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# THE FARMER'S ADVOCATE

AND HOME MAGAZINE



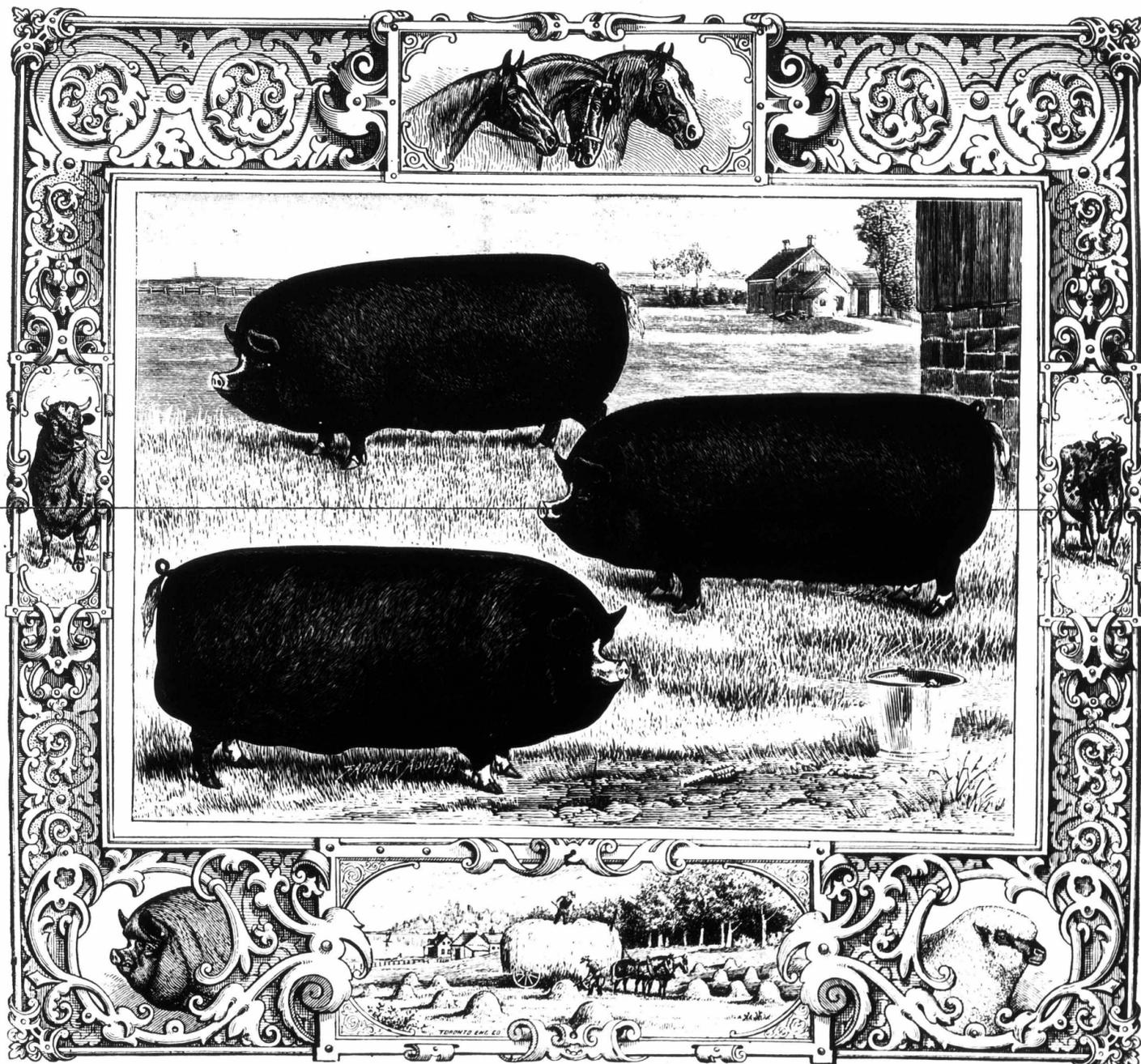
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VOL. XXVIII.

LONDON, ONT., AND WINNIPEG, MAN., FEBRUARY 1, 1893.

No. 327.



PRIZE-WINNING BERKSHIRES.

THE PROPERTY OF MR. S. COXWORTH, CLAREMONT, ONTARIO.

## EDITORIAL.

The Continent of Europe appears to be still suffering from foot and mouth disease among the herds there. Throughout the whole Empire of Germany there are reports of outbreaks, and in the northern part of France over 3,000 outbreaks occurred during the one month of October.

Quite recently there were shipped from Melbourne (Australia) to London, by the P. & O. steamer Ballarat, no less than 1,000 cases of butter. The consignment amounted to 500 tons, and is said to be the largest ever made to any part of the world. Our Antipodian cousins are awake concerning their export trade, and their vessels are thoroughly equipped with refrigerator space, by which perishable products are placed in the best shape possible on the British markets. When will Canada seek like advantages as regards shipping facilities, in which she is now so deficient.

It is reported that the dreaded foot and mouth disease has broken out in the South African Colonies. It is feared it has already become firmly seated, as outbreaks as far back as last September are reported in some parts of the territory. The disease has already appeared at different points, the latest being near the Natal border. It is difficult to estimate the immense loss that is likely to be sustained in a pastoral country such as this, where innumerable flocks and herds are scattered over immense areas of country, and where there is no means at hand for suppressing it. The loss will be more severely felt in that cattle and sheep constitute the principal wealth of the country.

Still the agricultural press of Great Britain continues to discuss the existence of pleuro-pneumonia among Canadian cattle as though it was an established fact, although infection has never existed in our herds. It is now certain that no amount of evidence to the contrary will satisfy the editors of these journals that Canada never had the disease, except the once in our quarantine station in 1886, at which time it was brought over with British cattle, when it was immediately stamped out. "There are none so blind as those who won't see," runs the old adage; but he who undertakes to remove the scales from the eyes of these gentlemen undertakes a contract in which the pounds, shillings and pence popularity of their supporters cuts a greater figure than a disposition to get at the true state of the case.

The present high price of pork is one of the topics on every tongue interested in farm products, and it seems to have struck all alike, as few had made preparations approaching anything that showed expectations like the present to be realized. It is quite a long time since fancy prices for marketable live stock have been obtained. There is, however, a certainty that the scarcity and high price of pork will lead to more beef being consumed, and prospects appear to favor better prices for the latter product before the present feeding cattle are ready for shipment. For years, as long as prices remained firm, there was a general disposition to add more and more cattle to the herds of the great west, until the demand was over supplied; but of late years it has been all the other way, and there is likely to be as great a dearth in cattle in the near future for the opposite cause. Those who are preparing for the rise when it comes will be fortunate.

The recent outbreak of foot and mouth disease among the cows of London, England, is ascribed by the Times to infection through hay in which eggs from Austria were packed. "The whole continent of Europe is," says the Times, "affected with foot and mouth disease, and from its various countries we are receiving produce and merchandise in large quantities, while many thousands of visitors from them are coming here every month. If there is danger in every package and every visitor, the outlook for the breeder and grazer is very serious, and all the trouble and expense to which we have gone to stamp out and keep out this disease may be in vain." By which it appears that trouble in a new form besets the path of the British farmer. With disease breaking out in many of the countries from which the great dumping ground of Britain receives her supplies, surely Canada may hope, sooner or later, to gain an advantage by her perfect immunity from infectious diseases, if the British press could only be reconciled to the fact that trumping up diseases can only affect Canada for a season.

There are many items of interest for Canadians in the "Trade Returns" for 1892, especially those relating to the exportation of live stock products to Great Britain. Thus, while the value of exports of live animals has decreased from \$9,165,000 in 1891 to \$8,035,000, partly due to the sudden termination of the export cattle trade, on account of scheduling Canadian cattle, yet the increase in two items of live stock export products much more than counterbalances this item. Thus butter has increased from \$935,000 in 1891 to \$1,275,000 in 1892, and cheese has increased from \$9,657,350 in 1891 to \$12,091,050, and Canada now holds the proud position of being the largest exporter of the latter product to British markets, leaving the United States far in the rear. That she will strive to maintain and strengthen this position, there is no room for doubt. In other articles, such as apples, eggs, bacon and hams, poultry, there has been a substantial increase, but the figures for which are not yet to hand. Altogether, the exports from Canada to Great Britain show an increase of nearly \$15,000,000, which is most satisfactory at a time when so much is heard on the score of depression.

## Mr. Coxworth's Berkshires.

A particularly fine herd of Berkshires has been established within the last few years at Claremont, and has already become widely known and justly celebrated. Mr. Coxworth's farm is conveniently situated for the fine stock trade, at Claremont, his railway station, on the Canadian Pacific Railway. Visitors who have omitted to notify the proprietor of their intention of viewing the herd, may be easily transported from the station to the farm by a 'bus, which meets all trains.

In the illustration, which decorates our plate page for this issue, we are enabled to show a sample of the very excellent class of pigs that are bred on this farm.

The boar to the left in the foreground is Highclere Prince 2017, sire imported Parry Lad (1354), his dam being Imp. Highclere, a very celebrated sow in her day. Highclere Prince is one of the best boars that has been exhibited for a number of years, as his winnings in the best company testify. During last season he won first both at Montreal and Ottawa shows in the class for aged boars, beating the boar that, for some reason of his own, the judge at Toronto had placed before him. Highclere Prince is now at the head of the herd, and to him the majority of the sows have been bred. Mating such a pig with the grand lot of breeding sows which this herd contains should give the most satisfactory results, if high quality in the parents has any influence in breeding.

The two-year-old sow to the right in the foreground is Duchess CXIII. 27542, which was purchased last spring of her breeder, Mr. N. H. Gentry, of Sedalia, Mo., being selected by Mr. Coxworth, and she belongs to one of the best winning strains owned by that celebrated breeder. This sow, like many other good ones in the herd, has wonderful length and carries her size well back, with very deep sides and heavy hams well let down, while her head is well nigh perfect, with remarkably short dished face for so long a pig. Duchess won third at Toronto, Montreal and Ottawa last fall, when in quite lean condition after her recent sojourn at the quarantine station.

Lady Stanley 2183 in the back ground was bred in the herd. She was sired by Imp. Rising Star (1307), dam Imp. Lady Shaftsbury 3rd (1875). This sow also has great length of sides, very deep ribs, and heavy, well-developed hams, like the above mentioned boar and sow; she is exceedingly deep and thick at the flank, which is now the aim of advanced breeders in order to form a side of equal thickness throughout. Altogether this trio are very difficult to improve upon, so well is each point developed. All of them are exceedingly smooth and well finished, and possess quality in the highest degree.

Among other good ones are five remarkably fine imported breeding sows, every one of which have distinguished themselves in the show rings in the past, including the Royal of England, Toronto Industrial, also Montreal and Ottawa, and inspection of the herd reveals the fact that it has been the aim of the proprietor to select the highest breeding strains, together with the best individuals obtainable, retaining only such as have great length of body, deep sides, heavy, well developed hams, together with short dished faces, and the highest type of smoothness in finish. How hard these characteristics are to combine only the foremost breeders realize.

When the points above mentioned are being developed we are sure to find heavy weights attain-

ed at wonderfully early ages. With good feeding there is no difficulty in producing pigs of this type weighing 250 lbs. at five to six months. By such means only can pork be profitably produced when prices are low. At present rates there is plenty of money in it if good feeding sorts are introduced. Altogether twenty-five sows have been bred, in order to furnish pigs for the coming season's trade. Three breeding boars have been used upon the herd, in order to enable the proprietor to furnish pigs not akin to those who may require trios or pairs. Of these boars, besides the already mentioned Highclere Prince, is Royal Hero 3rd, a pig of immense length, depth and size. He was sired by Royal Hero -891-, his dam being Cornflower, a very superior individual.

Lord Lorne -2161-, the remaining one, is a very neat yearling boar. He was sired by Imp. Enterprise -1378-, dam Imp. Lady Lorne -2404- (25653), which also descends from a celebrated strain of prize-winning sows.

We also noticed a lot of particularly handsome young sows that have been bred to Highclere Prince, which possess length and depth, together with development in ham, smoothness and quality—a combination that would satisfy the most fastidious judge of Berkshire pigs; these are the types that the present trade demands, and when mated with such excellent sires should produce the best results. Customers who take the trouble to inspect them will be pleased with what they see, while those who order without previously seeing may rest assured that they will obtain satisfaction if they order by letter, as we have every confidence in Mr. Coxworth's integrity and good judgment.

## The Canadian Packing Company.

The corporation which has organized in order to do business under the above title has chosen a particularly suitable site at the outskirts of London for carrying on the work required in connection with the export bacon trade. Although this is a new venture for this company in Canada, the members of the firm have for a long time been engaged in this trade, and their connection with the markets in England has been established for many years. To insure success in this enterprise they will require the co-operation of the farming community, who must set about breeding and feeding the proper type of hog to produce the pork required for this trade. Canadian farmers may find an immense field open for development, and much of the success will depend upon the efforts they put forth. To illustrate what has been done by others, we only have to cite what has been done in Denmark in a few years. Even as late as 1880 there were comparatively few hogs raised there, in comparison to the number she is now annually exporting to England. Thus we find that from 1880 to 1882 Denmark exported to England 4,000,000 lbs. of bacon, or equal to 17,000 hogs, or an average of 8,500 hogs per year. From 1887 to 1890 the exports had risen to 60,000,000 lbs. of bacon, equal to 140,000 hogs, or 46,666 hogs per year; while from 1891 to 1892 Denmark exported 420,000,000 lbs. of bacon, equal to 1,000,000 hogs per year. In 1880 Danish bacon was selling at 15 shillings under the price Irish bacon realized. Now Danish farmers are, by paying attention to breeding and feeding their hogs, obtaining the same price as that paid for Irish bacon, and are producing and exporting one million annually.

## BREEDING AND SELECTION.

In Denmark the largest and best developed young sows from the best mothers are drafted for breeding, and mated at six to eight months old. The best bred boars have been imported from England for a number of years to cross on their sows, and with them the White Yorkshire has given most satisfactory results; and to judge by the quality of bacon they are producing, they have made a suitable choice. A few points that are strongly impressed upon Danish farmers are:—To select hogs for breeding purposes that are good feeders, and which grow the largest on the same food, under similar circumstances, in the same time; never sell a sow that has proved a good mother, nor dispose of a good boar that has produced good stock, on account of his age, appearance or form.

The finest pork is made by feeding hogs on barley, rye, wheat and peas (as grain food), but you must feed something else in addition, such as boiled potatoes, skimmed milk or buttermilk. Roots cut small and fed with grain also improve the ration and are a necessary adjunct in feeding young pigs. Canadian farmers are strongly advised to avoid feeding hogs on Indian corn, as it tends to make the meat extremely hard, coarse and dry, and the fat, that should be firm and white, is often yellow,

oily and rank, and shows itself in that form after it is smoked and cured. If they use Indian corn alone they will not be able to produce better pork than the Americans. And the English traders do not demand such quality, nor will they pay the price, as it would be impossible to classify such meat as the finest.

Bear in mind, that it does not cost more to make the finest quality than the common American bacon. Hogs to be suitable for the finest bacon should range from 180 to 220 lbs., live weight. This size will pay the farmer best.

The Danish Government have proved, by many experiments conducted on their farms, the various values of the different kinds of food for hogs, and the results obtained are as follows:—

400 pounds of grain make 100 pounds of live hog.  
1 pound of grain equals 4 pounds of boiled potatoes.  
1 " " " 6 " " skimmed milk.  
1 " " " 8 " " turnips cut small  
1 " " " 12 " " sweet whey.

Barley, rye, wheat and peas produce the best pork, and all grain should be ground, soaked and mixed. In all cases feed hogs mixed foods, which give the best results.

Particular attention to cleanliness is most desirable, because it pays. In cold and in wet weather plenty of bedding should be used. Exercise in summer or in fine weather adds greatly to the health and well-doing of swine, and nothing is equal to red clover for pasture.

The Danish Government have given special attention to bringing the pork packing and butter-making industries to perfection, which has proved most satisfactory to the farmers of that country. What the Danes have succeeded in doing Canadians can do. Only let the farmers of Canada raise the right kind of hogs, fed upon proper principles, and there will shortly spring up an immense trade for Canada.

#### Our Public Roads.

In our struggle for road reform, we are following in the footsteps and repeating the history of European nations, where, in the beginning, the same objections were urged, and the same obstacles interposed which we meet with at the present time.

Macauley makes graphic reference to the difficulties of travel upon English country roads, at the time when the English farmers indulged in the same periodical diversion of working out their road taxes that is provided for in our old-fashioned Ontario Statutes, which we still keep in force for the maintenance of our highways. He states:—"Not so are the English roads of to-day. By experiment, and by the better light of experience, the English people and their neighbors all over the European continent have learned that true economy in the construction and repair of the common roads, as in the construction and repair of the great railroads, consists in the scientific making and the systematic maintenance of these roads according to fixed rules, and under the direction of an intelligent head."

In the perfection of this enlightened system, it is probable that France leads the world. The government maintains a large body of trained engineers in its special department of roads and bridges, to whom is entrusted the practical work of constructing and repairing the common roads. No part of the road system of France escapes attention, and every road is divided into sections, varying in length according to its importance, each section being placed in charge of a man who is held responsible for the constant excellence of its condition.

But our conditions differing in some respects from those of the European nations, I deem it wise to deal with the matter more from a local standpoint than from a general. And having said sufficient to convince any one of the necessity of putting our roads in a state of greater efficiency, I will try to point out how I think it can possibly be done without increasing the cost very materially. And, in order to do this, it will be necessary for me to give you an illustration, from which I can submit figures and draw comparisons. And to do this, I will take the Township of Blanshard, in which I live, as a typical one, convinced that what is here said in regard to this township will be applicable, with slight variations from local circumstances, to most of the townships in this province.

Generally speaking, this township presents few difficulties in the way of road-making, it being traversed from north to south by the Thames, which has several small creeks running into it. This gives ample opportunity for drainage. Entirely within the limits of this township we have the town of St. Marys, which is the grain market for the surrounding neighborhood, which causes much heavy traffic over its roads, rendering it necessary to keep in good repair its main entrances. All the main roads of the township lead in the direction of the town.

The sideroads are little used, and, consequently, need little attention. The main roads are those on which nearly all the expense occurs, and it is of them I will speak principally.

All the roads of this township, with the exception of seventeen miles of company road that was built under the turnpike and toll-gate system, have been built and maintained by what is known as the

Statute Labor System, a proceeding well known to you all, and which it would be superfluous for me to describe here. Although possessing some good features, this system is not the most suitable for the construction and maintenance of good roads, and should give place to a better.

Perhaps it would be necessary for me here to make some reference to the way in which our roads have been constructed. Most of you have had some experience in building, corduroy, and grading. A width of about twenty feet was left in the middle of the road allowance, the earth on each side was loosened with a plow to a depth of six to nine inches, and conveyed to the centre by scraper and shovel to a depth of from eight to twelve inches, and about eight feet wide. In places where the ground was high, no grading was done at all, the longitudinal slope being depended on to keep the surface dry. The traffic soon compressed the clay, and pressed it down so that in the majority of cases it was only from two to five inches above the original level of the land, and where no grading was done the track became passable only in dry weather. On the other hand, the narrow roadway was raised, where the ground was low and wet, to a height of fifteen to twenty inches, making a dangerous place for teams turning off when meeting. This is what was known as the clay, or more commonly and appropriately as the mud road, for many years in use. On this, as a road-bed, pit gravel was hauled and spread loosely to a depth of from eight to twelve inches, according to the fancy of the man doing the work. When the foundation of the road-bed interfered with the natural course of the surface water, culverts were put it. These were usually built of logs, with a plank covering, but sometimes stone sides were built up, without mortar, and a plank covering put on that. The defects of this condition of things are obvious. The superintendence of the work is placed in the hands of parties who have no training or experience in the best methods of work, who have given the matter no attention or consideration, and who are, consequently, unskilled and incompetent to make the best use of the time and money spent.

No good roads of any kind can be made and kept without a proper system of drainage, and this fundamental fact is almost entirely neglected by pathmasters. In many places no side drains exist at all, and when they do exist, they are always too shallow.

In the wet weather of spring and fall (the seasons when traffic is greatest) the road-bed becomes softened and saturated, and unable to support the covering. Heavy wagons cut through the gravel and bring up the clay, mixing it with the covering, permanently ruining the road where it occurs, and rendering reconstruction necessary the following summer.

Too great a depth of gravel is put on at one time, and it is a long time before it is possible to go over it with a heavy load. If this condition the traffic seeks the side of the road when possible, cutting it and bringing the clay on the gravel.

The gravel is taken from the nearest pit, with no regard to its quality, and always contains too much clay or large stones to make a good road. The large stones are the worst, as they cause ruts on either side from the concussion of the wheel as it drops over them.

Wooden culverts are a constant source of danger, being generally in a state of ill repair. The foundations, as a rule, are not put deep enough, and the water soon undermines them, allowing the walls to fall in, in which condition they are usually allowed to remain until someone complains or the township becomes liable for an accident. Moreover, they are not economical, decaying as they do so rapidly from the alternate wetting and drying to which they are subjected.

The cost in this township for repairs to culverts alone for the year 1880 amounted to almost \$300, and this without any road commissioner's salary, which, if added, would amount to almost another \$100. This, of course, does not include a dollar spent for new ones.

To effect an improvement in these roads through drainage is a prime necessity. This can be provided by an open drain on each side of the road, with slopes of one to one and a-half feet and a width of one foot in the bottom. Culverts should be made to last as long as possible, and for this reason they should be built of stone, where stone can be got so conveniently as it can be here. It will always be found to repay the extra cost of construction by its solidity, permanency and consequent safety.

The floor should be made of concrete, to provide a bed that the water will not wash out and render the cleaning out easier. The walls should be built on a solid foundation got by digging down to the solid clay, and should always go below the flooring. The mortar used should be made of cement, as it best resists the action of water. A culvert properly built will never need repairing, will be always perfectly safe, and of no expense save for cleaning out once or twice a year.

In order that the road covering should be maintained so that extensive repairs will never be needed, minute repairs should be made to the surface systematically, in small patches, as soon as ruts and depressions appear. The road should be constantly undergoing repairs. To have this done the road should be divided into lengths, on each of which an intelligent laborer should be placed, who thoroughly understands his business, to attend constantly at all times to the condition of the road, and for which he should be held accountable.

[TO BE CONTINUED.]

## STOCK.

### Studs, Herds and Flocks of Ontario.

MR. C. W. GURNEY'S SHROPSHIRE.

About five miles from Paris, Ont., is situated the stock farm of Mr. C. W. Gurney, who last season made his first importation of Shropshire sheep, and the beautiful flock that are now domiciled in the excellent quarters he has provided for them speaks well for his judgment.

Mr. Gurney has been breeding Shropshires for a number of years, and, having sold completely out, he decided to launch out further. He therefore visited England last fall and selected a lot of most superior in-lamb shearing ewes, ewe lambs and ram lambs, in order to form the foundation of an entirely new flock, which is characterized by wonderful uniformity in each of the ages. These consist of a particularly fine lot of shearing ewes, which had been drafted out for breeding in the flock of Mr. J. Jones, Bronton, and therefore had been mated with exceedingly choice rams, and, as may be expected, they have the character that advanced English breeders are now aiming to produce. They have plenty of size; are neat and straight, with good constitutions. In making the selection, Mr. Gurney paid great attention to quality of fleece, bright pink skins and well-covered heads; all are well woolled down the legs. The ewe lambs are also a particularly nice, strong lot, with any amount of character and quality. These are sired by Crisdon's Choice, to which ram the majority of ewes had been bred in England this season, and another season's lambs should show the same high character that the recent importation possesses.

Of the ram lambs imported, two are bred by Mr. R. Jones, of Norton, and are sired by Patrimony, one of Mr. T. Mansell's rams. These lambs have plenty of size, with capital coats; stand well on their legs; are good and thick, with strong constitutions; well let-down legs of mutton, and promise exceedingly well for shearlings another year. They were in the pen of highly commended lambs at the Royal at Warwick, also at the Shropshire and Midland shows. Altogether the selection is such that should give the best results hereafter.

Mr. Gurney has a number of nicely bred mares; just the type for breeding the horses now required for saddle and park purposes, and that he is breeding them right is attested to by a few exceedingly good young things he has in his possession.

#### SHROPSHIRE AT HILL HOME STOCK FARM.

Messrs. Hammer & Sons, who are proprietors of this farm, have been steadily increasing their business until their flock now comprises between sixty-five and seventy head, of which the greater number are breeding ewes, which they selected in person from the best flocks in England during the year 1891.

It has evidently been their aim, in selecting the individuals of which their flock is composed, to choose such as have plenty of quality. Their sheep are remarkably thick bodied and short in the leg, and retain the Shropshire character of the highest type. If one may judge by the present appearance of what remains of last year's crop of lambs, it is not surprising that they carried so many prizes at the last season's shows. They now promise to turn out a grand lot of shearlings for another year.

We were particularly impressed with six ewe lambs that had been placed together. These are remarkably strong, even youngsters; wonderfully thick and well-fleshed, standing well upon their legs, with capital chests and good legs of mutton, while their broad backs and dense, heavy coats, united with their grandly-covered heads, formed a picture long to be remembered. These lambs were sired by Royal Marquis, a ram selected with a lot of ewes brought out in 1891. He is from the flock of Mr. W. Levitt, Harmer Hill, Shropshire, England. Among a good lot of ram lambs, also sired by the same ram, is a lamb of outstanding quality and individuality. He is remarkably thick and straight, with two as good ends as we ever remember seeing, while his middle piece left nothing to be desired. If he only goes on as he now promises, he will be a hard nut to crack at next season's shows.

Two imported rams have been used on the flock during this season, one of which is the above-mentioned Royal Marquis; the other is Wool Merchant, so successfully used by Mr. W. S. Hawkshaw, his importer. He was bred by Mr. Bach, of Onibury, England.

Messrs. Hammer are among the most successful exhibitors of Canadian-bred and fitted sheep, and have generally succeeded in carrying their share of winnings against the flower of imported flocks. It now looks as though they will make a still stronger showing next season, and that they will also be able to hold their own among those English-fitted sheep that are sure to be on hand at the Columbian World's Fair, for which a number have already been selected by the Commissioner from the Hill Home flock.

## DORSET HORNS AT THE COTTAGE.

Within a short distance of the Springfield Station on the C. P. R., and three miles from the Port Credit Station on the G. T. R., is situated the farm on which Mr. Thomas W. Hector is now most successfully carrying on the breeding and importing of what to many Canadians is a new breed of sheep.

As many of our readers are aware, one of the advantages claimed by those interested in Dorsets is that these sheep will produce a crop of lambs, at the behest of the shepherd, at any season of the year. Any sheep breeder who doubts that in this particular they have not an advantage over other breeds should see this flock in early winter.

At the time of our visit, January 10th, 58 lambs had already been dropped. They were a sight long to be remembered. Great, strong, lusty fellows, sleek and fat, dozens of them ready for the knife.

These began to arrive early in October, but the majority came in November and last part of December, and have lost no time growing since. There were plenty of these lambs that would weigh over fifty pounds, others sixty pounds, and some were told had actually tipped the beam at seventy pounds.

We have never seen a healthier, better developed lot of any breed. Many of them were big enough to wean, and quite able to take care of themselves if need be.

Mr. Hector had provided a compartment purposely for feeding them by themselves with interstices gauged to suit the passages, and which would not admit their dams. The eagerness with which they separated and sought their feed showed how they appreciated the care to which they are accustomed.

A number of the ewes had again been bred, and if lambs can be weaned as early as these are there is no reason why the Dorset ewes could not bring up two crops in the year, if sufficient care and feed is supplied.

This we were assured is the oldest flock of the breed in Canada, and as the former partner, Mr. Tazewell, had been accustomed to this breed in England, the first sheep imported were very carefully selected from the best flocks of the day. Among the breeders of those sheep are Messrs. Culverwell Bros., Bridgewater, Somerset; Mr. Thos. Chick, Stratton, Dorset, and Mr. Herbert Farthing.

The sales had reduced the flock to about forty-five breeding ewes and ten rams. A large bunch of rams had been sold for ranch purposes quite recently, while we were assured that the demand for ewe lambs was such that all last year's crop had been exhausted some time ago.

The culls of the ram lambs have so far only been offered to the butchers. These were well grown and fat, but were deficient in some points, yet, at the early part of the year when the spring lamb is scarce, no difficulty was found in obtaining \$10 from butchers for them.

Three rams have been used in the flock; these are St. Vincent, Stratton Duke and Sir Durlough. The latter is a remarkably fine show sheep, having won first prize as a lamb at the Royal Show, Dorchester, England, in 1891, and first at all the principal shows in Canada where exhibited.

The ewes appear to be kind mothers and good keepers; the lambs are strong from the first, and are no trouble.

The strictest account of ages is kept and every lamb is recorded in a private flock book, so that the produce of each ewe can be readily traced, and no mistake as to age or breeding can possibly occur. Another importation to replenish the ranks thinned by sales has been arranged for. The new importation will arrive early next season. We expect that this flock will win honors for its owner and Canada next fall at Chicago.

## Care and Treatment of Jersey Cattle.

BY MRS. ELLA ROCKWOOD.

Perhaps no breed of cattle possesses in a greater degree susceptibility to treatment, kind or unkind, than the Jersey. The peculiar nervous temperament so essential in a perfect dairy cow is one of her strongest characteristics.

Look at the bright, intelligent face of a true specimen of this breed, and note the large fawn-like eyes, bright and glistening. Look at the thin, dilating nostrils, with their orange lining, which seem to scent danger like a deer, and seeing know that this queen among cows demands and well deserves the most careful handling and kindest treatment to bring out her good qualities and keep them at their best.

No cow, from the scrub to the thoroughbred, can do her best unless under circumstances conducive to quiet and content; and although cows of more sluggish temperament may bear ill-usage with little apparent regard, it is not so with the sensitive Jersey, and she soon depreciates in value.

From calfhood she should have reason to regard her master as her friend. No blows or harsh words should teach her to fear him; but she should expect and receive only caresses and kind words. Under such treatment she will develop a gentle, kind disposition.

She should be taught to lead by a halter, to stand quietly as for milking, and to bear handling of the udder long before she reaches maternity; so

that she may be quiet and easily handled, instead of being wild and unmanageable, as heifers often are at that time. No breaking-in will be necessary, and if it is desirable to dispose of her she will bring a better price than one that has never been trained.

Do not make the mistake of thinking that when she drops her first calf is time enough to begin feeding her; she should have been fed from her birth with this in view.

No supplemental food is better than ground oats as a help in developing the heifer calf. As soon as she begins to eat hay she should have a little, night and morning, fed dry. Begin with half a pint of feed, or even less, and gradually increase the quantity until bossie will take a pint at a feeding. Keep her thrifty and growing. A calf once stunted by insufficient or improper food will never make so good a cow as she would otherwise have been.

The grain ration should be increased as the heifer grows, and at the arrival of the milking period she should, after the first few days, be given a generous quantity of such food as is best suited to assist her in producing milk.

While there are various grain foods recommended by dairymen as excellent for milch cows, for the general feeder and the average cow nothing is better than a mixture of one part cornmeal, one part oatmeal and two of wheat bran. Of this, feed as much as after experimenting with your cow you find gives best results in milk and butter.

Each cow is a law unto herself as to the amount of food she can profitably consume. It takes more to produce a like result with one than another. Up to the extent of her capacity the greater the amount consumed the greater the returns at the pail and churn; but when a cow is fed beyond her capacity to convert the food into milk and butter she is fed at a loss; the extra food goes to make fat.

A liberal allowance of coarse fodder should also be fed. Clover hay, corn fodder, ensilage—all are good. Roots are valuable as a food for milch cows. Carrots are perhaps best, with sugar beets next. Turnips and ruta-bagas will flavor the butter.

Pure water should always be within reach of the cows. No other domestic animal requires so large a quantity, and a shrinkage of the milk will follow if she is deprived of it in abundance.

While Jerseys as a breed are unsurpassed as butter-makers, there is a wide range in their value in this respect. Each cow should be tested and the best only kept. In regard to testing, it is not always that the cow showing the highest test of butter-fat is really the best cow. Other things should be taken into consideration—quantity of milk and length of milk period during the year. These should be considered before deciding, as a cow showing a medium amount of butter-fat may make up in quantity of milk during the year what a single test of her milk may lack.

Not all of us can have cows making a thousand pounds of butter in a year; but any one owning a single Jersey cow may, with judicious breeding and careful feeding, combined with the kind treatment and care which all animals should have, in a few years possess a herd of cattle which will be a source of profit as well as pleasure.

## How the Jersey Strikes Our Poet.

BY G. HOPPER.

"The Jersey Cow," so neat of limb,  
So gentle, thoroughbred and trim,  
Inspires both poetry and prose  
(E'en when no "Prize" shines at the close!)  
Her fine ideal dairy form,  
Her speaking eye, liquid and warm,  
Her pleasing color, royal air  
That marks her one beyond compare—  
All of the attributes of grace  
Betok'ning an illustrious race—  
These charm the poets in their dreams,  
These lure the artists to the streams  
By which she browses, fresh and fair,  
And sweet as summer-scented air.  
But all these things to nothing tend—  
Behold her at her business end!  
Bred ages back for milk that's rich,  
She gives it still without a hitch—  
Only more so. And more and more  
She pushes up the wondrous score.  
Such milk, that, coddled in our churns,  
To golden butter quickly turns!  
Such butter, solid through and through,  
Renowned from York to Timbuctoo!  
Butter, flavor of which exceeds  
The wildest dreams of other breeds!  
Tis tasted by the epicure,  
And then no other he'll endure.  
Tis tasted by the farmer too—  
The farmer who was always blue—  
And soon we view his Jersey tubs  
And lose sight of his heavy scrubs,  
The while upon his face we see  
The glad dawn of Prosperity.  
He tells unto his neighbor's wife  
The happy change made in his life;  
And then, sown in this fertile ground,  
The Jersey's "tale" goes 'round and 'round.  
So may e'er spread the worthy fame  
Of this unrivaled bovine dame!  
So may her genuine merits spread  
Till every prejudice is dead,  
Till Ignorance, with blinded eyes,  
Shall no more vent her senseless cries;  
But freely to this truth accede:  
"The Jersey is the butter breed!"

## How to Feed Our Horses.

Not many farmers take into account what it costs to winter the horses necessary for their farm work. If this and other items that go to make up the expenditure in keeping up a fairly well equipped working stock were minutely detailed, there are few that would not be surprised at the result. Certainly the proper management of horses on the farm is one of those particulars which demand serious attention. There is a large proportion of horses worn out on the farm. If we take a percentage of the loss thus incurred, it is one of the departments that adds materially to the drain on the credit side of the ledger account. For instance, a farmer buys a pair of already broken young horses, which do his work to his satisfaction, and, consequently, if they are good he values them much more highly than any buyer is likely to offer; he therefore keeps them on until they are too old for sale and are worth considerably less money for any commercial purpose than the price paid. He still asks a high price, and the upshot of the matter is he either wears them out or sells them, when nearly done, at a figure not exceeding twenty-five per cent. of first cost. On the other hand farmers breed their horses, and after they are sufficiently educated the same course is pursued. Now in both these instances there is a yearly loss on account of depreciation in value. Spring is usually the best time to sell this stock. Work that will not stand delay is close at hand, and rather than sell them at their value and run the chance of replacing them they are retained. The difficulty is partly due to farmers not keeping their horses in condition for sale. When the winter season comes the feed is taken off and horses are fed hay without grain in order to curtail the expense, as well as to prevent further trouble from feeding horses that have not sufficient exercise. The grain ration is stopped short, or so lessened that a hearty horse has to satisfy hunger by filling up with more hay than is good for him, and which he generally has dealt out to him *ad libitum*. He consequently spends his idle hours in gorging himself with hay, the value of which his owner does not take into consideration. If the yearly value of keeping a horse in proper shape is taken into account, it is found to make the horse labor one of the heaviest expenditures on the farm. In these days, when hand labor is not attainable, the only resource is to keep a sufficient number of horses of such a stamp that may be required to horse the improved implements of the day. In fact, at present a fully equipped set of implements and machines in which horses are utilized is the only solution to the farm labor question, therefore how to feed horses cheaply and always have them in saleable and good working condition will have to be made more and more a study of.

The opinion that hay and oats are the only kinds of feed suitable to the every-day horse ration has been so well handed down by old writers that it is in a measure dangerous to suggest a substitute. The convenient form of both these articles, and their well-known suitability for horses that have to perform arduous work, also have the effect of keeping these two standard staples in continued use. But the fact that this condition is only suitable for hard worked horses must not be overlooked, and that the farm horse of necessity must stand idle for a large proportion of the winter.

In order to economize, and at the same time provide suitable diet, the mixture that all practical horse breeders use in their breeding studs is much in advance, and although all do not agree quite as to what sort of grain is best and cheapest, they all agree that cut feed, hay and straw, bran and ground grain can be fed with much greater advantage and at about half the cost. If a feed room is provided in which water does not freeze, the mixing can be done by wetting the chaff and adding the bran and ground grain; and if mixed twelve hours previous to feeding all the better. Another good plan is to heat the grain and bran or meal and bran in a chaldron, and then mix with whatever chaff is intended to be fed. It then forms a most savory and nutritious food, and at very little expense and trouble after the required appliances are once in place. By either of these methods not only are all the nutritious elements in the ration made the most of, but in this form it is much easier on the digestive apparatus than when long hay and whole oats are fed. At the same time this mixed food is not as heating to the blood of horses not being worked.

Everyone knows that pork and fat meat of any kind is both relished and conducive to health in the case of a man at work out of doors, but place the same man on the same diet inside in an office, without exercise, and he would quickly suffer. Exactly the same principle applies to animals on the farm, and by studying and testing the different modes only the best methods may be practically worked out. What in this case applies to the idle work horse is still more applicable to young colts, as a properly balanced ration, properly prepared as above, will develop them more quickly, and at the same time keep them in the best possible state of health.

**THE FARMER'S ADVOCATE & HOME MAGAZINE**

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

PUBLISHED BY  
THE WILLIAM WELD COMPANY (LIMITED).  
LONDON, ONT., and WINNIPEG, MAN.

JOHN WELD, Manager. F. W. HODSON, Editor.

The Farmer's Advocate is published on the first and fifteenth of each month.

It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for farmers, dairymen, gardeners and stockmen, of any publication in Canada.

**Terms of Subscription**—\$1.00 per year *in advance*; \$1.25 if in arrears; sample copy free. European subscription, 6s. or \$1.50. New subscriptions can commence with any month.

**Advertising Rates**—Single insertion, 30 cents per line. Contract rates furnished on application.

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Address—  
THE FARMER'S ADVOCATE, or  
THE WILLIAM WELD CO.,  
LONDON, ONTARIO, CANADA.

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We are pleased to inform our readers that our subscription list has increased very rapidly since issuing the "Advocate" twice each month. We hope every one of our old subscribers will endeavor to increase its circulation by sending us at least one new name. We also request our subscribers to send us agricultural items of interest to our readers. Examine the label on your paper, if you are not paid to January, 1894, kindly remit us forthwith. After making payment notice your label, and if credit is not at once given, notify us immediately, that we may be able to trace the money. All P. O. orders and registered letters are at our risk. Carefully read the above announcement.

**Our Scottish Letter.**

BRITISH BREEDS OF DAIRY CATTLE—THE SHORTHORN AND AYRSHIRE.

If we were called on for an answer to the question, What is the best method of relieving the pressure which weighs on British agriculture—what class of products affords the most likely method of making the capital invested in farming remunerative? there would, I think, be only one answer possible—at least in so far as the West of Scotland is concerned. That answer would be: Dairy-farming and the production of the best and purest quality of fresh milk. It needs no proof that there is no more natural food than milk, because, of all goods, it contains the best balanced proportions of flesh-forming and heat-producing elements. In its primary form of sweet milk it is the ideal food, and in its secondary form of cheese, when coupled with wheatbread, the essential balance of flesh-forming and heat-producing properties is maintained. It has been computed by competent authorities that 1 lb. of cheese + 1/2 lb. of bread contains a higher sum of good properties than 2 lbs. of flesh meat; and that the necessary relative percentages of albuminoids, or flesh-formers, to fat and heat-producers is better preserved in the bread and cheese than in the meat, while the cost of the former would only be about half the cost of the latter. Primitive man lived on milk, and those whose habits are simple and unsophisticated find in it as food a satisfaction which is impossible to those who have long acquired a relish for flesh meat. There cannot be much doubt that the consumption of meat is in many cases excessive, and to some extent this may be attributed to the fact that up to within a comparatively recent period it was not possible to secure a pure milk supply in the great centres of population. The fact had been forgotten that, while pure milk could not be surpassed as a wholesome food, impure milk as a deleterious substance is difficult to beat. It is the undoubted interest of the milk-producer to send it out absolutely pure. In proportion as the great consuming population have the confidence that it is so will the demand for the product of the dairy increase.

It is not the purpose of this paper to discuss the general question of our milk supply and its importance for farmers, but to direct attention to one of the chief factors in successful dairy-farming, namely, the character of the source from which the milk is drawn. It is a trite saying that it will cost as much to keep a bad or unprofitable cow as a good one, and cattle that are not intrinsically worthless may be wholly so for dairy purposes. The cow to the dairy farmer is a milk-producing machine. Like all other kinds of machinery, she can only produce something beyond herself after her own wants have been supplied. As Professor Sheldon puts it: She is like a steam boiler. The boiler cannot produce any steam until it has itself first been heated; and the most profitable boiler is that which heats most rapidly, because it is that which will generate steam in the shortest time. The most valuable dairy cow is she that requires the smallest proportion of the food she consumes for the upkeep of her own frame, and devotes the larger portion to the production of milk. There are many breeds of cattle in Great Britain and Ireland, and all of them are, in a sense, dairy cattle; all of them give milk, be the quantity less or greater, and the quality better or worse. But there are, in our opinion, but five breeds of distinctly dairy cattle—that is, cattle whose chief value consists in their dairy properties, and which would not be bred but for these. The breeds that come under this category are the Ayrshire, the Jersey, the Guernsey, the Red Polled, and the Kerry. The omission of the Shorthorn from this list may at first seem strange, for Shorthorn cows have made milking records; but it will be observed that the cosmopolitan breed will not come under our definition of a dairy breed, because, as a whole, the breed is not reared because of its milking properties. If there had been no Durham ox, we may safely conclude that there would have been no improved Shorthorn breed. If there were no laurels to be won at Smithfield in December, the famous Teeswater breed would have remained in its primitive glory as a dairy breed, but in that form it could not have been the Shorthorn as we know it. I am the more anxious to emphasize this distinction, because I think it can be reasonably argued that one factor in the composition of the modern Ayrshire was the Shorthorn, but not the improved Shorthorn of the Collings and the Booths and the Bates.

A visit to a lovely vale on the borders of Westmoreland and Cumberland, and not far from the confines of Durham, made us acquainted with a beautiful race of dairy cattle—Shorthorns—but not the Shorthorns of Coates' Herd Book. They were a magnificent race, the remains of a splendid stock of dairy cattle to be found in the dales and on the fells of the ancient province of Northumbria; of kindred clearly to the mammoth Shorthorn of the show ring, but of more ancient race, and in all likelihood more like his ancestors than he is himself. This is the breed or class known as unpedigreed Shorthorns, which in the main supplies the town dairies of Edinburgh, and the dairies conducted on the "soiling system" in the eastern counties. Some of them have more of the Shorthorn appearance than others—a result due to the more extended use of the modern Shorthorn in their production; but as we saw them in their native dale, collected by an enthusiastic lover of dairy cattle, who purchases them from the smaller dairy farmers in these uplands whenever opportunity offered, their resemblance

to the type of our larger-sized Ayrshires was very marked.

There can be little doubt that these Westmoreland cattle are the representatives of the celebrated Holderness breed of cattle—a tribe famed before the era of the modern Shorthorn, and specially famed for their milking powers. The gentleman in whose hands we saw the cattle keeps a daily record of their milking powers, and 40 lbs. per day is a usual average. The cattle are larger and heavier than the average Ayrshire, but they are of the same type, and have the characteristic dairy features of the west country breed. The Holderness breed, of which I believe these to be the remnant, had their habitat in the West Riding of Yorkshire, and are generally regarded as having much in common with the deep-milking breeds of Holland. As a breed they have been preserved from extinction in America under somewhat peculiar circumstances. During the first quarter of this century cattle of this class were imported into the State of New York, and Mr. Lewis L. Allen, the writer of a very interesting book on "American Cattle," was, about 1835, well acquainted with their characteristics. He describes them as cattle having a close resemblance to the unimproved Shorthorns, being chiefly dark red in color, with lined or white backs and bellies, and somewhat less in size than the modern Shorthorn. The cows were excellent milkers, and useful for the dairy. Mr. Allen lost sight of the breed for a number of years, when his attention was called to a herd of about thirty of them, owned by a Mr. Cole, in Madison Co., New York. This herd was founded in 1855 by purchase of a cow then in calf by a bull of the same breed from a farmer in Oneida Co. This cow produced a bull calf, which, when a yearling, was mated with his own dam. The fruit was a heifer calf, which, in the following year, along with her dam, was mated with the same bull, at once the brother, sire and son of one or other of the females. By continual breeding in this close fashion the Holderness race was resuscitated, and from this single cow hundreds of phenomenal milking herds to be found scattered over the State of New York are descended. My object in calling attention to this remarkable chapter in cattle-breeding is to point out that milking power is inherent in the old Northumbrian breed, and was intensified by the in-and-in breeding, which resulted in the formation of the modern Holderness breed of America. It was from the old Holderness that the Shorthorn was evolved, and so the Shorthorn is naturally a milking breed. Although not now entitled to rank as a dairy breed, there are in the breed dairy families with remarkable reputations as milking animals. The same gentleman who owns the Westmoreland dairy cows, to which reference has already been made, also owns a splendid herd of pedigree Shorthorns, in which the milking powers are greatly developed. One of his cows has a record of 9500 lbs. for ten months between calving, and another has an average record of 50 lbs. per day when grass is at its best, her lowest figure being 40 lbs. and her highest 60 lbs.

If a breed of cattle which, when history opens, was not specially famed for milking powers, can be shown to have been influenced by a foreign breed, with the result that it has taken rank as, on the whole, the most successful dairy breed of the world, it is not a wild conjecture that that alien cross was one in which the qualities of a dairy breed were strongly developed; and I think the facts already advanced go far to show that the dairy properties are inherent in the old Northumbrian or Holderness breed.

The testimony of unprejudiced witnesses is that the modern Ayrshire is, taken all in all, the most profitable dairy cow of the time in which we live. Mr. Allen, already quoted, is a Shorthorn fancier, and excusably eloquent in their praise. His testimony regarding Ayrshires is therefore all the more valuable. He acknowledges that the quantity of milk produced by them in America is not equal to their Scottish records, but, fairly enough, points out that this is due to the drier climate, and the extremes of cold in winter and heat in summer to which in America they are subject. "Nevertheless," he says, "their thirty-six years' trial in America has been successful. They are hardy, healthy, well fitted to our climate and pastures, and prove good milkers, both in the imported originals and their progeny. Their flow of milk is good in quantity and fair in quality." Another American writer, Mr. Henry Stewart, the author of the Dairyman's Annual, writing in 1888, says: "The Ayrshire has been greatly improved by careful selection, and is now a model dairy cow. Without depreciating any other breed of cows, she may easily take this position. She will not displace the Jersey in the fine butter dairy, nor the Dutch cow in the milk dairy, but she will fill the place of both of these in the cheese dairy; and while she will not compare with the latter in amount of milk product, she will greatly surpass the former. She is the farmer's cow." When we turn to English testimony we find it equally complimentary. Professor Sheldon, in his handbook, "The Farm and the Dairy," says: "As milk producers Ayrshires are very superior, though their milk is not specially rich like that of the Jerseys and Guernseys. Some Ayrshire cows have yielded as much as 1000 to 1200 gallons of milk in a year, and this yield, considered in relation to the size of the animal, is quite wonderful. Their milk seems to be specially adapted for cheesemaking purposes, being rich in casein; but I once had an Ayrshire cow that yielded for a time two pounds of butter per day, besides milk and cream used in

the house." Professor Wrightson, in his handbook on "Live Stock," says: "The Ayrshire cow is the very type of a milking animal, being long and narrow in the head, angular in form, thin of flesh, and is deservedly popular;" and Professor Long asserts in his book, "The Dairy Farm," that "three Ayrshires can certainly be kept for the cost of two Shorthorns." This cumulative testimony from various sources—all of them outside Scotland—sufficiently warrants the position in which we have placed the Ayrshire, as the foremost of the distinctively dairy cattle of the British Isles. Let us now consider the history of the breed.

William Aiton's "Survey of Ayrshire", published in 1811, is the standard work of reference as to the origin of Ayrshire dairy cattle. Aiton was a native of Ayrshire, who practised as a writer in Strathaven. His work is valuable and interesting; but in dealing with live stock he has a favorite theory which he pushes to the front on all occasions. Briefly stated it is this: Outside crosses have done little or nothing to improve the breeds of live stock. At one place he strongly argues against the notion that any foreign cross had done much towards the improvement of the Ayrshire. His words are: "The dairy breed of Ayrshire is in a great measure the native breed of the country improved in size, shape, and quality, chiefly by judicious selection, crossing and coupling, feeding and treatment, principally carried on by the inhabitants of Cunningham, or the northern section of the county. The breed is known first to history as the Dunlop breed, and the oft quoted adage,

"Kyle for a man,  
Carrick for a coo,  
Cunningham for butter and cheese,  
And Galloway for 'oo,"

plainly points to the existence of a superior dairy breed in Cunningham at a comparatively early time. A district famous for dairy products must have been favored with a superior race of dairy cattle. The cows of Carrick referred to in the rhyme were not dairy cattle, but beef-producing Galloways. While, therefore, I am not disposed to quarrel with Aiton's main contention that the influence of improved methods of selection, mating, feeding, and treatment by the farmers of Cunningham had had a most beneficial effect in improving their cattle, I would be disposed to expand the theory, and contend that farmers and breeders who were so enlightened were the very men likely to avail themselves of the service of an imported cross when it came their way, and to secure its full advantage by the adoption of all the means of improvement specified by Aiton. In other words, I believe the correct view to be that both instrumentalities were employed to form the celebrated west country breed of dairy cattle, and that the use of stock of a superior character for crossing would have been of but transitory benefit, had it not been followed up by the means which the Cunningham farmers are said by Aiton to have adopted. It was a local proverb: "The cow gives her milk by the mou", and this is a saying which clearly points to an appreciation of the benefits accruing from generous treatment of the milking stock.

The outside influences which Aiton says were introduced were probably English or Dutch cows and bulls of a size greatly superior to the native breed in the country; and he argues that better results were secured by crossing imported cows with native bulls than by crossing native cows with imported bulls. There is no reason to believe that the native cows of North Ayrshire were in any way different from the pre-historic cattle of the West of Scotland, and it is in accordance with the analogy furnished by the history of other breeds to conclude that the Arran cow—a reduced and deteriorated example of the Kyle, perhaps not quite extinct—gives a fairly good idea of what the native breed of Ayrshire would be like. It has been pointed out that the formation of the Ayrshire horn suggests a Kyle affinity, and Aiton says that until about the year 1780 the prevailing color of the Cunningham cows was black, with some white on their face, belly, neck, back, or tail. This is as nearly as possible the description of an Arran cow whose portrait, taken about 1820, we remember to have seen. At the same time there is much good sense in the suggestion of Professor Wallace, of Edinburgh, that the wild white cattle whose remnants browse in the Cadzow forest may have mingled with the native cattle of North Ayrshire, and that to this influence may be referred the presence of those superabundant white colors which have cropped up in the breed and are not wholly desirable. The recurrence of such examples in atavism is not unknown in the history of breeds, and indeed it is one of the best instruments at the disposal of the breeder, as its possibility affords him a ground on which to work should he wish, by the use of suitable means, to recover a quality once possessed by a breed, but now dormant. It is at least certain that white colors predominate in Ayrshire now, because there is something in the early constituents of the breed of this character which responds to an affinity at present active in its constitution. The white cattle of Cadzow were not always confined to their present narrow limits; they once roamed at will in the Strathclyde forests, and there is no reason to doubt that there may have been intercrossing between them and the early Kyles of North Ayrshire. This theory is strengthened by the fact that while the remains of the wild white cattle which are to be found at Cadzow, Chillingham, and Chartley are, as is the case with all wild breeds, deficient in milking pro-

erties, an intermediate breed exists at Somerford Park, in Cheshire, which bears a striking resemblance to the wild breeds, but differs from them in this—that the members of it are polled, and that they are remarkably deep milkers. The average yield of milk for each cow in the herd is three gallons per day, but individual cows appear now and then which give when in bloom as much as fourteen quarts at a milking, or three and a-half gallons in the day. There are also remains of a somewhat similar breed possessing the same characteristics in Norfolk, and the conclusion to which the possession of these qualities point is, as Professor Wallace remarks, that there existed a superior power of milk-production in the aboriginal races of our islands. To what this may be attributed we do not at present stay to inquire. The facts adduced, I think, warrant the conclusion that the breeds specified may have had something to do with the creation of the Dunlop breed, whose products were proverbial, and whose modern development into the Ayrshire breed it is now our purpose to trace.

In 1750, or thereabout, the Earl of Marchmont, who held estates in Berwickshire and in Ayrshire, purchased and imported several cows and a bull from Durham or Yorkshire, which were of the Teeswater, or, in other words, the Holderness breed. These were brown and white in color, and their superiority was such that to them Aiton traces the popularity of these colors amongst the improved Dunlop cows. Bruce Campbell, who was factor on the Marchmont estates, in Ayrshire, brought some of the Durham cows to Sorbeg, in Ayrshire. They there proved themselves to be superior to the native breed, and a bull of the stock, after crossing with many cows about Cessnock, was bought by Mr. Hamilton, of Sundrum, and left a numerous progeny in that part of Ayrshire. This piece of history, therefore, clearly points to an improvement having been effected by means of cattle of the same breed as that which formed the foundation of the improved Shorthorn. In Ayrshire their properties were developed in the line of milk production, whereas in the Teeswater district they were developed with a view to the production of beef.

SCOTLAND YET.

#### Chatty Letter from the States.

The dearth of really prime beef cattle at market these days is a subject of general comment. Farmers and feeders have been so many times disappointed that they are doing less feeding than usual, and so if there is an increase in prices it will, as usual, redound to the benefit of the few.

Distillery cattle feeders are of the opinion that they will find money where they lost it last year, and a good deal more than they lost, too.

Native "beef cattle" were extremely low a year ago, the bulk of the 1050@1250-lb. steers selling at \$3.35@3.75, and most of the 1300@1500-lb. steers at \$4.10@4.50. Considering quality, present prices are about \$1 per 100 lbs. higher than a year ago, when plenty of 1450@1530-lb. steers sold at \$4.10@4.40, good 1250-lb. Kansas steers at \$3.75, and 1195-lb. beef cattle as low as \$3.00.

The London and Liverpool cattle markets do not act to please the cattle shippers. The recent advance was all too quickly lost.

Hogs are the highest they have been since 1883. Ten years is a long time, but it has been that length of time since hogs sold above \$8, and \$8.10 was the top notch then. The cause of the high prices for hogs is not far to seek. The supplies are running far short of the previous years, and, above all, the quality is way below the usual run. That is illustrated by the records of one firm:—Squire & Co. bought about 13,000 hogs here one week that averaged 230 lbs. and cost \$7.50 per 100 lbs. During the month of January, 1892, their hogs averaged 200 lbs., and the average cost price that month was \$1.24. February, 1892, their hogs averaged 278 lbs., and cost \$4.75. Farmers who have nerve enough to feed hogs now are paying far more for store pigs than they would realize at market, but there are thousands of farmers who believe it will pay them better to take the current fancy prices for pigs than to feed them and take chances on letting the market go back on them. However, as a stockman said recently:—"Prime hogs ought to sell for \$8.50, the way this trash is selling. Farmers are getting \$1.25 per bushel for their corn at the prices for fat hogs, and there is plenty of corn in the country."

The sheep feeders are doing a fairly satisfactory business. There is quite an impression about that the sheep feeding business is being overdone, but it remains to be seen. Odbert & Winnett, sheep feeders at Lincoln, Neb., marketed a consignment of sheep which averaged 108 lbs. and sold at \$5.40. It is their first shipment this season. Last year they marketed the first on Feb. 23, and sold them at \$5.60. About the first of April they sold sheep at \$6.30. Mr. Odbert says sheep in Nebraska are looking splendidly, but he thinks that hardly as many are being fed as last year. He feeds largely on wheat which is worth about 25@30c. now in Nebraska. Screenings are also fed quite freely, but not a great deal of corn.

#### How I Feed Dairy Cows.

BY C. P. GOODRICH.

INTELLIGENT FEEDING.

I believe that the true way to feed dairy cows for profit—and profit is what we are all after—is to feed the proper food for the production of milk to the full capacity of the animal's power to digest, assimilate and manufacture these foods into milk. This way of feeding or "forcing," as some term it, is objected to by some on the ground that this cow machine will sooner be worn out. Suppose for a moment that position is correct. Is there a sensible man who would think of running any other machine that takes a certain number of hands to attend, and a certain amount of power to get up speed enough to do any work at all, who would run his machine at one-fourth or one-half its capacity, for the sake of making his machine last a little longer?

PROFITABLE FEEDING.

Then suppose you had a steam thrasher that could do first-class work up to 1,500 bushels a day as its limit. Is there any man who would think it economy to run such a machine with only steam enough to thresh 500 bushels a day for the sake of prolonging its life a year or two? It would take nearly as much fuel to get up steam, the same engineer, the same feeder and other attendants, but his machine might last 11 years instead of 10. Such a man you would unhesitatingly pronounce foolish; but in my opinion he would be wise indeed compared with the man who would run his cow machine at anything less than its full capacity. The cow, unlike the thrasher, improves by use, for animal nature has the faculty to adapt itself to the uses to which it is put up to a certain limit. In other words, the more and better milk you manage to make a cow give, the more and better milk she can give until that limit is reached, as you develop her capacity to do so, and this improvement will be, in a measure, transmitted to her progeny, so that the heifer calves of a cow will be better than those produced before such development has taken place. In that way each generation will be better than the preceding one. These facts I have demonstrated to my satisfaction in my own experience. Others have done the same thing, and I cite you as very high authority on this subject Prof. E. W. Stewart. You will find this subject quite fully treated of in his work on "Feeding Animals." But it is not true that high feeding of cows if judiciously done, so as not to impair their digestive organs, will tend to "wear out the machine." More cows are "worn out" by under feeding than by high feeding. I have had them last with high feeding, with scarcely any diminution of their powers, till they were 15 years old.

MILK PRODUCING FOOD.

To make the greatest profit in dairying the cow should be fed and managed in such a way as to make her consume as much as possible of good milk-producing foods. To do this she should have the greatest possible variety of foods. Her appetite—her like and dislikes—should be catered to as much as can be consistently. In summer her pasture should contain a great variety of grasses. And when my cows are put in the stable to milk twice a day they have some good clover hay, and they never fail to eat some, no matter how good the grass in the pasture is. They also are fed in summer, except some of them that are dry a short time at that season, all the grain—corn and oat meal or bran—they will eat, which, of course, is not nearly as much as they eat in winter. In winter they have as great a variety of fodder as possible each day—clover and meadow hay, corn fodder and straw, with a grain ration, in two feeds, of from 12 to 15 pounds. I observe the greatest regularity possible in feeding, having the same kind of food given at exactly the same time each day, so that they are never worried or disappointed by having one kind of food thrust before them when they are expecting another kind.

ECONOMY.

To produce milk as economically as possible, I try to provide the necessary elements in that food which will cost the least, having due regard all the while for the likes and dislikes of the cow herself, for I believe her pleasure should be consulted as much as the housewife consults the pleasure of her family when providing food for them. If oats are cheaper than corn meal and bran, I feed oats mainly for a grain ration; but if two tons of oats will buy three tons of bran, then I make the exchange. Chemical analysis seems to indicate that good clean wheat bran is fully as good as oats for milk production, but my observation seems to prove that oats are, at least, a little better. Corn is usually a very cheap grain food, but it is too carbonaceous and should not be used for more than about one-third of the grain ration. Corn ensilage made from well eared corn is the cheapest food I can provide for my cows; but it is not of itself a perfect ration, and needs to be balanced up with bran or oats and clover hay.

## CAREFULNESS IS PROFIT.

I have been trying to tell you how I feed my dairy cows, but I am sensible that I have failed to give more than a slight general idea of it, for each cow has her own individual capacity, which differs from every other cow, which must be studied by close observation and acquaintance, before the feeder is able to do the best that can be done. I never could tell anybody just how to feed my cows. I never dare give instructions to have as much grain fed as I feed, for no one who is not intensely interested in it and in full sympathy, I might term it, with the cows, will be able to feed just right. Some cow might be fed a little too much grain, and it not be observed until she refuse to eat, when it will probably be too late—her digestive organs permanently injured. When I wish to instruct anybody how to feed my cows, I have to go, taking him with me, and show him, and show him more than once, too.

I will see what I can do to further give an idea of how I feed. If I only had my cows here I believe I could show you. If I only had you down there it would do as well, and I will have to take you there in imagination.

You may stay just as long as you have a mind to, if you only treat the cows well. Now, just imagine yourselves all down at my house three years ago, before I had a silo, because silos are not very plenty yet, and I want you to know how I fed them then. You will have to get up at half-past five in the morning, and go with me to the stable. I shall take some good clover hay and put it in the manger. You observe that I give more to one cow than I do to another. I know just about how much they will eat, and I want to give each cow all she will eat up without leaving any to breathe on.

After the clover hay is fed the milking is done. Every milker has the same cows to milk each time. He commences in the same order, and milks about the same rate, never hurries and never lags, but as near as possible every time alike. If they are going to talk at all they must talk all the time. Sometimes we have had a boy and a girl out there milking. Now, then, if they are going to do any talking they have got to keep it up, but as a rule that does not work very well. I want you to take a look at this cow and see how bright her eyes are. She has a long face and strong jaws, she can crunch an ear of corn down with perfect ease.

"Oh," but you say, "how sharp her back bone is." That is true; it sticks up six inches. But come around here and see what an immense girth she has; such a capacity for eating; how broad she is. "Yes," you say, "how her hip bones stick out." I tell you those are points of beauty about this cow. Her hams are thin, there is a place for an immense udder, and she has one. "I don't see as that is much of an udder." Yes, but I have just milked twenty-one pounds of milk, and that milk has one and a-half pounds of butter in it. Think of that. Now, this cow is the delight of my eye. But you say, "Is she hardy?" Ain't a cow hardy that will make three pounds of butter a day? But she can't stand hardship, she can't stand cold; the fact is I don't believe she has ever been where it was cold enough to freeze. In September, as soon as there are frosty nights, she and all the rest of them are put in the stable, and kept in nights if the weather is cold or stormy. I let them out to drink in the day time, but they drink and come right back. Lizzie will be just crazy to get back to the stable. This feeding and milking is all done before breakfast, you understand. After breakfast, say eight or nine o'clock, we go and let the cows out to drink, and they drink pure water that is warmed up, to say, fifty or sixty degrees, so that the chill is off; and if it is cold weather only a few are let out at a time, so they don't have to wait. If it is pleasant they stay out in the yard a little while and have some marsh hay. At noon they are given a good feed of cut corn fodder, and at night, about four o'clock, they are turned out to drink again, and what is left of this corn fodder is thrown out for bedding; and by the way, every time they are turned out there is a good lot of straw put in, so they have good bedding all the time. The last thing at night the mangers are filled up pretty well with good clover hay. All this is gone through with every day until they go out to grass.

They have good pasture and all they want to eat besides, and they will eat just about half as much grain in the summer as they will in the winter, except those cows that are nearly dry.

## LEGAL QUESTIONS AND ANSWERS.

[Answers to legal questions of subscribers, by a practicing barrister and solicitor, are published for our subscribers free.]

## Spraying Trees.

Q. Is there a law prohibiting the spraying of trees? If so, when did it come in force?  
Yours, etc.,

M. PRITCHARD, Strathroy.

A. There is a statute of Ontario passed in 1882 for the purpose of the protection of bees, section one of which is as follows:—"No person in spraying or sprinkling fruit trees during the period within which such trees are in full bloom shall use or cause to be used any mixture containing paris green or any other poisonous substance injurious to bees."

It will be observed that this section relates only to fruit trees and during the time such trees are in full bloom, and other than as provided by the above statute there is no law to prevent spraying trees in Ontario.

## FARM.

## Plowing Matches.

BY W. A. HALE, SHERBROOKE, QUE.

In the October number of the Eastern Edition of the *ADVOCATE*, I was sorry to see the following paragraph:—"Don't forget that since plowing matches are dying out and we are plowing our land on the flat, with short plows, our boys are losing their interest in good plowing and farming generally."

This was a painful surprise to many of your readers in this province, who have long learned to look upon Ontario as the home of the most thorough and scientific tillers of the soil of any in the Dominion, or of the whole continent, for that matter, and unless a speedy remedy is at once vigorously applied against this unhealthy state of things, the trouble is likely to increase and become chronic, and be far more difficult to set to rights again. Happily the remedy is not patented, but lies within easy reach of all who are alive to their own and their country's best interests.

Annual plowing matches, under the management of plowmen's associations, one at least of which should exist in every county, will not only check this deplorable state of affairs, but will undoubtedly restore the standard of good, practical plowing; and, I can speak from long observation, will tend more towards keeping the young men at home and give them a keener liking for their noble calling than any other known method ever has. Agricultural exhibitions are good, in that they show us what has and can be done. Plowing matches are better, as teaching us how to do something. Associations should at once be established or re-organized, and this would be a most fitting subject for discussion at the farmers' meetings, or, where such do not exist, it may appropriately be taken in hand by the district agricultural society. All that is needed in any case is a proper public notice that a meeting will be held on a certain day for the purpose of establishing a plowmen's association. If before the meeting a set of rules and by-laws has been prepared, the organization can be regularly established and set in motion at the first meeting; if not, a committee should be appointed to prepare a set of rules and by-laws and to report at an adjourned meeting, and in appointing directors it is often wise, for many reasons, to include those of the county agricultural society. The following simple by-laws and rules will probably answer in most cases, or at least form a basis upon which to form others:—

## BY-LAWS.

1. This association shall be known as the Plowmen's Association, and its competing and voting membership shall be limited to the county of \_\_\_\_\_.
2. It shall consist of a President, a Vice-President, a Secretary-Treasurer, ten (or more) directors, and all residents of the county who have paid an annual fee of fifty cents (or more).
3. The President, Vice-President, Sec'y-Treasurer and Board of Directors shall be elected each year by open votes at the annual general meeting, to be held on the evening of the day of the annual match.
4. At all meetings of the Directors, the President shall preside, or, in his absence, the Vice-President; and in case neither are present, then any one of the Directors duly appointed by the majority of those present.
5. At all meetings of the Directors, five (or more) shall form a quorum.
6. Any additions or alterations of the by-laws can only be made at the annual general meeting, or at a meeting specially called for such purpose, two weeks' public notice of which has been given.

## RULES GOVERNING THE MATCHES.

1. Plowmen must be farmers or farmers' sons within the limits of the association, or else in the employ of such farmers, and must have been such for at least one month before the date of the match.
2. No person will be allowed to interfere with the plowmen or aid them in any respect, except it be in the setting of poles or measuring of ridges. Plowmen must not allow any person to follow them or walk alongside of them. No one will be allowed to go over the "head rig" while the plowmen are at work, and no one will be allowed to fix the furrow of any competitor, on pain of disqualifying him; plowmen may do it themselves, but not with their hands.
3. Plowmen must be on the ground by nine o'clock, in order that the plowing may be commenced as soon as possible. Lots must be drawn for position, and any plowman coming late must take his ridge in rotation with those already drawn.
4. The time allowed for plowing will be at the rate of half an acre in six hours for single walking plows; furrows must not be less than five inches deep.
5. Members of the association may compete in any of the matches free; non-members, within the limits of the association, on payment of 50 cents each.
6. The decision of the judge in all cases shall be final as to merit, subject to an appeal where a competitor has not conformed to the rules of the association.
7. The Directors may make any other rules, even during the day of the match, though not to interfere with their advertised rules governing the same.

As soon as the association has been regularly organized, the following committees should be appointed:—1st, a subscription committee to assist the Sec'y-Treasurer in collecting annual fees from members and donations in money and produce from friends. 2nd, a land and entertainment committee, to secure a suitable site for the annual match and to properly arrange for the entertaining of the plowmen, the directors and the judges, and to do what is necessary in providing a room and arranging a programme for the meeting in the evening. 3rd, a prize list committee—the President and Secretary being, by virtue of their office, members of all committees.

Now, as to the best means for providing sufficient funds for all the expenses of the association. These may vary very materially in different localities, but it is of vital importance to the lasting stability of the association that they be not fluctuating. Government grants cannot well be depended upon permanently, and if such is given for a year or two and then discontinued, it is likely to produce more of a depressing effect than a benefit, and at present most of our governments do not seem to favor supporting plowmen's associations as such, but are, in some of the provinces, usually willing to allow a portion of their annual grants to the county agricultural society to be set apart by the society for a permanent fund for providing prizes, etc., for plowing matches. This is one reason why it may be wise to associate directors of the agricultural society with the plowmen's association. In our county association, which has since its inception, been steadily growing in strength and increasing in general usefulness, we have, so far, had no assistance from government nor from the agricultural society, but have depended entirely upon the generosity of the friends and members of the association and the entrance fees of the competitors.

(TO BE CONTINUED.)

## Hedges.

BY D. NICOLS, CATARAQUI, ONT.

I would speak of "Hedges," because I have lately seen many scrub brush skeletons of what had at some time been intended for hedges. I have seen hundreds of rods of privet, buckthorn, honey locust, and other hedges, so-called, which served no purpose except to mar the natural beauty of the grounds on which they were eking out a miserable existence. A thrifty, well-kept hedge is an object of beauty which may be useful as well as ornamental; there are, however, few of such to be seen—they can be grown only under favorable conditions. I would not be understood as recommending the general adoption of hedge fences, because I am sure they would not give general satisfaction. To keep them in good order, the annual amount of labor necessary at the busy time of the year is greater than most farmers could afford to attend to, consequently they are very likely to be neglected, but there are places in which hedges are more desirable than any other kind of fence. Between villa lots I have seen stone walls erected and crowned with sharp cutting glass of broken ale bottles, while a formidable hedge would have served their purpose at less expense, without giving the jail-yard appearance. Back yards are enclosed with high board fences which need to be renewed every tenth year, while a good hedge will screen the view of everything objectionable to sight, be more healthful, and would last more than a man's lifetime, besides adding to, instead of detracting from, the beauty of the homestead. I cannot here enter into details, but with a view of assisting enquirers would mention some essentials. In the first place, the hedge plant must be adapted to the climate, soil and locality in which it is to be grown. I do not know of any kind of tree or shrub which will ever form a good hedge under the shade of large trees. Some kinds may do fairly well when only partially shaded, but there can be no dense foliage hedges without the free access of sunlight and air from morning till night. Sometimes hedges are planted close to a board fence with a view of having the fence taken away, but in every instance this scheme has proved a failure, because the sun and air was partially excluded from one side of the hedge. It is quite possible to have a fairly good hedge grown alongside of a wire fence, and in the country south of us the osage orange is now commonly used for that purpose, but it is too tender for the greater part of Canada. A question very often asked is, "What kind of tree or shrub makes the best hedge?" No one who has had much experience with hedges would say that any one kind is the best under all circumstances. For an ornamental hedge I would unhesitatingly recommend the American arborvitae. It endures close trimming well, and can be kept in neat and tidy dimensions for a greater length of time than anything I know of. I know of some hedges of it which are in good condition twenty-eight years after planting, and they are less than three feet high. It is never infested with injurious insects, intense frost does not hurt it, and dry, hot weather seems to be congenial to it. In this respect it is perhaps the hardiest tree that grows in Canada or elsewhere. That may be the reason why it was given the name "tree of life". In its native state it is found growing on dry, rocky hills, and also in water-soaked muck swamps. It

thrives on almost any kind of soil, and lives to a great age, yet it is not a formidable hedge. Still it will not endure bruising or crushing by animals rubbing against it, especially when in a frozen state, and cattle seem to have a singular fondness for doing that very thing.

Common berberry, being very prickly, is given a wide berth by animals of all kinds. The most enduring hedge fence I have seen was of this shrub. It thrives well on any soil which is not of a poor, wet, cold nature. It grows closely, and by annual thinning it is easily kept in any desirable size or shape, and soon forms a hog-proof fence that will last for generations. The common berberry is easily propagated, sold cheaply by nurserymen, and has few insect enemies.

The purple leaved berberry, although less robust, is quite as hardy, and more ornamental. It is said that berberry hedges breed rust on wheat. I have never seen any satisfactory evidence to that effect, and think the evil is wholly imaginary.

The hawthorn, which is commonly used for hedge fences in the British Isles, does not thrive well here. Several kinds of spiders attack and generally destroy it.

Our native thorn is of too slow growth. The buckthorn, which is no relation to any of the other thorns, is quite as hardy, makes a compact hedge when skilfully trimmed. No insects infest its leaves, and mice will not girdle its bark.

Where rapid growth of a shelter hedge is desired the Norway spruce is particularly well adapted. It is quite as hardy as our native white spruce, and is of much more robust growth, and can be successfully transplanted when of large size.

The hemlock spruce makes a beautiful hedge while young, but its lower branches soon die, leaving the hedge bare at the bottom, and much trimming shortens its life, hence it is not well adapted for the purpose.

The honey locust is sometimes planted for shelter hedges, but on account of its excessive tendency to send out suckers at a great distance from its trunk, I would discourage its use; yet it is not so objectionable in this respect as the Chinese Abele, which should never be planted where any other tree will grow.

There is no lack of variety of plants for ornamental hedges. The Japan quince (three varieties) makes an excellent hedge, where the climate is not too severe. The Tartarian honeysuckle (four varieties) is quite hardy. It makes a superb hedge, and so does the Persian lilac, and several varieties of shrubby spiraea, also mock orange and biburniums. The privet is not quite hardy enough for all parts of Ontario, but when the climate is favorable it makes a compact, neat hedge. The mulberry is also now planted for hedges in favorable climate.

If I were to speak of tree shelters on prairie and other rich, flat lands, where quick growth is especially desirable, I would recommend the poplars and several varieties of the willows, but for making formidable hedge fences they have not proved satisfactory. About twenty years ago many thousands of dollars were extracted from the Ontario farmers through the white willow swindle. A company of scamps from Michigan recommended it as being the grandest thing for hedges ever discovered. It was purchased in Canada extensively, throughout the country, and now all that remains to be seen of it is some rows of wide spreading clusters of very ugly trees. Yet I dare say some credulous farmers will again be humbugged in the same way by the yellow or black willow, both of which are nearly as worthless for hedge purposes as the so-called white willow. Would recommend that intending hedge planters be guided in some measure by the experience of others.

#### "Working for Fun."

To the Editor of the FARMER'S ADVOCATE:

Dear Sir,—I have read from time to time the advice given, under the heading of "Timely Notes," by "Invicta," and have in the main agreed with such advice. But there is a part of the notes for December I would like to have him explain further. I fully agree with him that there is a great number of Manitoba farmers "working for fun," and to some of them it is a "nightmare" of a very real kind. In this part of the province some of the most successful farmers are those who came with little or no capital to start with, and to them it has been the goal they have been striving for, to pay *cash* for everything as obtained, be it "binder twine, needful machinery, store goods, or what not." Would "Invicta" please explain how such beginners are to turn over that new leaf he speaks of? Does he recommend them to leave farming till they have sufficient capital to carry them through a year without giving any *notes*? Do the crops of good farmers always pay expenses and store goods where "Invicta" lives? Then there are those farmers who have bought C. P. R. lands, with golden dreams of No. 1 hard to pay "those yearly instalments," and awoke some fine morning in August to find their hopes and dreams vanished. Since then they have been working an uphill game, with more "hard times" than "hard wheat," and happy if they could only pay the notes when demanded by their "masters". I know of no way that any man without plenty of capital can avoid going into debt for the *necessaries* to successful farming, till such time that he can make it from the farm.  
MINIOTA.

#### British Columbia.

BY T. F. PATERSON, LUCKNOW, ONT.

On taking train at Calgary for Vancouver one naturally asks, as he rides along, "What was this great expanse of country created for?" Nothing but mountains meet your gaze on all sides, with here and there small cataracts roaring round their basis, or foaming down their sides. The train, as it proceeds to its destination, may be rounding a sharp curve, the next minute curling alongside of a precipice, then roaring with a thundering sound as it passes a deep canyon, and then with a piercing shriek from the locomotive's whistle, which reverberates again and again from the rock-bound mountain sides, it shoots into a tunnel, and all is as dark as midnight. Such is the ride from Calgary to Vancouver as experienced by rail.

Now, for the sake of convenience, I will divide my remarks relating to the country under the following heads:—1st. Its farming facilities; 2nd. Its lumbering resources; 3rd. Its mining grounds; 4th. Its fisheries; 5th. Climate; and 6th, and lastly, as a place of settlement. It is a fact, known generally, that the good

#### AGRICULTURAL LAND OF THE PROVINCE

is very limited, the best being situated along the coast of the mainland. The only land that is workable is to be found along the rivers and in the small mountain valleys. Thus the settlements are very scattered. Coarse grains, hay and potatoes can be grown very successfully, especially along the coast; but as yet all and more are required for home consumption. Stock raising is fairly profitable, but as a rule the cattle cannot compete with the cattle shipped in from Alberta District. Prairie land along the coast is worth from \$50 to \$70 per acre, while further inland government timbered land can be had for homesteading, or improved claims at from \$3 to \$4 per acre. The timbered land is exceedingly difficult to clear, the trees as a rule being very large, and the land in some places stony. Taking everything into consideration B. C. is a poor agricultural country.

#### AS A LUMBERING COUNTRY

it is not excelled in Canada. A large area is covered with valuable timber of various kinds, the Douglas fir and cedar being the principal. Extensive mills are either built or in the course of erection in the various cities, towns and villages, the rivers forming the highways of transportation to the different mills. On visiting the largest mill in Vancouver were to be seen logs from 40 to 80 ft. long and from 2 ft. to 8 ft. in diameter, and yet were turned by one man with chain canthooks with perfect ease and rapidity. In some localities the trees grow to an enormous size, some being 50 ft. in circumference, but they are few and far between, and a good many of them are found in the minds of the natives by imagination only.

#### NOW AS TO THE MINERALS.

British Columbia being a mountainous country, it is consequently rich in minerals of various kinds, gold, silver and coal being the principal. Some paying claims have been discovered, and by employing a large amount of capital in working them large fortunes have been made; but the following assertion may be safely ventured: That for every one that makes money by engaging in the mining industry ninety-nine lose. By building railways in the mineral districts, and the employment of more capital, mining bids fair to become one of the greatest industries of the province.

#### FISHING, WE MAY SAFELY SAY,

is the second great industry of the province, the seal and salmon engaging attention principally. Large canneries are erected along the banks of the various rivers and give employment to a great many men, especially Chinese and Indians, during the fishing season. British Columbia salmon is well known in the eastern cities of Canada, and large quantities are shipped to the various countries of Europe. Seal fishing along the north-western coast is also a lucrative business, and by fair (and sometimes foul) means large fortunes are realized.

#### AS TO CLIMATE.

British Columbia has, we may say, all the way from temperate to arctic. Along the coast in the southern part the climate is something similar to that of the British Isles. The rainy season lasts about six months of the year, during which time it rains almost incessantly. During the summer it is delightful, the temperature averaging about 60°. Farther inland, in the vicinity of Kamloops, and in the Okanagan Valley the climate is very dry and hot in the summer and very severe in the winter, the mercury dropping to 30° below zero sometimes. In the northern part the cold is very severe during the greater part of the year.

#### NOW AS TO A PLACE OF SETTLEMENT

for the farmer, there are various opinions regarding the matter. Some go and better their condition, while others are eager to return to their native province; but I think it will be quite correct to say that, taking everything into consideration, Ontario is the better province for either pleasure or profit.

#### GARDEN AND ORCHARD.

##### The Progress in Greenhouse Vegetable Culture,

AS DISCOVERED BY THE OHIO AGRICULTURAL EXPERIMENT STATION.

The introduction of the Grand Rapids lettuce may be said to mark the commencement of a new era in lettuce growing. It is less subject to disease and can be grown more cheaply than any other of the heading sorts, which are looked upon as standards in the East. The difference between it and the varieties is so marked that by its cultivation the profits may be nearly or quite doubled. This alone is a great advance, but after three years' experimenting with sub-irrigation the Ohio station has found that the lettuce crop may by this means be nearly doubled.

This places the lettuce grower in a much better position than before; in fact, lettuce forcing in greenhouses is now a profitable business, whereas it was in danger of being abandoned in many parts of the country.

This is a matter about which tariff reformers will not have much to say, as tariff has nothing to do with the matter. Over production in one section nearly destroyed a growing industry in another, but the discovery of a variety and the application of an old device in a new manner has saved a business which is likely to become one of great importance.

There is no reason why vegetable culture under glass should not now become of equal importance with floriculture, and this means many thousands of dollars annually added to our productive resources.

Sub-irrigation was first used with lettuce in order to avoid watering the foliage, thus preventing the much dreaded lettuce rot. It was found that the lettuce grew much better by this method of watering than when water was applied to the surface of the soil. Operations were then enlarged, until entire houses are now supplied with water in this manner. In order to operate the plan successfully water-tight benches are erected. These may be made in various ways, but matched flooring laid in white lead answers very well. Drain tile are laid on these benches 2½ feet apart and covered with soil. Watering is accomplished by pouring into the ends of the tile, where a T joint is laid for convenience.

Some later experiments show that the same principle may be extended successfully, beginning as soon as the seed is sown. The seed is sown in shallow boxes with slatted bottoms. A convenient size is 16x24 inches and two inches deep. Lath is used for the bottoms, and is laid close together, which allows the water to pass through, but prevents the soil falling out. These boxes, or flats, are filled with soil and the seeds sown in very shallow marks made on the surface of the soil. Covering may be done with the fingers or a board, and the whole surface pressed down firmly with a block. No water is applied to the surface of the soil, but the boxes are placed in a shallow vat in which is a small quantity of water. These seed boxes are allowed to remain in the vat until the soil is quite well soaked, then taken out and placed in a warm part of the house. The seed germinates very quickly and certainly by this method, hence should not be sown so thickly as when surface watering is practised. When large enough the young plants are transplanted into flats of the same size as above named, and watering is done in the same manner. Labor is saved by following this method, although the contrary may seem to be true. This is because watering need be done less frequently than by the old method; but even if such were not the case the results justify the adoption of the new method.

Both radishes and cucumbers flourish under the same treatment, although they are not benefited to such an extent as lettuce. Tomatoes respond less than any other crop, but they show sufficient gain to pay for fitting up the house for sub-irrigation.

Experience has shown that a sub-irrigation plant pays for itself in one season, or one hundred per cent. on the investment. This estimate is for greenhouse crop in general, but for lettuce alone the profit is greater.

In a previous bulletin tomato culture after lettuce was given in detail; but there are other crops which may be grown with profit, such as radishes, cucumbers and parsley. Under the benches the space may be used for mushrooms, dandelion, pie plant and asparagus. The mushroom crop is about as profitable as any that can be grown, and yet it requires no light.

In view of the facts that have been stated it is evident that an important industry may now be built up. If such a thing is not done it will be because gardeners do not take advantage of the situation. The business ought to be encouraged, for whatever is done in this line means just that much added to our productive capacity.

If you contemplate the purchase of improved stock or farm machinery of any description, fencing or anything else needed on a farm, you have only to consult the advertising columns of this issue to find something bearing on the subject. Look them over carefully; it will be time well spent.

**Horticultural Notes.**

Cut your scions this month for grafting next spring. Pack in sawdust, and keep in the cellar.

Pruning may be begun this month after hard freezing is past; cut off only small branches at this time.

Large limbs that require removing should be left until June, and the wound covered with grafting wax or gum shellac dissolved in alcohol.

The conditions required to keep winter celery are, in brief, to keep the roots wet, the foliage dry and free from frost. If celery does not blanch fast enough give more heat, and if too rapidly a colder atmosphere is required.

Bone dust and wood ashes make the best fertilizers for small fruits and fruit trees we can get, especially on light or sandy soils.

Nitrate of soda will hasten early maturity in vegetables. A teaspoonful dissolved in one quart of water applied to each tomato plant, and that repeated in two weeks, will mature and ripen a larger crop of the fruit about a week earlier. Care should be taken, however, in using nitrate of soda; if applied much stronger than directed above there is danger of burning the plants.

Hybrid Perpetual Roses succeed best in clay loam, and if planted in the lawn in beds that are large enough to contain a number of plants they will not suffer so much from drought. The following dozen sorts will give good satisfaction and variety in color:—

- Alfred Colomb.—Brilliant carmine crimson.
- Baron de Bonstetten.—Rich velvety maroon.
- Baronne Prevost.—Deep rose.
- Caroline de Sansal.—Clear delicate flesh color.
- Coquette des Alps.—White, slightly shaded carmine.
- Gen. Jacqueminot.—Brilliant crimson.
- John Hopper.—Bright rose.
- La Reine.—Brilliant glossy rose.
- La France.—Delicate silvery rose.
- Paul Neyron.—Fine rose of the largest size.
- Prince Carmille de Rohan.—Deep velvety crimson.
- Victor Verdier.—Fine bright rose-shaded carmine.

Order your garden seeds this month from some reliable seedsmen; do not wait until you want them, and then buy just anything you can get at the store. Always remember the best seeds are the cheapest, although you may have to pay more money for them. It is best to depend on varieties that have been well tested for main crop; a few new sorts or novelties may be tested every year, but in such a limited way that should they prove failures no great inconvenience will be felt.

A good kitchen garden next spring will lessen the cost of living very much, and add greatly to the health and enjoyment of the family. A garden, to give best results, should be made very rich with well rotted yard manure. A quick, rapid growth is required to make them crisp, tender and well flavored. One-half the land well enriched and thoroughly cultivated will give better results and a larger yield of better vegetables than the whole plot as usually managed.

The following are all good, reliable kinds to plant:—

- Beets.—Eclipse and Long Dark Blood.
- Cabbage.—Early Jersey Wakefield, Winningstadt and All Seasons.
- Cauliflower.—Early Snowball.
- Corn.—Corey, Stabler's Early and Stowell's Evergreen.
- Cucumber.—Early White Spine and Imp. Long Green.
- Celery.—White Plume, Dwarf Golden Heart and New Rose.
- Lettuce.—Black Seeded Simpson.
- Melon (Musk).—Emerald Gem and Early Hackensack; Water—Phinney's Early and Peerless.
- Onion.—Yellow Globe Danvers, Red Wethersfield and Giant Rocca.
- Peas.—Alaska, Premium Gem, Champion of England.
- Radish.—Rosy Gem, Long Scarlet Short Top, China Rose Winter.
- Tomato.—Livingston's Favorite, Atlantic Prize and Golden Queen.

Chrysanthemums that have been put away in the cellar should not be allowed to get too dry—give just enough water to prevent the roots from drying out; if given too much, a soft growth is started that is not desirable. Early in spring the roots should be separated and planted out singly. Give good culture and a little liquid manure about twice a month during the early part of the growing season. Keep them pinched back to any desired form. This pinching in must be done, however, during the early part of their growth, and discontinued sometime before the blossom buds make their appearance. They should be taken up quite early, or when the buds are well formed and before they begin to open out. Give them a pot or box large enough to hold a large ball of earth, for the less the roots are disturbed the greater will be the crop of bloom. Give plenty of water; if they are allowed to become dry at this time they suffer very much.

House plants require careful attention this month. The darkest days and longest nights when plants sleep are now past. As the days get longer, with more sunshine, the plants start into growth, and should be pruned back closely.

Geraniums especially are apt to run up tall and without much foliage except at the top of the branches. Do not be afraid to cut them back one-half or even more in some cases. This severe prun-

ing will cause new buds to push forth near the base of the plant, which will grow much stronger and produce a plant of firmer form. It is the natural tendency of all trees and plants to push forth the most vigorous growth at the ends of the limbs or branches, hence the necessity of continual watchfulness and frequent pinching in or cutting back, otherwise the plants cannot be kept in good shape.

Watering correctly is perhaps of more importance than any other attention required to be given by those who have the care of plants. We find that all trees and plants growing naturally in the open air succeed best when we get rain just often enough to thoroughly moisten the soil as often as required to prevent drying down more than half an inch. Too much rain or too much dry weather retards growth. The same natural laws govern the growth of most plants and trees, whether grown in the open air, in the garden, or in pots in the house or conservatory. The roots require air as well as water, and if the soil is kept constantly saturated air cannot penetrate in sufficient quantities and the soil soon becomes sour and the plants unhealthy. At the end of each little rootlet there is a little valve or mouth that takes in the food and drink in a liquid form, therefore when the soil becomes too wet sufficient air cannot enter to allow those little valves to work and the plant is starved; and when allowed to get too dry, the food contained in the soil is not available, as it can only be used by the plant in a liquid form.

**The Planting and Care of the Orchard.**

BY G. C. CASTON.



FIG. 1.

soil in the best condition for the reception of the young trees.

It is a great mistake to plant too many varieties. Those suitable to the climate of the locality, and that have the highest market value, and that are freest from fungus diseases, should be selected—the most profitable being the sound, hard, clean skinned winter varieties, though some of the summer and fall varieties, on account of their early bearing and great productiveness, will pay where a suitable market can be got for them. For most localities the following list will be suitable:—For summer and early fall—Yellow Transparent and Duchess. Late fall—Alexander, Culvert, St. Lawrence. Winter—King, Spy, Greening, Wealthy, Pewaukee, Seek no Further, Baxter, Winter Red, Ben Davis.

In the colder sections the King, Spy and Greening must be top-grafted on some hardy stock, and for this purpose it is well to plant a number of Talmans Sweets, or other hardy varieties, to work this on. This plan will bring the Spy into bearing much earlier than if grown on its stock, and will improve the quality and productiveness of any variety worked in this way.

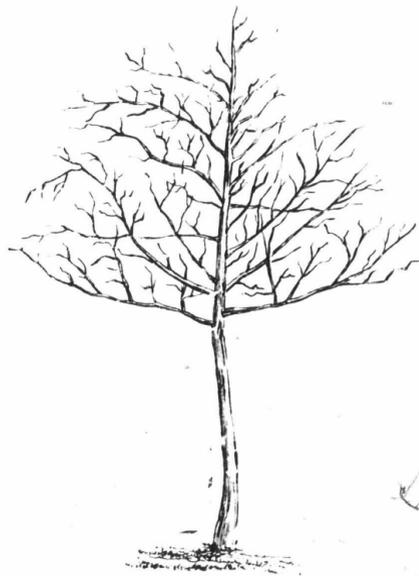


FIG. 2.

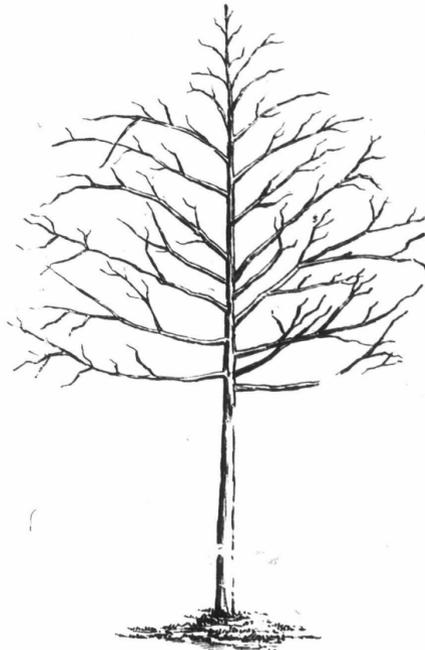


FIG. 3.

In selecting young trees for planting, it is advisable to visit a nursery, wherever practicable, and select the trees, even if one has to pay a little higher price for them. Choose nice, healthy, straight, symmetrical trees. Crotchky and low spreading trees should be avoided, as they will split and fall to pieces when they come into bearing. True some varieties have more of a spreading habit than others, and it is impossible to get them all up to the ideal, but we should get as near it as possible. Fig. 1 shows a rough sketch of what a young tree should be like when properly trained and pruned, with the centre stem running straight to the top, and the limbs branching out at regular intervals. I prefer standard trees, as the young trees require constant cultivation. It is much easier to get close to them with the plow. There is much to be said, however, in favor of half standards. There is less exposure of the trunk, and also to high winds, and the fruit is easier picked. But, on the whole, these advantages are more than counterbalanced by the difficulties in cultivating them. Young trees should have plenty of small fibrous roots, and any that are deficient in this respect should be rejected. In planting, the surface soil should be well worked in about the roots and made firm around them, having the roots placed in their natural position, and the soil kept moist by constant cultivation. The trees should be staked for the first few years to keep them straight. They should be planted at least thirty feet apart each way; for apples, plums and pears, will do a little closer, say twenty feet. No grain or grass should be allowed in a young orchard, and whether the land is fallowed or planted with roots it should be kept rich enough to insure a healthy growth in the trees. There is no manure so valuable for the orchard as good hardwood ashes, and if roots are grown an occasional dressing of well rotted stable or barnyard manure will be required.

With regard to pruning, some varieties require very little. The tree should be pruned as it grows, and should never require the removal of large limbs. Starting with a young tree of proper shape and symmetry, as shown at Fig. 1, about the only pruning that will be required is an annual thinning out of the small shoots sufficient to keep the top open to sun and air, and at the same time preserve the symmetry of the tree, the pyramidal form being the neatest and most desirable. Fig. 2 shows a tree originally of good shape, but in which the pruning has been neglected till the limbs cross each other in every direction, and the whole top is a tangled mass, as we too often see. Fig. 3 shows the same type of a tree that has been moderately though regularly pruned. Young trees should never be forced, but should make a steady, healthy growth. But when they begin to bear they should be liberally manured and well cultivated as well, bearing in mind that they have to provide for the growth of the leaves and the growth of the wood as well as the fruit. To sum up:

- 1st. Have proper soil.
- 2nd. Select the proper varieties.
- 3rd. Get healthy, well formed trees.
- 4th. Exercise good judgment and care in planting.
- 5th. Prune regularly and moderately, never removing large limbs.
- 6th. Keep the soil mellow and moist by cultivation.
- 7th. Manure liberally, especially after they begin to bear.
- 8th. Keep a sharp eye on insect pests and promptly destroy them.
- 9th. Where some varieties are inclined to overbear it will pay to thin out the fruit while small.
- 10th. Remember that in producing the best varieties, and in careful handling, culling and packing, that a good name is better than riches.

If these rules are observed and faithfully adhered to, the orchard will prove one of the most profitable departments of the farm.

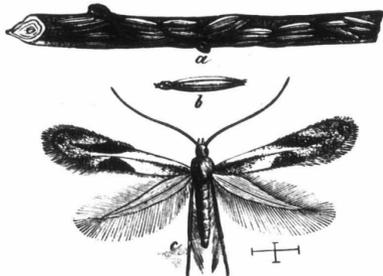
## ENTOMOLOGY.

## Injurious Insects--No. 11.

BY JAMES FLETCHER, DOMINION ENTOMOLOGIST,  
OTTAWA, ONT.

## WINTER WORK FOR THE HORTICULTURIST.

There is no time of the year, not even in the winter, when the thermometer is fluctuating about the zero point, that the careful fruit grower can afford to call a truce with his insect enemies. Indeed this is the time when he must prosecute his warfare energetically, because many of them are then at his mercy. The truth of the assertion frequently made by entomologists concerning the importance of learning the life-histories of insect pests is now proved, for those which pass the winter in some form upon the trees are now easily detected, and steps can be taken for their eradication. Insects pass the winter in all stages of their development, either as (1) an egg, (2) a larva or caterpillar, (3) a chrysalis, or (4) the perfect state. They hibernate in all kinds of positions, on branches of the food plant, in crevices of bark, beneath moss or leaves, or beneath the surface of the ground. As a general rule, but not invariably, the individuals of any one kind of insect pass the winter in the same manner—for instance, the caterpillars of most of the Owllet Moths, better known as "cutworms," hatch late in summer, and pass the winter half grown; others, however, do not hatch until the following spring, or the species hibernate as chrysalis in the earth. I purpose, on the present occasion, to draw attention to some of those injurious insects which may be found now in the orchard, and for which it will well repay the fruit grower to be on the look-out.



THE APPLE-LEAF BUCCULATRIX (*Bucculatrix pomifoliella*). FIG. 1.

Fig. 1c shows an enlarged figure of a beautiful little moth, the caterpillars of which occasionally occur in sufficient numbers to injure apple trees seriously. There are two broods in the year, the second of which passes the winter inside white ribbed cocoons upon the twigs (Fig. 1a, natural size; b, enlarged). These are reported in large numbers from St. Catharines this winter. The best remedy is, probably, to take note of the trees which are badly infested during the winter, and then destroy the caterpillars by spraying the trees thoroughly, just after the flowers have fallen in spring, with Paris green, 1 pound to 200 gallons of water. From small trees the cocoons could be removed in winter with a stiff brush.

THE EYE-SPOTTED BUD-MOTH (*Melocera ocellana*).

This troublesome enemy of the apple grower may now be found in the caterpillar state upon twigs in the orchard. The eggs are laid about midsummer, and by October the caterpillars are half-grown. They then leave the foliage, and spin silken shelters in any small depressions on the twigs. Here they remain until the following spring, when they emerge and commit great havoc by boring into the bursting buds. Spraying the trees as soon as the leaf-buds burst, and before the blossoms open, with Paris green, 1 pound to 100 gallons of water, or with Kerosene Emulsion, has given good results.

THE APPLE-TREE TENT-CATERPILLAR (*Clisiocampa Americana*).

A very successful method of clearing orchards of this pest is to collect the egg-masses (Fig. 2) during the winter. These masses are easily recognized after a little practice, and as they are nearly always placed upon the small twigs at the ends of branches the work of looking for them is much simplified. The egg clusters are laid in the month

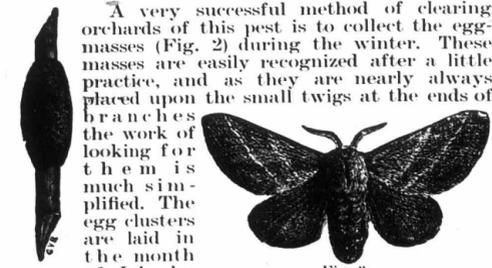


Fig. 2. of July by an active brown moth (Fig. 3), and each cluster contains from 200 to 300 eggs. The caterpillars when full grown are nearly two inches in length, and when undisturbed the brood of a single cluster of eggs is able to entirely strip a tree of considerable size.

THE CECROPIA EMPEROR MOTH (*Platysamia Cecropia*).

Cocoon of Emperor Moth.

In going through an orchard in the winter time, a large, elongated, irregular cocoon, three inches or more in length, may frequently be found firmly attached to a twig of an apple or cherry tree. This is the winter home of our largest and most conspicuous Canadian moth. It will be well worth the while of anyone who may find one of these cocoons to take it into the house to see the magnificent creature which will emerge from it about March or April. The caterpillar is very large, nearly four inches, and naturally consumes a large amount of foliage every day; but it seldom occurs in sufficient numbers to be considered very injurious. Besides the apple, cherry and plum it feeds upon the pear, the maple, the willow, the elm, the butternut, the hickory, and several other trees. Gathering the cocoons in winter or handpicking the caterpillars in summer are usually efficient means of keeping this insect in check.

## DAIRY.

## Ontario Creameries' Association.

The eighth annual meeting of the Ontario Creameries' Association, which convened in the town hall, Harriston, Ont., on the 11th January, was one of the most successful meetings ever held by this body. The members turned out in larger numbers than usual, and so much interest was shown in the proceedings that the meeting was extended to the close of the third day.

The proceedings were opened by President Derbyshire, who delivered his annual address and reviewed the work of the past year, which has been very satisfactory. He said the instructor had been very successful among the creameries, giving practical instruction, and addressing patrons wherever they could be got together. Prof. Robertson and Hon. John Dryden had done everything possible to assist them. By thus all working together they had nearly doubled the number of creameries during the year, and made the largest quantity of fancy butter ever manufactured in Ontario in one year. He then referred to some of the most important dairying questions, such as keeping better cows and making them more comfortable, the production of cheap food, and paying for milk according to value as shown by the Babcock test; some are paying according to butter fat now. All should follow their example. He stated that every failure, either in butter or cheese factories, could be traced directly to want of dairy knowledge, and said he was sure that all would be pleased to learn that a dairy school had been established in connection with the Agricultural College, and he believed every maker should take advantage of this course. Extension of dairy knowledge will lead to a longer season, so that instead of working only four months we will by-and-by carry on operations all through the year.

Mr. John Sprague, Ameliasburg, read a paper on "Economy in the Production of Milk." He pointed out that there was two kinds of economy—good economy and poor economy. The man who cannot afford to take a dairy paper, and feeds his cows on straw, is practising poor economy, as is the dairy farmer who does his work by guess. In the line of good economy the two great aims are to produce the largest amount of good milk at the smallest cost, and at a season when it is worth the most. To bring about this result the silo will play a most important part.

In response to a general demand Mr. Sprague supplemented his paper with a talk on the silo, which he claimed would be the means of producing a larger quantity of milk at a less price, and also a superior quality of butter.

Prof. Shutt, Chemist Dominion Experimental Farm, gave an address upon "Butter Fat in Milk." In it he gave the results of experiments conducted at the Experimental Farm. These were undertaken with the object of finding a way to lessen the work now necessary in making daily tests of each patron's milk. In the first series he had used a special pipette one-sixth the usual size, and by this means samples of each patron's milk were put directly into the test bottle. At the end of the week these test bottles would contain the correct amount, and though perhaps thick and sour this would not interfere with the action of the acid, and the result was

practically the same as if the test had been taken every day and then averaged. Here no second sampling was necessary. But in this case, unless great care was exercised, errors would creep in through the use of such a small pipette. The second series of experiments told of the use of potassium bichromate as a preservative. He had first tested to see if the chemical had any injurious effect upon the fat, but found that a sample of milk so treated gave the same per cent. of butter fat after a period of five weeks. Three or four grains of the chemical are put into the testing vessel, and by means of a tube a proportional sample of the patron's milk is put into this vessel each morning. At the end of the week it would be found quite fluid and easily tested by the Babcock machine, thus reducing the work and giving equally accurate results.

In the discussion which followed, ex-Governor Hoard said that he used the former system with this modification, that his pipettes were one-third the regular size, and that he tested twice a week.

Mr. Walton, of Hamilton, read a paper on "How to Fit up a Creamery." He had more enquiries this year about the proper fitting up of a creamery than ever before, and urged the appointment of a dairy engineer.

At the close of the paper he moved, seconded by Mr. Derbyshire, that this meeting recommend the Board to employ a dairy engineer, who should be at the call of any one requiring his services, which were to be given without expense to the person needing them.

Mr. Graham, of Belleville, gave an address on the "Extension of the Creamery Business in Ontario." The reason he gave why the exportation of butter had not increased more rapidly in the last twenty years was that the system was wrong, but that since the making of butter in creameries had come into vogue both the quality and the quantity of butter had steadily increased. There are great possibilities ahead for the butter trade. We now supply nearly one-half (three-sevenths) of the cheese shipped to England, but only one-eighth of her butter. We should try to displace a share of the butter imported from other countries with Canadian butter; but to get a hold on the English market we must send a constant supply of good butter. The only way to obtain this is by the aid of the silo and winter dairying. He showed that the farmers are losing by sending their butter to the store rather than their milk to the creamery, and at the same time the country was losing her reputation for butter. The country storekeeper would like to tell his customers when their butter was not up to standard, but he dared not for fear of losing custom, so he pooled all the butter, good, bad and indifferent together.

The President said that in Brockville the storekeepers did not handle butter. It was all bought in the market on its merits for cash.

Hon. John Dryden gave a synopsis of the work being done by the Ontario government for the advancement of dairying. The creameries and dairy associations could not have accomplished nearly the amount of good they have, in establishing creameries and cheese factories, increasing the exports of dairy produce and spreading dairy knowledge, without the financial backing of the Ontario government. The printing of the reports and bulletins was doing much to enlighten farmers in dairy science. The travelling dairy was accomplishing the same object. Some of the creamery men had been afraid that it would injure their interests, but the results show that the effect has been the opposite, as the inspector's report shows. The results from the establishment of the dairy course at the Ontario Agricultural College were very gratifying. Two months before they were ready to start they had the chairs all filled and had to refuse over thirty applications. He then stated the amount of money which had been spent in one way or another in the dairy interests, and was sure that it was all well spent, but at the same time he did not believe in doing too much. The function of the government was to educate the people and then to let the people do the rest.

Ex-Governor Hoard gave an interesting address on Practical Creamery Work. He stated that a few years ago the cows in his state gave a smaller amount of milk with a lower per cent. of fat than Canadian cows, but now they are far ahead. This he attributed to the educational influence of the Babcock test, and creameries and dairymen's conventions, which have led to the discarding of poor cows and the breeding and selecting of a better class, and looking more closely after the comfort of those kept. He showed that decrease in butterfat may be caused by exposure to cold, drinking cold water, improper feed and housing, cruelty and ill-treatment. He had verified these impressions by actual tests with Babcock.

Prof. Dean gave a report of experiments conducted at the Ontario Agricultural College for 1892, in which he stated that ensilage, hay and straw produce a soft butter, while the addition of meal, and especially cottonseed meal, had a tendency to make the butter firmer.

Prof. Saunders, in the absence of Prof. Robertson, gave a report of their dairy work at Ottawa, and at the other experimental farms, and the progress of the experimental creameries.

Prof. Shutt, in his address on the silo, went contrary to some of the opinions expressed by other members. He said the changes brought about by fermentation in the silo were caused by germs which fed upon the corn plant, and in this way produce heat. Air is necessary for these germs to live. We

have been told that it is necessary for the corn to be heated up enough to kill the germs. This is a mistake, the heat is not necessary for the preservation of the fodder; warmth is an accompaniment of fermentation; the beneficial effect of the germs is, that they use up the air in the ensilage and thus prevent further decay. If it were possible to exclude the air, heat would be unnecessary, and the ensilage would be sweeter, for heat and fermentation produce acid and cause a loss of value in corn fodder. That heat is unnecessary was shown by a very fair sample of corn silage produced, which had been sealed up in a glass vessel three years ago, and had never been allowed to heat. At the close he made the following suggestions, which would tend to keep out air, thus reducing heat and fermentation, and therefore causing less loss of feed:—"Allow the corn to come nearer to maturity, cut up finer, so that it will pack closer, have silos as nearly air-tight as possible."

Several other speakers addressed the meeting. We hope to be able to publish these papers later on.

### The Requirements of Our Home Trade.

[Read by Mr. Moyer at Creameries Convention, Harriston.]

In dealing with this subject I scarcely know where to begin, for it includes almost everything in connection with dairying. What is wanted for our home trade is a well-made, sweet, rich flavored butter, and the one who succeeds in making a butter to suit the home demand is all right to make butter for any part of the world. It is like the good old advice, "Take care of the cents and the dollars will take care of themselves." Take care of the home trade and the foreign trade will take care of itself. Year after year we hold this Convention, Farmers' Institutes are held all over the country, the Traveling Dairy is in operation, all to proclaim the old story—that our butter is bad. While we admit this, we should not lose sight of the fact, that our work is done in other lines of labor as well as in butter-making.

It may look very discouraging when I say that I do not believe that one farmer out of every ten makes good butter; but how does that compare with men in mercantile life, where only one in every twenty succeeds? It is only a very small proportion in all trades and professions that are up to the highest standard attainable, and why should we expect better things from the butter-makers? It has been said by one who knew what he was talking about, "that a man must learn a great deal before he finds out how little he knows."

The cry all over the world now is quality—better quality in everything, and improvement in all things is necessary. The time was when quantity, more quantity was demanded, and quantity was what swelled the pocket. This great demand for quantity has brought forth machinery, through which one man produces as much in quantity as ten did years ago, and the consequence is, that we have supplied that demand to excess, and now the demand is for better quality.

Now, if this is the case, and I believe you all agree with me that it is, what machinery can we bring into operation, or what system can we adopt, that will enable the farmer to produce the quality demanded? I think there are some in this audience who heard me say ten or twelve years ago, that the time will come when the churn will be as little used in a farm house as the spinning-wheel, and with them will be honored, for valuable services rendered, by giving them a corner in the garret for spiders to operate on. This prophecy has not yet been fulfilled, but it is sure to be.

To produce a better quality, this is essentially necessary. As I said before, improvement is the watchword in all things, and to do better work we must expect to do less. Where the most perfect work is done is where one man does only a small part of the whole. For instance, what sort of a reaping machine would you expect when one man made the whole? Take the tailoring business for instance—where the best clothes are made, the cutter may not know how to thread a needle, but he gives his whole time and attention to that particular part of the work, and success follows. Much has been said by dairymen about the general purpose cow. The idea of farmers a few years ago was to combine a milk and beef cow in one animal. It has, however, been proven that a cow must either be one or the other, or she is nothing. Now, I believe that the same rule holds good with men and women. A general purpose man or woman is not a success. He or she has only time to do certain parts of a whole, if he or she expects to do it as well as the requirements demand.

The time was when a farmer boasted of the number of acres he had under cultivation; now it is more how many bushels he can raise to the acre. Time was when the farmer talked about the quantity of butter he made, but the time is at hand when he will talk of the quantity of butter fat he produced, and of its high quality. His great aim and study will be to get cows that will pay to feed, and how to feed them to the best possible advantage, and how to handle the milk so as to attain to the highest possible standard as material to produce the finest kind of butter. Without having to give attention to all the details of dairying, he can learn to understand this part to perfection, and the creamery will shoulder what comes after this. By cutting up in parts and systematizing the whole work, we can expect to accomplish the highest possible results, and obtain the highest place in the world as a butter-producing country.

Having already shown that we, with our common failings, are all on the same level, and as such we need the help of each other, sympathy and confi-

dence in the universal brotherhood are essential features to success in all lines of industry, and particularly so in dairying. I have no room for a man that tries to be a farmer, dairyman, merchant, exporter, importer and a railroad. With the speed we are moving in now, the farmer cannot afford to drive forty or fifty miles with his wheat to market, but he takes it to the nearest mill, or station, where the railway takes it off his hands. This convenience is now acknowledged and admired by the farmer, but the speed is constantly increasing; instead of steam we have now electricity, and the farmer has to still cut his trips shorter, so that he can more properly attend to the duties which lie nearest his door, and in which his pocket is most interested.

I know that a great deal is said of middlemen, how they take a profit to which the farmer is entitled, and how the farmer is robbed through them. I believe that there is reason for this kind of talk, but if my idea of doing only a part of any work in order to produce the best results is correct, then they are a class of men as necessary to the system as every link in a chain, and if necessary, then they deserve your confidence and generous treatment.

I have no interest in saying a word in favor of middlemen, but when I am asked to give a paper before a meeting of this kind on this much-out-of-shape butter question, I must state where in my long experience I found the greatest difficulty. Want of confidence in each other, and want of co-operation for the general as well as individual good, are the greatest hindrances to success. This obstacle was so monstrous that it was beyond the strength and power of man to remove it, and so a little machine steps in as judge and says, "Your milk or cream contains so much butter fat and no more." This stern ruler would not admit of any argument, and all submitted, and the greatest obstacle is removed. I hope some one would invent a machine that would show the exact value of each parcel of butter as it is offered for sale.

And as long as butter is made by farmers, and bought without this useful machine, it will be as unsatisfactory as buying cream without the tester; and as this is not likely to be invented, I have no hopes to offer for the butter industry, except it is carried on in the co-operative creamery system. But as this may still take years, and the principal part the farmer has then to take is in the care of milk, and as that part is also an important factor in making butter for the home market, I will now confine myself to that part of dairy work. I am more than ever convinced that the principal reason that so much of your winter butter is not good is the want of proper care of the milk and cream before it reaches the churn. If this part is neglected, the best maker cannot make good butter. Very few farmers have the facilities necessary to produce cream to make good butter. I think I have already said that the time is past for a general purpose cow, and a general purpose man or woman, and I will now venture to say that the general purpose stove and kitchen must be dispensed with. No milk or cream can be brought to the necessary temperature for ripening by the same stove and in the same kitchen where the cooking, baking, washing, etc., is done. I will give you an instance. We have a patron who for a long time sent us very good butter. One week it came far below its usual quality. The flavor was wretched. On inquiry we found that one in the family was ill, which necessitated a sort of herbs to be constantly kept on the stove to be applied to the patient. The smell of this was absorbed by the butter. This is an extreme case, but we have more or less of this all the time. We scarcely ever find the same flavor in butter made by the same person at different times, and this in most cases is due to what has been done by this general purpose stove and kitchen, and perhaps the old man and his tobacco pipe. What can be done? Will it pay the farmer to have a special room and keep it warm for his cream? For the small quantity that is made by a great many this would not pay.

Years ago, when I introduced the Cooley milk cans, I strongly urged the importance of setting milk under water—that is, completely covered over with water. At that time, having had an interest in the patent, I was suspected of selfishness, and even such men as Prof. Brown and others took strong grounds against me. To-day, sirs, I have no interest in the said patent, but I believe if we had continued to practise that system our butter would be 50 per cent. better than it is to-day. Knowing that a great many, in fact nearly all the farmers, were not supplied with a proper place to keep their milk and cream, I saw the great importance of this being done. If the farmers would now keep their milk and cream submerged in water, and in that way exclude the impure and offensive odors, I believe that they could make a butter of a natural and pleasant flavor, instead of it being loaded with the odors from cooking, smoking, etc.

One other matter I wish to speak about, and then I have done. I think scarcely enough has been said and is said about the importance of cleanliness in milking. Through the long years when the cow was looked upon as a necessary evil, and a bill of expense, farmers grew into the habit of shamefully neglecting her. A man would be considered almost a criminal if he did not clean his horses; but the same man expects his wife to milk the cows literally covered with filth. It is impossible to get the milk from such a cow in a fit condition for human food of any kind. Cows should be cleaned every day, or, better still, every time before they are milked, and if the farmer has no time to clean both horses and cows, let the horses go and clean the cows.

### Economy in Production of Milk.

[A paper read before the last meeting of the Ontario Creamery Association by John Sprague.]

Economy, the subject of my address, to stand off and look at it, seems to be worn out when we consider the length of time it has been in use, and the large numbers of people that use it. Economy, like many other things, has two sides. That is the reason it wears so well, to use a common expression. We have what we call good economy—that is one side of it, and we also have what is termed poor economy—that is the other side. We all use economy of some kind, poor or good, in our business and farm management. We recommend it to others, and to preach economy to others is as easy as it is to find fault with other people's management, and to ask questions that we ourselves cannot answer. It is much easier for us to recommend economy to others than it is to practise it ourselves. The man that talks economy to his wife and family is not always the man that makes use of this commodity. Webster says economy is internal arrangement, system, disposal, and a judicious management of money concerns. Economy avoids all waste and extravagance, and applies money or worth to the very best advantage. Economy is virtue. I say that if good economy is virtue, poor economy must of necessity be a vice. To illustrate, to compare, to contrast, we will talk along this line. The farmer that is so economical that he can't afford to take a dairy, a county or a city paper, or let me say all three of them, is using poor economy. The dairyman that can't afford to spend time and money to improve the quality and breed of his cows, and in securing the best utensils for his business, is also using poor economy. Again, the dairyman that sells his hay and grain in the city or other markets, is feeding his cows on straw, is using the very poorest kind of economy. Milk produced from straw of any kind is too dear, it costs too much, it's too dear at any price for feeding the dairy cow. I need not speak of the many kinds of straw that we grow on our farms, and I think it is not necessary that we should discuss its value as food for the dairy cow. Straw, I think, has ruined the reputation, and broken the heart of many an honest dairy cow. The man that selects his cows by guess, that feeds and milks by guess, that runs his dairy on the plan of let the tail go with the hide—he is using poor economy, he is sure not to make money. It is not my intention to lay down a cut and dried rule as to what breed or kind of cows a man should select. It is not my purpose to fix a ration for other people's cows. Milk to the dairyman is money, it is money's worth, it costs money, it also brings money, it is an article of value. The difference between cost of production and the amount realized from the sale of it is the farmer's profit or loss. The farmer that is producing milk at the cost of one dollar per hundred pounds, and is only getting eighty cents per hundred pounds, is practising poor economy, he is losing money. Having said this much on poor economy, we will now talk on the line of good economy in the production of milk. The central thought and aim of every dairyman to-day should be how he can produce the largest amount of good milk at the very lowest possible cost. Next, that he produce the milk at seasons in the year when it is worth the most money. To begin with the cost of production of milk. You, as farmers, all know that the cost of milk is caused by the many different surroundings:—The cost of land, the cost of cows, and last but not least, the cost of feed. Let me say here, that I do not know of any fixed rule or law that will apply to all sections of this Province, regarding breed of cows or kinds of feed, alike. Allowing this to be so, I claim that there are certain fixed methods and laws that apply to the good management of all our dairy farms the same.

I do think that it is a fixed fact that corn is our cheapest and best feed; cornmeal, corn fodder and corn ensilage. Corn ensilage for quantity and for cheapness. By the judicious use of ensilage in connection with our other feeds, we can obtain large quantities of milk, and are enabled to continue our dairies the whole year.

You all will, I think, agree with me in one thing, that is, that it is time that the summer dairy was a thing of the past, so to speak, and further agree that the time has come when we should give winter dairying a good share of our attention.

It is possible to produce milk in autumn and winter as cheap as at any other season of the year, and it is also possible to get larger cash returns for it.

Judging by the past, I must be correct. Taking ten years, 1878 to 1887, as a basis of calculation, we find that the price got for milk for the months of May, June, July and August, for the ten years named, was under sixty-four cents per hundred pounds to the farmer. We find that the average price got for milk for the months of September and October for these same years was eighty-seven cents net per hundred pounds to the farmer.

Comment or argument on this matter to me seems out of place and uncalled for.

The dairyman that builds himself a good silo, selects with care good cows, grows his own feed and plenty of it, runs his dairy the whole year round, that uses diligence and good economy in all his labor, I will liken him to the man that built his house upon a rock, and the hard times came and the McKinley Bill got in its work; barley got cheap, and the horse became a burden; the shiftless farmer got poor, but this man, he prospered.

## FAMILY CIRCLE.

## Saved from the Sea.

BY S. M. STUDDERT-KENNEDY, BLACKROCK, IRELAND.

Mother, come here quickly! What can this be rounding the creek? It is like a raft with a long basket on it. Bring the field glass, I do not like to lose sight of it. Yes, it is a raft. I will run down to the shore. A shawl, thanks, and away my Marjorie flew—threw the open window. I followed, and when I came up with her, she had already dragged the raft up on the beach, and was tugging away some wraps which were round a little bundle in the long basket. I proposed carrying it as it was up to the cottage. She assented, and between us we did so, laying it on two hall chairs. She ran for a knife, and in a moment cords were cut away, wraps pulled down, and there lay a dark haired baby boy—just awakening—and blinking a pair of dark grey eyes towards the light. Sewed on the little wrapper we saw a strip of paper on which was scrawled:—

"Lancelot—born in wedlock—given to Marjorie—by his mother."

For a moment or so neither of us spoke. Then Marjorie, stooping down, kissed the little one and said, "Mother, I accept the trust."

Three years have passed. I think I see the sun glinting on the steep rocks at either side of the narrow bay, as we look at the "message from the sea." Then, as we turn towards our home, the sun again catches the long, white coast guard station, and the lion's couchant which rest themselves on the pillars of the gate which shuts out my nephew's fine house from the open sea view,—a view I so delight in looking at from my unpretending cottage windows.

I made elaborate notes of everything which could bear upon this "message from the sea," at the time. Marjorie and I keep separate diaries, and, as there are barely nineteen years between her age and mine, and she was then only eighteen, my readers must judge for themselves whether our joint, rather curious story results from dotage or otherwise. My nephew, Fred had been an ever welcome visitor to us. I knew, though nothing had passed between us on the subject, that Marjorie's love for him had grown with her growth; I also felt that his father had remained as it had ever been—brotherly. His father had made his home chiefly in Italy, where he had met and married a delicate Italian lady. She had tried to live in this country for his sake, so that their boy might learn to love dear old Ireland better than his father had done. But she did not succeed. She asked to be taken home to die. I wished to keep Fred, but she could not part with him so long as she lived. So nurse and boy all went together. My brother wished me to take up his place for him, but I preferred my own "home, sweet home."

I offered to put a competent housekeeper—a lady (widow) whom I had known in years gone by—in charge, and take the trouble of seeing that she did her duty by him in every particular, but I would do no more. My own little one, Marjorie, had been sent to me, after her dear father's death, and I could not neglect her interests even for Robert's, so he was obliged to be content. My poor sister died, and, in due course, Fred was brought back to Portacloy, where he lived with a private tutor. His father never settling, it was not a surprise to me that Fred grew more and more restless every year; his love of "travel" was an inheritance. However, when the time came for him to go to Eton, he was sent, and the tutor dismissed. Then the hall was empty for many a long year. My poor brother died very suddenly at Spa. We heard of it by telegram. Fred had just entered Cambridge, and was going to see his father before his term had begun, when the telegrams to him and me arrived. He went off at once, brought his father's remains and laid them alongside his mother's, saw all business claims settled and came home—a very rich young man, with, to all appearance, no care in the world. A year or so passed, he running over to see us as usual, and nominally to look over his place and receive rents; he had certainly a faithful agent and steward in one—none more so. One summer he had a much longer vacation than usual, or he took one. I know he seemed to be in Portacloy for months, during which time he reminded me more and more each day of his father, who never settled. He had a habit of going away for days, taking it out of himself by long walks and sleeping in country hotels, so he expressed himself. He usually came home tired and gloomy. I have known the reason of this conduct now for a long time; but then it was passing strange. After one of these home-comings, when he had been away longer than usual, he led us to believe he had been in London; he looked as if he had been in hospital; utterly miserable looking and delicate. Oh how I did sorrow then for his having no father to help him. I saw that he was passing through a trouble, but was powerless to help him. Poor Fred! Marjorie kept away from him as much as possible. She had now two burdens to bear—her own and his—because she saw, as I did, that he had one. One day he told us he intended going abroad for a long time, perhaps a year or more. He would go in a few days, did not know where, but thought he should have lessons in painting, a talent he as certainly possessed as he had neglected it. It came to him from mother and father. His mother had been an artist's daughter, and he thought he would like to find out her people, and if any of them were poor help them in whatever way they liked best. He had plenty of money, and it had suddenly come home to him that he had not been of any use in the world so far. God helping him, he would turn a fresh page and begin anew. I did not look at Marjorie while he talked in this way, but after he had gone, as he did in a day or so, I watched her growing quieter and sweeter every day, and I felt that her life's work had begun.

During the next spring (it is curious that both Marjorie and I forgot to enter the month, week or day in our diaries) the "message from the sea" came to us. I wrote, telling Fred of our new care. He merely answered that nothing kind which I or Marjorie did ever surprised him. Our little Sea Bird grew into a large one. Marjorie never tired teaching him of all things and all people, but his chief delight was modelling all the soft masses of mud he could pick up into curious images. Then he disturbed the cook by scheming them into the oven to bake. An unhappy effort of this kind was the beginning of a new life to him. He had copied an image which Marjorie kept in her own room, a little one that Fred had modelled for her long ago. He did not tell of doing this—made it, and put it in the oven to bake. Cook did not know of it, and when making use of the oven crushed the clay treasure. When Lancelot went for it, fancy the poor boy's horror to find it in atoms. He cried so bitterly and seemed to feel his loss so, that it came upon me then for the first time that he, too, would find his life in other lands. I talked to him after a little while and asked what profession he would choose, had he power to choose any. His quick answer came, "I would rather be a sculpture than be King of England." I determined then to do all in my power to cultivate this gift for him before he had learned how to idle it away. I wrote to Fred, told him of all my difficulty, of how clever our Bird was, and I asked him to help him with masters. I was afraid I could not manage to do all myself. Marjorie agreed with me in all this. He answered by telegram: "Coming home. In a few weeks he arrived, much altered. He was

worn-looking to a degree. Marjorie was quieter than evening even than usual, but I could see her hands trembling as she tried to knit Lancelot was out when he came. I sent for him, and I shall never forget Fred's expression when the lad walked into the room. His eyes dilated and he became pale as death. Lancelot was naturally a little nervous looking, so much (to him) depended on Fred's decision, but there was nothing in the meeting that we could see to account for Fred's evident excitement. However, it passed off and the question of Lancelot's future was postponed. We talked for some time, then Fred proposed the boy's going home with him; wished him to remain until to-morrow, when they would come down to us again with something decided to talk over. As they went down the short avenue together—I can recall my sensation to this hour—one tall, broad and bronzed, the other smaller, slither and darker, yet with a indescribable likeness to each other. It bewildered me.

They came together next morning. Fred at once made his proposition, viz., to take our boy to Italy, have him perfected in the art he loved, so far as in him lay to be perfected; told him in our presence that he should expect him to do his utmost to achieve independence. If he (Fred) saw that after doing his utmost he failed in being able to do so much, he would continue to assist his efforts; but he should expect him, for his own honor's sake and ours, to let nothing interfere with his work, and ended by telling him that he need not have been such a useless man as he most certainly was, had he been obliged by circumstances; what he hoped Lancelot would do of his own honest wish. So, in a very few weeks, he took our Sea Bird from us. Sad, yet glad, we heard from him, Lancelot, regularly. His was a grateful nature. He spoke glowingly of his work. Fred also wrote of his perseverance and great quickness of appreciation. We were very lonely—and so the years sped on.

I shall take up the thread of my story after many years—quite six. I need not look up our diaries for anything to fill in the interim with. Our lives were full of sameness. Still our wanderers stayed away. Once they came home to see us, to spend an Irish Christmas and gladden our eyes, but went away just when the New Year was coming. In Lancelot's nervous wish to be constantly with us I could read the dear boy's gratitude, and yet I plainly saw he wanted to be back with his clay and his models. He brought us several lovely little things, but would not hear our praise of them. He bade us wait. When he next came he might have something we could admire. In the meantime, however, I had my own ambition such as this is a very sweet thing to meet with. When they had been away for another long time, one morning I received a letter. Strange direction, strange stamp, stranger enclosure, which was directed to Frederic Lindsay, to be forwarded to him at once, if alive; if dead, to be opened and acted on by me or mine. I sent Fred the letter by first mail. As soon as I could expect it the following letter arrived.

MY DEAR AUNT,—I shall tell you my story. Ask Marjorie to listen to it and weigh her answer well. I deserve a decisive no, but somehow I dare to hope it may be otherwise.

Years ago—she will know how long—I had no other object in life than to make myself deserving of the love I believe I possessed—her love. My reason for confessing to this knowledge is that she may realize my degradation. I want to lay myself morally at her feet. I loved her better than anything in the world, and yet I fell. A vision of beauty crossed my path, a perfect type of Irish loveliness. Black haired, grey-eyed, innocent, uneducated, and as pure as my dear Marjorie. I was young, she younger; I rich, she poor; I a gentleman, she a mountain maid. Yet I loved her and I married her. Yes, thank God, I married her. I could only see her occasionally; and as I want to confess all my cowardice, I must acknowledge that her belongings only appalled me. When it was too late to remedy what I had done, I was then hourly brought into contact with them, her coarse father and brothers, her querulous, discontented mother, and the abject poverty of all. It is passing strange how such a pure creature existed among them. But human nature towards one's own almost always asserts itself. The coming home to you and Marjorie after these visits was almost unbearable. One day I slipped, sprained my ankle, and had to be carried to the cottage, where my poor girl nursed me day and night. No murmur ever crossed her lips. And yet one night I must have been feverish in my sleep and wandering, as the next day she asked me, What is Marjorie? Who is Marjorie? I cannot recall what I answered, but I know that in a day or so, when I felt able to go home, and proposed doing so, she could be found nowhere. I came away, ungrateful dog that I was, and I never saw my girl again. When I came home you may remember belching I had been in London, while I was so near you being nursed by my wife. Oh, what shame I cry on myself for all this deceit! Marjorie, can you forgive? I went to bid her good-bye; in a few days I meant to go to Rome and from there write and confess all, but I found she had gone to stay, for an indefinite time, at Rosport, with her grandmother, an old woman who needed her. I did not go to see her there, but I wrote, sending her a large sum of money, and telling her I would write to her. Her family did not know my name. I passed amongst them as a sportsman, travelling everywhere for amusement. Oh, Marjorie, can you ever forgive me? I spent months and months going about; I could find no peace for mind or body. At last the letter came telling me of "your message from the sea." I did not understand then, but the instant I saw your Sea Bird I felt that he was our child—mine and poor Annie's. I have made every enquiry, but could glean nothing. The country people about seemed to forget her name, so I brought him away with me. And now, Marjorie, the letter you sent to me was written by a clergyman, in whose house my poor girl had been all these years, a trusted, valued friend and servant. She was a very young girl, and told her story. He asked me to come, if possible, to see her before she died, and bring the boy if I could. I am on my way now, Marjorie, to do so. Good-bye!

The letter ended here, but it was taken up evidently after some time had passed. I shall quote the words as they were written:

Marjorie, we arrived too late. My wife (oh, thank God, I have had the courage to write them even at the twelfth hour) had gone home, as her friend had beautifully expressed it, two days before. We could only bear her remains to its last resting place. She had sent me her last love and full forgiveness. It was only when she went out into the world that she knew how impossible it would have been to burden "such as I was" with "such as her." These were the sweet, unuttered words she asked her friend to write down and repeat. Oh, Marjorie, can you forgive?

I shall be away for a year. Lancelot will return to his loved art. If we come home for Christmas in 1891, will my patient darling, Marjorie, come to me—forever? Just one word—YES—I want no other answer. Good-bye!



Tabby Cat.

Sent free of postage for one new subscriber to the FARMER'S ADVOCATE. The novelty of this season. Printed in colors on cloth, so that any child that can sew may make a perfect representation of a cat, life size, 13 inches high. Send in your name and post office, accompanied by \$1.00.

## THE QUIET HOUR.

## Oh, for a Perfect Trust!

ISAIAH XXVI., 3. PHILIP, IV. 6, 7.

Oh! for the peace of a perfect trust,  
My loving God, in Thee;  
Unwavering faith, that never doubts,  
Thou chooseth best for me.

Best, though my plans be all upset;  
Best, though the way be rough;  
Best, though my earthly store be scant;  
In Thee I have enough.

Best, though my health and strength be gone,  
Though weary days be mine,  
Shut out from much that others have;  
Not my will, Lord, but Thine!

And even though disappointments come,  
They too are best for me,  
To wean me from this changing world,  
And lead me nearer Thee.

Oh! for the peace of a perfect trust  
That looks away from all;  
That sees Thy hand in everything,  
In great events or small;

That hears Thy voice—a Father's voice—  
Directing for the best:—  
Oh! for the peace of a perfect trust,  
A heart with Thee at rest!

## The Road of Life.

The road of life is not a turnpike road. It is a path which every one must find out for himself, by the help of such directions as God has given us; and there are so many other paths crossing the true one in all quarters, and the wrong paths are so well beaten, and the true path in places is so faintly marked, so many persons, too, are always going the wrong way, and so few are walking straight along the right, that between the number of wrong examples to lead him astray, a man, if he does not take continual heed, is in great danger of turning into a wrong path a most without perceiving it. You know how hard it is for a stranger to find his way over the downs, especially if the evening is dark and foggy. Yet, there, the man is at liberty to make out the path as well as he can. No one tries to mislead him. But in the paths of life there are always plenty of companions at work to mislead the christian, to say nothing of his own evil passions and appetites which all pull him out of the way. One neighbor says to him, "Take this road, it is almost as straight as the other, and much pleasanter." Another says, "Take this road, it is a short cut, and will save you a word of trouble." A third says, "Walk part of the way with us for company's sake; you cannot be far wrong if you keep with us; at worst, it is on your crossing back into your narrow, lonely path if you don't like our way after trying it." A fourth cries to him, "What makes you so particular? Do you fancy you know the road to heaven better than anybody else? We are all going there we hope, as well as you, though we do not make such a fuss about it." Is it a wonder that, with so many bad advisers and bad examples to turn him a tray, with so many wrong paths to puzzle him with so many evil passions, as man has naturally pulling him out of the straight and narrow path, is it a wonder, I say that, with all these things to lead them wrong, men should so often go wrong? It is no wonder; nay, were it not that God's Word is a lantern to our feet and a light to our path—were it not for the Spirit of God crying to us, "This is the right way," when we turn aside to the right hand or to the left, we should all of us go wrong always.

AUGUSTUS HARE.

Everything which God has set apart in any way for His own and put His mark on, everything which in any way belongs more particularly to Him—His word, His ordinances, His house, His people—are things which God has cleansed, therefore we must not call them common. He has set them apart for His own service; He has fenced them off, as it were, from the waste of the world, and has enclosed them for His own use. Hence there is the same sort of difference between them and all merely worldly and common things, as there is between a garden and Salisbury Plain. No one who knows how to behave himself would bring a horse into a garden, or walk over the strawberry beds, or trample down the flowers. But in riding from here to Salisbury everybody would feel himself at liberty, while crossing the downs, to gallop over the turf at pleasure. Well, the same difference which there is between common down and a cultivated garden, the same is there also between worldly days, worldly books, worldly names, worldly people, and God's day, God's book, God's name and God's people. The former are common, and may be treated as such; the latter are not common, because God has taken them to Himself, and brought them within the limits of His sanctuary, and thrown the safeguard of His holiness around them.

AUGUSTUS HARE.

## The Test of the Home Life.

The truly religious man will be as sweet in irritating gnaw-stings as in crushing calamities, as self-denying for a child as for a crowd; as patient over a spoilt or late meal as over an operation which summons all his manhood to the front. "My grace is sufficient for thee," is the one answer of Jesus Christ to all inquiries; the one reply to all excuses and complaints about trying circumstances. This home life was chosen for thee by the unerring skill of One who knows thee better than thou knowst thyself, and Who could not mistake. It has been selected as the best school of grace for thee. Its burdens were poised on the hand of infinite love before they were placed on thy shoulders. Its pressure has been carefully measured by scales more delicate than those which chemists use. And now, looking down upon thee, the Master says, "There is nothing in thy life that may not be lived in Me, for Me, through Me, and I am willing to enable thee to be sweet and noble and saint-like in it all.

F. B. MEYER, B. A.

MINNIE MAY'S DEPARTMENT.



Fashionable Furs.

Among the new fashions which come to us this year in furs, the two shown in our cut, are perhaps the prettiest, introducing the head in one case as a muff, and in the other as a pretty finish for the neck.



Minnie May offers a prize of \$2.00 for the best article on "Home Dressmaking." All communications to be in our office by the first of March.

The Home of Cholera.

"PHYSICIAN" IN HOME QUEEN.

It is in the East, of course. We have only to go far enough eastward to find the origin of all the terrible maladies that have decimated the countries and cities of the civilized world. The plague, which has swept off millions of human beings, had its origin in Egypt. It was not so much the Nile that overflowed, but the filth of every description that was thrown into the river as the water subsided, that made the pestilence; and from Egypt it was carried into other parts of the world.

La grippe has its abiding place in Russia, originating among the beggars of that country. This, too, is a filth disease, and its germs have been carried westward across two continents. Cholera has all along had its starting point in India, amid conditions so vile and putrescent that we can hardly conceive of anything so terrible. The yellow fever is another of the filth disorders, and it flourishes in warm climates, where general sanitation is neglected. Have we forgotten Memphis, with its scores of acres covered with garbage, its open sewers and its lack of sanitation generally? A revolution in these important matters has put an end to the fearful ravages of "Yellow Jack," so far as Memphis is concerned; and in time, no doubt, the other Southern cities will fall into line.

But how shall we clean up Egypt? or India? or even Russia, which is nearer at hand? It will perhaps be hundreds of years before the valley of the Ganges can be made sweet. So long as this river is made the burial place of their countless dead, a place of banishing for millions of the filthiest of human beings, and its water is used for household purposes, pestilence must stalk through the land. One can not read the account given by Dr. Simmons, chairman of the Yokohama board of health, without mingled feelings of pity and disgust. He tells us that the drinking water of India is derived from wells, artificial ponds, and the water courses of the country. The tanks or artificial ponds contain surface water collected during the rainy season, and are little less than stagnant pools. In these ponds the natives wash their clothes, bathe, and also use the water for drinking and other purposes. The water of the Ganges, with all its dire pollutions, is similarly used. The banks of the streams flowing into it are studded with towns, and filth of the worst description is washed into the public water supply with every rainfall.

The habitations in which these wretched people dwell are vile pest-holes. The description of them can hardly be given in these pages. Then there are the pilgrimages, when thousands of people flock to the temple, some of them dying on the way, and others reaching their destination in the most filthy condition. These people are fed from the temple kitchen, and so are thousands of beggars. Under the intense heat the food, which may have been wholesome at first, is in a putrefactive state, half rotten. And yet this so-called sacred food, all that is left of it, is carried home by the pilgrims or consumed on their return journey. The pilgrims that die on the way, or before the return journey is commenced, are buried in holes scooped in the sand; and the hillocks are covered with bones and skulls, washed out by the tropical rains.

The lodging of these pilgrims is also something terrible; they are put into cells without windows or other apertures for ventilation; this, too, with an atmosphere that ranges in temperature from 85° to 100° Fahrenheit. Think of lodging eighty persons in an apartment thirteen feet long, ten broad, and six and a-half feet high! In lodgings such as these, three hundred thousand pilgrims are packed together for a week, in a single season. No wonder that on their return home the points by the wayside are thickly strewn with corpses. In a single pilgrimage Bishop Wilson estimates a loss of fifty thousand; and there is said to be a dozen of these pilgrimages annually, to say nothing of those who visit the smaller shrines in the country. Thousands of these wretched people fall victims to cholera; and from its home in India it is carried all over the world. To root it out from its native soil is practically impossible, at least in this day and generation. Whether it can be kept out of more civilized countries is a question to be considered.

UNCLE TOM'S DEPARTMENT.

MY DEAR NEPHEWS AND NIECES:—

Have you never felt sorry for boys and girls in the city who get no chance to ride a horse bareback to the brook? Some one says the best way to start life is astride a farm-horse with a rope halter, and my experience tells me I can agree with him. From the farms come the strong men of our country, the men who have the brains and the body, and who lead other men. Who would not rather lead than be led? Who would be ever under another's small mind, if he felt that within him were the power to do and the soul to dare far higher, nobler and better things.

Riding horseback is not unlike life; you have rough and smooth, you have to sit straight, balance yourself, be ready for jolts, and you soon learn to jump off or on at ease. I do not say that all who ride a horse well make life a success, but while you ride, just think, and find for yourselves other resemblances between riding and life. As I saw you out on the pond skating the other day, your rosy cheeks and straight shoulders, and hearty talk and laughter, made me wonder if you ever pity the boy or girl who walks along the street to the skating rink for exercise there, with its crowd, and its steam and dampness, and its lack of freedom. Then there's your sleigh riding down hill. No danger of a policeman making you stop when you make a bee-line for the bars, and out to the meadow and creek beyond; no danger of running into a team or a train or frightening a lady. Oh, no, just to go on with full loads and merry hearts and voices, and spirits that could laugh with their own joyousness. But you leave the moonlight and the echoes and the well-worn track, haul your sled home, hang up your cap, put mittens to dry and join the family group—mother knitting, father reading, sister studying, brother looking over the ADVOCATE, or coming from the barn with his lantern. How much of your joy and fun are you going to give out to those who are so much interested in you, and who have cared for you every day since you were born? Tell them of your fun, put a little more coal on the hall stove, brighten up the kitchen fire, and do whatever you can to make things bright without waiting to be asked. Then when family worship comes, let me hear your hearty voice beside your sister at the organ in the evening hymn of praise, your undivided attention as God's Word is read, and let me feel you join in silently while father gives thanks and asks for further blessings.

UNCLE TOM

P. S.—You will not forget to send your photographs. Boys and girls we must try and have it all complete by the spring. I want as many as possible of those who have taken any interest in the puzzles during the last few years, and especially all the prize-winners. Let me have more selections of poetry, too. I'm sure the "Poet's Corner" is a most interesting and instructive department, enjoyed by many. A word, too, about the puzzles; I am sorry more do not enter into the contest for prizes, and I would like to know the reason why they don't. Now, let me add a lot of new nephews and nieces to our list. Plenty of time yet to come out first. I hope some of my nephews and nieces will try and get a new subscriber, and secure one of these cats, as they will be pleased with it.

POET'S CORNER.

First Prize for Selected Poetry.

BY SARA HUFF, FLORENCE, ONT.

John Greenleaf Whittier.

John Greenleaf Whittier, the Quaker poet of America, was born near Haverhill, in Massachusetts. The early surroundings of the New England poet is thus described by Whittier himself:—"Our home was somewhat lonely," he says, "with no house in sight, with few companions and few recreations. Our school was only for twelve weeks in a year, in the depth of winter, and half a mile distant. On first-days father and mother, and sometimes one of us three children, rode down to the Friends' meeting house, in Amesbury, eight miles distant. We had only about twenty volumes of books, most of them the journals of pioneer ministers in our society. Our only annual was an almanac. Now and then I heard of a book of biography and travel, and walked miles to borrow it." A copy of Burns' poems was lent to him by a preacher. This aroused the genius in his own soul, and he began to write verses. To earn money he made shoes, selling twelve pair for one dollar, but persevered until thirty dollars were raised, which he spent in attending the academy at Haverhill for one year. He then taught school. Whittier was an ardent advocate, in prose and verse, of abolition, poetizing republican themes with great energy. The Freeman, an anti-slavery paper, was edited by him. For at least seven years he and his friend Garrison toiled in the interests of the slaves, although persecuted and ill-used for it. During this period he wrote a number of stirring poems—"Ichabod," "The Burial of Barbour," "Hunters of Men," "The Branded Hand," and "Our Countrymen in Chains." No poet is a better companion for the young. He has written many poems and published two books of selections for children. Whittier's birthday on the 17th of December was generally observed in the public schools of the country. An English review has pronounced Whittier's poem on "Hampton Beach" the finest short poem in the language. "Snow Bound," "The Eternal Goodness," and "At Last," are beautiful poems. Much of his poetry is pathetic and full of inspiration; but he rises to his best in his anti-slavery songs. "The Virginia Slave Mother's Lament," wrote John Bright, the English Quaker, "has often brought tears to my eyes. These few lines were enough to arouse the whole nation to expel the odious crime of slavery." When Lincoln's proclamation liberated eight million slaves forever from bondage, then Whittier, while sitting in the Friends' meeting-house, hearing the bells ringing the jubilee of freedom all over the land, wrote his song of triumph, "Laus Deo." At his funeral in Amesbury, a great number gathered to pay the last tribute of respect. The account given by Dr. Bowen in

the Independent says:—"On the casket was the gift of a brother poet—Oliver Wendell Holmes—a wreath of eighty five roses and carnations, another form for expressing the words:—'John Greenleaf Whittier, born December 17th, 1807; died September 7th, 1892.'"

The Slave Mother's Lament.

Gone, gone—sold and gone,  
To the rice-swamp, dark and lone,  
Where the slave-whip ceaseless swings,  
Where the noisome insect stings,  
Where the fever demon strews  
Poison with the falling dews;  
Where the sickly sunbeams glare  
Through the hot and misty air,  
Gone, gone—sold and gone,  
To the rice-swamp, dark and lone,  
From Virginia's hills and waters;  
Woe is me, my stolen daughters!

Gone, gone—sold and gone,  
To the rice-swamp, dark and lone,  
There no mother's eye is near them,  
There no mother's ear can hear them;  
Never, when the torturing lash  
Scams their back with many a gash,  
Shall a mother's kindness bless them,  
Or a mother's arms caress them.

Gone, gone—sold and gone,  
To the rice-swamp, dark and lone,  
Oh, when weary, sad and slow,  
From the fields at night they go,  
Faint with toil, and racked with pain,  
To their cheerless homes again—  
There no brother's voice shall greet them—  
There no father's welcome meet them.

Gone, gone—sold and gone,  
To the rice-swamp, dark and lone,  
Toiling through the weary day,  
And at night the spoiler's prey,  
Oh, that they had earlier died,  
Sleeping calmly, side by side,  
Where the tyrant's power is o'er,  
And the fetter galls no more!

Gone, gone—sold and gone,  
To the rice-swamp, dark and lone,  
By the holy love He beareth—  
By the bruised reed He spareth;  
Oh, may He, to whom alone  
All their cruel wrongs are known,  
Still their hope and refuge prove,  
With a more than mother's love.

From "The Eternal Goodness."

I long for household voices gone,  
For vanished smiles I long,  
But God hath led my dear ones on,  
And He can do no wrong.

I know not what the future hath  
Of marvel or surprise,  
Assured alone that life and death  
His mercy underlies.

And if my heart and flesh are weak  
To bear an untried pain,  
The bruised reed He will not break,  
But strengthen and sustain.

No offering of my own I have,  
Nor works my faith to prove;  
I can but give the gifts He gave,  
And plead His love for love.

And so beside the silent sea  
I wait the muffled oar;  
No harm from Him can come to me  
On ocean or on shore.

I know not where His islands lift  
Their fronded palms in air;  
I only know I cannot drift  
Beyond His love and care.

William Shakespeare.

William Shakespeare, born at Stratford-upon-Avon, in 1564, died 1616, was the greatest of English poets. In 1582 he married Anne Hathaway, and at the age of twenty-two went to London, where he became first an actor, then a writer for the stage, and soon distinguished himself in both tragedy and comedy. He is remarkable for his great command of language. No writer has ever exhibited such an insight into human nature and the power of depicting character in so many forms. From his works may be gathered precepts adapted to every condition of life, and to every circumstance of human affairs. Under Shakespeare the drama reached its highest perfection. He wrote in all thirty-seven plays, one hundred and fifty sonnets, and the poems "Venus and Adonis," "Lucrece," "The Passionate Pilgrim" and "A Lover's Complaint." A few of his dramas are: "Hamlet," "King John," "King Richard II.," "King Richard III.," and his Roman plays, "Coriolanus," "Julius Caesar," and "Antony and Cleopatra." The "Merchant of Venice" is the best of Shakespeare's comedies, and shows the depth, sublimity and creative power of this great author. The following extract, "A Plea for Mercy," forms part of Portia's address to Shylock, the Jew, in the Merchant of Venice.

A Plea for Mercy.

The quality of mercy is not strained;  
It droppeth as the gentle rain from heaven,  
Upon the place beneath. It is twice blessed;  
It blesseth him that gives, and him that takes.  
Tis mightiest in the mightiest; it becomes  
The throned monarch better than his crown.  
His sceptre shows the force of temporal power,  
The attribute to awe and majesty,  
Wherein doth sit the dread and fear of kings;  
But mercy is above this sceptred sway;  
It is enthroned in the hearts of kings;  
It is an attribute to God himself;  
And earthly power doth then show likest God's  
When mercy seasons justice. Therefore, Jew,  
Though justice be thy plea, consider this,  
That, in the course of justice, none of us  
Should see salvation; we do pray for mercy;  
And that same prayer doth teach us all to render  
The deeds of mercy.

Hamlet's Soliloquy on Death.

Act III, Sc. I.

To be, or not to be: that is the question;  
Whether 'tis nobler in the mind to suffer  
The stings and arrows of outrageous fortune,  
Or to take arms against a sea of troubles,  
And by opposing end them? To die,—to sleep,—  
No more; and by a sleep to say we end  
The heartache, and the thousand natural shocks  
That flesh is heir to,—'tis a consummation  
Devoutly to be wish'd. To die, to sleep;  
To sleep,—perchance to dream:—ay, there's the rub,

For in that sleep of death what dreams may come  
When we have shuffled off this mortal coil,  
Must give us pause: there's the respect,  
That makes calamity of so long life:  
For who would bear the whips and scorns of time,  
The oppressor's wrong, the proud man's contumely,  
The pangs of despised love, the law's delay,  
The insolence of office, and the spurns  
That patient merit of the unworthy takes,  
When he himself might his quietus make  
With a bare bodkin? who would fardels bear,  
To grunt and sweat under a weary life,  
But that the dread of something after death,  
The undiscover'd country from whose bourn  
No traveller returns, puzzles the will;  
And makes us rather bear those ills we have  
Than fly to others that we know not of?  
Thus conscience does make cowards of us all;  
And thus the native hue of resolution  
Is sicklied o'er with the pale cast of thought;  
And enterprises of great pith and moment,  
With this regard, their currents turn awry,  
And lose the name of action.  
To gild refined gold, to paint the lily,  
To throw a perfume on the violet,  
To smooth the ice, or add another hue  
Unto the rainbow, or with taper-light  
To seek the beauteous eye of heaven to garnish,  
Is wasteful and ridiculous excess.

"Othello."

Good name in man and woman, dear my lord,  
Is the immediate jewel of their souls:  
Who steals my purse, steals trash; 'tis something, nothing;  
'Twas mine, 'tis his, and has been slave to thousands;  
But he that filches from me my good name,  
Robs me of that which nothing enriches him,  
And makes me poor indeed.

Robert Burns.

Robert Burns, born 1759, died 1793. Scotland's greatest poet has given to the literature of the English race some of its most precious jewels. His songs will endure while the language lasts. His lyrics have a wonderful union of thrilling passion and melting tenderness. Holy Willie's Prayer is a matchless satire. Most of his poems are written in his native Ayrshire dialect which, however, he frequently exchanges for English, as in the strange tale of Tam o'Shanter is found the stanza:

"But pleasures are like poppies spread,  
You seize the flower, its bloom is shed;  
Or, like the snow-fall in the river,  
A moment white, then melts forever;  
Or like the borealis race,  
That flit ere you can point their place;  
Or, like the rainbow's lovely form,  
Evanishing amid the storm."

For A' That and A' That.

Is there, for honest poverty,  
That hangs his head, and a' that?  
The coward slave, we pass him by,  
We dare be poor for a' that!  
For a' that and a' that,  
Our toils obscure, and a' that;  
The rank is but the gowd for a' that,  
The man's the gowd for a' that.  
What, though on hameless fare we dine,  
Wear hoddin-grey, and a' that;  
Gie fools their silks, and knaves their wine,  
A man's a man for a' that!  
For a' that and a' that,  
Their tinsel show, and a' that;  
The honest man, though e'er sae poor,  
Is king o' men for a' that.  
A prince can make a belted knight,  
A marquis, duke and a' that;  
But an honest man's aboon his might,  
Gude faith, he mauna fa' that!  
For a' that and a' that,  
Their dignities, and a' that,  
The pith o' sense, and pride o' worth,  
Are higher ranks than a' that.  
Then let us pray that come it may,  
As come it will for a' that,  
That sense and worth, o'er a' the earth,  
May bear the gree, and a' that,  
For a' that and a' that,  
It's coming yet, for a' that,  
That man to man, the world o'er,  
Shall brothers be for a' that.

Second Prize.

BY LOTTIE KETTLES, RAMSAY'S CORNERS, ONT.

Lowell.

James Russell Lowell, born 1819, is an American poet and essayist. He is much better known as the author of "The Biglow Papers", a collection of humorous satirical poems on political subjects written in the Yankee dialect. His more serious poems are noted for their tender sentiment; through many of them runs a pensive strain. He has also written many scholarly essays and criticisms. Mr. Lowell has been editor of the "Atlantic Monthly" and of the "North American Review". In 1855 he succeeded Longfellow in the Chair of Modern Languages and Literature at Harvard. He was appointed Minister to Spain in 1877, and to England in 1880.

The Heritage.

The rich man's son inherits lands,  
And piles of brick and stone and gold,  
And he inherits soft white hands,  
And tender flesh that fears the cold,  
Nor dares to wear a garment old.  
A heritage, it seems to me,  
One scarce could wish to hold in fee.  
The rich man's son inherits cares:  
The bank may break, the factory burn,  
A breath may burst his bubble shares,  
And soft white hands could hardly earn  
A living that would serve his turn.  
A heritage, it seems to me,  
One scarce could wish to hold in fee.  
The rich man's son inherits wants:  
His stomach craves for dainty fare;  
With satiated heart he hears the pauper  
Of toiling hands with brown arms bare,  
And wearies in his easy chair.  
A heritage, it seems to me,  
One scarce could wish to hold in fee.  
What doth the poor man's son inherit?  
Stout muscles and a sinewy heart,  
A hardy frame, a hardier spirit;  
King of two hands, he does his part  
In every useful toil and art.  
A heritage, it seems to me,  
A king might wish to hold in fee.

What doth the poor man's son inherit?  
Wishes o'erjoyed with humble things,  
A rank adjudged by toil-worn merit,  
Content that from employment springs  
A heart that in his labor sings.  
A heritage, it seems to me,  
A king might wish to hold in fee.

What doth the poor man's son inherit?  
A patience learned by being poor,  
Courage, if sorrow come, to bear it,  
A fellow-feeling that is sure  
To make the outcast bless his door.  
A heritage, it seems to me,  
A king might wish to hold in fee.

O, rich man's son! there is a toil —  
That with all others level stands  
Large charity doth never soil,  
But only whiten soft white hands.  
This is the best crop from thy lands.  
A heritage, it seems to me,  
Worth being rich to hold in fee.

O, poor man's son! scorn not thy state,  
There is worse weariness than thine,  
In merely being rich and great;  
Toil only gives the soul to shine,  
And makes rest fragrant and benign.  
A heritage, it seems to me,  
Worth being poor to hold in fee.

Both, heirs to some six feet of sod,  
Are equal in the earth at last;  
Both, children of the same dear God,  
Prove title to your heirship vast.  
By record of a well-filled past,  
A heritage, it seems to me,  
Well worth a life to hold in fee.

Third Prize.

BY M. A. CLEMENTS, WINNIPEG, MAN.

Frances Havergal.

Frances Ridley Havergal was born in 1836, in the village of Astley. Her father, the clergyman of the village, was a man of rare musical talent, and Frances, the youngest daughter of the house, early showed that she had inherited a portion of this high gift.

Her first sorrow was the death of her mother. The sad and unexpected blow was felt deeply by the child of only twelve years. After the lapse of a few years, Mr. Havergal married again. His second wife was a beautiful type of Christian womanhood, whose sweet influence in the house was felt and readily owned by Frances.

Frances was sent to a school in England for awhile, and afterwards to one in Germany, where she learned to speak the German language perfectly, and also became familiar with German literature.

When Frances had left school, her father took the living of St. Nicholas, near Worcester. In this large parish, by the power of her active Christian work, she made a mark for God, which lasts to this day. At an early age she began to show signs of delicate health, and her work was often stopped by attacks of illness. But suffering and weakness of the body strengthened her spiritually, and her nature never became warped by selfishness or discontent. She soon became known as a poetess, by contributions in verse to different magazines. Her musical talent also developed with cultivation, and published compositions soon made her a name in this art. Her gift of a singularly rich and powerful voice was used, as were all her other talents, as a way by which to glorify and serve her King.

The women in Indian Zenanas, the cause of temperance, the slaves of sin and poverty in crowded English towns, the private troubles of thousands who showered letters upon her, the cry of editors and publishers for more printed matter—all these things laid claim on her time and sympathies, and she tried to let none lay claim in vain. Books of sacred song and music, stories for little ones, and volumes of devotion for older souls, were sent in quick succession to editor and publisher. And her literary earnings were used for the most part for missionary purposes.

But the weak, delicate body was growing less and less able to bear the many burdens which the active spirit laid upon it. To secure quiet, Frances and her sister retired to a village in Wales. But even here she saw much to be done for God, and she could not remain idle. While holding an open air meeting, on temperance, with the men of the neighborhood, she caught a severe cold and chill, from which she never recovered. Internal inflammation set in, and shortly after, at the age of forty-three, this glorious Christian woman took her place in the mansion which the Lord Himself had prepared for His faithful servant.

Consecration.

Take my life and let it be  
Consecrated, Lord, to Thee;  
Take my hands and let them move  
At the impulse of Thy love.

Take my feet and let them be  
Swift and beautiful for Thee;  
Take my voice and let me sing  
Always, only, for my King.

Take my lips and let them be  
Filled with messages from Thee;  
Take my silver and my gold,  
Not a mite would I withhold.

Take my moments, and my days,  
Let them flow in endless praise;  
Take my intellect, and use  
Every power as Thou shalt choose.

Take my will and make it Thine,  
It shall be no longer mine;  
Take my heart, it is Thine own,  
It shall be Thy royal Throne.

Take my love, my God, I pour  
At Thy feet its treasure store;  
Take myself, and I will be  
Ever, only, all for Thee.

Be Not Weary.

Yes! He knows the way is dreary,  
Knows the weakness of our frame,  
Knows that hand and heart are weary;  
He, "in all points," felt the same.  
He is near to help and bless;  
Be not weary, onward press.

Look to Him who once was willing  
All His glory to resign,  
That, for thee, the law fulfilling,  
All His merit might be thine:  
Strive to follow day by day  
Where His footsteps mark the way.

Look to Him who ever liveth,  
Interceding for His own;  
Seek, yea, claim the grace He giveth  
Freely from His priestly Throne,  
Will He not thy strength renew,  
With His Spirit's quickening dew?

Look to Him, the Lord of Glory  
Tasting death to win thy life;  
Gazing on that "wondrous story,"  
Canst thou falter in the strife?  
Is it not new life to know  
That the Lord hath loved thee so?

Look to Him, and faith shall brighten,  
Hope shall soar, and love shall burn,  
Peace once more thy heart shall lighten:  
Rise! He calleth thee, return!  
Be not weary on thy way,  
Jesus is thy strength and stay.

Puzzles.

1—CHARADE.

Are you going to be in the puzzle group?  
If so, hustle yourself along,  
For if you don't you'll be in the soup;  
So hustle yourself right along.

Won't it be a pleasant band,  
With Uncle Tom in the middle;  
All the bright ones of our land,  
And who are they? Now I will tell.

If we start down by the sea  
H. A. Woodworth, he of great fame,  
And his sister Mattie we shall name,  
Next A. Russel and Morley Boss we shall see.

Miss Lily Day is last but not least  
Of those who hail from away down east.  
In Eastern Ontario next we'll see who worthy be,  
And Miss Armand is of course at the top of the tree.

Then Lanark has another not unknown to fame:  
Almer Borrowman is the fellow's name;  
And Russell county has also got its wonder,  
Its Edwards, C., over whose puzzles we have to ponder.

In Miss Elinor Moore and the two Misses Fox,  
Middlesex county will have a good share  
Of ye lady solvers fair,  
And Amos Howkins, Lorneville P. O., should in the group  
Also appear.

In Floradale we have two trusty workers,  
Irvine Devitt and that clever solver, A. Snider,  
And George Blyth must also be there;  
He from the group we could not spare.

Of course the king of puzzlers, E. A. F., will have a place,  
So that we all shall see his clever face,  
And his sister, too, who once with us did toil  
Now from the group must not recoil.

So now all ye puzzlers gay  
Get on your best bibs and tucker,  
Send Uncle T. your photo right away,  
But be sure your face you do not pucker.

In the TOTAL let us all  
Help the "Dom" up to perfection;  
If we all try and PRIME to do it;  
In short LAST will succeed—then satisfaction.

2—ENIGMATICAL STORY.

12, 5, 3 was a very good boy about 4, 10, 13, 7 years old. His parents took him with them to London. He thought it very funny that they should hire a "11, 14, 15" to take them to the 2, 5, 8, 3, 14. He saw many interesting sights in London, but he wanted to return to his home in America. The 1, 7, 6, 8, 9 was, he was anxious to get back for 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15.

3—CHARADE.

Nothing venture nothing have,  
More true or wonderful words ne'er were spoken;  
It COMPLETE would be a surprise  
If it happened otherwise.  
Then if FIRST this world  
Something thou don't crave,  
A LAST of some kind thou must do,  
Or that craving will remain with you.

4—SQUARE WORD.

1—A small number of persons closely united in some secret intrigue, usually so effect some party or sinister purpose.  
2—A place of public contest.  
3—To obscure.  
4—Aged.  
5—A thin plate of scale.

5—CHARADE.

I hardly think that I need try  
To win a prize this year,  
For the puzzles are all so good,  
I'm "unmeet to be their peer."  
But puzzling I find is such good fun,  
I'll send along my mite,  
And try to win a place among  
The other puzzlers bright.  
I'm sorry Miss Ada can't compete,  
And our good friend Fairbrother;  
But I hope they'll send FIRST more good puzzles,  
And write to one another,  
" 'T would be COMPLETE more sense, I think," a friend was tell-  
ing me.

"To give up puzzling," but that is not  
LAST thanks your cousin C. E.

6—ENIGMA.

In Shakespeare's "Hamlet,"  
In "The Brook" by Tennyson,  
In Cowper's "Boadicea,"  
In Longfellow's "Resignation,"  
In "The Bells," by Poe,  
In Bulwer's "Richardson,"  
In Wordsworth's "Ode to Duty,"  
In "The Bard," by Gray,  
In Moore's "Oft on a Stilly Night,"  
In "The Coliseum," by Byron,  
In Goldsmith's "Deserted Village,"  
Here we have a good array  
Of famous poets and their works,  
Now if this puzzle you read aright  
You shall find what we all appreciate.

HENRY REEVE.

Answers to January First Puzzles.

1—Welcome. 3—1, 3, 9, 27, 81. 5—Cloud, Cloud.  
2—One. 4—Listen. 6—Elate, Late.

Names of Those Who Have Sent Correct  
Answers to First January Puzzles.

Charlie Edwards, Lily Day, Charlie Palliser, A. R. Borrowman, Addison and Oliver Snider, Henry Reeve, Josie Sheehan, Fred Hall, Minnie Harley, Thos. Andros, G. B. Kilme, Thos. W. Banks, A. Howkins, Geo. W. Blythe, G. Gamache.

**MANITOBA FARMS.**  
TWO CHOICE FARMS  
FOR SALE.

320 Acres of the very best land, with house and other improvements, 4 1/2 miles from Summerberry, on the main line of the C. P. R. Also 120 Acres about one mile and a half from Silver Plains Station, on the Z. P. R., about 30 miles from Winnipeg. Apply to

**JOHN WELD,**  
London, Ont.

THOROUGHBRED STALLION,  
"INSPECTOR,"  
FOR SALE.

Twice Winner of 1st Prize and Diploma at Western Fair, London. Warranted sound and a sure foal getter.  
327-1-d-om **ROBT. McEWEN, Byron P. O.**

DISPERSION SALE  
OF  
**Shorthorn Cattle**  
ON TUESDAY, MARCH 7th.

Promptly at 1 o'clock I will sell by public auction, at my farm, 2 1/2 miles west of Niagara Falls, 23 HEAD OF SHORTHORN CATTLE, comprising 17 cows and heifers and 6 bulls. This herd was started in 1861, and has been carefully bred.

TERMS OF SALE:—Eight months' credit on approved joint notes with interest at 6 per cent., or 6 per cent. off for cash.  
Conveyances will be at Waverly Hotel, Niagara Falls, on arrival of 11 o'clock a.m. train, G. T.R. Lunch 12 to 1 o'clock. For further information and catalogue, address  
327-1-b-om **C. PETTIT, Southend P. O.**

ATTRACTIVE PUBLIC SALE  
OF  
**High Class Shorthorn Cattle**  
AT MAPLE LODGE STOCK FARM,  
ON  
WEDNESDAY, MARCH 8, 1893.

On the above date we will sell by public auction 18 CHOICE SHORTHORNS, consisting of 12 cows and heifers and 6 young bulls. A very superior lot. Fourteen of the number were got by Conqueror—8227—, a grand Cruickshank bull and wonderfully uniform sire. Several show animals are in the offering, and most of them from our best milking strains. Bates and Cruickshank and other Scotch families represented.

TERMS:—Nine months' credit, or eight per cent. per annum off for cash.  
TRAINS:—The morning and evening trains from both ways on G. T. Railway, and also on L. H. and B. Railway, will stop at Lucan Crossing Station, one mile east of our stables. The one o'clock mail train from the east on G. T. Ry. will stop at our farm on day of sale to let passengers off.  
Send for a catalogue and come to our sale.  
327-1-b-om **JAS. S. SMITH,**  
Maple Lodge P. O., Ont.

**SOLD.**—Mr. J. Kennedy, of Orillia, having disposed of his entire flock of Cheviot Sheep to Mr. Wilbur, of New York State, the sale will not take place as advertised last month.—**JOHN KENNEDY, Orillia, 327-a-om**

**STOCK FOR SALE.**

**ROBERT NESS, WOODSIDE FARM,**  
IMPORTER AND BREEDER OF  
Yorkshire Coachers, French Coachers, Clydesdales, Clydesdale Mares, Shetlands, and Ayrshire Cattle.

The stock has taken more prizes than all importers and breeders combined in the province. I am prepared to sell at prices to suit the times. Give me a call. Canada Atlantic Ry. and G. T. R. on the farm. **ROBERT NESS, Woodside Farm, Howick, P.O., P.Q.** 315-y-om

**La Compagnie du Haras National**  
30 St. James St., MONTREAL, CANADA.

65 Prizes & Diplomas in 1891 and 1892 for our French Coach (Anglo-Norman), Percheron and Clydesdale stallions and mares.  
For sale at reasonable prices. Give us a call.

**Auzias-Turenne,**  
315-y-om General Manager.

**FOR SALE.**—ONE HACKNEY STALLION, Derham Goldfinder 3712, Vol. 9, E. H. S. B., stands 16 1/2 hands, five years old, dark bay, splendid action. Also some Choice Clydesdale Colts and Fillies. Prices obtained by writing to  
325-d-om **S. J. PROUSE, Box 145, Ingersoll, Ont.**



**W. C. EDWARDS AND COY**  
IMPORTERS AND BREEDERS.

**PINE GROVE STOCK FARM,** Rockland, Ont.  
**ELMHURST STOCK AND DAIRY FARM,** CLARENCE, ONT.

**SCOTCH SHORTHORNS.** Shorthorns, Shropshires and Berkshires  
The imported Cruickshank bull Grandeur is at the head of this herd of Imported and Home-bred Cows and Heifers of the most approved Scotch families.  
**ALEX. NORRIE, Manager.**

Our flock is from the choicest English flocks, headed by the ram sent out by Mr. Thos. Dyke; also milking Shorthorns, with imported bull Pioneer at the head of the herd.  
**HENRY SMITH, Manager.**



**Laurentian Stock AND Dairy Farm**  
NORTH NATION MILLS, P. Q.  
**Ayrshires, Jerseys and Berkshires.**  
Imported Emperor at the head of a grand lot of Imported and Canadian-bred Ayrshires; also St. Lambert Jerseys and Imported Berkshires. **GEORGE CARSON, Manager.** 316-y-om

**THORNCLIFFE STOCK FARM!**

I have on hand the best young CLYDESDALE Horses and Mares on this continent. Bred from the well-known sires, Prince of Wales, Danley, Macgregor, Energy, Lord Montrose, The Ruler, Carruchan Stamp, Knight Errant and other celebrities.  
My stock in the above lines were very successful at all the large shows last year. Call and examine our stock before purchasing elsewhere.  
Terms reasonable.  
322-y-om

**SHROPSHIRES.**  
Orders can now be booked for Shearing Rams, Ram Lambs and Ewes, sired by the celebrated prize-winning English ram, Bar None. Also Rams and Ewes of this year's importation.

**SHORTHORNS!**  
CHOICE YOUNG HEIFERS and BULLS  
by the celebrated Cruickshank bulls  
NORTHERN LIGHT  
—AND—  
VICE CONSUL.

**ROBERT DAVIES, Proprietor. P. O., Toronto.**

The Most Celebrated Stud of Clydesdales and Hackneys in Canada is owned by



**GRAHAM BROS., CLAREMONT, Ont.**  
The choicest animals that money and experience can buy, and well qualified to maintain the reputation of our stud for importing. More first prize and sweepstakes winners at the leading shows in Canada and the United States than all other establishments of its kind in the Dominion. The Clydesdales have immense size, large flat bone, with style, quality and choice breeding combined. The Hackneys have fine colors, style, quality, high knee action and choicest breeding. The home of the Champion Clydesdale Stallion, Queen's Own, and the Champion Hackney Stallion, Firefly.  
Parties wishing the best animals at reasonable prices are cordially invited to examine our stock. Catalogues free.

**GRAHAM BROS., CLAREMONT, ONT.**  
25 miles east of Toronto, on the C. P. R. 314-y-om

**TAMWORTH SWINE, SHROPSHIRES, CLYDESDALES AND SHORTHORNS.**

**John Bell, Clydesdale Farm, Amber, Ont.**  
A number of prize-winning Pigs in pairs, unrelated, from imported stock bred by the best breeders in England. Orders booked. Fifteen Breeding Sows due to farrow during spring. Shropshires bred from stock imported by such importers as John Miller & Sons, Brougham; L. Caulfield, Tyrone, etc. A few of the best Clydesdales on the continent—The Granite City and Eastfield Chief at head of Stud; also Shorthorns of choice breeding. Correspondence solicited. Visitors welcome. Milliken Station (Midland Division), G.T.R. 325-y-om

**HORNCASTLE FARM**  
Offers for sale one Thoroughbred Poland-China Boar, 4 months old. Also, our Poland-China Stock Boar, 2 years old. Must sell to keep from in-breeding. Write for prices to **WESLEY W. FISHER, Benn Miller, Ont.** 327-a-om

**HILLHURST HACKNEYS!**

Oldest Stud in America and largest in the Dominion.  
All stock full registered and bred from the most fashionable and purest blood, direct from breeders in the heart of the Yorkshire Hackney breeding district.

**STALLIONS.**  
Fordham (287) 28, by Denmark (477); Maxwell (3143) 76, by Prince Alfred (4329), and Danesfort (3835) 77, by Banglet (474). MARES by Matchless of Londesborough (157), Danegelt (174), Wildfire (1224), Fordham (287) etc. Young stock for sale. Twelve fine Yearling Shropshire Rams, registered, and Aberdeen-Angus Bulls fit for service, for sale at moderate prices. For catalogue address: **M. E. COCHRANE, 322-y-om Hillhurst Station, P. Que.**

**H. & W. SMITH, Hay, Ont.**—Thirty young Bulls sired by silver medal bull, Prince Albert, and from prize-winning dams of best Cruickshank blood. Also cows and heifers for sale. Exeter Station, G. T. R., half mile. 319-1-y-om

**SHORTHORN BULLS.**  
Two young bulls for sale at prices to suit the times, one red and one roan, both sired by Imp. General Booth (4353). Address: **W. J. BIGGINS, Elmhurst Farm, Clinton, Ont.** 318-1-y-om

**VALENTINE FICHT,**  
Maple Leaf Farm, Oriel, Ontario,  
Offers for sale at reasonable figures and on liberal terms, 30 head of well-bred Shorthorn bulls and heifers, yearlings, and two-year-olds also a three-year-old shire stallion from imported sire and dam (2nd prize, Toronto), and a grand lot of Cotswold sheep. STATION: Woodstock, on C. P. R. and G. T. R. 318-y-om

**H. I. ELLIOTT, RIVERVIEW FARM,** 320-y-om Danville, P. Q. BREEDER OF **Scotch Shorthorns and Shropshires,** WARMINGSTER AT HEAD OF HERD

**SHORTHORN BULL CALVES FOR SALE.**  
Three reds, sired by Barmpton Chief—14380—, a worthy son of the noted Barmpton Hero, and one roan, grandson of Imp. Totballs, winner of 1st at Toronto this year. All grand calves and good pedigrees. Also a few choice Berks just fit to wean. Prices reasonable.  
**R. RIVERS & SON,** 324-y-om Springhill Farm, Walkerton.

**FOUR ONE-YEAR-OLD AYRSHIRE BULLS**  
FOR SALE.  
Pure-bred, with registered pedigrees.  
**MICHAEL BALLANTYNE,** 327-1-f-om St. Marys, Ont.

**ADVERTISE IN ADVOCATE**

**HILL HOME STOCK FARM SHROPSHIRES.**

The highest type of imported and Canadian bred Shropshires. Special attention paid to character and quality. Choice young stock for sale.  
Telegrams:—Burford, R.R. Station, Brantford; P. O., Mount Vernon.  
327-1-y-om **D. G. HANMER & SONS.**

**SHROPSHIRES AND YORKSHIRES.**

Imported and Home-bred **Ewes, Lambs** —AND— **SHEARLING EWES** of best quality and lowest prices.

ALSO **YOUNG YORKSHIRE PIGS**  
Come and see me before buying elsewhere.  
**T. H. MEDCRAFT,** Sparta P. O., Ont., Eight miles south-east of St. Thomas' 319-y-om

**LINCOLN SHEEP.**

**LAMBS AND SHEARLINGS** of both sexes always for sale.  
Our last importation was made direct from the flock of Hy. Dudding, Esq., of Great Grimby, and comprises the pick of a flock numbering 1700 head.  
If you want a ram or a few ewes send along your orders.  
**J. T. GIBSON, Denfield, Ont.** 319-y-om on London, Huron and Bruce Ry.

**FOR SALE COTSWOLDS AND BERKSHIRES.**

We have for sale forty head of yearling Cotswold Rams; thirty head of yearling Cotswold Ewes, and a number of young Berkshire Sows, in farrow to imported boars. We are now getting young pigs, which will be ready to ship in April and May. Write us for prices.

**J. G. Snell & Bro.,** EDMONTON, ONT.  
Brampton and Edmonton Stations. 321-y-om

**NOTICES.**

We can with confidence draw our readers attention to the advertisement of the reliable firm of seedsmen, John A. Bruce & Co., and assure them of a satisfactory trade with that well-known firm.

The Grange Wholesale Supply Company of Toronto have become established for the purpose of doing business directly with the farmers through the Grange or Patrons of Industry, etc., and in any lines required they will give the purchasers the benefit of the profits claimed by the retail dealer or middleman. The vast increase in their business is a good proof of the success they are meeting with. See advt.

We wish to call the attention of our readers to the advertisement of the celebrated English seedsmen, Messrs. John Sharpe & Son, Hardney Berks, and Reading, Lincolnshire, England. This house has been established since 1818, and the proprietors have long given their attention to field and other seeds. Their novelties in these lines are well worth the attention of those who wish to keep in the lead as regards new varieties of seed grain, roots, &c.

We take pleasure in asking our readers to see the advertisement referring to Mr. Crossan's invention, "The Manitoba Washing Machine." We have witnessed work done with this machine ourselves as mentioned in a former issue. We now copy a recommendation of its merits in a larger size by Miss Dike, of the "Women's Home," Winnipeg, which speaks for itself:—  
In fifteen minutes, 13 tablecloths, 13 sheets, 5 shirts, 12 handkerchiefs, 1 waist, 4 night dresses, 15 pillow slips, 1 skirt, 3 pinafores, 1 pair drawers, 1 chemise, 9 night shirts. The above articles were washed with one of Mr. McCrossan's Washing Machines, through two waters, in fifteen minutes, at the Women's Home. I found, when dried and finished, that they were whiter and cleaner than our hand washing. Some of these clothes were very much soiled, and I would consider it a good day's work for a woman.  
Miss S. DUKE, Matron Women's Home, Winnipeg, Oct. 19th, 1891.  
During a pleasant call from Mr. W. D. Scott, travelling agent for the Manitoba Government, he informed us that the usual cheap excursions for settlers will begin as will be seen in the advertisement in another column. There is every prospect of a great influx of settlers the coming season. Last season numbers of farmers from the neighboring States purchased land and settled down to work, and a great number have already signified their intention of removing to different points in Manitoba and the Northwest the coming season, while the emigration from the European countries will be larger than ever before in the history of the country. Facts like the following tell of the advantages regarding this province as the place for the man with small means to obtain a home where lands are cheap; where he does not have to resign the comforts which his family have been accustomed to in the older settled provinces; where the almost perfect railroad system of the province provides good markets within easy reach of all; where national schools are of as high a grade as is to be found anywhere; where land is noted for its fertility, and as the population is moving on is yearly becoming more valuable.

STOCK GOSSIP.

In writing to advertisers please mention the Farmer's Advocate.

CANADIAN CLYDESDALE HORSE ASSOCIATION. The seventh annual meeting of this Association for the presentation of last year's proceedings, and the election of officers for 1893, will be held at the Albion Hotel, Toronto, on Wednesday, the 8th of February next, at 2 o'clock p. m. A meeting of the directors will be held at 10.30 a. m. at the same place.

CANADIAN HACKNEY HORSE SOCIETY. The second annual meeting of this Association for the presentation of the report of last year's proceedings, and the election of officers for 1893, will be held at the Rossin House, Toronto, on Wednesday, the 8th of February next, at 8 o'clock p. m. A meeting of the directors will be held at 7.30 p. m. at the same place.

CANADIAN SHIRE HORSE ASSOCIATION. The fifth annual meeting of this Association for the presentation of the report of last year's proceedings, and the election of officers for 1893, will be held at the office of the Secretary, Toronto, on Thursday, the 9th of February next, at 10.30 o'clock a. m. A meeting of the directors will be held half an hour earlier at the same place.

DOMINION AYRSHIRE BREEDERS' ASSOCIATION. The sixth annual meeting of this Association for the presentation of the report of last year's proceedings, and the election of officers for 1893, and other business, will be held at Shaftesbury Hall, 26 Queen street, Toronto, on Thursday, the 9th of February next, at 2 o'clock p. m.; interesting papers on Ayrshire subjects will be read. A meeting of the directors will be held at 1.30 o'clock p. m. at the same place.

DOMINION SHORTHORN BREEDERS' ASSOCIATION. The seventh annual meeting of this Association for the presentation of the report of last year's proceedings, the election of officers for 1893, and other business, will be held at Shaftesbury Hall, 26 Queen street, Toronto, on Friday, the 10th of February next, at 11 o'clock a. m.; interesting papers on Shorthorn subjects will be read. A meeting of the directors will be held at 10 o'clock a. m. at the office of the Association. Reduced railway fares may be obtained only by asking for a certificate and getting one from railway ticket agent at the starting point in going to the Live Stock Association Convention, to be signed and filled in by the Secretary, Henry Wade, at the Convention, which allows reduced fare on return trip.

Mr. W. W. Fisher, Ben Miller, Ont., has sold Poland-Chinas to the following:—A sow to Mr. Clarkson, Carlow, Ont.; a pair to W. Young, Carlow; to J. Carter, Clinton, a boar, and a sow to John Whitley, Goderich.

BUCKWHEAT STRAW FOR FODDER. Not many of our breeders have much confidence in buckwheat straw as a food for prize animals. Yet many beasts would thrive well on buckwheat straw and what they can pick up on the barn yard, if given Dick's Blood Purifier, because it gives good health, good appetite, good digestion. Try a box on your horse which is not thriving.

James S. Smith, Maple Lodge, Ont., writes:—“Although our stables are over-crowded, our stock are wintering very nicely. We have a grand lot of calves again from the old Conqueror, and those we have from our present stock by 1. Lavender Prince (to which the cows and heifers offered in our sale on March 8th will be bred), promise exceedingly well. Lavender Prince was got by imp. Sussex; dam imp. Lavender Pride, by Cumberland. Most of the number we have catalogued for sale were sired by Conqueror, and are a very choice lot. They are in nice condition, and should do well for whoever buys them.

W. C. Edwards & Co.'s herd of Shorthorns, although coming into winter quarters rather thinner in flesh than usual, are now regaining their former shape, and are just in right breeding condition. The show cow, Belinda, has given a very nice roan heifer calf, by Pioneer (56288), whose got have been remarkably successful in the show ring during the past season, as three of the four females composing the herd that was awarded first prize at Montreal and Ottawa, over the herds that won first and second at Toronto, were sired by him. The other show cows, Russell Rose and Bessie of Rockland, the latter first prize three-year-old cow at Montreal, and third in the aged cow class at Ottawa, have dropped us a bull and heifer calf respectively. Although these cows have been kept in high show condition for the past three years, they have all been regular breeders. Thirteen cows and heifers have calved up to date, with fully that number to calve between now and spring. Their recent importation, consisting of nine head of Scotch Shorthorns, three bulls and six heifers, mostly straight Cruickshank, seven of which were selected from the herd of that noted breeder, Wm. Duthie, Collynie, Aberdeen, Scotland, arrived home safely, from quarantine, on the 28th of November, in fairly good shape. The red yearling bull, Knight of St. John, the best bull calf at Collynie in 1891, and who was retained for use in Mr. Duthie's herd, although several large offers were made for him, is a bull of grand Shorthorn character, great individual merit, and rich breeding, being sired by Cap-apie (58591); dam Clarissa—one of the best Sittytton bred cows in the Collynie herd—by Pro-Consul (54872); 2nd dam Capsicum, by Cumberland (46144); followed by the two renowned sires, Pride of the Isles (55072) and Champion of England. Also a very promising youngster is Knight of Lancaster, got by the 300 guinea bull, Scottish Archer (50893), now in service at Collynie, and whose calves brought the highest prices at Mr. Duthie's late sale in October last; dam Lady Lancaster 6th, by Gravesend (46401), nice red heifer calf by the Jackson bred bull, Linguist; he by Sittytton Fame (53078). Rose Bloori, a beautiful red two-year-old heifer, bred by S. Campbell, Toffhills, Aberdeen, of the Kinellar Rosebud family, is due to calve in a few days to Clan Alpine (60495), of the Clipper tribe. Lady Lancaster 6th is also due to calve about the 1st of April, to Scottish Archer (50893). They are fattening for the English market over one hundred head of steers, with well matured corn ensilage as their principal feed, seasoned with a little bran and oilmeal, they are making satisfactory progress. Ten very nice young bulls are on hand for the spring sale, from nine to fourteen months old. Also, a males of any age, for sale at reasonable prices.

EUROPEAN ADVERTISEMENTS.

ALCESTER PARK SHROPSHIRE.

It will pay Canadian buyers to visit the above flock, which is founded on the best strains in England. Rams and ewes always for sale. ALSO IMPROVED YORKSHIRE PIGS.

H. PARKER, The Park Farm Alcester, Warwickshire, Eng. 316-y-om

Shropshires, Shorthorns AND YORKSHIRES.



My Shropshire flock is founded on the best blood in England. My Shorthorns are of the deepest milking strains. American and Canadian visitors always welcome.

Young Stock always for sale at reasonable figures. GEO. THOMPSON, Wroxall, Warwick, Eng. Station and Telegraph:—Hutton. Trains met by appointment. 316-y-om

SHROPSHIRE SHEEP.

The Loughcrew flock has been very successful in England and Ireland wherever exhibited. It consists of 300 breeding ewes of the most fashionable appearance and blood. Ewes, Bams, Coxon and Mansell. The Annual Sale 31st of August.



EWES AND RAMS FOR SALE. Apply to J. DIXON, Loughcrew, Oldcastle, Co., Meath, Ireland. 319-y-om.

SHROPSHIRE I

JOHN W. EDWARDS, “The Hollies,” West Felton, Shropshire, Eng. Invites all American and Canadian buyers to visit his flock, which has sent more than one winner across the Atlantic. A choice lot always on hand to select from. Visitors always welcome. No trouble to show sheep. Address as above. 322-y-om

Beam House Shropshires

WM. THOMAS offers for sale RAMS AND EWES



from his famous flock, which has sent so many winners to the leading shows. Address—

WM. THOMAS, Beam House Farm, Montford Bridge, Salop, 316-y-om England, 7 miles from Shrewsbury.

SHROPSHIRE.



Foreign buyers are invited to visit the Wolf's Head Flock, as there is always a good selection of ewes and rams for sale, and we handle none but the best, and can supply select specimens for breeding or exhibition purposes, and residing in the centre of the Shropshire sheep Breeding District buyers are assisted in selecting from other flocks. Write for prices or visit us before going elsewhere. Visitors met by appointment at Baschurch Station, G. W. R. Address: J. & T. THONGER, Wolf's Head Farm, Nesscliff, Baschurch, Shrewsbury, Eng. Telegram: Thonger, Nesscliff. 322-1-y-om

BARCHESKIE HERD OF AYRSHIRES

Andrew Mitchell, the largest breeder and exporter of Ayrshire cattle in Scotland, has always on hand and for sale bulls, cows and heifers of the choicest breeding and quality. Inspection invited. Prices on application. Apply to



ANDREW MITCHELL, 327-1-y-om Barcheskie, Kirkcudbright.

IMPROVED LARGE YORKSHIRE PIGS.

Thirty-five choice Breeding Sows from the best English breeders. Young stock of all ages. Stock supplied for exhibition purposes, registered and guaranteed to be as described. Personal inspection solicited. J. E. BRETHOUR, Burford, Brant Co., Ont. 314-y-om



ADVERTISE IN THE ADVOCATE

J. G. MAIR, Howick, P. Q., Importer and Breeder of Imp. Large Yorkshire Pigs. Young pigs (imp. in dam) and bred not akin, for sale at the lowest possible prices. Now is the time for parties starting herds to obtain good foundation stock cheap. Write for prices at once. 325-1-f-om

Improved Large White Yorkshires.

The undersigned offer for sale this month a few young boars suitable for spring use. Also a few sows bred to farrow in April and May; also a few sows, October pigs. Prices reasonable. Apply to WM. GOODGER & SON, Woodstock, Ont. Box 160. 327-1-e-om



FOR SALE. IMPROVED MANITOBA FARM, STOCK AND IMPLEMENTS. Apply to G. P. COLLYER, 327-c-o P.O. Box 396, LONDON, ONT.

CREAMERY SUPPLY CO.,

MANUFACTURERS OF AND DEALERS IN Hand and Power Butter Workers, Hand and Power Churns, Cream Vats, Latest Improved Hand and Power Cream Separators, Butter Printers, Butter Shipping Boxes, &c.

Improved Gathering Cans, double lined with air space; best in use. Also Oil Test Churns of most improved patterns, and General Factory Supplies. All information given in regard to organizing and fitting up factories. Send for prices and catalogues. Address—

CREAMERY SUPPLY CO., 327-1-c-om] GUELPH, ONT.

THE Best White Oat IN THE WORLD.

JOHN SHARPE & SON'S ROYAL DONCASTER

This magnificent White Oat was introduced by Messrs. John Sharpe & Son in 1892, and has given the greatest satisfaction at home and abroad. It surpasses all others for earliness, while its productiveness may be realized from the fact that on several farms last season it yielded 12 to 14 quarters (96 to 112 bushels) per acre. The straw is frequently 6 feet to 6 feet 4 inches in height; of splendid quality; large, close panicle, completely clothed with grain of the finest quality, and very hardy. It has a wonderfully thin skin, and is consequently much appreciated by breeders of pure-bred stock.

From Wm. Saunders, Department of Agriculture, Ottawa (to whom we shipped a quantity last season)—“I find Royal Doncaster Oat is much thinner in the skin than any of the oats we have been growing. From its appearance and character it will be a valuable addition to the varieties we have now in this country.”

PRICE, 88. PER BUSHEL FREE AT LONDON OR LIVERPOOL.

FARM CATALOGUES ON APPLICATION

Apply to JOHN SHARPE & SON, Bardney, Or Mr. J. H. MILLARD, Manager Town Hall Chambers, 327-1-d-om READING, ENGLAND.

KEITH'S Gardener's Assistant and Illustrated Catalogue

of Garden, Agricultural and Flower Seeds now ready and will be mailed free on application. I call special attention to my stock of CHOICE

Saskatchewan Red Fyfe Wheat

PRICE, \$1.25 PER 60 LBS. And also to my supply of Manitoba Oil Cake, the richest oil cake to be had on the market. Prices on application. Clover and Timothy, Orchard, Blue and Red Top Grasses, Flax Seed, Ground Flax, Tares, Seed Wheat, Oats, Barley, etc., etc.

GEORGE KEITH, Seed Merchant,

124 King St. East, Toronto. 327-1-d-o



FOREST TREES.

Blue Spruce, Douglas Spruce, European Larch, Pines, Spruces, Arbor Vites, etc., etc. Oatmeal Speciosa Seed, Forest and Evergreen Seeds. R. DOUGLAS & SON, Waukegan, Ill. 327-c-o

STOCK GOSSIP.

In writing to advertisers please mention the Farmer's Advocate.

F. G. Boyer, Georgetown, P. E. I., writes:—“Prince Edward Island farmers are more than usually interested in your description of the prize-winning steers at the Guelph Fat Cattle Show, for Redmond and Vice Challenge, that so highly distinguished themselves, are the offspring of the celebrated Shorthorn sire Challenge, who is now the property of the P. E. Island Stock Farm, and leads the Shorthorn herd of that establishment.

Wm. Goodger & Son, Woodstock, Ont., report demand for Large Improved Yorkshires good. Recent sales are as follows:—Boar to Thos. Howey, The Grove; boar and sow to Alfred Wakes, Glencoe; boar to James A. Davis, Oliver; boar to Louis Kaufman, Cassel; sow to A. E. Hopper, Chesed, Quebec; boar to John Stanton, Emiskillen; two sows to James Corrigan, Granton; sow to John Kirkpatrick, Woodstock; boar and sow to J. J. Liffin, Goderich; boar to W. Stewart, Ingersoll.

Those of our readers who are interested in Ayrshire cattle will notice the new advertisement of the famous Barcheskie Herd of Ayrshires, of which Mr. Andrew Mitchell, Barcheskie, Kirkcudbright, Scotland, is the proprietor. Representatives of this herd have been selected by several of the best Canadian breeders. Among these were a pair of heifers, which we believe are still in the hands of Messrs. W. C. Edwards & Co., North Nation Mills. Mr. Mitchell has exported cattle to all parts of the world, and has a large herd of choice cattle.

The following are a few stock notes as reported by Mr. William Stewart, jr., Menie:—Ayrshires—1 bull to Mr. Alex. Caron, Burnbrae; one bull to Mr. R. J. Martin, Marysville; one bull to Mr. Carruthers, Kingston; one bull to Mr. McMichael, Shelburne; one bull to Mr. Elias Young, Pictou; two heifers to Mr. R. G. Stacey, Brockville; two cows and one heifer to Mr. K. Walton, Willow Spring Farm, Peterboro; one heifer to Rev. John Moon, Burnbrae; one heifer to Alex. Haig, Menie; one cow to Mr. John Whelan, Westport; one Berkshire boar to Mr. R. Cuffie, Hastings, Ont.; one Berkshire boar to Mr. J. C. Hanly, Reid.

Mr. Bilton Snaresy, of Croton, Ont., has recently purchased from Mr. Arthur Johnston an exceedingly good young bull sired by his famous Indian Chief, and out of the excellent young cow, Heliotrope 4th, a daughter of that beautiful imported cow Heliotrope, winner of first prize at the Toronto Industrial Exhibition in 1887, and first prize at the Manitoba Provincial Exhibition held at Winnipeg in 1891, besides very many other first prizes. Mr. Johnston writes of him:—“I have bred few calves, even from Indian Chief, that I think equal to Chief Captain for character, style and finish, as well as for wealth and substance. A right good one, and from royal good blood.”

A. C. Hallman & Co. report that the season's trade has just commenced with the sale of a choice young bull to Mr. H. W. Schneider, Glanellen, Ont. This bull was got by their prize-winning Royal Can. Nelto and dam Rosira of Waterloo. This is the second bull they have sold to Mr. Schneider, again proving where the Holsteins have once gained a foothold they are bound to stay. Mr. Schneider has some grades he feels proud of. The demand for stock is increasing, and they expect more sales soon to follow. They have a fine selection of young bulls fit for service, and calves of both sexes. Their herd of Berkshires is doing remarkably well, and they have still a few nice young boars and sows to spare.

Messrs. A. & G. Rice, Brookbank Stock Farms, Curries P. O., report winter buttermaking at this Experimental Station is booming. From Nov. 22nd to Dec. 31st 5,680 lbs. of butter were made. Average pounds milk for one pound of butter, 21.81; average per cent. of fat, 4.19—a good showing. Have just received the monthly statement of our milk from the manager, and find therein that the average per cent. of fat was 4.33. This would be 20.92 pounds milk for one pound of butter. This is above the average. I keep nothing but Holsteins (grade and pure-bred). Oxford Jewel, the heifer that won first prize at Montreal and Ottawa, is proving a good and rich milker. Our crop of calves will soon commence to drop, when we shall have considerable milk for the factory. Messrs. Rice have two number of fine heifers to calve later on which should please anyone in quest of stock.

Levi Pike, of Locust Hill, Ont., reports a few sales as follows:—The Hon. Thos. Greenway, Minister of Agriculture for Manitoba, Yorkshire boar and sow; J. A. Konkle, St. Catharines, boar; G. H. Cleghorn, Toronto, boar and sow; C. Hare, Markham, sow; C. M. Simpson, Almonte, boar; Early Milton, Middleford, Ont., boar; R. R. P. P. Trappists, Eustache Comte des Montagnes, Quebec, two Yorkshire sows and one Suffolk sow; G. B. Hood, Guelph, Yorkshire boar; W. T. Taylor, Pontypool, boar; J. C. Brethour, Burford, four boars and one sow; Joseph Beard, Creighton, Yorkshire sow and Suffolk boar; A. McKinnon, Markham, Berkshire boar; G. C. Booth, Creighton, Yorkshire sow; James Digby, Hobart, sow; R. H. Hoskins, Louisville, Ky., U. S., boar; N. J. Greenhields, Q. C., Danville, Que., three stone pigs, Yorkshires, one sow under two years, boar under one year, sow under one year. These pigs won first right through—were never beaten; first at Richmond, Que., Sherbrooke, Que., Montreal and Ottawa fairs, F. M. Tuckett, Kansas City, Kansas State, U. S., sow and boar; B. J. Hulbert, Clever, X. M., U. S., sow; James Glen, Colman, Suffolk boar and sow; James Miller, Guelph, Yorkshire pig; W. T. Barber, Guelph, Yorkshire sow; James Devins, Woodbridge, Yorkshire boar and Suffolk boar; H. George & Sons, Crampton, Suffolk boar; James T. Steele, Spallumchren, B. C., Berkshire boar; G. H. Charlton, Edgely, Yorkshire boar; Jacob Stouffer, Altona, boar, Yorkshires from this herd won prizes at Toronto in 1892; Sow under one year, 3rd; boars under six months, 1st and 2nd, Suffolk boar under six months, 3rd. At Guelph; Yorkshire boar under one year, 1st. Mr. Pike won with Yorkshires and Suffolks at East York's Agricultural Society Fair all the prizes in the classes except two, and at the Provincial Fat Stock Show at Guelph in December last, 1st on Yorkshire barrow over nine months, and sweepstakes for best pure-bred pig nearly 11 months or age. This pig weighed, when nearly 11 months old, 55 lb.

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UPON our 250 acres of Nursery we have every class of Trees and Plants that is hardy in a northern climate; Fruit, Ornamental, Nut and Flowering. In our catalogues which are the most complete and elaborate published by any Nursery establishment in the world, all are accurately described and offered at one-half the price of trade agents. Lovett's Guide to Fruit Culture tells all about fruits their merits and defects; how to plant, prune, cultivate; describes the best novelties, etc. Richly illustrated—several colored plates. Price 10 cents. Lovett's Manual of Ornamental Trees and Plants is authoritative as well as interesting and instructive. A model of excellence in printing and illustration. Price, with colored plates, 15 cents. We successfully ship to all parts of the earth.

**J. T. LOVETT CO., Little Silver, New Jersey.**

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NOTE.—23 out of 26 First Prizes won with the product of our Famous Field Root Seeds at Toronto Exhibition in 1892.



**Rennie's Prize Swede Turnip** now stands at the head of the list. 1 lb., 30c.; 5 lbs., \$1.30; postpaid. Finest Quality. Grand Keeper. Great Yielder. Leads all other Swede Turnips. First Prize Toronto Industrial and other leading Exhibitions in 1892. Try it this season.

**NEW FIELD PEA, "CANADIAN BEAUTY," Novelty, 1893.** Never before offered. Can only be obtained direct from Toronto, bearing our stamp on every label. This entirely new White Pea was selected by a farmer residing in Eastern Ontario, who states that he found one mammoth pod on a Multiplier vine, and being attracted by the very large size of both pod and peas, took care of the few grains and sowed them the following spring. From this small beginning a stock has been produced which enables us to offer it this year for the first time. The grain is large, bright and a clear color; immense sized, well-filled pods, frequently containing 12 peas. The straw is not coarse, but of fine quality, in this respect differing from almost all other varieties. In point of productiveness, we say without any hesitation whatever, that it is undoubtedly the greatest yielding pea yet introduced. A new Oat of great promise, found to be far ahead of all old varieties in point of productiveness. The seed was imported from France, and after being thoroughly well cleaned and hand picked with Hon. Jno. Dryden and other farmers to grow for us. The Oat is heavy, black in color, and the heads, which are of the class known as sprangled, are long and well filled with grain. For several years it has taken first place amongst all the varieties tested at the Agricultural College, Guelph. Try this famous Oat this year, and surprise the neighbors with your crop. As stock is limited, early orders are requested. Prices for 1893—Per lb., (postpaid) 2c.; 5 lbs., (postpaid) 80c.; Peck, 40c.; 1/2 Bush, 60c.; Bush, \$1.00; 2 Bush, at 90c.; 10 Bush, at 85c. (Bags 20c. each extra.)

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For Spring Planting—choice apple, plum, pear, and peach trees, standard orchard and garden varieties. A few Osthelm, Windsor and other cherries to offer. Extra fine Lombard plums, Bartlett and Idaho pears, etc. We have shipped thousands of trees to all parts of Canada in past years, giving best of satisfaction. Trees delivered at any station; all charges, duty, etc., paid by us. We can supply all kinds of small fruits, grapes, currants, etc., at lowest rates. Send for illustrated list, free; buy direct and save money. Mention this paper. Address **FRED E. YOUNG, Nurseryman, Rochester, N. Y.**

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A large and complete collection of Fruit and Ornamental Vines, Small Fruits, etc. Please us with your order; we will please you. Send for our new Illustrated Price Catalogue, free to all.

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**PLANT ONLY PEARCE'S SEEDS!**

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**PEARCE'S SEEDS LONDON, ONT.**

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**CONSUMERS CORDAGE CO., (LIMITED).**

Head Office: MONTREAL.

INCORPORATED BY LETTERS PATENT OF THE DOMINION OF CANADA, UNDER THE "COMPANIES ACT."

**CAPITAL, - \$3,000,000.**

[In thirty thousand (30,000) shares of one hundred dollars each.]

- DIRECTORS.**  
 JOHN F. STAIRS, M. P., Halifax, President.  
 A. W. MORRIS, M. P., Montreal, Vice-President.  
 EDWARD M. FULTON, Montreal, Treasurer.  
 GEORGE STAIRS, Halifax.  
 JAMES M. WATERBURY, New York.  
 CHAUNCEY MARSHALL, New York.  
 WILLARD P. WHITLOCK, Elizabeth.
- SECRETARY.**  
 CHARLES B. MORRIS, Montreal.
- BANKERS.**  
 THE CANADIAN BANK OF COMMERCE.  
 THE UNION BANK OF HALIFAX.
- SOLICITORS.**  
 MACMASTER & MCGIBBON, Montreal.

The Directors, who are now the owners of the entire Capital stock, have decided, at the request of numerous friends of the Company throughout Canada, to enlarge the proprietorship of its stock, and to offer for sale, at par, ten thousand shares, of one hundred dollars each, fully paid and non-assessable.

Payments are to be made as follows:—Five per cent. on application; fifteen per cent. on allotment; twenty per cent. each in one, two, three and four months from the date of allotment. Applicants have the right to pay in full on allotment.

Applications for shares will be received until February 15th, 1893, at any of the offices of the Canadian Bank of Commerce, at the offices of the Union Bank of Halifax, and at the head office of the company, N. Y. Life Building, Montreal.

Forms of application for shares may be obtained at any of the above places, or they will be sent by mail on request.

Should no allotment of stock be made to any applicant for shares, the amount paid will be returned in full, and in the event of the Directors finding it impossible to allot the full number of shares applied for, the surplus of the deposit will be credited toward the amount payable on allotment.

The right is reserved of withdrawing the offer in whole or part at any time before allotment, and of allotting to any applicant any less number of shares than the number applied for.

As the dividends of the Company are payable quarterly, beginning with the first day of March next, allottees of stock will be entitled to receive a proportion of the quarterly dividend as declared, corresponding to the amount paid upon their subscription.

It is proposed to apply to the Stock Exchanges of Montreal and Toronto for official quotations of the shares of the Company.

The Consumers Cordage Company was organized in June, 1890, with a Capital of one million dollars, to operate several of the largest Cordage and Binder Twine Factories in Canada. It at first operated these under leases, but its operations having been successful, the Capital Stock was subsequently increased to Three Million Dollars, and the leased properties were purchased.

The Company has no mortgage indebtedness; and, according to the law under which it was incorporated, none can be created without the consent of two-thirds of the shareholders, represented at a meeting called for the purpose.

The Company has placed in the hands of its Bankers:—

- (a) Full statements of its affairs, certified to by Messrs. Caldwell, Tait & Wilks, Chartered Accountants.
- (b) The following letter from Messrs. Abbotts, Campbell & Meredith, advocates, Montreal, upon the legality of its incorporation, and the issue of its stock:

MONTREAL, January 5, 1893.  
 Consumers Cordage Co., Ltd., Montreal:—  
 GENTLEMEN, We have examined the books and documents connected with the organization of the Consumers Cordage Company, Limited, and are of opinion that it has been properly incorporated, and that its capital stock of \$3,000,000, as issued, is fully paid up and non-assessable, according to the provisions of the "Companies Act." We are, yours truly,  
 (signed) ABBOTTS, CAMPBELL & MEREDITH.

(c) A report from Messrs. Macmaster and McGibbon, Solicitors of the Company, that the titles to its Mills have been duly examined, and that no encumbrances exist.

Applicants for shares may examine these documents, copies of which may be seen at the Company's offices, and at the various offices of the Banks mentioned above.

The Consumers Cordage Company is probably the second largest Manufacturer of Cordage and Binder Twine in the world, and claims the following very material advantages over its competitors:—

- 1st. Ample capital to conduct its business which enables it:—
  - (a) To buy its raw material in larger quantities, and at lower prices.
  - (b) To use only the latest and most improved machinery, thus keeping its mills in the highest state of efficiency.
  - 2nd. Economy in selling and distributing its manufactured product.
  - 3rd. The business covers so wide a territory (its manufactured goods go to almost every civilized country in the world) that it cannot be seriously injured by local troubles; and its Manufacturing establishments are so scattered that the danger of severe loss by fire is very slight.
  - 4th. Lower cost of production.
    - (a) By maintaining the sharpest competition between its several mills, it is enabled to introduce in all the best methods found in each.
    - (b) By spreading its commercial expenses over a large output.
    - (c) By placing in one hand the purchasing of the Raw Materials and Manufacturing supplies for the several Mills, thus securing lowest prices.
    - (d) By manufacturing for themselves many of their supplies.

The Company has always found it in its interest to divide the economies effected in production and distribution with the Consumer, and since its existence the Consumer has, upon the average, had a better article at a lower price than previously.

The Company does not claim to have any monopoly, or to earn monopoly profits; in fact, it has not done so. Since its organization it has been able, owing to the advantages above referred to, to earn a net return on its present capital of not less than 10 per cent. per annum (as statements in their Bankers' hands will show), and the Directors believe that these profits will be maintained in the future, as the cost of production and distribution shows each year a marked decrease.

The Dividend for the year ending 31st October, 1892, was at the rate of 8 1/2 per cent. per annum. The past record of the Company and its present position justify the Directors in believing that quarterly dividends of one and three-quarters per cent. can be paid, and should the profits for the present year be as large as the outlook promises, the final quarter's dividend might be increased.

Any further information may be had at the head office of the Company at Montreal. 327-a-om

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 Has no second chance. The first supplies his needs — if he takes the wise precaution of planting **Ferry's Seeds**

**Ferry's Seed Annual, for 1893,** contains all the latest and best information about Gardens and Gardening. It is a recognized authority. Every planter should have it. Sent free on request. **D. M. FERRY & CO., Windsor, Ont.**

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TRADE MARK.

**GOOD CROPS OR POOR CROPS,**  
Which Shall it be for 1893?

W. A. FREEMAN, Esq.: Niagara, Jan. 27th, 1893.  
Dear Sir,—Having given your "Bone and Potash" a fair trial with most satisfactory results, I have much pleasure in adding my testimony to its excellence as a fruit producing fertilizer. I have used it at the rate of 8 lbs. per tree in full bearing. I have placed in the hands of Mr. Gago my order for eight tons, an increase of two tons on order of last year. Respectfully,  
(Signed) J. H. BENN.

W. A. FREEMAN, Esq.: Niagara, Jan. 27th, 1893.  
Dear Sir,—Used your potato manure last year, and am well pleased with it. We used on one piece one sack with manure per acre, on another two sacks with manure, and a small piece without manure, but with fertilizer at the rate of three to four bags per acre. The manure plots had at the rate of twelve to twenty loads per acre. The largest yield was received from the plot where fertilizer alone was used.  
(Signed) A. C. HOWE.

Send for FREEMAN'S NEW CATALOGUE.  
Treating on Manuring and how to grow large and paying crops.  
— SENT FREE BY ADDRESSING —  
W. A. FREEMAN, HAMILTON, ONTARIO.  
Please mention this paper. 335-a-om

**Seventh Annual**  
**PROVINCIAL SPRING STALLION SHOW**  
DRILL SHED, TORONTO,  
MARCH 8th & 9th, 1893

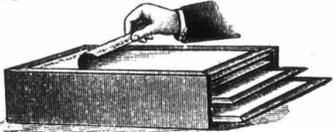
Premiums will be offered for the following breeds:—Thoroughbred, Carriage or Coach, Standard-bred Roadsters, Hackney, Shire and Clydesdale. Increased prizes in all departments. Horses will be inspected for the World's Columbian Exposition. Prize lists and further information may be had on application to the Secretary.  
NICHOLAS AWREY. HENRY WADE,  
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Grape Vines and Berry Plants.  
Planters will find it to their interest to patronize a Canadian Nursery. Varieties are offered most suitable to our climate; useless sorts discarded. My stock is graded with scrupulous exactness, and is true to name. Everything new and old in the nursery line deemed worthy of distribution. Having seventy-five acres in fruit here I can, and will give freely, good advice to customers. Send now for a free and useful catalogue and price list to Helderleigh Farms Nursery. E. D. SMITH, Prop., 325 Winona, Ont.

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A new invention for duplicating copies of writings or drawings.



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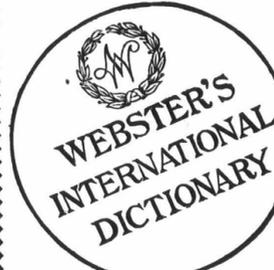
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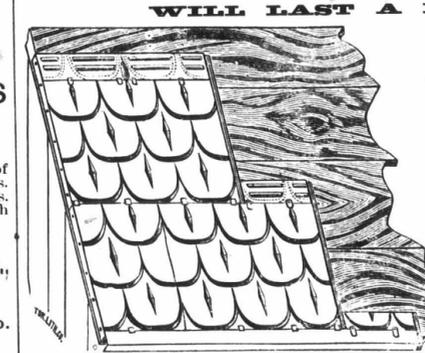
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Corrugated Pan over Firebox, doubling boiling capacity.  
Small interchangeable syrup pans (connected by siphons) easily handled for cleansing and storing, and a Perfect Automatic Regulator. The Champion is as great an improvement over the Cook Pan as the latter was over the old iron kettle, hung on a fence rail. Catalogues mailed free on application.  
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**CROSS-CUT SAW.**

We take pleasure in offering to the public a Saw manufactured of the finest quality of steel, and a temper which toughens and refines the steel, gives a keener cutting edge and holds it longer than by any process known. A Saw to cut fast "must hold a keen cutting edge". This secret process of temper is known and used only by ourselves.

These Saws are elliptic ground thin back, requiring less set than any Saws now made, perfect taper from tooth to back. Now, we ask you, when you go to buy a Saw, to ask for the Maple Leaf, Razor Steel, Secret Temper Saw, and if you are told that some other Saw is as good, ask your merchant to let you take them both home, and try them, and keep the one you like best.

Silver steel is no longer a guarantee of quality, as some of the poorest steel made is now branded silver steel. We have the sole right for the "Razor Steel" brand. It does not pay to buy a Saw for one dollar less, and lose 25 cents per day in labor. Your saw must hold a keen edge to do a large day's work. Thousands of these Saws are shipped to the United States and sold at a higher price than the best American Saws.  
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**SHURLY & DIETRICH,**  
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Manitoba is making rapid progress, as shown by the fact that in four years the area under crop has more than doubled.

In 1887 there was under crop 683,764 acres.  
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 Increase, - - - 686,017 acres.

These figures are more eloquent than words, and indicate clearly the wonderful development taking place. NOT A BOOM, but certain and healthy growth.

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Thrive wonderfully on the nutritious grasses of the prairie, and MIXED FARMING is now engaged in all over the Province. There are still

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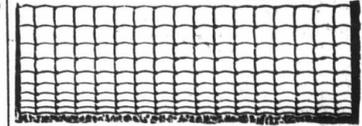
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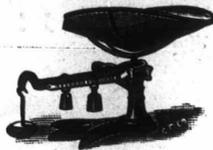
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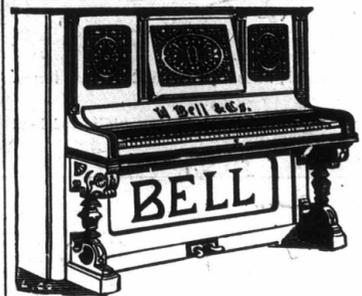
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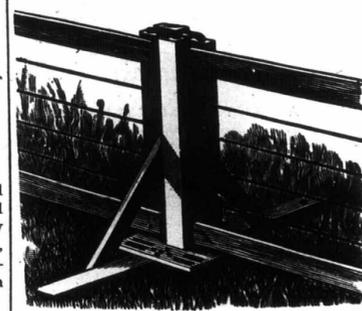


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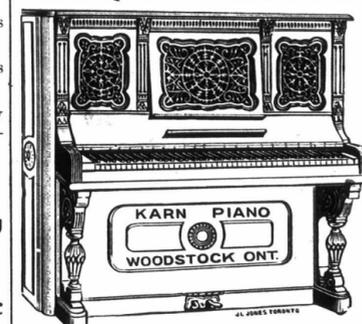
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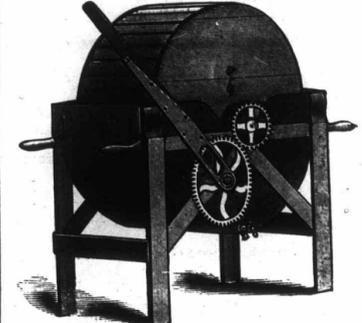
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