerseys | 4.34 | 9.70 | 14.02 |
| 47 | Holsteins | 3.79 | 9.22 | 12.51 |

By reference to p. 126, May number, Mr. Fuller gives the average milk production of his herd of Jerseys (about 100; head of all ages) for 1884, at 6,382 lbs. each. On p. 133; same number, Mr. Powell (of Smith & Powell) gives the average of their 26 two-year-old Holstein heifers (all in the herd) for the same year at 10,810 lbs. each.

Applying the above basis to the quantity here given we can make the following comparison:

| Time—one year. | | | | |
|----------------|----------------------|--------------|-------------|----------------------|
| No. | Breed | Milk in lbs. | Fat in lbs. | Total solids in lbs. |
| 26 | Holsteins—2 year old | 10,810 | 352.64 | 1352.33 |
| 100 | Jerseys—all ages | 6,382 | 276.97 | 894.75 |

In favor of the Holstein heifers, 4,428 lbs. 78.67 lbs. 456.58 lbs.

Thus it will be seen that these worthless two-year-old Holstein heifers, which, according to Mr. Fuller, represent "the poorest dairy breed in the world," giving "watered milk," which is capable of producing "only a thin white scum" instead of cream; upon the application of a rule laid down by himself excel the productive capacity of his own herd of aristocratic Jerseys, composed largely of mature cows, by 4,428 lbs. milk, each in one year, or 69 per cent.; 78 lbs. butter each, or 28 per cent.; and 456 lbs. solids each, or 50 per cent., and all this while the Jerseys are having the enormous advantage of maturity and age on their side!

Another authority, largely referred to by Mr. Fuller (Prof. Brown) gives the comparative annual milk yield of these breeds, as follows: Holsteins, 7,000 lbs.; Jerseys, 3,500 lbs. Apply the "watered milk" rule, which Mr. Fuller says is a fair one, and we have again:

| Breed. | Time—one year. | | Total solids in lbs. |
|-----------|----------------|-------------|----------------------|
| | Milk in lbs. | Fat in lbs. | |
| Holsteins | 7,000 | 230.30 | 875.76 |
| Jerseys | 3,500 | 151.90 | 490.70 |

In favor of Holsteins, 3,500 78.40 lbs. 385.00 lbs.

Again, we have the Holsteins excelling the Jerseys for milk by 3,500 lbs. per year, or 100 per cent.; for butter 78 lbs. in a year, or 51 per cent.; and in total solids 385 lbs., or 78 per cent. Another proof of the impregnable position held by the Holstein as a milk, butter and cheese producer, and a full corroboration of the final results of the Istrington dairy tests so pointedly referred to by Mr. Miller.

This is not what Mr. Fuller or his friends could elegantly term "rot," put forward by some over imaginative Holstein breeder, but sound reason based on facts, the truth of which they cannot deny, and is one more link in the chain of evidence which has been adduced to prove the genuineness of the Holstein's claims, and the utter absurdity of Mr. Fuller's contentions.

Now a word as to Prof. Brown's reply. It may be a big, gentlemanly and business-like way to crawl out of giving any satisfactory explanation regarding the mode of conducting these tests, to sneeringly dub my criticism "disappointed croak," but one scarcely in keeping with what is usually expected from public servants who busy themselves in making what they term "fair and impartial public tests," at the public expense, for the public good.

If those tests were as public as Prof. Brown assures us they were, why has the very manner of reaching the results attained, been so studiously concealed from the public? What is there in them to be ashamed of? Except through Mr. Fuller, no attempt has ever been made to satisfy the public on this point. How is it that Mr. Fuller has been supplied with the very information which has been denied the general public? How is it that Mr. Fuller has used this same information, or a portion of it to advance his own cause in this controversy, and who is to judge of its correctness? Is it any wonder, then, that Mr. Fuller has such a regard for the high sense of honor possessed by the conductor of the Experimental Farm tests? I asked for light, but it has been refused, Ethiopians when in the fence usually prefer darkness.

Prof. Brown's milk and water explanation has not disproved a single assertion made in my previous letter. The little lanky, leggy Holstein runt, for runt she certainly was, used in the Experimental Farm tests, was but twenty-two and a half months old at the commencement (Prof. Brown represented her as three years), while the Jersey was fully a year older, and the Ayrshire double her age. Yet in the very face of these facts the contest is claimed to be a fair one, and conclusive evidence of the relative standing of the dairy breeds! Prof. Brown lets himself down by pleading ignorance as to her age and pedigree at the time of the purchase, and points to the fact that it was not till after the closing of the midsummer report that this information was obtained. This news is simply astonishing. What hindered the procural of this information at the time of purchase or shortly after? Was this same accurate system of guess work resorted to in all the recent purchases of improved stock for the Experimental Farm? Are the young breeders of Ontario taught to do business in this loose, haphazard, "unbusiness" like way? After all, does not the whole thing savor a trifle of transparency, and isn't it just a little "too thin?"

Nearly a year has passed by since the discovery of this mistake—if mistake it was—and if Prof. Brown had any intention of doing justice to the Holstein, why has he not come out squarely and honestly and acknowledged his error? The annual report has since been published, but no effort has been made to set matters right. This gentleman has instead, however, stumped the country at the public expense and talked himself hoarse on the extravagant claims of the Holstein breeders, as proven by the Experimental Farm tests. Prof. Brown and Mr. Fuller could both learn something to advantage, before they again attempt to tell the public what they know about Holsteins.

Let the Experimental Farm people throw no more spoiled eggs at our heads with the mistaken impression that they are "birds." The stench is really too

great to expect the public to grin and bear without a murmur of complaint. Let the foster parent up there overhaul his mental incubator and give us this time a real live hatched bird instead of the filthy, disgusting tuing which last greeted us.

JOHN M. COOK.

Aultsville, Ont., June 19, 1886.

Ayrshire Cross-breeds as Milkers.

EDITOR CANADIAN LIVE-STOCK JOURNAL.

SIR,—After having been treated to Jersey and Holstein breezes for some time, perhaps your readers could stand a little wind from the States. It is not a big blow that I would give them, but just a plain story of good honest work performed by a breed that we do not often hear from.

I consider the record made by our cows more valuable from the fact that they have been made almost entirely on grass alone. Our cows are Shorthorns, and their calves sired by an Ayrshire bull. I say Shorthorns—they are too near full blood to be called grade—and yet are not eligible to register.

Rhoda will be 12 years old in September, is hale and hearty, and good for a dozen more. I commenced her test this year on May 1st; giving 39½ lbs. she increased to 61 lbs., and made 1,599 lbs. for May. Commencing May 22d she gave in 20 days 1,180 lbs., or 59 lbs. per day, on grass alone. Going back to 1883 she made in one day 59 lbs., 166½ lbs. in one month, and 8,115 lbs. in six months, and was giving three gallons per day at the end of the test. In 1884 she made 63 lbs. in one day, and 1,758 lbs. in one month, and 10,619 lbs. in nine months. In 1885 she gave 62 lbs in one day, 1,788 in one month, and 8,388 in six months, and was giving 4 gallons per day at the end of that time, and did not go dry for over four months.

Trinket, half sister to Rhoda, gave as a yearling 33½ lbs. in one day, 902 in one month. As a two-year-old she gave 46½ lbs. in one day, and 1243½ lbs. in one month.

Red Rose, daughter of Rhoda, gave 54 lbs. in one day, 1,457½ lbs. in July, and 7,314 lbs. in six months.

Brindle gave 58 lbs. in one day, 1,601½ lbs. in one month.

For three years we have had at the head of our herd the Ayrshire bull Gowrie Lad 2717. His dam, an 8,000 lb. cow, was out of imported Ayrshire Lass 2011, record 8,600 lbs. as a two-year-old. Gowrie Lad's dam was sired by Duke of Buccleuch 1091; his dam Kilburnie Maid 2605, record 80 lbs. in one day, 8,600 lbs. in one year.

As a result of this cross we have a number of very nice yearling and two-year-old heifers. So far as the two-year-old heifers have come in, they have given from 25 to 38 lbs. per day.

Selling the old bull in March (he weighed 1,790 lbs.), we have since purchased a yearling bull of Mr. Fairweather, of Eric Co., Penn. This is a first-class bred bull, his dam giving 46½ lbs. per day for 7 days in April on dry feed, and his sire's dam having a record of 60 lbs. in one day, tracing twice to imported White Lily 811, record 84 lbs. in one day, and once to imported Beacon Belle 2016, record 43 quarts a day in Scotland. With this kind of blood, why can we not expect good results?

While the Jersey may make more butter from a small quantity of milk; and the Holstein may consume more feed and give a large quantity of blue milk, we believe the Shorthorn and Ayrshire to be the best beef and milk breeds, and that a cross between the two will come the nearest to the general purpose cow.

F. M. WATSON.

Riceville, Ill.

Jersey vs. Holstein.

EDITOR CANADIAN LIVE-STOCK JOURNAL.

In your May issue, Mr. John M. Cook sends for publication in the JOURNAL a letter of Mr. E. A. Powell, the Holstein breeder, which appeared in the U. S. *Breeders' Gazette*, and charges that in giving the age of the Holstein heifer tested at the Ontario Experimental Farm "gross deception was practiced," and insinuates that I may have some knowledge as to the facts. Had Mr. Cook been the fair-minded man he claims to be he would have seen to the publication of Prof. Brown's letter, upon which Mr. Powell founds his charges, in the same issue in which he makes such sweeping charges against one, who I

again claim enjoys to the fullest, the confidence of the unprejudiced agricultural public in Canada as a man of integrity, honesty and fearlessness. In place of that he condemns in most uncalled for and intemperate language Prof. Brown's acts, basing his condemnation on a letter which he has not the manhood to have published at the same time; in order that the impartial public may themselves judge how far Prof. Brown's "gross deception" extends. It avails Mr. Cook nothing if he claims he sent it for publication. Had he been actuated with any degree of fairness or generous instincts he would have stipulated that, inasmuch as he attempts to take away Prof. Brown's character and destroy his usefulness upon a letter, such letter should be published at the same time.

Mr. Cook's insinuation that I had extended to me a knowledge of these tests during their progress (I refer to the tests made at the Experimental Farm), and that in some unforeseen and unexplained manner I had a controlling influence over them "do me too much honor." If your insinuations mean this why do you not, Mr. Cook, say so? Do you fear that I will compel you to prove the accuracy of your assertions or withdraw them (for most certainly I would), and do you in your inmost heart know that you are as incapable of proving in public your base insinuations against me as you are the claims you have made for the "wonderful and marvellous tests of your Holsteins?" Your insinuations, so far as they relate to me, are utterly and entirely false, and I believe your claims as to the wonderful tests of Holsteins, at least so far as they relate to butter, to rest on an equally shallow foundation, and I challenge you now, as I have done in the past, to prove them by public tests. I know challenging you, so to do is mere waste of words, as you have by your continued silence as to other challenges admitted your inability to prove them save by the statements of interested parties. Why do you not follow the example of Jersey breeders and have unbelievers in the marvellous butter capabilities of your cows take the tests, in charge?

My first intimation that any tests of breeds had been made at the Experimental Farm was through the public press, and I have never visited the Farm save once. I did not then, or at any time until subsequent to the Toronto and London tests, discuss with any of the officials of the Experimental Farm or any one else the question of the Experimental Farm tests, as I never knew such tests were being made, and any information I obtained with reference to them was made through the same source, open to Mr. Cook, namely, the public press, and "advance report," and no other.

As to the London tests, I was requested by Mr. Wade to enter some cows in the dairy tests. I replied, asking him how the tests were to be made. He referred me to Prof. Brown. I applied to him to know his proposed mode of testing. He sent me a printed card, such as was given to each prize-winner in the test; without any comment whatever. Satisfied it was a fair plan of judging, I entered my cows. I was at the London Exhibition for four hours only. I did not see Prof. Brown, Mr. Wade or any person connected with these tests, and made no inquiries as to them. I had no communication with, nor did I make any suggestion to, any person in any way connected with, or in charge of, the tests, either during their progress or prior thereto, or upon their result being made known. My first knowledge as to the scores made by the various breeds was acquired at the Toronto Exhibition. These are the plain facts, but Holstein breeders of the stamp of Mr. Cook do not seek to deal in "facts"; they "prefer fiction" and cowardly insinuations. It will not avail Mr. Cook to attempt to draw the attention of the public from the main issue. The Holsteins have at the Islington Dairy Shows in England, (five years tests); by the London Exhibition; by the Experimental Farm tests; by the tests of the State Board of Massachusetts; by the tests made in England by Mr. W. Gilbey, of two of the best cows to be purchased; by the writings of the eminent authority, Mr. James Long, who was one of the twenty commissioners appointed to make a tour through the department of North Holland, where the best milking cattle exist, and to report; by the test at the New York State Dairy Fair, held at New York in 1880, proved that in public tests they are unable to sustain the marvellous claims made for them by interested owners, and have *prima facie* proved the inaccuracy of these claims; and your shirking from accepting the challenge I have so often made you for another public test bear out your inability

ity to substantiate your claims by public tests. In the face of all these public tests, what avails it to claim that private tests disprove them? If they are capable of being disproved, do so in an open and public manner. If the cows tested at London were not representatives of the breed, produce such as are to accept my challenge or admit that you have nothing but indifferent Holsteins in Canada, otherwise you must stand convicted in your own choice of expression of being guilty of "braggadocio" and cowardice." If your claims for your cattle can be substantiated by open and public tests, in the hands of people enjoying the confidence of the public and in no way interested in your breed or their owners, then I will join hands with you in supporting by any humble efforts I can the Holstein cattle as a breed that will improve the dairy interests of this country, not only by my writings, but by purchases; but, while you so persistently refuse to submit them to public and open tests in the manner indicated above, and while the public tests in the past have disproved the accuracy of your claims, I shall not refrain from stating to the public my firm conviction that the Holsteins are not the best breed for the improvement of the dairy interests of this country, but that on the contrary, taking into consideration the cost of production and the products of the milk (cheese and butter), they are the poorest of all the dairy breeds.

This controversy has been none of my seeking. It was Mr. Cook, who opened it in the JOURNAL, and Mr. Dudley Miller, in the *Dairyman*. When am I to expect from Mr. Cook an acceptance of my oft-repeated challenge, and when am I to receive an answer to my question as to how many of the cows for whom such stupendous milk yields are claimed were farrow during the tests, or had a calf within a reasonable time after the test ended? I think most of them lasted one year.

In conclusion, as to Mr. Powell's letter, if it be the same that I saw copied into another stock paper, I wish to call the attention of your readers to the fact that it deals wholly with the tests made at the Experimental Farm, and devotes but a few lines to the tests made at London between the breeds, although the latter were known to Mr. Powell at the time of writing. I have myself admitted on more than one occasion that the Experimental Farm test of one animal was not sufficient data on which alone to judge the whole breed, unless other proof to substantiate it were produced, and that proof I have on more than one occasion cited to your readers.

VALANCEY E. FULLER.

Oaklands, Hamilton, May 26.

Poultry.

Poultry on a Large Scale

BY J. W. BARTLETT, LAMBETH, ONT.

(Continued from May Journal.)

THE HOUSE.

On top of this wall, build a superstructure of one inch lumber 4 feet high, using a 2 x 4 scantling for plates and sills. Our plan is to have a roof of boards, with tarred felt and gravel on top, not that the expense is less per square yard, but as this roof requires only one inch pitch to the foot, or in the 16 feet of width, only eight inches centre elevation if a double roof is used; if a shed roof, 16 inches. Thus we save a large amount of surface of roofing as well as a great gain in the gables, which in this size of building will be about 30 feet of lumber, and about 300 square feet of roofing, besides having a better roof for our purpose than a shingle roof with the usual one third pitch. Now batten the superstructure with not less than three inch battens, and line inside with tarred felt or tarpaper, as it is frequently called. We find it best to cut the felt in strips to reach from the bottom of the plate to the top of the sill, nailing a lath on the felt at each end, and on the joints at the edges, also one down the middle. This makes a very warm building, and the felt retains the smell of the tar with which it is

saturated, making it proof against vermin—that is, vermin will not hide in and about it, as they will in wooden walls, but they will notwithstanding trouble the fowls to a certain extent unless other precautions are used. The house should be lighted by a window running the entire length on the south side, of two panes deep of 8 x 10 glass, of course the size of the panes are a matter of taste, but a smaller size would not admit sufficient sun and light, while larger is much more easily broken. These windows should be just above, and reaching down to the sill, and should be hung by hinges above, so that they can be swung in and upwards in excessively hot weather, and it is very convenient to have a piece of wire netting, say 3 inch mesh, over the windows on the outside, that they may be swung entirely open without allowing the fowls to escape.

(To be continued.)

P. S.—MR. EDITOR,—We find it at times amusing to notice the comments on our answers to correspondents, notably so in the May issue, when Mr. Dimon takes us to task for saying we found Dark Brahmas the best winter layers, and goes on to say the Dimon Creepers will lay twelve to their eight. Now will some breeder tell us, is there such a breed of fowls as Dimon Creepers in existence, and does any one beside Mr. Dimon recognize them as a breed? We think not.

J. W. BARTLETT.

FOR THE CANADIAN LIVE-STOCK JOURNAL.

Farmers as Fanciers.

BY W. C. G. PETER, ANGUS.

I have often wondered why farmers, who as a class know the value of thoroughbred stock so well, should be so careless in so many instances about their poultry. They will take every pains and go to great expense to improve other stock, and take delight in exhibiting the same at our shows, but seem to have an idea that no one but a fancier stands any chance, or can raise high class poultry and make it pay. Whereas the fact is, that in most cases the farmer has every chance ahead of the fancier, except in the original stock. What would breeders not give to have the same chances for their pets—unlimited range, every variety of food, and above all, lots of room. I am writing this for farmers, and so will confine my remarks to the method of starting with eggs rather than grown birds.

In the first place I would advise them to keep only one variety, as farmers generally are too much occupied to give the necessary attention to keep more than one breed properly cared for, and a great deal of time is taken up in keeping more than one breed. To give them liberty and keep them pure, choose the variety you fancy and get the eggs early. Suppose five dollars are invested in one or more settings; be sure to get them from a reliable breeder, such as can easily be found in the columns of any good journal. These eggs need no more than the ordinary amount of attention. The old fowls you can keep on for the summer, and by the time the chicks (thoroughbred) are ready to lay, kill off all your old stock. If you have any pets among the common stock, that for old friendship's sake, you are averse to send to "Davy Jones' locker," give them away. Be sure to weed out all without reserve, except the pure stock. For these, during the summer, prepare a warm comfortable place for winter habitation, or thoroughly whitewash the old quarters, and if not warm, line it with match-boards and put tarred paper between; it is very cheap, and is a disinfectant, also keeps away lice. Suppose from eggs purchased you have been fortunate enough to get as many chicks as will necessitate a division of say twenty pullets, have a partition in the house with a cock in each half. Never let two males run with the

hens together; you would have more chicks with one male to twenty hens, but if every egg is wanted to hatch, ten hens are plenty for each rooster; board the partition up to three feet closely, to prevent fighting.

Now to go back to the beginning: the eggs are received; unpack carefully and then put the large end up, in oats or any thing else to keep them from touching, and let them rest at least a day before setting them as they will be more or less shaken up by the journey, and if left so, will have time to get quiet, as it were. Do not cover them, and keep in a moderately warm place and remember the remark of "Josh Billings," that "the best time to set a hen is when the hen is ready;" do not try the hurrying process with her. Put a little powdered sulphur in the nest and sprinkle some on the hen to keep away lice, but never put any grease on setting hens or young chickens; leave water and grain, and a box of dirt for them to dust in; never give a setting hen soft food, and change the water daily. Now this may be more attention than some have been accustomed to give to their motherly biddies, but remember there is quite an amount of money in these eggs, and far more depends on the treatment of the hen than many are willing to believe, and another warning is necessary, especially as the care of the hens will most likely fall to the lot of "curious woman-kind," and that is, bottle up your curiosity; the five dollar chicks are just as able to get out of their shell prison, I believe more so, than their brethren of the sixteen cents per dozen. So let poor nervous "biddy" alone, for more nervous they certainly are at the hatching period than at any other stage of their setting. Fanciers can generally handle their fowls at all times, but that is because they are all more or less petted, and regard the owner as a faithful friend and provider. I always accustom my fowls to be handled on the nest, but I am writing for those who have little time to spare for such amusement, so if not very quiet, leave biddy alone, except to look for the empty shells occasionally, say morning and evening when you know there are chicks out; as the half shells sometimes get fixed on the end of an egg that is hatching, and of course will hinder, if not prevent, the chick from coming out.

(Concluded in our next.)

The Apiary.

FOR THE CANADIAN LIVE-STOCK JOURNAL.

Comb Building.

I have lately become more than ever convinced of the mistake that many beginners make in purchasing bees without knowing the condition of combs in the hive. They are not aware that there is any material difference between one hive of bees and another, and are guided in their purchases by the number of dollars asked. A very common question is, "What is a hive of bees worth?" It will at once be seen how very foolish this would seem if applied to anything else, as for instance, what is a horse worth? or what is a cow worth? Every one knows that the worth of cows and horses depends on conditions, so it is with bees, and one of the most important is, the kind of combs. My attention has been drawn to this lately, by assisting to overhaul ten colonies that were purchased by my neighbors at an auction sale. In most of them, it was with great difficulty the combs could be removed. They were not only built into each other in every imaginable shape, but sometimes I found only one comb on two frames; others were largely fastened to the hive. The necessity for using a long knife was such, that by the time we had got through with our attempt to straighten matters, the honey was running out at the entrance of the hive, and some frames had

no comb left in them. The few that had a passable appearance were largely composed of drone cells—another large part so stretched that brood could not be reared in the cells. The parties owning those bees, desired to know what was best to do under the circumstances; my advice was, get frames filled with good foundation, and as soon as the honey flow commences, or in swarming time, to make room for those frames, by taking out those combs having only honey, spread the remaining brood combs, so that they would alternate with the new frames, and as soon as they were built out, put them together in the center of the hive. The old ones at the side of the hive to be taken out as soon as they were free from brood, and more new frames with foundation put in. The old combs to be melted into wax. I mention this case to show what ignorance and neglect will do. I learned a lesson, having never seen combs in such a condition. I more than ever saw the necessity for care in comb building. This being the month in which more comb is built than any other, I will now give a few hints on the subject, which, if followed, will result in straight, beautiful, worker comb. Some experienced bee-keepers claim that they can put their bees into such a condition that they will build such combs without the aid of foundation; but as I am not writing to that class, I need not attempt to describe their methods; others of large experience say that it will pay to use it in full sheets, even if it costs one dollar per pound. The weight per square foot required, will to some extent depend on the size of the frame, especially on the depth. In large or deep frames it should be wired or not less than 4 square feet to the pound, it should be kept $\frac{1}{8}$ of an inch from the bottom bar, and $\frac{1}{4}$ from the end bars to allow a little stretching. A strong swarm on such frames when honey is being gathered will build fast, and of course it will be worker cells, which is the great thing to be gained by the use of foundation. It should, however, be watched every two or three days while building is going on. If bees are working on only one side, turn the frame end for end. If it is being built on one edge of the end bar instead of fair in the center, it can be easily pushed to its place by pressing the points of the fingers along the end bar. A little work of this kind taken at the right time will pay well; but as I said before the foundation should be heavy or wired.

QUALITY OF HONEY.

Another thing that should receive the attention of every bee-keeper at the present time is, the importance of improving the quality of our honey by every possible means. Since the fall in prices, there has been a great increase in the number of persons who have bought honey, and if prices continue to decline, thousands more are prepared to try how it will take the place of other sauces and sweets for the table. In order that bee-keepers get the full benefit of this experiment, a first-class article should be put on the market. But the difficulty is, there are hundreds of bee-keepers who are preparing to supply that demand who have not sufficient experience, either to know a good article, or how to produce it. The consequence is a loss to themselves and an injury to the honey market. Just in this connection I may state what came to my knowledge a few days ago. A man who travels with a general assortment of household necessities told me that he had been induced to try and run off a lot of honey dew that a bee-keeper had on hand, and would be willing to take trade in payment. He said he had no difficulty in selling, but had his doubts if the parties would want any more. I told him, if the stuff had been rightly named, he most likely would have sold none. That it should have been

labeled, Bug Juice, as it was the secretion of a bark louse, and all that dew had to do with it was to liquify the sticky sweet, thus enabling the bees to gather it. He was surprised at this information, and I think will handle no more honey dew. If such practices as the above only affected the producers and dealers, I should say nothing about it, but consumers are deceived and the market for one of the most wholesome and pure articles of diet partially destroyed.

I will now state what experience has taught me to be of great importance in producing *quality*. When I commenced this business, I read the advice given through bee journals and was not a little confused. One writer would say honey should be all capped before being extracted, another, that we could not afford to wait for this operation, that it increased the work of the bees in capping, and of the honey knife in uncapping, and that really the honey was no better, providing it was evaporated after it was extracted, thus doing the work with sun heat that it was thought the bees did in the hive. This seems very reasonable, and therefore the general practice is to extract when about one-third is capped. However, there is nothing I am more convinced of than that this practice is wrong. What the bees do to the honey to make the difference, I do not know, but there is evidently something besides evaporating. When capped in the hive, there is a finer flavor and a smooth oily texture that cannot be obtained by any artificial evaporation, neither does it granulate so soon, sometimes remaining all winter in a thick liquid state. I am convinced, if honey was well capped before extracting, I do not say *all* the cells, but very largely, say $\frac{3}{4}$, there would be no difficulty in marketing all the honey we could produce. There would be a loss in quantity, to what extent I do not know, but no doubt it would be fully made up in quality. Those who work in this direction are the bee-keepers of the future. On a heavy flow, it may be necessary to tier up extracting supers in the same way as is done for comb honey, by raising the full one and putting an empty one below it, filled with combs or foundation.

Another care should be to keep the different kinds separate; the first surplus may be raspberry. It is naturally a thin honey and should be particularly well ripened before taken out. Next will come white clover, and then linden (basswood). As some consumers prefer one kind and some another, it is well to keep a separation as far as possible.

In order to get the best results as regards quality, I believe in and practice top storing, very seldom extracting a comb from the brood chamber. This system has also the advantage, that beautiful white combs that have never been brooded in, may be used exclusively for surplus, from which not only a cleaner, clearer article of honey may be taken, but one that is much easier preserved from the ravages of the moth.

F. MALCOLM.

Horticultural.

To What Extent Should Fruit be Grown?

It is no easy task to answer this question. Indeed its answer depends so much upon conditions of soil, climate, location, proximity to market or remoteness, and various other conditions that it is impossible to give an answer in the general. Indeed, it would be easier to say who should not grow fruit than to say who should. As a rule it would be safe to say that every farmer should grow fruit sufficient for the wants of his own family—that is, of the varieties that will flourish moderately in his own soil; but there are some

exceptions. No farmer should plant fruit upon his place who is not inclined to care for it, as otherwise it will not flourish, but will only become to him an eyesore and a source of loss. It is far better that such a one should buy the fruit he requires out and out, or else go without altogether. On the other hand it is possible to *waste* time in trying to grow varieties of fruit that are not adapted to the locality. The peach is a delightful fruit, but it is not wise in trying to grow it when but one crop can be obtained on an average in five years. It would be far cheaper in such a case to buy the peaches.

On the other hand, there is no part of our country that will not grow some varieties of fruit, and there is no fruit indigenous to such locality but will react favorably upon the physical well-being of the inhabitants, if only properly used. It is the duty, then, of every head of a family to give some attention to making due provision in this direction for their wants. The young men of Quebec take kindly to their country when they think of the sugar maples that have yielded them of their delicious juices; and those of the Ottawa valley have pleasant recollections of the blood-red plums that lined their gardens in earlier days. It is nothing short of a shame to give to a child a piece of bacon on a hot summer eve for tea, when it might just as well have a brim full saucer of strawberries and cream from the garden and the farm.

It is even more important, however, to know just who should grow fruits on a larger scale for the market and who should not. It is clear that he whose soil is *unsuitable* will never make it pay. Strawberries will not luxuriate in a hard clay soil, nor will apples flourish on a level undrained black loam, nor even on a soil of that character that is drained. The person, then, who persists in attempting to grow fruit on a large scale in this way is doomed to disappointment.

But the soil may be suitable when the *climate* is not. Large stretches of Lower Canada soil will grow tender varieties of apples very well in summer where they will freeze in winter, and so of certain varieties of grapes. It would be unwise, then, for the people of that Province to launch out extensively into the branches of fruit culture.

The *location* should be carefully considered. If pears will not flourish as well on clay bottom lands as on the uplands (and they will not), they should not then be planted largely on the former, otherwise it would prove a losing investment, and so strawberries planted on a strip inclined toward the north will not flourish with those planted on a sunny southern slope.

Proximity to market is a great consideration. A plot of ground may be very suitable for producing apples. The climate may be everything that could be desired. The seasons may be propitious, and after all the venture may be a losing game, because of the long distance which the apples would require to be drawn before they could be shipped. On an ordinary road not more than fifteen barrels should be drawn at one time, which, if it require a whole day of a man and a team, is a large item to be deducted from the returns, when apples bring no more than one dollar per barrel.

Where the grower is situated remotely from market, in the case of small fruits, the loss of time in marketing is proportionately greater. Indeed, beyond a certain limit, this will prove a barrier so great as to render marked success impossible.

Then again the *precarious* nature of the work should make men hesitate before they launch out into fruit-growing as their sole means of support. While it is

true that some have amassed fortunes at it, a far larger number have only obtained the bread of this life by exercising a vigilance that would have brought a greater degree of success in better lines. We have referred to the precarious nature of the work, of which peach-growing in Ontario furnishes a marked illustration. Some years ago almost fabulous returns were obtained from orchards bearing this fruit. As was to be expected, wherever suitable soil could be obtained peaches were planted to a greater or less extent. A modification of climate followed, which may occur at any time, with the result, that since 1882 the great matter has been how to preserve the trees, rather than to obtain a crop of fruit.

Observe, this modification of climate has not produced similar adverse effects upon the growth of hay or cereals, as during the period referred to we have never had more abundant yields of both.

It seems a law of agricultural production that those forms of it which yield the handsomest returns occasionally are the most precarious and the most fitful in giving their returns. Would it not, then, be wise to associate fruit-growing with some form of stock-keeping, in one or other of its lines, as a security against the caprice of changeful seasons and consequent uncertain returns? Near to the city, cows for the dairy might be kept, and more remote, fat cattle could be either reared or fed, or both. This balancing power would act as a regulator, as stock, when rightly kept, is marketable at any time, and might easily be reduced in seasons when there was much promise of a large return. Then there is this further advantage, manure more valuable than any of artificial production, is made at home, and is always ready for application when needed.

In view of all these facts, then, it is surely important that before one launch out into a business so full of risks, he should carefully count the cost. We have only looked as yet upon the subject from the standpoint of suitability of soil and climate. It has yet another and a very important side—that is, the fitness of the individual for the work he is undertaking. If of a plethoric disposition, he is not likely to get on well, as weeds grow so rapidly, and marketing is so much a question of early morning hours that the accelerated movements of the man of nervous temperament give him this advantage. A sleepy head will never make a good fruit-grower, nor will a drone, nor will a laggard. The successful fruit-grower, like the early bird, is always on the alert, both early in the season and early in the day.

We would not have it understood that none should go into fruit-growing as an exclusive branch of business—far from it. Some may be so situated that large and small fruits may be grown in conjunction, and vegetables even may be added to the work, in which case a return is sure from one or the other branch of the business; but we are firmly of the opinion, that owing to the fitfulness both of the yield and the market, fruit-growing should not be gone into as a means of obtaining a livelihood without the utmost regard to the suitability both of conditions and of the natural fitness of him who undertakes it for engaging in the work.

The Currant Bark Louse.

EDITOR CANADIAN LIVE-STOCK JOURNAL.

DEAR SIR,—Your insects arrived only by this morning's mail, although I received your note a couple of days ago. They belong to the genus *Lecanium*, and this is likely *Lecanium ribis*; a species sometimes found on currant bushes and commonly called the *currant bark louse*. Beneath the brownish scales many minute eggs can frequently be seen. These hatch as the season advances, and the young lice

scatter over the twigs, till they find a suitable place, then, piercing the bark with their beaks, they suck the juice and weaken the plant. Remaining fixed in the course of time scales develop upon them, and under these the eggs are laid and left to be hatched when the warm days of spring appear. The scales in this case are so large they can be readily observed and soon destroyed by attending to the following remedies:

1. As soon as discovered, rub off.
2. Apply a strong alkaline solution, which may be rubbed in with a cloth or brush, the latter probably the better, as it will remove the scales and expose the eggs or minute young to the liquid used. The following may be used: Soft-soap mixed with a strong solution of washing-soda in water, until about as thick as paint. Make the application about the time the young lice appear, in the early part of June. There is nothing to be feared from these insects if care is observed to attack them as soon as noticed on the bushes. But if neglected they will certainly destroy the vigor of the plants attacked.

There are species of this genus (*Lecanium*) found on the peach, cherry, blackberry and pear, all readily distinguished by the large brownish scale you see in the specimens sent. The same remedy is used in each.

I have also observed a species on the tulip tree. Where were these obtained? Were there many? You will confer a favor if you can send me some on small pieces of twig, in a box, so that I may receive them in good condition suitable for use in the classroom when lecturing on economic entomology, a subject which also belongs to my department. Those sent seemed to have been crushed, and to a great extent spoiled for my purpose, either in the classroom or museum. Any additions like these pests are aids to our work in the way of illustration. I have not secured this insect before for our collection, and am very much pleased to place it in our cases showing "insects injurious to vegetation."

J. HOYES PANTON.

Will the party who left the above specimens at our office oblige by calling at an early day?—Ed.

The Home.

The Brother's Promise.

In a dark and dreary garret,
O'er a dirty London sluz,
Where the blessed light of Heaven
And the sunshine seldom come,
All amidst this want and squalor—
This abode of sin and care—
Lay a little city arab,
Breathing out his small life there—

All alone save one—his sister—
Younger still than he, who tried,
All in vain to drive the anguish
From his aching back and side.
Still she bent o'er him caressing;
And the while, in accents mild,
With a faint and feeble utterance,
Slowly spoke the dying child:—

"I am dying, sister Nellie;
And when I am cold and dead,
I shall be at rest in Heaven,
As the clergyman has said:
But you'll come some day, my sister—
There is room for me and you;
It would not be Heaven, Nellie,
If you did not come there too.

"And if father comes to-morrow
When he sees me lying dead,
He'll know, then, that I am not shamming,
As, you know, he always said.
Don't you be afraid he'll beat you;
When he comes to-morrow morn';
I feel sure he will be kinder,
Nell, he looks so dull and worn.

"We have been good friends, my sister,
In our short life's pain and woe,
Though we've braved it both together,
You must stay while I must go.
I am not afraid of dying,
To be freed from all this pain,
But I wish for your sake, Nellie,
I was well and strong again.

"Don't cry so, my darling sister;
Though I'm going far away,
I shall be a shining angel
In a land of endless day;
And I'll always watch you, Nellie,
From my place in Heaven above—
I will ask dear God to let me,
And I know He is all love.

So when I am up in Heaven,
In that place so fair to see
I will look down, dear, upon you,
Though I know that you won't see me;
And when all is hushed and silent,
And the stars gleam in the sky,
You will know I am looking, Nellie,
And be glad, and will not cry.

In a damp and dismal graveyard,
Where the bones of paupers lie,
Midst a crowd of gaping idlers,
Passed a little funeral by
But the only one who sorrowed,
Only mourner of them all,
Was a little ragged maiden,
Sobbing o'er a coffin small.

Cassell's Family Magazine.

For the CANADIAN LIVE-STOCK JOURNAL.

Unwritten Histories.

Written history is the record of the transactions of former ages. In its broad sense it deals with the progress made in literature and in the arts and sciences, as well as in the rise, the progress and the decline of nations, the various causes that led to these, the nature and art of government, and a narration of the principal wars and battles, and the story of the different individuals who figured most prominently in these. The history of the past has dealt mainly with narrations of blood. The heroes of the battle field occupy most the attention of the historian's pen, and thus it is that every generation coming upon the stage has been taught from those crimson-tinted records, to look upon war with other feelings than those of "unmingled hatefulness." Thus it is that the art of war has been unduly magnified in its relative importance, in the minds of men, and the horrors of the battle field clad with a deceitful mantle.

The heroes of history have almost without exception been mighty to destroy, and the measure of their renown has been too often the number of the lamps of life that they have quenched, most of them put out before they have reached the full blaze of their meridian lustre. The true heroes of the world are not those mighty to destroy, but such as are mighty to save. And thanks be to God for His unspeakable goodness in sending to this earth an army of these in almost every age, that vastly outnumbered that of the heroes of destructiveness.

But while the lives of the latter have been chronicled in their minutest details, and the nobility of their deeds has been hung out among the stars, that all who will may read, the latter have been allowed to lie down to sleep their last sleep in the grave of forgetfulness. Of most of them it is not even chronicled on the great headstone of the generation to which they belonged, "There lived a man."

Their history was no less real, however, than that of kings and princes, and warriors called great by the consent of every succeeding age; nor will the works which they have done be any the less enduring, but rather the reverse. A hero to save is always mightier than one to destroy, and in that day when the work of human lives is weighed in the balances of eternal reckoning, the former will get the proper place which the historians of this world have denied them.

But we are only giving the human side of the question: there is another. Heaven has its historians as well as earth, and the ink used by the celestial scribes gives no false coloring. Though the lives of the noble army of veterans in the cause of right lie down at the end of the journey, the story of their lives losing their individuality in the great sea of the past, which is made up of distinctive drops, each one representing the record of a journey; it is different over there.

Although their histories are unwritten on earth, their lives even in the minutest of their details, are

given unabridged, and there, in those eternal records not one of them loses its individuality. And yonder, in the archives of the King, when search is made in every passing cycle as to the service rendered him here, how joyful will it be to get the narrative in its entirety carefully laid up in this "house of the rolls."

Keep your soul in patience, ye heroes of every-day life. Ye toil not in vain like the rock-aiders of the deep; your work may seem as a bubble on the great sea of service; it may be all unwritten by the pen of earthly scribe, but yet there is not a single incident thereof that will not be written in heaven.

We are not told as yet all the uses to which this record—this "book of remembrance" shall be put, and therefore we cannot know, but surely we can hope that they will be used otherwise than as books of reference for purposes of judgment. It is surely not presumptuous to believe that heaven will have numerous students of history, and from the immensity of the materials to draw from, what a vast study it will be, and how different from what we see in every day life, to find souls eager for materials to feed the infinite expansiveness of their capacities, turning away from the record of a life called great by the suffrages of every age, to study that of some bed-ridden one, whose life was an endless pain, but who at the same time kept his soul in patience, because it was the Master's will that on this rough grindstone of life he should be polished as a jewel for eternity.

But it is not of passive heroes that we speak alone, for the active ones are far more numerous. While the former tarry by the stuff, the latter go down to the battle, and they form the main body of the army. Every line of life has its company, all clad in uniform, and using the weapons of the King. Some of them toil with the needle for a needy household, supplying everything wanted, for long years in this line, unless it be their own shroud. Others of them, feeling that he who will not provide for the wants of his own household "hath denied the faith and is worse than an infidel," have trodden the wearying rounds of the treadmill of labor till the creaking of its wheels has troubled them as they lay upon a dying pillow. Some have bravely struggled to keep heart under the brutal treatment of a drunken husband, sublimely beating back the surges of poverty and temptation that constantly threatened to swallow up the entire household. Some have fought the good fight at a very tender age, treading with bare feet the pathway that was lined with sharp-edged stones and piercing thorns strewn there by the scoffing servants of sin, who felt that the consistency of the lives of these was a standing rebuke. Others, for the sake it may be, of an aged parent, whom they loved with a love that many waters cannot quench, allowed the golden opportunity to pass of building a house for themselves, and have gone down life's declivity solitary and alone. And yet thus counting their lives not dear unto themselves for His sake, have placed these on the altars of sacrifice, both at home and in foreign lands, for the good of the race. Heroes of the nursery, of the Sabbath-school and the pulpit, of the Christian press and the mission board! The ruthless hand of time has swept them all away, and of most of them the sublime story of their lives is all unwritten on earth, there is not a carved slab even to mark their last resting place. Yet we cannot think, we will not believe that the record of their heroic deeds will in a single instance be allowed to go unrecorded. If "kind words" can "never die," neither can good deeds, for the one is the substance of what the other is the shadow.

"Days and years revolve but slowly, and time is tedious to the young." Time is often tedious to

others than the young. "Hope deferred" often "maketh the heart sick," while struggling ones toil on, hope on, in the expectation of coming good. Their struggle is a hidden one which would elude the notice of the historian of earth, were he disposed to chronicle fame. It may have been the struggle with some besetting sin and one of life-long duration. It may have been a succession of sore battles with the powers of darkness, where long the result seemed doubtful; or it may have been sorrow over opportunities wasted in a golden prime, the long shadows of which cast a sombre hue over the down grade journey. The world may know nothing of those inward struggles and griefs, but heaven knows all about them, and they will come out in full relief in the full length portrait that will be given of every life in heaven.

Labor, then, ye lowly toilers of earth, to furnish material that will make the picture simply beautiful, the story of your lives only enchanting. If the gift of "a cup of water" is thought worthy of a record by the heavenly scribe, what will the story of that life not be—one loving sacrifice in the service of the Master? No line may tell the story of your worth here, but when long cycles shall have vanished, will not the record be eagerly read by some members of that one family who cannot be indifferent to what their brethren have endured in the flesh?

Yes and No.

There is right and wrong, a yes and no, in everything. And this latter is worth mentioning, for it has an important bearing on life. When one has made up his mind to do, or not to do, a thing, he should have the pluck to say so plainly and decisively. It is a mistaken kindness—if meant for kindness—to meet a request which you have determined not to grant, with "I'll see about it," or "I'll talk the matter over," or "I cannot give you a positive answer now; call in a few days and I'll let you know." It may be said, perhaps, that the object of these ambiguous expressions is to "let the applicant down easy;" but their tendency is to give him useless trouble and possibly prevent him seeking what he requires in a more propitious quarter until after the golden opportunity has passed. Moreover, it is questionable whether the motives for such equivocation are as philanthropic as some people suppose. Generally speaking, the individual who thus avoids a direct refusal does so to save himself pain. Men without decision of character have an indescribable aversion to say no. They can say no sometimes when it would be far better and more creditable to their courtesy and benevolence to think yes, but they dislike to utter the bold word that represents their thoughts. Still it is always better, while doing everything we can for the happiness of others, never to lose sight of these two little words.

Antidotes for Poison.

We seldom pick up a paper without seeing the notice of some death from taking poison, often not intentionally, but by mistake. If a person swallows poison of any kind, a very good remedy in a large number of cases, as good as a half dozen medicines, is a teaspoonful of ground mustard and the same of common salt stirred into a cup of warm water and swallowed without delay. It is scarcely down before it comes up, bringing the contents of the stomach with it. Other good remedies are whites of eggs, strong coffee and new milk. These are common articles and within the reach of all, and many times prove of great benefit when one is not within call of immediate medical assistance.

The population of London now exceeds every other city, ancient or modern, in the world. New York and all its adjacent cities combined are not equal to two-thirds of it. Scotland, Switzerland and the Australian colonies each contain fewer souls, while Norway, Servia, Greece and Denmark have scarcely half so many. Yet at the beginning of this century the population of London did not reach 1,000,000.

Don't.

Don't snub a boy because he wears shabby clothes. When Edison, the inventor of the telephone, first entered Boston, he wore a pair of yellow linen breeches in the depth of winter.

Don't snub a boy because his home is plain and unpretending. Abraham Lincoln's early home was a log cabin.

Don't snub a boy because of the ignorance of his parents. Shakespeare, the world's poet, was the son of a man who was unable to write his own name.

Don't snub a boy because he chooses a humble trade. The author of the "Pilgrim's Progress" was a tinker.

Don't snub a boy because of physical disability. Milton was blind.

Don't snub a boy because of dullness in his lessons. Hogarth, the celebrated painter and engraver, was a stupid boy at his books.

Don't snub a boy because he stutters. Demosthenes, the greatest orator of Greece, overcame a harsh and stammering voice.

Don't snub any one. Not alone because, some day, they may far outstrip you in the race of life, but because it is neither kind, nor right, nor Christian.

The Canary at Church.

They were singing good old "London,"
As the evening, cool and sweet,
Drifted with purple shadows
Adown the city street.

Round every church's window
The lusty ivy clung;
The red, faint sunshine flickered
Its matchless leaves among.

The dim nave with its arches
And clustered pillars rare,
Had echoed to the cadence
Of the pale rector's prayer.

And now, through tender silence,
The thrilling flute notes rang;
And sweet as angels' voices
The rare old tunes they sang.

When sudden, lo! appearing
On carving quaint and old,
Like fair astray from heaven,
Fluttered a speck of gold.

On to the lectern flying,
Up to the bishop's chair,
With clear notes soaring, chanting,
His wondrous vespers there.

Full rolled the singing voices,
Yet sweeter, richer, higher,
God's silver throated chorister
Outsang the trained choir.

Be Thorough.

A prominent judge, living near Cincinnati, wishing to have a rough fence built, sent for a carpenter, and said to him:

"I want this fence mended to keep out the cattle. There are some unplanned boards—use them. It is out of sight from the house, so you need not take time to make it a neat job. I will only pay you a dollar and a half."

However, afterwards, the judge, coming to look at the work, found that the boards were planed and the fence finished with exceeding neatness. Supposing the young man had done it in order to make a costly job of it, he said angrily: "I told you this fence was to be covered with vines. I do not care how it looks."

"I do," said the carpenter.

"How much do you charge?" asked the judge.

"A dollar and a half," said the man, shouldering his tools.

"Why did you spend all that labour on the job, if not for money?"

"For the job, sir."

"Nobody would have seen the poor work on it."
"But I should have known it was there. No; I'll take only a dollar and a half." And he took it and went away.

Ten years after the judge had a contract to give for the building of certain magnificent public buildings. There were many applicants among master builders, but one face attracted attention. It was that of the man who had built the fence.

"I knew," said the judge, afterward telling the story, "we should have only good, genuine work from him." I gave him the contract, and it made a rich man of him."—*Presbyterian Messenger.*

Brief Facts.

The best thing for cleaning tinware is common soda; dampen a cloth and dip in soda; rub the tin briskly, after which wipe dry.

Brass or copper which has become tarnished should be rubbed with a solution of oxalic acid, and then with fine emery. This will make it look like new.

Tea and coffee stains may be taken out of linen by first dipping it in boiling water a few times, then lift out and wash in the usual manner.

If you want your plants to thrive, wash the dust off the leaves every week or two with a soft cloth or small syringe, and add a little ammonia occasionally to the water you pour about the roots.

It is said that silverware may be kept from tarnishing by painting it with a solution of collodion and alcohol. The mixture is applied with a soft brush. It forms a transparent coating upon the silver and protects it from atmospheric effects.

THERE is a growing disposition among scientific men to discuss the "sea-serpent" as a creature whose existence is not at all improbable. The discovery within recent years of the giant squids of the Atlantic—some of which may attain a length of fifty feet—is cited as a demonstration that large marine animals may have escaped the attention of science even to the present day. Only an ignorant or a thoughtless individual, indeed, will dare assert that there may not be some descendants of the monsters of retaceous days even now lurking in the ocean depths.—*Ex.*

It appears that the crocodile, like the faith which formerly esteemed it sacred, is practically extinct in Egypt. The steamers plying the Nile have had more effect in driving it from that river than the guns of sportsmen, according to Prof. A. H. Sayce.

Jottings.

Sugar from Beets.—We learn from the *Sugar Beet*, published quarterly, at Philadelphia, U. S. A., that in 1885-86, no less than 500,000 tons of sugar were manufactured in France. In many lands it is now manufactured on a large scale.

Information Wanted.—Information is wanted through the columns of the JOURNAL by J. K. Arkona, concerning the horses, Royal George and Sportsman, the latter raised about Toronto 25 years ago. Their breeding, pedigree and ownership is desired.

A. J. C. C. Register.—As we are sometimes asked for the address of the Secretary of the A. J. C. C. Register by parties desirous of registering their Jerseys, we shall again publish it. The Secretary is T. J. Hand, Washington Buildings, 1 Broadway, New York, U. S. A.

The Suffolk Punch Horse.—It is claimed in behalf of the Suffolk Punch, that he is smart between the shafts in harness, quick at the ends on the plough, a fast walker on the harrows, and a stanch slave at the collar, be it timber, flour or chalk behind him. Youatt, in speaking of the old Suffolk horse, says: "His excellence consisted in nimbleness of action, and the honesty and continuance with which he would exert himself at a dead pull."

Prices of English Shorthorns.—At the auction sale of the Osberton Hall Shorthorns, owned by Mr. F. J. S. Foljambe, the forty-six head sold averaged £32 15s. 4d. The herds of Mr. W. Mitchell, Cleasby on the Tees, and Mr. Fryer, Howden-le-Wear, Durham, averaged £23 19s. 3d., that of Samuel Hudson, Wytheford Hall, Shrewsbury, £22 16s. 10d., and those of Mr. Green, Mr. T. Moy, and Mr. R. H. Crabb, averaged £24 17s. 4d. for 49 head sold.

The Outlook Around Forest.—Mr. A. Rawlings, who has demonstrated so well in his experience the value of permanent pastures, writes as below under date of June 9th: "Crops are looking well, except fall wheat. Fruit will be very plentiful. Fat stock are very forward and a large number no doubt will leave for Europe next month. Pastures looking well; and indeed everything is looking well for the farmer, except the price of grain. On the whole we have no cause to complain."

Windmills.—The Ontario Pump Co., Toronto, are doing a flourishing business in windmills. One member of the firm informs us that during a short trip recently made in Eastern Ontario, he took some six or seven orders. While look-

ing over them (as requested) to note the locality, we were handed a telegram, which reads thus: "London, Eng., June 11th, 1886. Ship twelve foot mill to Liverpool immediately." We are pleased indeed to see the demand for the mills of this firm, as they seem to work well.

Export Cattle for Britain.—We learn from the report issued by R. Bickerdike, 235 Commissioners St., Montreal, that for the week ending 12th June, 2477 head of cattle were shipped from Montreal, and 360 head of sheep. The previous week 3186 head of cattle were sent, shipped from the same port, and 179 head of sheep. The steamers carrying them are the Buenos Ayrean, Wandrahm, Texas, Phoenician, Norwegian, Le Champlain and Duholme; and they were consigned to London, Bristol, Glasgow and Liverpool. Mr. Bickerdike represents the Messrs. Marcus Pool & Sons, London, Eng., and the Messrs. Macdonald, Fraser & Co., Glasgow, Scotland.

Rack Lifters.—With the newer styles of barns with high posts some means of elevating the hay and grain becomes a necessity. Our attention has of late been drawn to a new style of rack lifter, designated Lane & McPherson's patent load elevator, patented in October, 1885, but not yet advertised in any of the newspapers of the day. It adapts itself to any length of load, and can be managed by a single horse. It is constructed without pulleys and there is no wearing of ropes. It is now manufactured by McPherson Bros., St. Ann's, Ont., and will be exhibited at the leading fairs in the Province next autumn. Our farmers should give it a careful examination, as we are convinced the principle upon which it is constructed is the correct one.

Challenge—Jerseys vs. Holsteins.—Mr. John Nickerson, Simcoe, Ont., has published the following challenge in the *Norfolk Reformer*: (1). He will put up \$100 against an equal amount, that he has a little Jersey heifer that will make more butter in seven days than any Holstein cow of any age owned to-day in the county of Simcoe. (2). He will stake \$50 against an equal amount, that this Jersey will make more butter in 5 days than any heifer of her age will make in 7 days. (3). He will stake the same sum that he has two Jersey heifers that will make more butter in 7 days than any three Holstein heifers of same age, owned in the county will make in the same time. The same quantities of feed to be given in each case. This is certainly the language of confidence, to say the least of it.

Lord Ellesmere's Shire Horses.—The stud of this famous Shire horse breeder has, up to the present, been known as the Worstey stud, from its location. It has lately been divided into two detachments located at Ferry Hill Stud Farm, near Chatteris and Stetchworth Park, near New Market, both in Cambridgeshire. Lord Ellesmere commenced breeding Shire horses in 1873, and has this year in his studs eleven stallions, for service, while the totals are 38 stallions and colts, and 122 mares and fillies, and between fifty and sixty foals were expected after the first of last May. The latest addition to the stock sires is Sir Colin 2022, by Admiral 69, representing the picked blood of the stud book. From the *London Live-Stock Journal*, we learn that 50 cups, 240 first prizes, 230 seconds and 48 thirds have been won by this stud. The value of these prizes is £5,450. Many of these were won at the Royal.

The Man with the Cotted Soul.—Not long since our attention was called to a long strip of cotted wool hanging up in the office of Mr. W. Gillesby, grain and wool merchant, of this city. They told us it was taken out of the centre of a fleece that had been bought from a farmer during the season, but who exactly, was not known. It brought the cry on to our cheek to think that one of our own guild could be guilty of such shrivelled meanness and dishonesty. The man who could perpetrate such an act must possess a soul the moral perceptions of which are worse cotted than the wool he hid inside the other fleece. There it hangs a monument of infamy, which like a drop of some dark liquid discolouring a glass of crystal water, it stains the purity of the reputation of the honesty of the farmers as a class. Pity that such a man could not be ostracised, and left to feed upon his own littleness of soul, beyond the confines of society, until the spectre of his own dwarfed meanness would haunt him as a nightmare both day and night. Amongst middlemen and dealers, we expect now and then to find some sharpers, but when we find farmers following in the wake we stand aghast. But when such are found, let us make an example of the villains; for the sake of the good name of the true and honest farmers.

ALLEN'S SHORTHORN HISTORY
BY HON. L. F. ALLEN.
The only work of its kind in existence. FOR SALE AT THIS OFFICE. Price, \$3.00, post-paid.

New Advertisements.

- J. C. Snell..... Shorthorn Bull for Sale
- R. R. Sangster..... Shorthorns for Sale
- H. H. Spencer..... Shropshire Ram for Sale.
- J. M. Jocelyn..... Cheese Apparatus.
- Stock Journal Co..... Allen's Shorthorn History.
- Henry Wade..... 41st Provincial Exhibition.
- R. H. Tylee..... Eastern Township Exhibition.
- John McFarlane..... Cattle Book for Sale.
- Mossom Boyd & Co..... Aberdeen-Angus Poll.
- Hay & Paton..... Auction Sale.
- Ontario Pump Co..... Change.
- F. J. Ramsey..... Change.
- J. S. Robertson & Bro..... New book for sale.

Advertising Rates.

The rate for single insertion is 18c. per line, Nonpareil (12 lines make one inch); for three insertions, 15c. per line each insertion; for six insertions, 12c. per line each insertion; for one year, 10c. per line each insertion. Cards in Breeders' Directory, not more than five lines, \$1.00 per line per annum. Copy for advertisement should reach us before the 25th of each month (earlier if possible). If later, it may be in time for insertion, but often too late for proper classification. Advertisers not known at office will remit cash in advance. Further information will be given if desired.

STOCK FOR SALE.

FOR SALE.
One Cotswold Ram. Two Cotswold Ewes. At a Bargain.

Or the subscriber would exchange for White Chester or Poland China Pigs. Correspondence invited.
A. I. HART, Baddeck, Nova Scotia.

SHORTHORN BULL.

I have a VERY FINE red yearling bull for sale, "Sovereign Nonpareil." Sire, imported Cruickshank bull; dam, a Nonpareil, one of the best Scotch families.
J. C. SNELL, Edmonton, Ont.

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Two Shorthorn Bulls and Bull Calves, including my well-known stock bull, **Starlight Duke**; also seven choice heifers and Cows in calf. All good ones, and at prices very reasonable. Apply to R. R. SANGSTER, Lancaster, Ont.

FOR SALE.


That choice imported 3-year old **SHROPSHIRE RAM, YORK ROYAL 1668** in A.S.R. Vol. 2. He is now in fine condition, weighs over 300 lbs., and sheared 16 lbs. of excellent wool, very free from black. And a few nice **SHEARLING RAMS**, all from imported sires and dams. Also a very fine Shrop. 2-year-old **WETHER**, about 275 lbs. Also a choice lot of young **BERKSHIRE** Boars and Sows at moderate prices.
H. H. SPENCER, DORSET FARM, BROOKLIN, ONT.

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BULL CALVES, HEIFERS AND YOUNG Cows in calf, also Southdown ram lambs, Shearlings and Ewes, all bred direct from imported stock from the best breeders in Britain. Prices moderate. Write for particulars to **SETH HEACOCK**, Oakland Farm, Kettleby, Ont. nov-6

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Stock Notes.

Horses.
Mr. Wm. Rennie, Seedsman, Toronto, has sold from his farm in Markham, a span of Clydesdale mares and the imported stallion, Harold Junior, to P. O. Dockstader, Palatine Bridge, N.Y.

Mr. Patrick O'Hare, of Woodburn, Co. Wentworth, Ont., reports that he had a very good season on the whole, with his imported Clyde stallion Royal Andrea, in 1885, with a still better prospect for 1886. He is registered in the Scottish Clydesdale stud book, vol. vii, as D. L. 3560. His sire is Lorian Laddie 504, and great grand sire the noted Lockershire Champion (449). His dam was Jess (3259). From personal inspection we can say that Royal Andrea is a short-legged, heavy boned Clyde, with ribs well arched, massive body and grand coupling—just that style of draft horse, so much wanted in the county where he is owned.

The Yarmouth County Agricultural Society, Nova Scotia, decided last February to offer a subsidy of \$100 a year for three years to any one who would import and keep a pure bred Percheron stallion in the county for three years. Mr. R. D. Crosby, has already secured the bonus, having purchased from Savage & Farnum, of the Island Home Stock Farm, Michigan, the imported Percheron stallion, Napoleon, foaled in 1878. He is described as a very dark bay, weight about 2,800 lbs., with heavy bone and strong knotty joints, with a good head, bright eye and well crested neck. His short back and long quarter, with strength of build, render him a powerful draught horse for his weight. The Yarmouth Agricultural Society is to be complimented on the spirit it has thus shown, and Mr. Crosby, in so promptly responding to their proposal.

The recent purchase of Messrs. A. Earchman & Son, Epsom, Ont., of Clydesdales, noticed in a previous number of the JOURNAL, arrived home on May 14th, all well and in good condition. They are doing well. They have sold the three-year-old stallion Leochel, by Waverly (2905), vol. v; dam, Jess of Leochel (2908), vol. vi; grand dam, Meg, by Lord Waddo (486), vol. i; to Mr. W. Lamb, of Manchester, Ont. (township of Reach), which makes the third sale to this party in two years, certainly an indication of honorable dealing. Leochel will appear in vol. ix of the Scottish Clydesdale Stud Book. Rentfree Chief, alias My Lord (452), vol. viii; sire, Blue Ribbon (1967); grand sire, Darnley (222); dam, Lovely of Glenayre (4717), vol. viii, and Sir Vernon (4726), vol. viii; sire, Blue Ribbon (1967); grand sire, Darnley (222); dam, Maggie of Kildochel (2760), are still in the stud, also Grand Master (566), vol. viii; a four-year-old horse by Prince Rufus (1265); dam, Jip (1759), vol. viii; all good strong types of Clydes. This firm also say to us that they have received a large number of enquiries for stock through their card in the JOURNAL from all parts of Canada.

Shorthorns.
R. R. Sangster, Lancaster, Ont., under date of 19th June, 1886, reports the sale of three young bulls—1 to James P. Fox, West Winchester; one to James Sangster, Lancaster, Ont., and one to John P. Snider, of same place. He has still a fine lot of young bulls and heifers for sale, and is also offering his stock bull, Starlight Duke for sale. See advt. on another page.
Mr. Joseph Pearce, Tyrconnel, Ont., has purchased from D. Alexander, Bridgen, the bull Sir T. C. Booth, and a two-year-

old heifer, Lady Linton, sired by Sir T. C. Booth, both of the thick sort. Mr. Pearce has made a good start in such a purchase. The bull is a choice getter of females out of fifteen calves left to Mr. Alexander, twelve were females of a good type. We hope Mr. Pearce will have the same good fortune with this scion of Sheriff Hutton.

Aberdeen-Angus.

Mr. John W. Lowe, of Glenburn, Cumberland, N. S., has gathered a fine herd of Angus cattle, which at present numbers 12 females and 5 bulls, and 2 cows soon to come in. The Imp. Erica bull Marksman, bred by Sir Geo. McPherson Grant, Ballindalloch, heads the herd. He was sired by Young Viscount (736), of Highland Agricultural Society showyard renown, and was imported in 1882 by the Central Board of Agriculture for the Province of Nova Scotia.

AUCTION SALE.—We are informed by Messrs. Hay & Paton, of New Lowell, Simcoe Co., Ont., that they will sell by auction, on Tuesday 3rd day of August next, at Grand's Repository, Toronto, a large and valuable draft of thorough-bred registered Aberdeen-Angus Polled cattle, consisting of 26 head of choice animals, carefully selected from the far famed "Canadian Home of the Aberdeen-Angus Poll." Illustrated catalogues will be ready for distribution in a few days and will be sent to any person sending name and address. It was recently our privilege to visit this choice herd of cattle and so pleased were we with what we saw that we gave a short account to our readers in April issue of JOURNAL, page 93. From the high stand taken by the Polled Angus cattle at all the leading fairs the past year, and the prices ruling West, we bespeak for the proprietors of this sale a large attendance and good prices.

Holsteins.

Messrs. M. Cook & Sons, Aultsville, Ont., proprietors of the Cooksdale Herd of Holstein-Friesians, report the following sales: Bull Lord Byron and 231, H. F. H. B. to W. D. Mott, Lyn, Ont.; bull Lord Byron 7th 1079, H. F. H. B. to J. Russell & Sons, Algonquin, Ont.; bull Grip 1105, H. F. H. B. to James Davidson, Spring Valley, Ont.; bull David 2068, H. H. B., to J. Rodenhurst, Ingersoll, Ont. These bulls all go to choice dairy districts, and is proof of the increasing popularity of the Holstein-Friesian amongst our butter and cheese makers.

We learn from Mr. H. M. Williams, of the Hallowell Stock Farm, Picton, Ont., that his stock in general are doing well. Sir Archibald the stock bull at 3 years and 3 months weighed 2,000 lbs. He thinks his calves, all of which are sired by Sir Archibald are the best by far that he has ever raised. The bull calf of Glenburnine at 7 months, weighed 600 lbs., and Nixie L's heifer calf is as good accordingly at 5 months. Glenburnine calved Nov. 10th, 1885. During winter she gave as high as 80 lb. of milk in one day and an average of 86 lbs for 14 days, and 82 lbs. per day for 30 days, or 24,466½ lbs. During the first three months after calving she gave 6,450 lbs., and for 7 months 14,284 lbs. She made during winter 22 lbs. butter per week, and she is now giving 70 lbs. milk per day on grass alone, although milking for over 7 months. Mr. Williams has 3-year-old heifers giving 50 lbs. a day, and 2-year-olds giving 40 lbs. a day. Mr. Williams sold in May last to Messrs. Bunker & Coggin, Colorado, U. S. A., twelve young milch cows and two bulls, and in June to C. W. Bacon, Madoc, one two-year-old Holstein bull, and also at the same time a two-year bull to F. W. Spence, Frontenac, Ont.

Ayrshires.

Mr. T. Guy, of the Sydenham Stock Farm, Oshawa, Ont., writes: "We have made two sales since I last wrote you, viz., a bull and a heifer to Messrs. Coldren & Lee, Iowa, U. S. A. This is the third stock bull I have sold this firm, and the seventh lot of cattle in as many years. Also a bull and heifer to Mr. Jas. Wallace, of Greenville, near Ottawa, Ont. All at satisfactory prices."

Jerseys.

The Saybrook Stock Farm herd of Jerseys, owned by J. S. Hart, Whyocoomagh, Cape Preton, is in a very flourishing condition. The Stoke Pogis 3rd, Victor Hugo and Velpeau blood is being made a speciality. A partial list of the females runs up to 18 head. Amongst them are animals of such faultless breeding as Cowslip of St. Lambert and 24260, Lady Judy Montague 24244 and Centennial Maid 23338. The service bull is Oscar of St. Lambert 11547, sired by Baron of St. Lambert 5286, the sweepstakes medal bull at Toronto, 1883, and son of Stoke Pogis 3rd 2338, the sire of Mr. Fuller's Mary Anne of St. Lambert.

Galloways.

We learn from Mr. Harold Sorby, of Gourcock (near Guelph), Ont., that he has still 25 head of Galloway cows and heifers left, and that he has just bought a one-year-old imported bull. Mr. Sorby has also purchased a Galloway bull in Scotland that has been twice a first prize-winner at the Highland Society's Show. He is said to be the best Galloway bull that ever left Scotland.

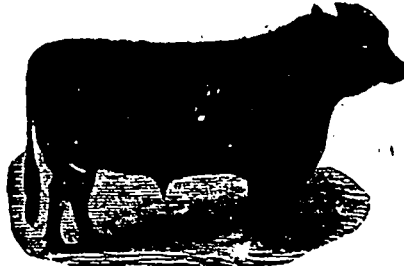
Swine.

Since last report Mr. Ishmael Bartlett has made the following sales from the "Maple Grove" herds: Berkshires—1 boar to William Kipple, Campden; 1 boar and sow to S. E. Parnell, St. Catharines; 1 boar to E. Milline, Grassie's Corners; 1 sow to A. Stuart, Grassie's Corners; 1 pair to Theodore Hised, Grimby, and one pair to Walter Murphy, Abingdon. Suffolks—1 sow 7 months old and one four months, have just lately been sold to F. J. Ramsay, Dunville, and Mr. Bartlett mentions that enquiries for Suffolks are brisk. He has also bought the Berkshire boar, Victor, bred by Mr. Harold Sorby, Gourcock, near Guelph. Victor is a very fine stylish hog. Mr. Bartlett has also bought from Mr. T. G. Nankin, Merivale, Ont., a pair of Chester Whites, which he intends exhibiting at the fairs this fall.

THE SCIENCE OF FEEDING.

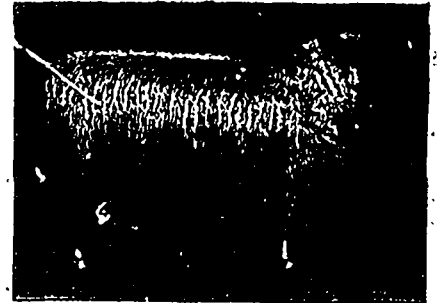
TREATED in a thorough and practical manner, by PROF. E. W. STEWART, in his newly-published work on "FEEDING ANIMALS." This excellent work will be sent to any address, post-paid, on receipt of publisher's price, \$2.00. Address: STOCK JOURNAL CO., Publishers, CANADIAN LIVE-STOCK JOURNAL, Hamilton, Ont.

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Polled Aberdeen-Angus Cattle, Lincoln and Shropshire Down Sheep. Young stock, imported & home-bred, for sale.
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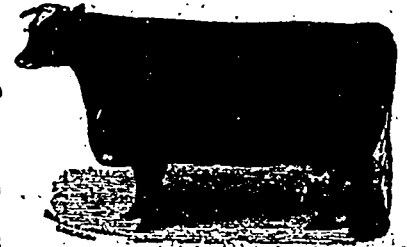
MOULTONDALE STOCK FARM



N. B. Prices reasonable.

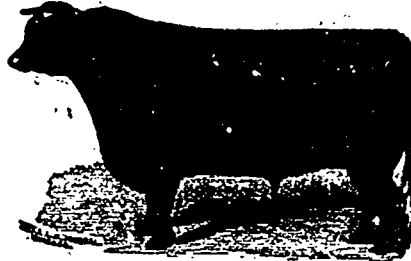
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Cattle.



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Importers and Breeders of

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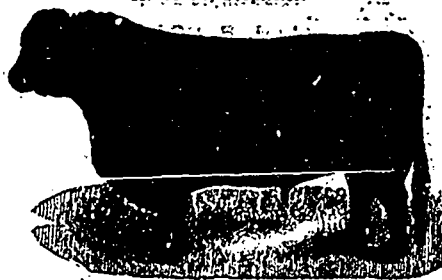
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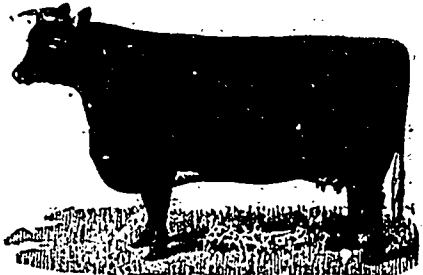
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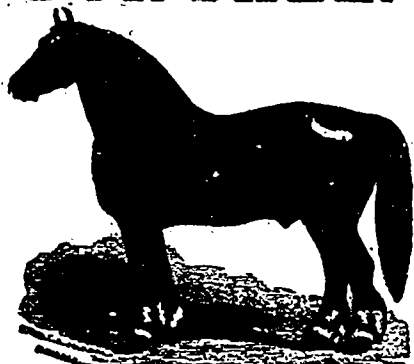
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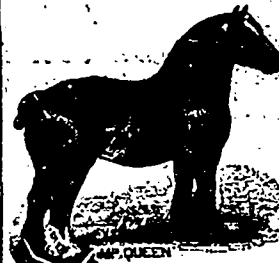
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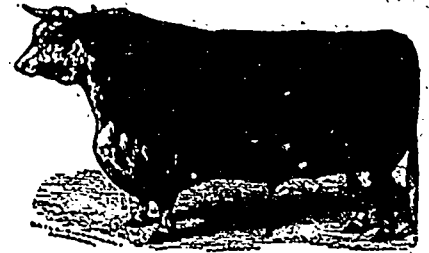


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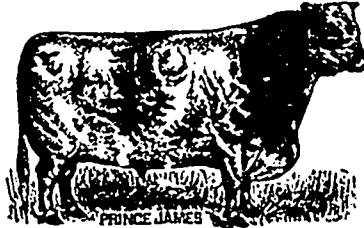


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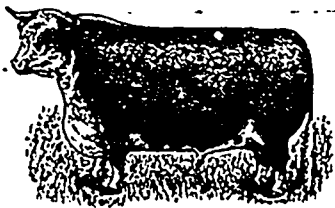
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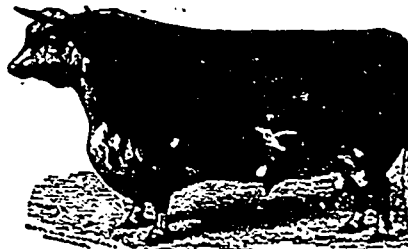
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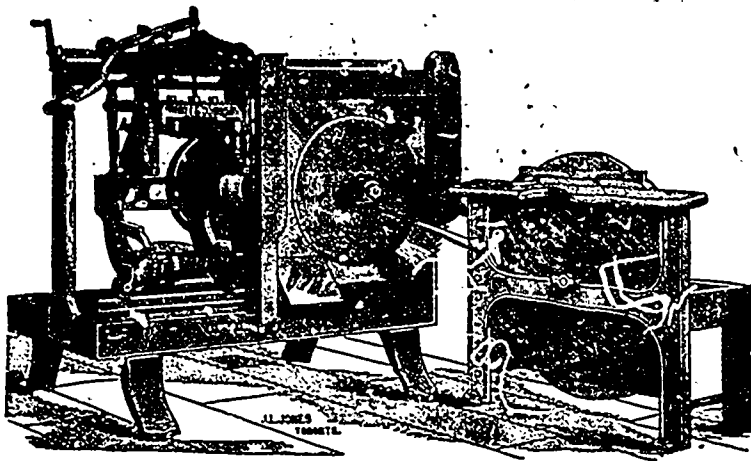
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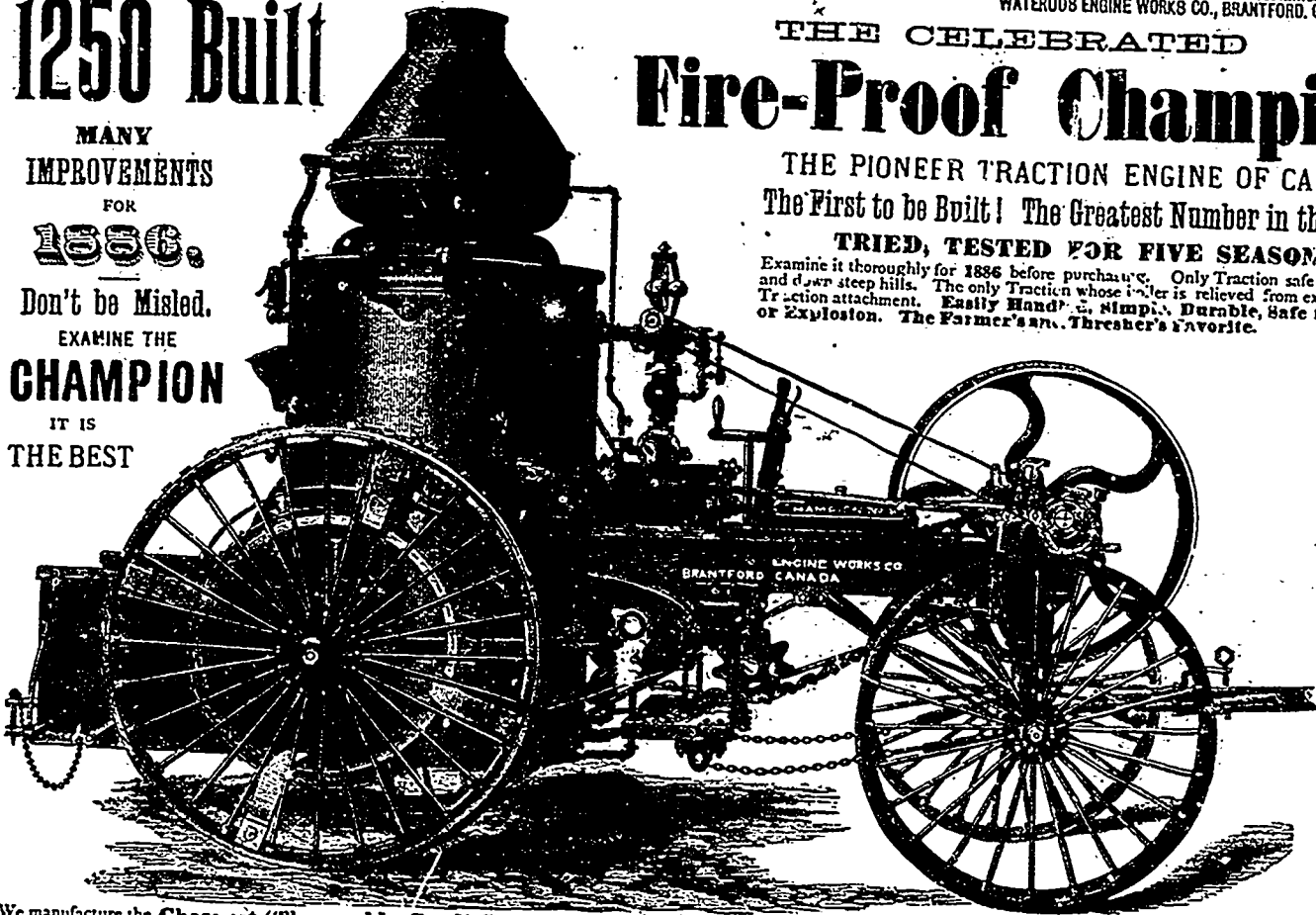
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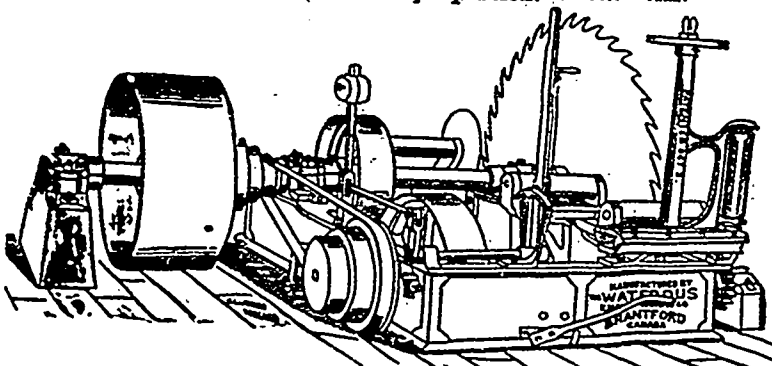
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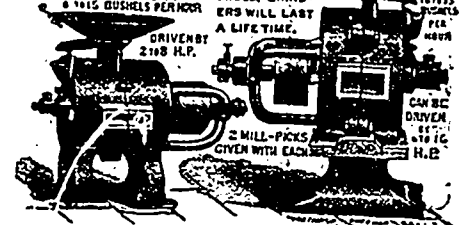
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STANDARD CHOPPING MILLS.

USING BEST FRENCH BURR MILL-STONES. SIMPLE, EFFICIENT, PRACTICAL. CAN BE RUN BY ANY INTELLIGENT MAN, NO REWORKING PLATES AS IN IRON MILLS. GRINDERS WILL LAST A LIFE TIME.



Guaranteed to grind any kind of grain, fine or coarse, equally as well as a four foot mill stone. WATEROUS ENGINE WORKS CO., BRANTFORD, CANADA.

THE CELEBRATED

Fire-Proof Champion

THE PIONEER TRACTION ENGINE OF CANADA. The First to be Built! The Greatest Number in the Field TRIED, TESTED FOR FIVE SEASONS.

Examine it thoroughly for 1886 before purchasing. Only Traction safe in going up and down steep hills. The only Traction whose boiler is relieved from extra strain of Traction attachment. Easily Handled. Simple, Durable, Safe from Fire or Explosion. The Farmer's and Thresher's Favorite.

1250 BUILT.

READ THE FOLLOWING:

I like the 12 H. P. Champion Traction Engine, 1,157, which I bought last season, very much. I unloaded it at station, filled it with water, and steamed it up home, and have never had the tongue on it since, although I have run it all the season through the very muddy roads of this fall. I have been up and down the mountain, which is something over 100 feet high, without the slightest trouble. I like the engine very much, and would prefer a Traction to a plain engine. I have two engines, the Traction and 12 H. P. Champion, No. 248. I have run 248 for six seasons, with not over six dollars repairs, and this was for heater pipes burst by frost, and a new globe valve.—Signed, SAMUEL HONSBARGER.

Jordan, Dec. 24rd, 1885.

I can say that my 20 inch Standard Chopper gives good satisfaction; also my 12 H. P. Traction Champion gives great satisfaction. I have not had one cent repairs on the engine, and I have travelled across roads where other engines had to have two teams on to cross over. I took the water tank along and traveled through mud through which the platform dragged. We crossed hilly roads that a horizontal boiler would not have been safe to cross for danger of burning the tubes, as for about two miles we had only about 40 or 50 rod of level road. The most of the hills average from one to four foot of pitch in 12 feet.

Gourcock, Guelph, 14th December, 1885.

Yours truly, SOLOMON STROME.

Send for Circulars and Improvements for 1886.

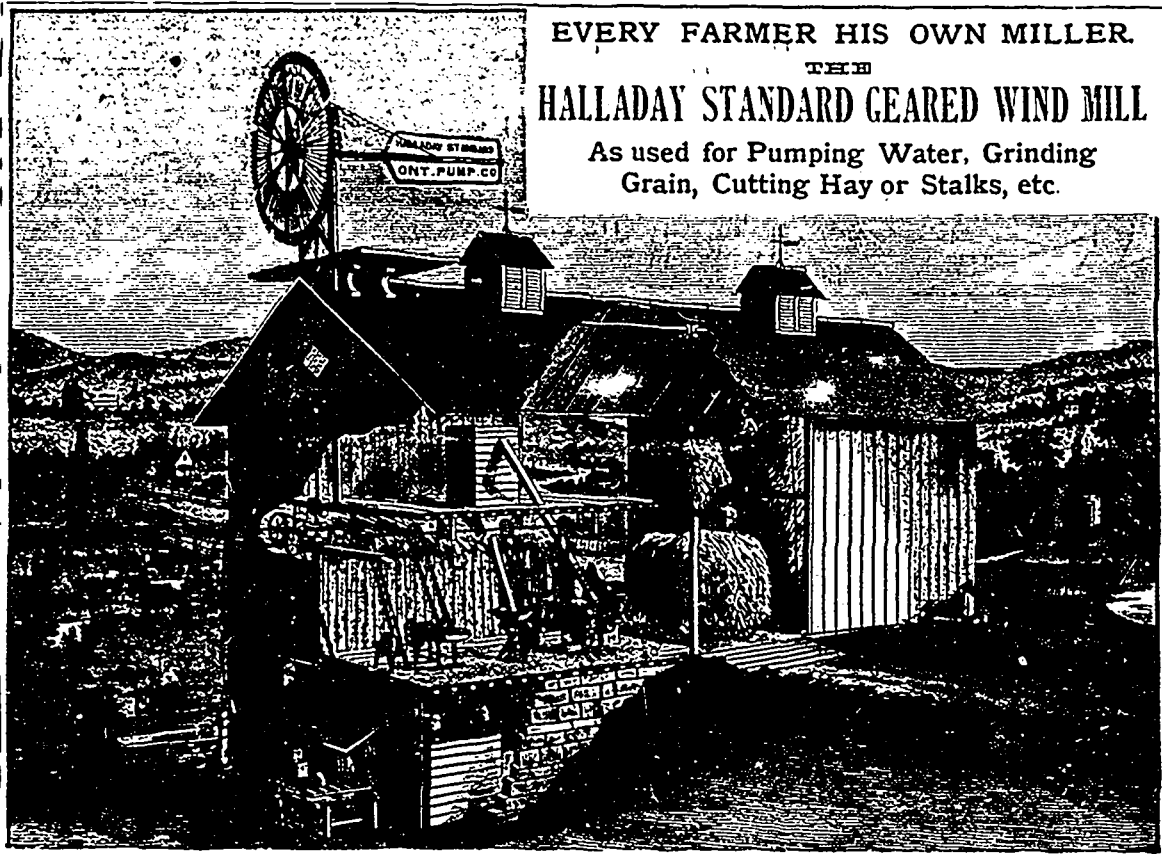
WATEROUS ENGINE WORKS CO'Y, Brantford and Winnipeg.

ONTARIO PUMP CO'Y (LIMITED),

TORONTO, ONTARIO,

MANUFACTURERS OF

EVERY FARMER HIS OWN MILLER.
THE
HALLADAY STANDARD GEARED WIND MILL
As used for Pumping Water, Grinding
Grain, Cutting Hay or Stalks, etc.



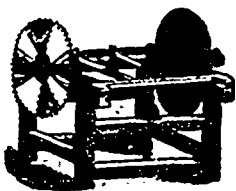
HALLADAY STANDARD GEARED WIND MILL—10 sizes, 12 to 30 ft. diameter, 1 to 8 horse power.

**WIND MILLS, FEED GRINDERS,
Saw Tables, Haying Tools.**

IRON and WOOD PUMPS,
IN FACT A FULL LINE OF
Railway, Town, Farm and Ornamental Water Supply Material.



PUMPING WINDMILL,
15 sizes, 8 to 30 feet diameter.



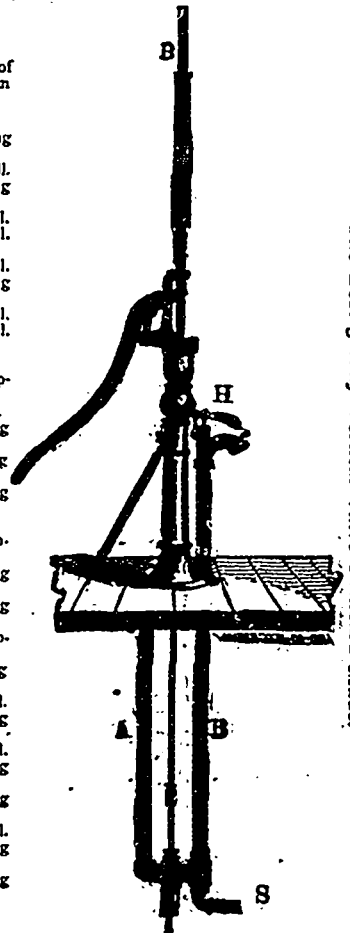
SAW TABLE
With Sliding Table and 26-inch saw.

TESTIMONIALS.

Not having space here to publish all our testimonials in full, we give below a few names of parties who are using our Mills, and will be pleased to have intending purchasers write to any of them and ascertain what satisfaction the Mills are giving.

- Chas. Lawrence, Collingwood, Ont., 16 ft. Geared Mill and No. 3 I.X.L.
- S. Parrish & Son, Brandon, Man., 16 ft. Geared Mill and No. 3 I.X.L.
- Sibbald & Lindsay, Regina, N.W.T., 16 ft. Geared Mill and No. 3 I.X.L.
- Thos. Ballantyne, Stratford, Ont., 16 ft. Geared Mill and No. 3 I.X.L.
- Henry Goff, Elmira, Ont., 14 ft. Geared Mill and No. 3 I.X.L.
- Peter Timmons, Enterprise, Ont., 13 ft. Geared Mill and No. 2 I.X.L.
- Jas. Thomdyke, Oakwood, Ont., 13 ft. Geared Mill and No. 2 I.X.L.
- Wm. Coe, Madoc, Ont., one 16 and two 13 ft. Geared Mills and No. 3 I.X.L.
- Thos. Shaw, Woodburn P. O., 16 ft. Geared Mill.
- Wm. Stottart, Peterboro P. O., 13 ft. Geared Mill.
- Jno. Lamont, Caledon P. O., 16 ft. Geared Mill and No. 3 I.X.L.
- Thos. Jonson, Scoboro, Lot 29, Con. D., 13 ft. Geared Mill and No. 3 I.X.L.
- John L. Howard, Georgina, P. O., 13 ft. Geared Mill, 10 ft. Pumping Mill and No. 2 I.X.L.
- G. Laidlaw, Toronto, 16 and 13 ft. Geared Mill.
- Wm. Mulock, Newmarket, 13 ft. Geared Mill.
- F. Fectean, St. Antoine, Que., 22 ft. Geared Mill.
- H. T. Lepage, Charlestown, P. E. I., 16 ft. Geared Mill and No. 2 I.X.L.
- B. A. Lucas, Wallbridge, Ont., 16 ft. Geared Mill and No. 2 I.X.L.
- A. L. Bisnett, Blenheim, Ont., 16 ft. Geared Mill.
- L. O. Neilly, Aylesford, N. S., 16 ft. Geared Mill.
- Peter Arkell, Teeswater, Ont., 16 ft. Geared Mill.
- T. Robertson, Blantyre, Ont., 14 ft. Geared Mill and No. 3 I.X.L.
- D. A. Morrison, Meaford, Ont., 14 ft. Geared Mill.
- J. H. Birchard, Uxbridge, Ont., 14 ft. Geared Mill and No. 2 I.X.L.
- Wm. Wise, Clinton, Ont., 14 ft. Geared Mill.
- D. Halladay, Douglass P. O., Ont., 14 ft. Geared Mill and No. 3 I.X.L.
- T. G. Nankin, Merivale, Ont., 14 ft. Geared Mill.
- Wm. Jackson, Mono Mills, Ont., 10 ft. Pumping Mill, 13 ft. Geared Mill and No. 2 I.X.L.
- A. F. Stewart, Carleton Place, Ont., 13 ft. Geared Mill.
- A. Vansickle, Jerseyville, Ont., 13 ft. Geared Mill and No. 2 I.X.L.
- F. J. Spettigue, London, Ont., 13 ft. Geared Mill.
- Jno. Smith, Tioza, Ont., 10 ft. Pumping Mill.
- Ontario Bolt Co., Toronto, Ont., 10 ft. Pumping Mill.
- O. T. Smith, Binbrook, Ont., 10 ft. Pumping Mill.
- J. & E. Dickenson, Glanford, Ont., 10 ft. Pumping Mill.
- A. Widman, Creemore, Ont., 10 ft. Pumping Mill.
- Dr. Sibbald, Georgina, Ont., 10 ft. Pumping Mill.
- Dr. Parker, Sterling, Ont., 10 ft. Pumping Mill.
- Charles Dill, Tansley, Ont., 10 ft. Pumping Mill.
- Jas. Miller & Son, Claremont, Ont., 10 ft. Pumping Mill.
- H. B. Martin, Elmira, Ont., 10 ft. Pumping Mill.
- Isaac B. Goff, Elmira, Ont., 12 ft. Pumping Mill.
- Model Farm, Guelph, 10 ft. Pumping Mill.
- McLaughlin Bros., Arnprior, 13 and 16 ft. Mills.
- Wm. McLaughlin, Mount Forest, Ont., 10 ft. Pumping Mill.
- Wm. Garland, Cargill, Ont., 10 ft. Pumping Mill.
- Jno. Kirkwood, Rockside, Ont., 10 ft. Pumping Mill.
- Richard West, Toronto, Ont., two 10 ft. Pumping Mills.
- C. Bethune, Port Hope College, 10 ft. Pumping Mill.
- Wm. Hand, Alliston, Ont., 10 ft. Pumping Mill.
- Thos. C. Patterson, Eastwood, Ont., 10 ft. Pumping Mill.
- Wm. Curran, Glanford, Ont., 10 ft. Pumping Mill.
- John Graham, New Edinboro, Ont., 10 ft. Pumping Mill.
- Wm. Greensides, Seaton Village, Ont., 10 ft. Pumping Mill.
- Benjamin Rathwell, Ottawa, Ont., 10 ft. Pumping Mill.
- F. J. Ramsay, Dunville, Ont., 10 ft. Pumping Mill.
- F. W. Cornell, Copetown, Ont., 10 ft. Pumping Mill.
- J. G. Dickson, Niagara, Ont., 10 ft. Pumping Mill.
- Henry Hulse, Orangeville, Ont., 10 ft. Pumping Mill.
- John Ferguson, Admaston, Ont., 10 ft. Pumping Mill.
- Chas. McNeil, Vellore P. O., 10 ft. Pumping Mill.
- Chas. Starr, Hawkesville P. O., 10 ft. Pumping Mill.
- Jno. Snell & Son, Edmonton, Ont., 10 ft. Pumping Mill.
- J. Miller, Clinton, Ont., 13 ft. Geared Mill.

SEND FOR CATALOGUE, WITH TESTIMONIALS IN FULL.



NO. 17—ANTI-FREEZING FORCE PUMP STANDARD.
The Best 3-Way Vertical Valve Standard Made.