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AND HOME MAGAZINE.

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THE FARMER'S ADVOCATE & HOME MAGAZINE

THE LEADING AGRICULTURAL JOURNAL
IN THE DOMINION.

PUBLISHED BY
THE WM. WELD CO., LIMITED,
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JOHN WELD, Manager. F. W. HODSON, Editor.

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THE FARMER'S ADVOCATE, OF
THE WILLIAM WELD CO.,
LONDON, ONT., CANADA.

The Safe Arrival of Government Stock.

Since last issue we have received the following letter which explains itself:—

Fredericton, Oct. 2, 1891.
To the Proprietors and Editors of the FARMER'S ADVOCATE:

We, the Commissioners appointed by the N. B. Government to import pure-bred stock from Ontario and Quebec, have great satisfaction in having to report that we arrived in Fredericton on Friday, the 2nd October, with all our stock, consisting of 146 cattle and 157 sheep, all in good order without any loss or damage, and we desire, through your valuable journal, to express our thanks to all your parties with whom we came in contact in our purchases or otherwise, for their uniform hospitality and kindness. We also would express our thanks to the officers of the G. T. R. R. for the valuable assistance rendered us by them in collecting and arranging for shipment at Montreal in a special train our whole importation. Last, but not least, accept our warmest thanks for the very unremitting and valuable services rendered us by the proprietor and editor of the FARMER'S ADVOCATE.

Yours very truly,
CHARLES BURPEE,
JOHN M. CAMPBELL,
JAMES FAIRWEATHER.

[We are sure the stock breeders of Ontario and Quebec, as well as our staff, congratulate the commissioners on the safe arrival of all the live stock, and hope the time will soon come when we may again have the pleasure of serving them.]

We have for many years used the advertising columns of the FARMER'S ADVOCATE, and consider it one of the best mediums in the Dominion for those who wish to reach the leading agriculturists, horticulturists, and others who take an interest in rural affairs.

JOHN A. BRUCE & Co.,
Seed Merchants, Hamilton, Ont.

Editorial.

Mr. J. W. Bartlett's Appointment.

Mr. J. W. Bartlett, who has been connected with the FARMER'S ADVOCATE for nearly four years, has just received the appointment of Chief Clerk in the Department of Agriculture of the Province of Manitoba. This position is the same as that known in the Province of Ontario as Deputy Minister of Agriculture.

Mr. Bartlett first entered the service of the ADVOCATE as assistant editor on the staff of the Eastern Edition, where he served acceptably until the late Mr. Weld determined to issue a separate paper for Manitoba and the Western Territories, when Mr. Bartlett was appointed resident editor of the Western Edition. We have found him during all these years a man of sterling integrity, great industry and perseverance, and possessing scholastic ability in an unusual degree. His appointment but exemplifies the truth of the proverb, viz., "Seest thou a man diligent in business? he shall stand before kings; he shall not stand before mean men"—that is, men of low degree. We congratulate Mr. B. on his appointment, and wish him every success in his new field of service. The Province of his adoption will be blessed with an honest and hard-working Deputy. His late position on our staff is filled by

MR. WM. THOMPSON,
born and reared on an Ontario farm, and who for some years was city editor of the London Advertiser, which position he resigned and accepted that of agricultural editor of the same paper. This post he has held and ably filled for many years. Though actively engaged in farm work, two years ago Mr. Thompson began contributing for the ADVOCATE, and during the last year he has conducted the dairy department of our Eastern Edition, and has also been the valued Canadian contributor to Hoard's Dairyman. He possesses a good education, and is a practical farmer and dairyman. We have no hesitation in saying that he is the best dairy writer connected with any paper in Canada, having few equals on the continent. Gentlemanly, kindly, genial, honorable and obliging, he will soon prove himself a decided acquisition to the province of Manitoba.

A Canadian Abroad.

Mr. John Robertson, a brother of Prof. Jas. W. Robertson, of the Central Experimental Farm, Ottawa, who has been giving instructions on dairying in Scotland, has recently received an appointment from Messrs. Andrew Clement & Son, Wellington, New Zealand. Mr. Robertson is on his way to New Zealand.

Weeds.

It is not alone in the form of useless and obnoxious vegetation in our fields that we can accept the definition of the word heading this article. Weeds are not alone to be found as a burden that prevents the necessary growth or development in our cultivated crops. Though perhaps not so glaring to the casual observer, weeds are ruinous in the stud, in the herd, and in the flock. It is the poorly developed animal that fails to bring a price equal to what it costs to produce, therefore it takes up the room of a better and more profitable subject, which would, on the other hand, have produced a profit from the food consumed. It is the unprofitable cow that eats every three hundred and sixty-five days of each twelve months, and yet, only produces slightly over half the days of the year, her product not being sufficient to pay the cost of what she consumes, while as a reproducer she brings into the world such as again multiplies unprofitable farm animals. It is the weed growth that takes the sustenance from the growing crop. It is the weeds among animals that occupy the room that should be given to the good and saleable horse, whose presence on the farm is a delight to the owner, while the other is a nuisance at home, and cannot be sold because there are too many such in the market. The weeds usurp the place of our best shipping steer, and in their place there grow animals that not only occupy the room, take the feed, but worst of all, prevent their owner from developing a love and taste for his work without which he cannot possibly attain success in his calling. Who would go to see a field of grain abounding in noxious weeds with any expectation of pleasure? Who would realize any satisfaction in showing a friend a lot of colts that are weeds in his own eyes, and whose chief characteristics are their different degrees of unsoundness? The task of selling a lot of scrub steers whose narrow, bare frames are such as only the poorest class of butcher will buy, exemplifies the case. It is the lower-grade farmer that produces them, it is the lower-grade butcher that buys, and he sells to the lower-grade consumers, the result being a lower-grade price all through. Where laudable ambition fails to move men to aspire to better methods in their calling, very shame steps in and prevents a too great falling away. For this reason good farmers are required in every locality to assist in illustrating that in farming for profit a high aim must be taken, or they will strike below the mark, which causes the balance to appear on the wrong side of the ledger. A drive through the country will convince the observant that many farms which should continue to produce bountiful crops, will very soon be largely occupied by weeds, unless a radical change in the farming operations is brought about.

The Farmer as a Mechanic.

There are those who uphold the work of the specialist until they would have the farmer as helpless as the city man who only has to give an order through the telephone and the mechanic is on hand to do any work in any line needed. With the farmer all this is changed; he is at some distance from the city, and any mechanic that may reside in the neighboring village is likely to be only a third-rate hand, or he would have gone to a centre where better work and greater skill are better paid.

In doing his work the farm hand of necessity has to learn something of handling tools of all descriptions; there are breakdowns on the road in which his ingenuity is brought out in a thousand ways. Sometimes a man would be so badly stuck that he would not venture out alone if he were not equal to the occasion in fixing up an unfortunate break that otherwise would disappoint all his calculations. A broken trace or other part of his harness must be mended without loss of time, or the load will not reach the market in time. Again, the majority of farms are so isolated that it requires more time to go to a carpenter or blacksmith shop than it requires to mend the break.

As winter approaches there are a number of jobs that require doing, in order that stables may be placed in readiness when the first blast of winter comes. For this and a hundred other reasons a farm workshop is required, where tools of all sorts are kept to fix up wood or iron work when needed. There should be a room large enough for a stove, so that there will be comfort for those who intend working at any job which is required, and many a rainy day may be spent to great advantage there.

Boils of all sizes should be kept to replace those worn or broken in any machine, and different wrenches should be on hand when wanted. This is an example of how a few dollars spent on tools required would supply many a convenience that is done without. Machines would be mended in time to prevent a general collapse. It does not require an expert to paint the implement that has of necessity to be out in much of the weather, and for want of which they very soon get old looking. The water gets in and swells and rots the wood, and valuable machines get out of order and have to be replaced with new, which takes much of the profit which is made from the farm. Again, if a man learns how to repair a machine or implement he will take more care to prevent its abuse, and will take more pride in having them in the best working order, which, last of itself, will save much of the wear and tear which a badly running machine entails.

Farmers must give time to kitchen gardens or else they go without vegetables. If they have the time to go after and buy what is required, how different from the fresh, crispy lettuce and other garden stuff that is at once healthy and delicious, is the faded, wilted stuff that has been hawked to a town and stood in the sun until every vestige of freshness is gone. A few hours spent at this time of the year on asparagus and rhubarb beds will plant out enough to last for years. The fall is the time when the garden should be plowed, so that it will be in readiness to sow the seed, and in what planning is contemplated in the right season when hurried

spring work comes on. A few boards will make a cold frame that will start many a delicate vegetable. Why not turn them to account and have early lettuce, tomatoes, cucumbers, or any other vegetable you fancy, that not only contributes to enjoyment, but is necessary to health.

Preserve the Mares.

The love of farm stock of all descriptions, which is so thoroughly engrafted in the Anglo-Saxon race in the old world, is just as firmly implanted among the same race of people on this continent. Particularly is this the case among Canadians, who are fond of breeding and caring for stock, and in their hands all varieties appear to flourish. The horse comes in for the largest general share of attention; as he is more closely identified with the co-workers on the farm, therefore, he is of necessity the general favorite. No truer insight into the character of a country's agricultural resources can be gained, or truer idea of the intelligence of the residents, than that which is obtained by viewing the horses that are being produced in it. Just as these abound in variety and in superiority, just so far has the country succeeded in other departments of trade and wealth. In each locality certain types have been developed suitable to the wants of the residents of that part, or the demand that may have arisen by certain qualities that a local breed may possess.

The student of heredity in breeding in any of its branches is impressed with the readiness with which any breed responds to skill, or care in the work of moulding desired types. The distinguished breeders of former years studied the qualities of the subjects they had at their disposal, and by blending these properly together they produced the animals which have done so much to impress their qualities on the different lines of breeding throughout the world. Just as the artist who has brought his picture through from the rough sketch to the perfected painting. It is the finishing touches that beset the master hand. So it is with a distinguished breeder: he carries his ideal in his mind, and so dictates a cross that he is entitled to produce that which was plainly impressed on his mind, and thus is brought forth that which is admired by all who take an interest in live stock. The old breeder had comparatively imperfect material from which to produce the horse in the variety and perfection in which we now see him. It was the happy blending of the blood of the Arab and Barb on the English mares, on the English soil and English climate, that produced the thoroughbred or English race horse which, much superior in size, possesses greater speed and strength, and is far in advance of the choicest specimens possessed by the ancients; and yet this blood is most potent in improving other sorts. We find the English thoroughbred employed to improve other good sorts, and a mixture or percentage of this blood is always found where light horses of good quality are met with. The French have purchased them freely, and the impress can clearly be seen in the coach horses they are producing. The German breeder has it. The more quality we put in them the more of the thoroughbred blood is detected on analyzing their pedigree. The best English coach horses are largely indebted to the thoroughbred; and of late years additional crosses of this breeding are constantly

being added. The American trotter is bred up largely from cleverly chosen specimens of the galloping thoroughbred, and fresh infusion of this blood has furnished the most wonderful performers at the trot. Thus we see that a certain strain of breeding may be exceedingly powerful in its influence even when diluted by several removes.

The first principles known to early breeders was that "like produces like," and to this law was added the generally accepted rule, "breed from the best." To the successful application of these two rules we are indebted for the advance that has been made, and the high degree of excellence attained. In Canada we have any number of mares suitable for breeding in each line, but it is for want of studying the probable effect of mating that results in such a large proportion of failures. Personal interest often induces a man who is quite competent to judge, to give his advice how a certain mare should be bred, quite contrary to what he would decide if he were the owner himself, and it is strange that men will flock in one direction, and breed to a certain horse without any regard to the type of mare they may possess. For example, we see large useful mares of draught types being bred to a trotter. What the owner expects as a result is hard to conjecture. Then, again, a mare of capital quality, but perhaps a little deficient in size is mated with a draught horse, the owner doubtless looking for an improvement in size. In each case there is a desire to realize what is not possible to obtain without a loss of the most important characteristics. The above may be thought extreme cases, but they occur every day. The art of breeding must be more closely defined before success can be attained. Wherever essential traits are developed in a mare, these should be aided by breeding to a horse that not only has the characteristics in himself, but whose breeding denotes the same points developed in his ancestry. A deficiency or weak point in a mare should be overcome by breeding her to a horse which is especially strong where the mare is weak, but both should be as nearly as possible of the same type. As before mentioned the old breeder's first maxim was "like breeds like," then how can we expect to produce beauty of form where none is present. How obtain strength where nothing but weakness is seen in every essential point. If a certain type is desired, wide crossing is almost certain to end in disappointment. Mating parents to improve certain points is what constitutes true skill in breeding.

DEAR SIR.—We write to say that things are still progressing with us this season even better than we anticipated. We are at present getting out a large shipment for the War Department of Roumania, consisting of wind-mills, pump and tank, also a keystone portable steam driller for drilling artesian wells. We have now got a fair trade in that country, which is gradually increasing. We are also getting out another shipment for England, and have at the present time over twenty men employed erecting wind-mills in the Northwest in addition to our regular staff in this province. As you are aware, our business has been steadily on the increase for the past five or six years, which fact we attribute largely, especially in this country, to the excellent services of the FARMER'S ADVOCATE, in which we commenced to advertise some six or seven years ago. We do not appear to have reached all your subscribers yet, or else your circulation must be increasing, as we still continue to receive enquiries for catalogues, etc., from readers of the ADVOCATE.

ONTARIO PUMP CO., Limited,
Head Office, Toronto, Ont.

Mr. G. F. Frankland.

The subject of our sketch was born in the village of Barrowford, in Lancashire, in the year 1834, and at the age of eleven was apprenticed to a grocer, farmer and cattle dealer, at which business he put in his time; after which, at the age of twenty-one, his ambition led him to cross the Atlantic to see America. He took his first passage in a sailing vessel, which was wrecked off the coast of Ireland; however, he was more successful when he next shipped, for he reached New York safely and made his way to Toronto, he having a relation near Richmond Hill, to whom he went and where he took his first lesson in farm work in Canada. He was set at ditching, a job that did not exactly suit him, so made his way to Yonge street, near Engleton, and here he engaged himself with a butcher named Nightingale, with whom he remained long enough to learn the business, as well as become popular with all who knew him.

Nearly two years were spent in working for another's interest when he determined to launch out for himself. He formed a partnership with two men who were well acquainted with the surrounding country. This firm carried on a successful wholesale butcher's trade, purchasing and selling both dead and alive, Toronto being their headquarters. About this time Mr. Frankland married, and to his wife he ascribes much of his success, her counsel being well weighed and generally acted upon through her lifetime. For many years Mr. Frankland carried on a general butcher's business in St. Lawrence Market, living at the same time out in the suburbs of the fast-growing city where his business kept increasing until he had amassed sufficient capital to undertake the shipping of preserved meats to England. In his case this did not turn out a profitable undertaking. However, nothing daunted, he turned his attention to widen his now growing business. In this particular Mr. Frankland had a thorough reliance on what Canada could do if only an opportunity offered, at the same time keeping in mind the wants of England with her vast wealth and population. It was always his ambition to let England know what resources this country had, and being a loyal British subject he endeavored to place Canada first in the eyes of the world, especially as far as England was concerned. In 1872 he tried his first venture in England with live cattle, which proved a success, notwithstanding the excessive charges for everything in the way of building pens, freight, passage, charges for the men and other incidental expenses. Since this his pen has been busily employed in procuring better accommodation for the export cattle trade, as well as in praise of his adopted country.

In the year 1876 Mr. Frankland was presented with a silver service and a beautiful clock by his friends in the city of Toronto and vicinity.

In 1882 he was appointed a Justice of the Peace by the Government of Ontario, and in 1885 St. Lawrence Ward returned him to represent it as alderman in the city council, a position he has continued to occupy for six years.

In 1886 his friends invited him to a banquet at the Queen's Hotel. During the evening they

presented him with the massive gold watch and chain which he usually wears.

In the month of January of this year the Dominion Live Stock Association elected him as their President, and this without even privately informing him of their intention.

Mr. Frankland has for a length of time advocated the building of an agricultural hall in the city of Toronto, where the Live Stock Association and Farmers' Institute meetings could be held, and where permanent fat stock shows and spring and winter stallion and other shows could be held, which would contribute largely to the agricultural interests, as well as be of immense benefit to the city of Toronto.

President James Mills, M. A., and Alderman John Hallam Address the Sheep Breeders.

In another column will be found extracts from an address delivered by Prof. Jas. Mills, M. A., before the midsummer meeting of the Dominion



MR. G. F. FRANKLAND.

Sheep Breeders' Association. We advise all to carefully read it. It is one of the best addresses ever delivered before the Association. It contains much important advice, which should be put into practice by all sheep breeders. The well-known wool dealer, ALDERMAN JOHN HALLAM, who has always taken a great interest in the work of this Association, spoke immediately after Professor Mills, as follows:—

"I am sure that everyone in this meeting will agree, in the main, with the learned Professor's remarks concerning the different points to be observed if sheep breeding is to be a success in the province of Ontario; but I regret that he has not touched upon wool, which is an interesting item to farmers. His remarks upon every point connected with sheep raising are pertinent and will be appreciated. I am speaking now from a wool-buyer's standpoint, and must confess that there is great need of improvement in shearing sheep and preparing the wool for the market. Wool is marketed in a most careless and slovenly way, even by some of the thoroughbred stock raisers, with taglocks also mixed with burrs, chaff and seeds, which are very detrimental.

Our manufacturers object to this, because it gives them so much trouble and will not allow them to make the quality of goods that the wool would be fitted for if free from this objectionable matter. I am sure if the farmers would keep their wool free from burrs, seeds and chaff, they would get from one to two cents a pound more for this product. This Association and the agricultural papers might do good service by instructing the farmers to be more careful in shearing, and to keep the sheep from the hay and straw stacks, and have the wool put up in a neat and clean condition.

"There is another remark I wish to make. A great deal of our wool is now losing its combing qualities. It is losing its brightness and getting very brashy. This, in my opinion, is owing to the crossing and interbreeding of sheep. Brashy or tender wool will not command the price for exportation, but has to be used in this country for yarns and blankets, and for this purpose is very undesirable. It is not in the interest of farmers to grow brashy wool, for the fleece are much lighter and the staple more tender, and in consequence the farmers get less for their product. This remark applies to thoroughbreds. I cannot give you the reason, but, in my experience as a wool-buyer, when thoroughbreds have been in this country for one or two years their wool gets brashy, coarser and more tender in staple. There would be an unlimited demand for pure Southdown in Canada as a wool most suitable for clothing purposes, but, as I have stated, it gets tender and brashy and loses all that quality that English Southdown is famed for. With reference to other breeds of sheep, I have nothing to say; but I think it a great mistake for our farmers to sell off their lambs at from three to four dollars each during the months of August and September, when, if they were kept and grown into yearlings, they would double their price in March or April. I think I can state that fully 85 per cent., if not 90, of all animals slaughtered from June to April or May following are lambs. This, in my opinion, is a great loss to the food supply of this country. There is not enough of shorn lambs' wool in this country to make it an object, as it is not the custom here, as in Denmark and Kent, to shear the lambs in September and October. As to the value of this class of wool I cannot say, although I have imported tens of thousands of Danish lamb fleeces, shorn off the sheep without being washed, at from 10d. to 12s. per pound, also Kent lambs at from 8d. to 10d. per pound. The most valuable wool in England is that shorn from Shropshire lambs, which I think would command from a shilling to 14d. per pound. Mr. McCrae, of Guelph, who is a practical manufacturer, dissents from this, but I think he will agree with me that it is desirable above all things in raising sheep to have it free from burrs, chaff and seeds. When the sheep are free from this foreign matter they will be easier kept in good health, and will not be subject to the irritating influences of back-scratchers.

"I have to regret that the bulk of the wool is now in the hands of the wool dealers, and that during this last six or seven weeks combing wool has gone down from one to one and a-half cents a pound, and it is not likely to recover, as money is very tight in the United States, and the flooding of the United States market by large importations of wool from all over the world by the United States wool dealers and those who speculated in the McKinley Tariff have not been worked off, and will, in my opinion, take a year or more to equalize this state of affairs, so I do not look for any improvement on this line for some time to come."

The British Dairy Association examines would-be cheese and butter makers, and issues to them certificates that enable them to get positions.

More than 43,000,000 pounds of oleomargarine were manufactured in the United States last year an increase of about 12,000,000 pounds over the previous year.

The Farm.

Implements at the Toronto Industrial.

The show of implements and machinery at this great exposition was one of the best ever seen on the continent. The farm implements were even better than last year. Messrs. D. Maxwell & Sons, St. Marys, Ont., exhibited binders, mowers, rakes, sulky rakes and sulky plows. They have made several improvements in their binders, more steel parts and brass bearings being used, and have also substituted steel for wood. They showed five different mowers, some with front and some with rear cut; the cutterbars varied from three feet six inches to six feet in length.

Messrs. Richardson & Webster, of St. Marys, exhibited their power ensilage and straw cutters, grain-crushers and cheese presses. This firm is the only one in Canada manufacturing a cylinder ensilage cutter having an upper stroke, which they claim to be an advantage; they have attached carriers which can be adjusted so as to carry the stuff at right angles or straight ahead as desired. Their cheese press is constructed of steel with patent head which gives constant pressure for twenty-four hours.

J. W. Proven, Oshawa, Ont., was out with his double-acting hay carrier and self-reversing sling and fork. He attracted the attention of a great number of farmers, and succeeded in making a number of sales. His is a good serviceable implement.

The Patterson Bros. & Co., of Woodstock, exhibited binders, one and two-horse mowers, grain drills, horse-rakes, plows, spring-tooth harrows, straw-cutters and grinders. They show for the first season their new Empire mower, which cuts five or six feet, according to the length of the knives.

M. T. Buchanan, Ingersoll, exhibited his well-known pitching machine, horse-fork and sheaf-lifter. Mr. Buchanan was one of the first who went into the manufacture of hay forks, and his machine seems to be giving good satisfaction.

Wilkinson Plow Co., of West Toronto Junction, had a full line of plows. They make different patterns for different soils, and claim their single and double-riding plows to be light in draft and easier to raise out of the ground than any of their competitors' goods.

The Cockshutt Plow Co., Brantford, occupied their old space, and reported business better than heretofore. Their riding-plows were their chief exhibit. Their double-furrow plow will certainly be found a great saving to the farmer, because one man and three horses will do the same work as two men and two teams. This plow has some good features, viz., the king bolt, which enables the wheels to turn without interfering with the working of the plow. They also show walking-plows cultivators and road scrapers.

Coulthard Scott Co., Oshawa, showed their ten-hoe combined drill, with new and improved tilt, whereby the hoes can be changed instantly by means of a lever; also a steel sectional spring-tooth cultivator, with spring pressure. The same lever raises the hoes out of the ground and also puts the pressure on. The hoes can be put at any pitch by slacking a nut. They also exhibit a Scotch diamond harrow, which is made without nuts, bolts or screws. The teeth are driven into malleable clips, which unite in holding the bulls and cross-bars together. They also show the Lion disk harrow, the centre disks of which are close together. The makers claim this implement will cut all the ground in the centre.

Messrs. Sells & Co., Toronto, successors to H. Sells & Son, occupied their old position. They have been showing their mills for thirteen years. This year they exhibited their improved combination press at work, by which they claim more cider can be taken from the apples than by any hand press. Both hand and power presses were exhibited by the above-named parties, in the manufacture of which goods they have been engaged since 1866.

Messrs. B. Bell & Sons, St. George, showed straw and ensilage cutters, root pulpers, plows, cultivators, turnip drills, land rollers and mowers.

John Abell, Toronto, made a very large display, consisting of Triumph Advance and Return Tubular straw-burning traction engines; also a portable and compound engine. Mr. Abell informed us that the traction engines are rapidly taking the place of the portable. He also showed the new Toronto Advance separator and the Paragon separator; also a Little Giant tread-power and separator. Their experience is that the treat-mills are fast coming into use. The celebrated Duplex corn and feed mill and hay presses, both for horse and steam power, are also manufactured by this gentleman, as well as the Johnston manure spreader and a combined clod crusher and roller.

Watson Manufacturing Co., Ayr, showed binders, reapers, mowers, rakes and stock-raisers' implements—thirty different machines in all. This firm was one of the first in Canada to manufacture the ensilage cutter. They made a large number of sales at the exhibitions, but so great has the demand become for this machine that they are now manufacturing two hundred more of the same for this season. The above-mentioned firm have been engaged in the manufacture of agricultural implements for forty-six years, and have recently decided to dispense with agents and to sell direct to the farmers at greatly reduced prices.

Messrs. Farren, McPherson & Hoven, Clinton, showed their Monarch separator. This machine is favorably known throughout Western Ontario.

Noxon Bros. Manufacturing Co., Ingersoll, exhibited their light steel binder with cord-saving knotter, the working parts of which are made of cast steel. This machine is received so favorably that they have been unable to fill all orders. They also showed their popular rear cut mower and Noxon's Standard front cut. The last mentioned machine is constructed with floating fingerbars, which enables it to pass over rough and uneven ground; they are made with adjustable bearings, and have an indestructible Pitman box and pin, which is guaranteed during the life of the mower. This firm exhibited their celebrated Hoosier seed drill, both combined and single, and the Noxon steel cultivator; this latter machine is built so that the power of the horses is used to cause the teeth to enter the ground; it is used as a cultivator on new plowed sod, or to prepare a seed bed in the stiffest soil; a broadcast seeder can be attached to it.

Messrs. Sutherland & Graves, Mount Brydges, showed their Monarch fanning mill, which is constructed with four foot screens, thus allowing the grain an opportunity to become thoroughly graded. It can be regulated so as to make a sample for seed and another for the market at the same time; they have a bagging attachment affixed.

Sylvester Manufacturing Co., Lindsay, showed steel binder, Clark's cutaway disk harrow and Champion plows. Their binder is constructed much after the style of the McCormick, and was built especially for the Manitoba trade this year.

Messrs. J. Fleury & Sons, Aurora, had a full line of sulky, gang and walking-plows, ensilage cutters with carriers, straw-cutters, grain crushers and grinders, root slicers and pulpers. The two-furrow sulky plow manufactured by this firm is very light in draft, of perfect construction, and convenient for operating. One of the best points in this plow is a rear wheel, which enables the operator to turn the plow within its own length without backing his team. The ensilage cutter has carriers which may be turned at any angle without removing a bolt, screw or nut; their grinders are suitable for mills, custom grinding or farmers' use.

Messrs. Frost & Wood, Smith's Falls, showed their single canvas binder. They claim special advantages over other machines by their over-hanging rotary packers. They also showed their Buckeye mower which they have been manufacturing for twenty years, adding improvements from time to time, until to-day it is one of the most complete machines in the market; also a full line of plows, both riding and walking, and the well-known Tiger horse rake and spring tooth harrow. They also handle the Ross ensilage cutter. This firm has been in business for over fifty years, and can be classed as one of our most successful manufacturing establishments.

Manson Campbell, Chatham, occupies the same position as before with his well-known Chatham fanning-mill and bagging attachment. Mr. Campbell informed us that he has sold over three thousand mills this season, and intends manufacturing two thousand more. In order to show the popularity of his mill, we might state that Mr. Campbell sold eighty-five mills and baggers within eight miles of Port Perry, and it is a very common occurrence for his agents to sell fifty mills at one R. R. station.

J. S. Corbin, Prescott, who recently purchased the property of the St. Lawrence Manufacturing Company, of Prescott, was out this year with a full line of disk harrows, seeders, land rollers and grass seeders. He has added some improvements to the harrow by substituting steel for wood in the main beam, and has simplified their construction in other points.

Newkirk Bros. & Company showed the Little Champion Fanning and Smut Mill combined. This is quite a novelty in appearance, very compact and appears to clean grain exceedingly well.

The Mann Manufacturing Co., Brockville, showed their Giant cultivator with seeding attachments. This cultivator is all made of steel and iron with the exception of the wheels and pole. With one lever the teeth can be raised out of the ground when turning, and with the same lever a pressure can be put on them which will force them into the heaviest clay ground. They also have the Daisy Spring Tooth Harrow with steel frame. This machine has been on the market for many years. The new Monarch Seeder is provided with a lever by which the teeth can be set at any angle in a moment when required to work up the different kinds of soil; the teeth being grouped in three sections adapt themselves to the unevenness of the ground. They also showed one of their flax sowers.

Mowat Manufacturing Company, Whitby, exhibited their binder, which is a very light machine with a low elevation. They also exhibited the centre cut mower, Paris straw cutter (large and small), Raymond grinder and a two-furrow plow.

Geo. White & Sons, London, showed one of their portable engines, it being the last one they have left from this year's output. It comprises simplicity and durability. This engine is certainly very popular all over the Dominion. Their motto is, "The survival of the fittest."

Messrs. McPherson & Co., Fingal, showed their Challenge separator. This machine is considered one of the best manufactured in Ontario.

William Dick, Bolton, was out with walking and gang plows, ensilage, straw and root pulpers and slicers; steel land rollers and sweep power.

Messrs. Tolton Bros., Guelph, had their well and favorably known pea harvester on exhibition; also Tolton's patent power transmitter, walking plows and steel harrows. Their pea harvester was run by a steam engine of their own invention.

L. M. Batty, St. Thomas, showed the Ripper feed cutter, which is rather a novel machine, having a cylinder consisting of narrow, spirally arranged blades. This is a new implement, and made for both hand and horse power, and is very promising.

The Waterloo Manufacturing Co., Waterloo, showed a very fine lot of implements, comprising threshers, ensilage cutter with carriers, root and straw cutters and pulpers, seventeen different styles of single plows, and a two-furrow gang-plow.

The Erie Iron Works Co., of St. Thomas, showed plows, corn cultivators, potato diggers, and a new woven wire fence machine, which should come into general use among farmers. The fences are constructed where they are required to stand. One man and a boy can build from thirty-five to forty rods per day.

Messrs. Wortman & Ward, Manufacturing Co., London, showed the I X L wind-mill, Draider spade harrow, hayforks and slings, Clipper grain grinder and Daisy churns.

The Waterous Manufacturing Co., Brantford, were out with eight portable farm engines of various sizes and styles, and a full line of their portable saw-mill machinery; also their celebrated village fire engine, hook and ladder truck, extension ladder, and a model of their

latest improved aerial truck, and a full line of French burr stone grain choppers.

J. O. Wisner, Son & Co., Brantford, had their single, combined and fertilizer drills on exhibition; also broadcast sectional seeder, favorite cultivator and hay tedder.

The Massey Harris Company, Toronto, made a large show with binders, mowers and other farm machinery of great merit. They also exhibited the new tying device, which they purpose putting on most of their machines next season, and which is much simpler than the one they have been using. The Governor-General complimented them upon their fine exhibit, which was one of the largest and best ever seen in America.

Messrs. John H. Grout & Co., Grimsby, showed sulky plows of different styles, suitable for fruit-growers, besides a number of different kinds of cultivators.

A Celebrated Horse.

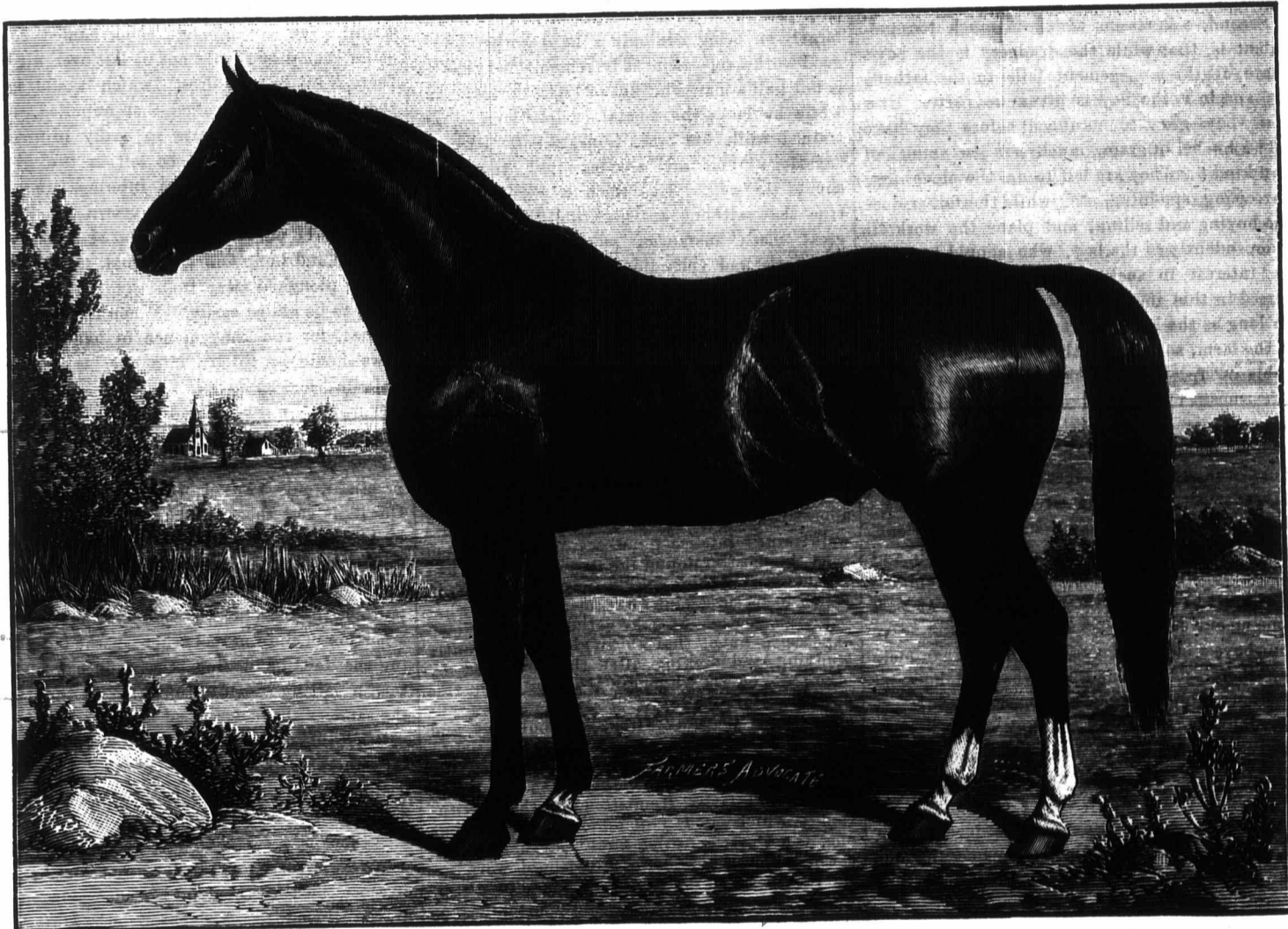
Comrade, the subject of the accompanying illustration, is one of the most valuable additions to the studs of Manitoba that the province has yet received. He is a dark chestnut, standing 16.1½ hands high, and weighs 1,250 lbs. His head and neck show the highest quality and breeding, while his long, sloping shoulders and deep, well-sprung ribs, indicate speed and bottom to a remarkable degree.

Owing to an unfortunate accident, Comrade's turf career was cut short, he only having started in five races, one of which he won, and in all of which he was well placed. He was awarded the diploma and \$100 prize at the Portage Spring Stallion Show of 1890, and first prize at the

Demoralizing the Fairs.

BY WM. THOMPSON.

At a meeting of farmers held in London a few years ago I distinctly remember an indignant protest entered by the late honored founder and proprietor of the *ADVOCATE* against the introduction or extension of what are now styled agricultural fair "attractions." With that sagacity and foresight, characteristic of Mr. Weld, at the inception of tendencies calculated to jeopardise the true interests of agriculture, he ventured a prediction on that occasion as to what the outcome would be. Time has fully vindicated his position, and will continue more and more to emphasize it, if stern limits are not set to the development of this "circus" idea.



"COMRADE," THE PROPERTY OF MR. E. H. WEBB-BOWERS, BRANDON, MAN.

Messrs. John Elliott & Co., London, showed a Warrior mower, also a new harrow, which is constructed of one and a-half inch pipe instead of wood frame. By a lever the teeth can be set at any angle, so as to make the harrow cut deep or shallow.

P. E. Shantz, Preston, showed the Buck binder, Preston mower, grain crusher, root pulper, straw-cutter, and Rose disk harrow.

Messrs. Haggart Bros., Brampton, one Cornell portable engine, one Ohio separator, also the Wide-awake separator.

Messrs. Cochrane Bros., St. Thomas, showed the Lowden hay and grain elevator, made in Durand and Dorchester; also their patent reversible hay and grain carriers.

D. McKenzie, St. Thomas, showed his automatic ditcher. This machine will cut and elevate the soil twelve inches wide to the depth of thirty-three inches.

Messrs. Thos. McDonald & Co., Toronto, showed different styles of metallic shingles and siding.

Brandon Summer Show the same year, in a field of five imported stallions; also first at Souris the same season, and first in a field of four imported stallions at the Brandon Summer Fair this season. He was imported by J. D. McGregor & Co., Brandon, who sold him to Mr. E. H. Webb-Bowers, Brandon, Man.

DEAR SIR,—During the past few years I have advertised in several agricultural journals, and from the record of sales the best results have been obtained from the *FARMER'S ADVOCATE*. Judicious advertising is the keystone of success in raising high class stock for the general market, and to obtain this the business must be systematized on the basis of results. Long experience has invariably found the *ADVOCATE* at the head of the schedule as showing the most satisfactory return for the money invested. GEO. M. BEEMAN, Breeder of Choicest Strains of A. J. C. Jersey Cattle, Napanee, Ont.

Now that the big exhibitions of 1891 are over, I believe there exists a settled feeling of disgust with the fakir and the snake charmer, short-dressed balloonists and second rate circus performers, dancing puppies and greasy Dead-woodites, insidious gambling concerns and the common associations of the "horse trot," which has been so crowded to the front that the spectator cannot get within gunshot reach of where the many other grand classes of horses meet in competition for the honors of the day. Is it fair to the live stock breeder, the manufacturer and the substantial exhibitors in other departments that 2,000 or 10,000 people should be drawn and kept (for practically it amounts to that) the greater part of the day around the amphitheatre of the jockey, the acrobat and Broncho John and his cohorts? I have been told that the people "like that sort of thing." Unfortunately, large numbers in recent years may have been educated in that direction, but in the name of all that is decent and right let the education be turned in a more elevating and profitable direction.

Boys Leaving the Farm.

BY D. BUCHANAN.

Why boys leave the farm, is a question upon which much has been written. It is not a problem which is wrapped in obscurity. It is not some mysterious happening governed by laws of nature which are beyond our comprehension. It is but a natural result following certain improper conditions. Some of the most important of these are as follows:—

First,—That agriculture has not been on the curriculum for study in our public schools. This will soon be of the past, and we hail the day when our farmer's children will have the fundamental principles of their life work inculcated as part of the education which forms the foundation upon which their future career is to be built.

Second,—A reason which is much too prevalent is, that while the drudgery is the boy's share, all the management falls to the father's lot, and in it the boy is given no part. How many boys grow to manhood before they have sold a bushel of grain, much less an animal of any kind! They are left to do the ploughing, harrowing, spudding, etc., while the father does the buying and selling, and plans the work all independently of the boy, who should be given an interest in such particulars, and become versed in this important part of his profession. So long as the boys are made only the navvies of the farm, so long will they be driven from this noble occupation to seek other employments. The most noble and ambitious spirits are those who are first to rebel against the monotonous drudgery of their farm life. In "Ben Hur," the author, in speaking of the galley slaves, says: "So, as the result of long service the poor wretches became imbruted, patient, spiritless, obedient creatures of vast muscle and exhausted intellect." Might not this be applied in a limited degree to the training which at least some of our farmers' sons receive? No!—give your boys a chance, make them more than mere day laborers; let them know what is doing, and why it is being done. The farmer of the House, Mr. John McMillan, M.P., has said: "Give your boy something he can call his own, and you greatly decrease the danger of his leaving the farm." Give him a foal, a calf, a lamb, or even a young pig, and soon will be developed in him an enterprise and a love for his occupation, which will tend to bind him to the farm rather than drive him from it.

The last, and perhaps the particular in which most parents fail, is in the education and bringing up which the boy receives. In these days of keen competition and low prices, with the soil gradually becoming less remunerative, and when it is difficult even under favorable circumstances to make farming pay, it is unfair to start a boy out in life without a common school education sufficient to enable him to pass the examination for entrance into the high school. It is unfair to have a boy grow up without having access to agricultural journals and other sources of agricultural information. It is unfair so to crush down the youthful ambition, and it is owing to this that farmer's boys are being driven into other channels to seek, at considerable disadvantage, some other occupation in which to earn a livelihood. The majority of our ministers, doctors, lawyers and merchants are farmers' sons. True, some of them, not preferring their

former occupation, or through lack of physical development, or some other cause, have gone to seek employment elsewhere; but how many feeling confined, without scope for their ambition, wanting to be men of power, have left that most noble occupation in which their fathers were engaged, because they felt that there, under the circumstances, they could never become leading men.

Start a boy out in life with a third book education, keep him at hard drudging labor, where he has no higher ambition than to get the day in, and allow him but the local weekly as reading, and what circumstances could you imagine better calculated to drive an energetic youth to seek some other employment, to choose some other occupation as a life work. With all due respect to the manual labor of the farmer's life,—for to be successful in farming depends largely on being not only a hard worker but a good workman,—it must be remembered that he is but half a man who has physical development while he lacks the mental—whose muscles are trained while his brain is neglected. Parents, consider! You are anxious that your sons should do well. Give them a chance. It is true that without an education, in at least a great many instances, you accomplished an enormous and splendid work in clearing this province and making it the fair land that it now is, and we as young men should look both with pride and admiration upon the work of our fathers. But it must be remembered that there has been gradually wrought a great change. The agriculture of to-day is very different from that of forty years ago. Modern agriculture partakes of the nature of science, a profession, and a business. It is an occupation which affords room for the employment of powerful and well-trained intellects, an occupation in which even the most profound intelligence becomes lost in endeavoring thoroughly to master, and one in which to be successful we require not only what little information we may gather from our own experience, but all that we can glean by diligently studying and seeking after that obtained by others. You ask where can our boys obtain this necessary information? I answer, from our agricultural journals; from the bulletins and reports issued by our experimental stations; from farmers' institutes; from the books written upon agriculture and the other sciences relating thereto, and, lastly, from attending that institution of which our fair dominion can boast but one, the Ontario Agricultural College, an institution which is now doing a splendid work for the province; an institution governed by a staff who are bound to do good and impart information to those with whom they come in contact; an institution of which every Ontario farmer should feel proud, and of which the twelve or fourteen thousand who visited it this summer do feel proud; an institution whose graduates are becoming shining agricultural lights wherever located throughout the Dominion; and an institution where farmers' sons may receive, at very little expense, a substantial and practical farmer's education.

Give your boys access to these sources of information and they will become, not what we farmers' boys have been dubbed by the town wags, "Clod Hoppers and Hay Seeds," but intelligent young men who, while capable of taking their place behind the plow, will be as capable of taking their place along with those of other professions on the public platform or in the public press, and who will be capable of properly representing you in parliament and filling those seats too many of which are now occupied by men who are not farmers. They will become young men, proud of their occupation and a pride to their occupation, and you will no longer require to use your utmost persuasive powers to retain your boys on the farm.

Harvesting and Storing Field Roots.

BY MR. SIMPSON RENNIE.

To insure success in storing field roots, a few things must be considered. Mangolds, for instance, will not stand much frost, therefore should be harvested early. Allowance must be made for latitude. In commencing to pull mangolds, take along two drills at a time. Use both hands. Draw all the leaves upward, at the same time pull the mangold. Wring all the leaves off with the right hand, then drop the root in the space to the right of the two drills which are being pulled. On returning, if to the right, drop the roots in the same space. This will put four drills into one row. This leaves them very convenient for handling. In fine weather mangolds are all the better to be pulled a few hours before being hauled to the cellar, but they should not be left over night if there is likely to be frost, which would injure them much more if pulled then unpulled.

Carrots are not quite so easily injured by frost, and usually could be left in the ground until the 25th Oct. The intermediate white carrot, which is now mostly grown for a field crop, can be pulled by hand, but such as White Belgian and Long Orange should have a deep furrow ploughed away from the row, to enable them to be pulled easily. When they are being topped, for the convenience of handling, four rows should be thrown into one, the same as described for mangolds.

Turnips are hardy and can be left in the ground until the end of October. Various modes of harvesting these roots have been practised, only two of which I will mention. On light soil they can be taken up very well by hoeing off the tops, then harrowing them over twice in a place; but on heavy soil I have not found any system equal to that of hand pulling, that is, pull with the left hand, cut off a portion of the top root, then, without removing the left hand from the top, cut off the turnip, letting it fall in the space to the right, the same as above described in mangolds.

Regarding the storing of roots allow me to say, where roots are grown for the purpose of feeding to cattle through the winter, it is unprofitable to have any quantity of them stored in outdoor pits. I can safely say the person who grows yearly three or four thousand bushels of roots, putting them into outdoor pits, then drawing them to the cattle through the winter, will lose in five years as much as would put up a good root cellar. A root cellar should not only be convenient to the cattle for feeding, but convenient for unloading when the roots are being hauled from the field. The most convenient plan that has come under my notice is a basement under a barn, with the root cellar in the centre, under the driving floor, and the cattle at either end, with their heads facing the cellar. A cellar arranged in this way is not only convenient for feeding stock, but is very handy for disposing of the roots when being hauled from the field. There should be a number of trap doors in the floor over the cellar, where the cart or wagon can be easily unloaded. If a wagon is used, it should have a hopper shaped box, with a trap door at the bottom, so that when opened the roots will run through the hole in the floor to the cellar below. Now, when the roots are all hauled into the cellar, those trap doors in the floor (already mentioned) should be kept open until there is danger of the roots freezing. By leaving these open the steam has a good chance to escape, which is beneficial, for the steam is very injurious if retained.

Spencer's Automatic Horse Feeder.

Our illustration of Spencer's Automatic Horse Feeder shows this contrivance set ready to be operated. The tubes on the right and left side show two different styles. Each can be made any desired size, and is capable of feeding oats only, hay only, or hay and oats in the separate departments of the manger as desired by the feeder. When charged with the required food the alarm clock is set so that the alarm will ring at the moment the food is required to be given. At the first stroke of the alarm the food is discharged into the manger. One clock and weight will work feeders for any required number of horses. This machine must do its work with precision, in fact it cannot do otherwise. Its construction is very simple, inexpensive, perfect and durable. The little boxes under the feeders represent the mangers into which the grain ration falls at the desired hour. The box containing the clock and attachments may be placed in the feed-room or in any part of the stable. This device was invented by Mr. John Spencer, V.S., of Bowmanville, Ont. It will be found on trial to be very useful and in fact invaluable to many persons who desire to feed horses regularly at an early hour, or at times when circumstances compel them to be absent at hours when the animals should be fed.

In writing of it Mr. Spencer says:—"Apart from convenience we claim many advantages for the feeder, overcoming indigestion in various forms and its chain of complications, which are due to irregular feeding, such as unthriftiness, diarrhoea, cholera, enteritis, diseases of the skin and lymphatics, scratches, grease, swelled legs and eczema. All these complaints generally disappear when the patient is fed systematically, thus enabling it to do more work with less feed than if it were fed irregularly." He guarantees each of his feeders to give entire satisfaction, requiring no skill to operate more than winding and setting an ordinary alarm clock. We have known Mr. Spencer since his childhood and can recommend him as an honorable man and one possessing much inventive and mechanical ability. He is also considered an able veterinary surgeon.

A Market for Butter and Eggs.

The firm of W. Davies & Co., 24 Queen street west, Toronto, have been long known as pork-packers and bacon curers, in which line they have built up quite an extensive export trade. They have now determined to add the handling of butter and eggs to their fast increasing business, and inform us that in butter they favor the style of package which has been advocated by the Travelling Dairy. We cheerfully commend this firm to the notice of those of our readers wishing to form a business connection for the sale of the above product.

If such houses were founded in each of our cities it would give a great impetus to the production of both butter and eggs, which are too often neglected on the farm for want of a proper means for their disposal.

Interesting Experiments in Growing Wheat.

The following important field experiment is reported by H. A. Huston, of the Indiana Experiment station:—

The superiority of nitrate of soda over ammonia salts as a source of nitrogen for wheat is well known; but comparatively little seems to have been done to test the relative value of the nitrogen in such organic compounds as are generally used in commercial fertilizers and that of nitrates or ammonia compounds.

An experiment was therefore undertaken to test this matter in the field. The forms of nitrogen employed were nitrate of soda, sulphate of ammonia and dried blood or azotine. The land used had been cropped with wheat for a number of years, and the available nitrogen seemed to be nearly exhausted. The soil was a dark clay loam containing considerable sand, and rested upon gravel, which gives a drainage that is excessive in seasons where there is not an abundance of rainfall.

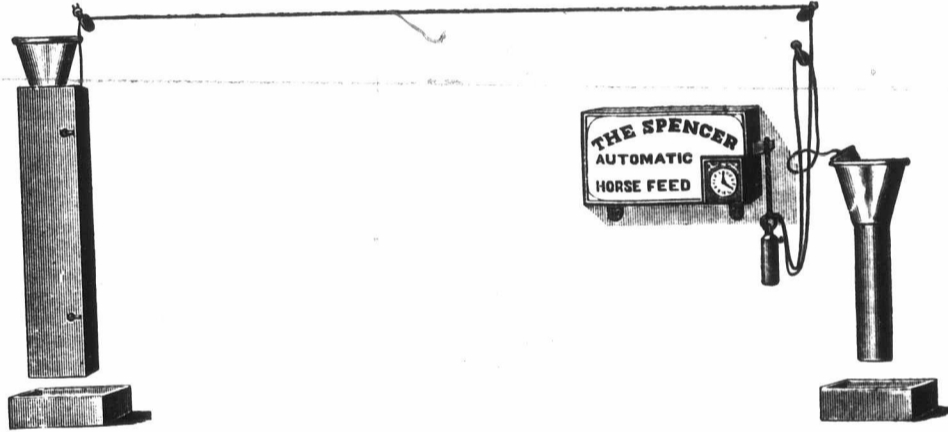
To the whole land enough dissolved bone-black and muriate of potash were applied to furnish the phosphoric acid and potash for three thirty-bushel crops of wheat.

Sixty-three plats were laid off, each forty-nine feet four inches by four feet, and a space one

the best results, sulphate of ammonia followed, while dried blood gave the poorest yield. Nitrate of soda gave a gain of 98.4 per cent. of grain and 105.5 per cent. of straw. Sulphate of ammonia gave a gain of 64.6 per cent. of grain and 73.8 per cent. of straw, while dried blood gave a gain of 54.4 per cent. of grain and 6.60 per cent. of straw.

On another series of plats the experiment to test the desirability of changing form of nitrogen at different stages of the growth of the plants showed no advantage from this source so far as the appearance of the plants indicated, and the amount of nitrate of soda applied seemed to be the most important factor in influencing the yields.

The season was an exceptionally favorable one for wheat, and the amount and distribution of the rainfall were such as to favor the assimilation of the nitrogen in the ammonia and organic compounds, and to prevent the nitrate of soda showing its well-known capacity to carry plants through seasons of drought. The amount and distribution of the rainfall and the character of the land were such as to favor the loss of nitrate by drainage; but from the fact that the applications of nitrate in one lot in the fall gave as good results as the application of it in three fractions, it is inferred that there is really not so much danger of loss of nitrates as many authorities would lead us to believe. The late sowing of the wheat probably resulted in a reduced yield, but it gave short, strong straw that enabled all the plants to remain upright until harvested, while the same variety of wheat on the same kind of land, close at hand, and receiving less than one-half as much nitrogen, but sown in September, lodged badly.



foot wide left between the plats. Nitrogen was applied to every alternate plat so that each plat that received nitrogen was compared with a plat on each side of it that received no nitrogen. The wheat was drilled in November 6, and the first nitrogen was applied November 12. There were six rows to each plat, and two rows in the spaces between the plats.

The main purpose was to find the form of nitrogen best adapted to wheat, while an attempt was also made to find if in field practice there was any advantage in fractional applications of the different forms, and whether any advantage would arise from changing the form of nitrogen applied at different stages of the growth of the plant. In all 200 grams of nitrogen were applied to each plat receiving nitrogen. On certain plats all the nitrogen was applied in the fall, on others one-half was applied in the fall and one-half at the opening of spring, April 15, and on others one-third was applied in the fall, one-third April 15 and one-third May 18, when the heads were just appearing. The wheat was harvested June 29. An examination of the results shows that in no case was any marked advantage derived from fractional applications, while in the case of the ammonia compound, a decided advantage (16 per cent.) arose from making the full application in the fall. Nitrate of soda gave

Apple Tree Pruning.

The frequent error of cutting the limb too far from its base, and thus leaving 2, 3 or 4 inches of the branch to be removed still remaining, is very injurious to the tree, from the fact that the wound thus caused will not properly heal and the stub begins to decay, affecting the health and life of the parent tree as time advances. To avoid such an undesirable result, when it is necessary to remove a branch of any size the point of cutting should be at the outer edge of the ring, which the bark forms at the juncture of the two, which, if done at the proper time of the year, will heal over, and as there is no surplus wood through which the life of the tree does not pass the parent stem will remain in a healthful condition.

The Celebrated Waterous Engine Works Co., of Brantford, Ont., say:—"We consider your paper an excellent advertising medium. We have mainly used it to advertise our engines, and the sales have been greater than we expected."

ALFRED B. OWEN, Managing Director of the Canadian Division of Dr. Barnardo's Home, recently wrote as follows:—"Dear Sir, enclosed please find cheque for the amount of your account, which you will kindly acknowledge. The advertisement has been of great service to us and brought us many applications."

Building and Filling Ice Houses.

We are frequently asked how to build and fill an ice house. In referring to works on the subject we find nearly all of the instructions and recommendations therein too cumbersome, often requiring much expense to carry out. An ice house to be serviceable to farmers must be cheaply constructed, and at the same time serviceable. Many farmers consider an ice house a luxury only attainable by the wealthy, when in reality it is a requisite on every farm—a building which will be found profitable. The best returns cannot be obtained from the milk without the aid of ice. A refrigerator when once used in the family will be found valuable in many ways—a real economy as well as a luxury.

Messrs. Moseley & Pritchard, Clinton, Iowa, U. S., manufacturers of creamers and butter-making specialties, have for some time been collecting data concerning the building of ice houses and the keeping of ice. They have kindly forwarded us the following articles, which are valuable because they are the experience of practical persons, and cannot fail to be of service to our readers:—

PUTTING UP ICE.

The editor of the New England Farmer writes as follows:

"Ice is almost indispensable to the dairyman for bringing his milk and cream to and keeping them at the proper temperature. Aside from its use in the dairy ice is a luxury which well repays all the cost of putting it up, and the wonder is that so few farmers lay in a liberal stock. Ice can be kept by the simplest kind of a structure. The essential conditions are that it shall be closely packed in a mass, that there shall be no air spaces at the bottom, that it shall be surrounded, (packed in) by a good non-conducting material in sufficient quantity, that it shall have a tight roof to exclude rain, and ventilation is provided. A cheap board building with the cracks battened answers about as well as a costly structure with double walls filled in. The keeping of the ice does not depend so much upon the walls of the building as upon the kind and amount of material with which it is packed. Saw dust or dry tan bark furnish the best packing materials. But these in many localities are difficult to obtain. Next to these dry cut straw or chaff is probably the best, and almost any farm can furnish the straw. Cut straw is better than whole, because it packs closer and makes a better non-conductor, though whole straw is often successfully used. In the latter case the space for filling between the pile of ice and the walls of the building needs to be wider than if cut straw were used. In case cut straw is used we would leave a space of sixteen inches for filling, but with whole straw, of two feet. The sills of the building should rest on the ground, or on a wall built for them, allowing no air to enter underneath. We would lay tile a foot below the surface inside, with its outlet some distance away, to keep the bottom dry, but the tile should not open into the building to admit air. A foundation of at least a foot deep of the packing material, saw dust, tan bark or straw, should be laid over the bottom, on which to build the pile of ice, and the blocks should be cut as nearly as possible of uniform size so as to pack closely, and it is well to go over each layer as it is put in and fill all cracks with pounded ice so as to make the pile as nearly solid as possible. When the pile is finished, or as it progresses, the filling between it and the sides of the building should be made and tramped down as solidly as possible, and a covering of at least two feet in depth be made over all. Ventilation should be provided for by openings in the gables or a ventilating shaft going up through the roof to permit the escape of the moist air which gathers above the ice. The door should be for convenience made in two sections, an upper and lower, with boards laid across on the inside of the frame holding the packing material in place.

The proper size depends upon the amount of ice that will be required. Ice will measure about forty cubic feet to the ton, and ten tons would be a liberal supply for family use. This would be equivalent to a pile 8 feet long, 8 feet wide and 6½ feet high. If we allow two feet on all sides for packing space, the building to hold this amount in the form above given would need to be 12x12 feet with nine foot posts. A door in the gable would be needed for putting in the top layers and taking out ice early in the season. As cheap and good a way for a cheap building would be to set posts in the ground three on a side (except the end where the doors are) with 2x4 for plate and middle and bottom girders, and board up and down and batten, banking up at the bottom to exclude air. The roof should project considerably on all sides so as to shade the sides, and if it could be built under shade of trees it would be all the better. When expense is no object, and a permanent structure is desired, a brick or stone foundation should be put in on which to lay the sills, which should be bedded in mortar, and double walls can be made by using 2x8 or 2x12 for studding, and filling the space between the outside and inside boarding. Ice should be cut and put up only in freezing weather. If cut and handled when the temperature is above freezing, the blocks splinter and crack, and its keeping qualities are considerably injured."

A CHEAP, EASILY CONSTRUCTED ICE HOUSE.

Chas. P. Jackson writes:—

"Ice in summer is both a luxury and a necessity, and the ice crop is one that many farmers allow to go to waste.

Use 2x6 sills and plates, with 12 foot posts, with three courses 2x4 ribbing all around three feet apart, put in edgewise. Ceil with culls put on vertically, and make it a point to always get out of lumber when you get to the eaves, so the gable end will be sure to be left open. Fill up the ground inside a little higher than the outside, then put down any old chunks of rails or joist, a little distance apart, and cover between and over with a foot of saw dust, or its equivalent in straw or fine hay. Put your ice sixteen inches away from the wall, and fill between the ice and wall with saw dust or its equivalent in straw or fine hay, as you fill with ice. Break joints over each course of ice when filling. When filled, cover with six to seven inches of saw dust or its equivalent and then get out of saw dust. You don't want ten or twelve inches of saw dust on top of the ice. There is a latent heat in ice, and if too much covering on top the heat will not be able to pass up through it and will turn back and honeycomb the ice. With a covering of twelve inches of saw dust, in every case an examination will show heat during the hot months by digging down a few inches.

Never put water on your ice as you fill your ice house if you expect to remove the cakes of ice as put in. In cold storage houses it is often the case that water is used to solidify the mass. In such cases use hot water with a sprinkler, as the moment hot water comes in contact with the ice it congeals. Use cold water and it will run and spread, and if the ice is put in contact with the walls the chances are that in freezing it will spread the building. A ventilator in the roof is not necessary with both gables open."

STORING ICE OUTDOORS.

A writer in the Connecticut Farmer says:— "Some years ago it occurred to me to stack a little ice outdoors to save the trouble of taking it from the ice house. The stack was made on the north side of a building. In the expectation that warm weather would quickly melt it, but little was put up. It kept surprisingly, and thereafter large quantities were stacked yearly, until for several years past the out-of-doors stack has furnished ice for creamery and household until about September 1. There being a scarcity of ice this year, I had to use an inferior quality four to five inches thick. The stack was about thirty feet square and four feet high. It has furnished ice to cool about 300 quarts of milk per day, in creamery, besides refrigerator in house. My method is to spread a few inches of shavings on the ground for the ice to rest on, stack the ice and cover with shavings to a depth of about a foot. I have found a low

stack best, as there seems to be comparatively little melted from top or bottom; but if an opening through the side covering lets the air in it will cut away very fast, and the higher the stack the more difficulty in keeping the sides covered. I have used the same shavings year after year. I doubt whether it is important to have the stack in the shade; the shavings getting moisture from rain and from the ice, the evaporation keeps down the temperature."

STORING SNOW.

Mrs. M. H. Lewis, Waseca Co., Minn., writes:— "Last winter we had a new experience in putting up ice which, perhaps, will be of interest. The ice crop was short, and when our supply was about half stored, the gripe came among us, and by the time it went away the weather was not suitable for making ice. This gave Mr. L. a chance to work out a theory which he had in mind for years, namely: he took drifted snow and put in the ice house, packing each load and wetting it with water from the well, finishing up each night with all the water the snow would take. When full and frozen it was covered with sawdust, the same as ice. The house is not a perfect one by any means, still the snow lasted until used up, which was on the 20th day of September. The verdict is, that snow is preferred to hauling ice far."

NOT EXPENSIVE.

No expensive structure is needed for an ice house, though where it is an object to have no wasting away, it should be made tighter than where this does not matter so much. Slabs from the saw-mill do very nicely for the roof, and the sides may also be of rough boards. Where desired, the ice house may be one corner of the wood-shed partitioned off, in which ice will keep quite as well as in a more costly structure. Even stacking is often resorted to, by laying down rails for a floor, on which to stack the blocks compactly. Cover heavily with some material which is non-conducting, such as straw, hay, etc., finishing the top so as to shed rain, bracing the sides with boards and rails to keep covering in position. Care must be taken in getting at the ice, always to open at same place and cover up thoroughly, or some hot day will turn it to water. In putting in the ice, no matter where it may be, always surround it with non-conducting material like sawdust.

The ice house question can be summed up as follows:—Any cheap structure with good drainage and no circulation below; good ventilation above; proper space between ice and sides, filled with non-conducting material. The bugbear of expense need deter no one from storing ice.

By providing a proper bottom ice can be piled on it and a building put over it later.

Humane Castration.

Many of the serious difficulties, all the suffering, and at least half the dangers of castration—especially of fully grown and vicious animals—are avoided by a very simple and easily applied process, described in the Melbourne "Leader": Mr. Moses Ward, a resident of Holebrook Place, Hobart, recently put a large boar under the influence of chloroform, for the purpose of operating upon him. The pig was a very large one, and, moreover, rather savage, but less than two ounces of chloroform prostrated him. It was applied on a piece of lint, which, when held near his nose, he bit at savagely and retained between his teeth, unconscious of the fact that it was rendering him helpless. When the anesthetic had taken effect, a man jumped into the sty and performed the operation, and about twenty minutes afterwards Mr. Ward aroused him. He moved about freely and never appeared to suffer any thing from what had taken place. Mr. Ward tells us, the report says, that the pig did not lose more than a quarter of a pint of blood, and the strings were not scarred or tied. This is doubtless due to the absence of the struggling that would have taken place if the operation had been performed in the usual way. Mr. Ward says there is no difficulty nor any skill needed in applying the process.

Carman, Manitoba,

the terminus of a branch line from the southwestern section of the C. P. R. is, from its rapid growth since the advent of the railway there, about two years ago, attracting attention. From the small and comparatively unknown village of that time it has rapidly grown, so that today we have a flourishing town, replete with everything necessary to the carrying on of the work of that district. It has a population to-day of 500, with every prospect of a rapid increase. There are well-stocked stores, comfortable boarding houses, warehouses, and representatives of the leading implement makers. There are churches of the Presbyterian, Church of England, Baptist, Methodist and Disciples denominations. The "Carman Farmers' Elevator Co." have recently erected an elevator, having a capacity of 60,000 bushels, at a cost of \$13,000. This undertaking reflects the highest credit on the spirit of enterprise of its promoters. There are also two other excellent elevators, the one owned by Messrs. Roblin and Armistage having a capacity for 30,000 bushels; the other by "The Lake of the Woods Milling Company," with a capacity of 20,000 bushels. The school has been found altogether inadequate to the requirements of the town, and a new house, which, as a building, and, we believe, along the line of complete efficiency, will be a credit to the whole province, is now being erected at a cost of \$6,000. The Carman Standard, owned and edited by Mr. E. A. Burbank, is published weekly. The country to the north of the town is but thinly settled, but as one looks down from the top of the new elevator upon the stirring little town nestling among the trees—a pretty sight—and away to the west, east and south, in the direction of Rowland, a rising little place some ten or more miles away on the Northern Pacific & Manitoba Railway, upon the miles of shocked up grain ready to be gathered in, and the numerous homesteads thick upon these broad prairies, one readily understands its recent growth and the faith of its people in its future prosperity. There is probably nowhere in Manitoba a more prosperous district, nor one with a probably brighter future than that of the municipality of Dufferin.

Orchard Grass.

Dactylis glomerata.—It is somewhat difficult to assign to this grass its position in comparison with other grasses, for considerable differences of opinion exist as to its merits; yet it is noticeable that the authorities on the subject in America seem, on the whole, largely to favor it. Historically, its general introduction is of somewhat modern date, though it has been known in England for a very long time; yet there it was apparently never appreciated till it was imported from Virginia in 1764. About the beginning of the present century it was cultivated on a large scale in Norfolk, and about the same time its cultivation was commenced in Switzerland. While on this side of the Atlantic this grass is most widely known by the name we have used, but in Britain it is more generally called "Cocksfoot" or "Rough Cocksfoot", from a fancied resemblance of the flowering stalk in shape to a cock's foot.

Botanically orchard grass forms a simple compact tuft, which is not deeply seated in the ground, but stands out like a cushion. There

are no running stems produced, and the leaves (five or six in number on each culm) are long, rough and strongly keeled with very inconspicuous ribs. The general color is a light green. The flowering stem is a one-sided panicle, which carries a number of tufts of spikelets, each spikelet containing three or four flowers. The shape of these tufts, or rather of a row of them, has given rise to the name *Dactylis*, which is derived from the Greek word for "a finger", there being a certain resemblance to a finger in the long, compact row of tufts.

Orchard grass is very widely distributed, being indigenous to Britain, Europe, North America, North Africa, India and Siberia. It grows chiefly in pastures, woods and waste places, and may be said to grow anywhere between 29° and 48° Lat., which is, roughly, from the central part of Texas to the most northerly of Lake Superior. The agricultural value of orchard grass is high, on account of its adaptability to many kinds of soil and the rapidity of its growth, and also by reason of the thick foliage which it produces, which leafiness is well adapted to use in shaded places, whence its name of orchard grass; yet it would be a mistake to suppose that it grows better in shade than in the open. It is certainly better adapted for a hay crop than for pasture, as the bunches are very liable to be pulled out by stock. But here we meet, perhaps, its most serious fault, viz., that it is not thick enough on an ordinary sowing, and that thus a considerable portion of ground is left uncovered; but this difficulty is obviated by the use of some other grass along with it. Red-top is mentioned by some, but red clover seems to be altogether the best, as it is at its best bloom when the orchard grass is ready to cut. And just here comes the objection to using Red-top, that in a few years it will kill out the orchard grass by means of its great productivity.

There is very little danger to orchard grass from extremes of the seasons, as in case of drought. If the soil be deep enough the roots will penetrate to a sufficient depth to secure them from being affected; but it is just during a period of drought that the greatest risk exists of the plants being pulled up. Late frosts may be very injurious, but the cold of winter will have no effect. The land best adapted to this grass is loamy or clay soil—rich, deep, but not holding too much water; in short, any soil which is not poor. Even sandy soils, if they contain enough moisture, are admirably adapted for its production, though not in the quantity that better soils yield. It makes a very durable turf, and is practically not injured by anything but ploughing. The greatest development is reached in the second year after sowing, and the aftermath will always be very luxuriant. But in this grass, as well as others, care must be taken in regard to cutting, for all authorities seem to be agreed that orchard grass should be cut before it flowers, which occurs quite early in the season. If left till later the culms become hard and are not so readily eaten. This fact is fully noted in Switzerland, where this is the staple grass, and the Swiss have even a proverb that "Cocksfoot grows under the scythe."

As a feed hay, one author says: "Cut at the proper age, it makes a much better hay than timothy, and is greatly preferred by animals, being easier to masticate, digest and assimilate;

in fact, more like green grass in flavor, tenderness and solubility." While as pasture it equals blue grass for winter pasturage, where such is possible, in seasons of drought it surpasses it, as it is a deeper and larger plant. If it is once well established it can be fed as closely as other grass, and is no harder on the land; indeed, it is much less exhausting on the soil than timothy.

In seeding, where it is sown alone, two and a-half to three bushels per acre is required to obviate the tendency to grow in clumps. If a permanent grass land is desired it is well to sow about 15 per cent. orchard grass at first, in order to allow the other grasses to develop. Meadow fxtail, timothy and clover are the usual mixtures. Some advocate rolling in spring, which presses the tufts down level with the other grasses, and so brings about a more uniform pasture; and also if the meadow is old and rich, and orchard grass is plentiful, it is thought advisable to harrow and then roll.

Since in the above we have endeavored to put forth the merits and demerits fairly, we think, in summing up, that the merits of orchard grass commend it to a most careful trial, and that its demerits are not such as to preclude its chances of success.

Timely Notes for November.**GRAIN.**

The price of grain, especially for wheat, is good, and it is foolish in most cases to hold wheat when bills are pressing and many little comforts are needed in the house. Be content with a good price, pay off your indebtedness, and start clear for next year. If your oats are good white ones, and clean from weeds, it will probably pay you to hold them till April or May.

If your wheat has been frosted, or bleached by rain, and commands only a low price, feed it crushed or boiled to a good milking cow, about ten or twelve pounds per day, and you should make a good profit on the butter. But whatever grain you do sell, clean it well. It does not pay to haul weeds and rubbish. The dockage for dirt exceeds the cost of cleaning.

STOCK.

Having your stock all well housed now, it behooves you to see that they keep up their condition, and that the youngsters gain weight and growth during the coming winter. Feed regularly with suitable food. It is better to feed out the turnips in the early part of the winter and keep back the mangels till later. Keep only good animals, for the time is soon coming when scrubs will be unsaleable. In conversation with a dealer the other day, I was struck with the importance he attached to well-bred stock, even going so far as to ascertain the names of those who kept or used pure-bred sires, as he maintained that a scrub, however well fattened, would not "kill" like a grade or pure-bred beast.

Another way of looking at the wintering of stock is, suppose your young stock weigh, say, 20,000 lbs. in all on 1st November, and after feeding them all winter they weigh only the same, or as is generally the case, a good deal less, what have you got for your labor and the feed consumed? Would it not have paid better in such a case to have sold both stock and feed in the fall, and have bought again in spring? If you do not make anything on stock, why have them?

November is a good month to stock up with sheep. Try a few, and if you give them decent treatment you will soon want more. Buy good, strong ewes or ewe lambs, and a pure-bred ram of whatever breed you are partial to.

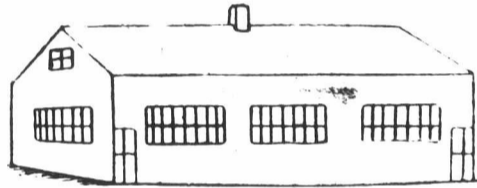
SWINE.

If you have a good warm place for your sows to farrow in, breed them about the last week of this month, or 1st of December; if you have not a warm pen, wait until about 20th December, or even later. Breed to either a pure-bred Berkshire or Yorkshire. Don't keep your sows too fat. Crushed barley and oats is a good winter food.

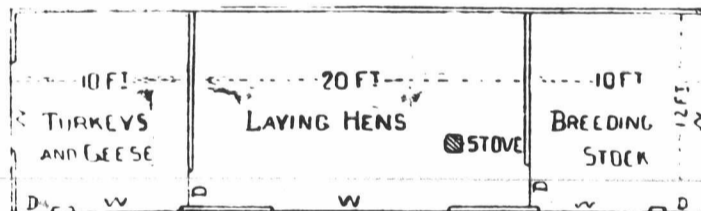
POULTRY.

Turkeys must not be kept with the common hens, as the latter require to be kept warm, and turkeys if kept too warm get swelled heads and "turn their toes up to the daisies." A good plan for a poultry house for Manitoba is to divide it into three compartments, the central one, with a stove in it, for the laying hens; the two side ones for turkeys and breeding stock. I advocate the use of above-ground poultry houses, as they are healthier, more easily lighted, and easy to clean out.

I append a plan of a good and convenient house, such as I am myself about to build for 100 hens and 5 turkeys:—



ELEVATION.



PLAN OF A POULTRY HOUSE FOR MANITOBA.

Building 40 ft. x 12 wide. May be built of logs or frame. If of logs, lathed and plastered outside, built on a stone foundation one foot high, eight feet from floor to ceiling, double doors, good shingle roof, double windows, and plenty of them. Dust boxes also in each room. A house like above should not cost more than \$100, after paying for everything. If the proprietor did the work, half that sum.

GENERAL.

Bank up the house, the barn, and other out-buildings.

Haul home your winter's wood and saw it.

Get your hay home from the stacks ere it drifts over with snow.

Get your wife and youngsters their winter clothing now; don't wait until you are obliged to do it; they are less hardy than you are, and if you require warm clothing, how much more do they?

Buy some new stovepiping to replace those old rusty ones.

As you have leisure now, think over some of the hints that you have read in your agricultural paper, and act upon them. Merely reading other men's experience won't do you much good; it's profiting by them that indicates the wise farmer.

INVICTA.

Farmers' Societies.

How a Farmer Should Live.

Just at present a number of men, great in one or other of the professions, are telling how men in those professions should live in order to make the best use of their time and to reap the fullest enjoyment of their living; therefore it may not be out of place to consider how the farmer, that backbone of the country, should live; for as he lives so must the state.

In the first place the farmer should live contentedly, not unprogressively, satisfied and dumbly bearing the burdens placed upon him, but in an age when labor and capital are in such a terrible state of contest that fears are entertained for the fabric of society, the farmer, more independent than any other, can calmly view the approaching conflict and thank his stars that he is neither a capitalist to be ruined by striking workmen, a mechanic to be starved by domineering labor unions, or a "scab" to be detested and perhaps ill-treated by these in the labor unions. Far be it from us to say which of these parties is nearest right; that is a question which the greatest minds of the day are trying to solve, but to the man who tills the soil it cannot fail to be a source of satisfaction to feel that he combines in himself labor and capital, and that however banks and markets may go, he has the forces of nature always working for him and compounding his capital just as surely as if he held Bank of England stock. The farmer having, then, no fear either that his output will be stopped by a few dissatisfied men, or that his wages will cease because there are too many men of that trade; in other words, being assured of the permanency of his business he can set himself to learn every feature of that business with no fear that he will shortly be forced to learn a new trade.

It is agreed, then, that the first object of the farmer, and the great object, will be to know his farm and to farm it. Now, this takes in a great deal. In the past there have been too many farmers who trusted to luck and looked upon farming as a perpetual lottery. The fact of the matter is, that farming is the most difficult of all businesses to thoroughly master. The farmer should have a knowledge of chemistry like the cloth manufacturer; a knowledge of veterinary science; a knowledge of natural philosophy; a knowledge of botany; in fact, he should be a good all-round man, and, most of all, he must have this knowledge in a practical form. Then, too, he must have a knowledge of the markets, of the needs of the community and of mankind in general. It will thus be seen that a good portion of his time must be spent in study. Not in a cell poring over books like some monkish book-worm, but like a bee extracting honey from every bud he touches, studying and thinking as he works. Again, he should not be ignorant of the ways and means by which our laws are made and country governed. Bearing a great part of the country's burdens, he should know if these burdens are reasonably and equitably adjusted, and the more the farmers of Canada look squarely at the politics of our country and vote for what they believe to be the right measure, the better and more wholesome will our politics become. If all the good men in Canada would individually do what they could to purify

our political atmosphere, we would soon get out of fog into sunlight.

Having in a general way outlined the duties of the farmer to himself and to his country, let us see how this can be accomplished. It goes without saying, for it has been the custom for ages, that the farmer should be an early riser. Let him go out, then, to a general survey of stock and premises, and then into breakfast. As to how much work should be done before breakfast must depend upon individual constitution and circumstances. Some men can do little before breakfast, others cannot eat until they have worked some time.

The diet of the farmer should at all times be as generous, varied and wholesome as possible. There has in the past been too much false economy among farmers in some sections in selling everything good and putting practically the husks of everything on their own tables. There have been farms with large herds of milking cows, with flocks of poultry and a large garden, where cream, eggs, butter, chickens and vegetables were almost unknown articles of food. Now, this is not right; no matter what the end may be, it is always reached quicker by keeping up a good vital force in the worker. A man who has always used these things in season, and has kept his body well nourished and his digestion good, will in the end have more of money or power, culture or whatever he may desire, than the half-nourished cadaverous dyspeptic, who in order to scrape a few more cents together has in the midst of nature's bounties lived on salt pork and potatoes three hundred days in the year. There may be some people who really cannot see their way to "getting on" if they do this, but if some reduction in expense must be made, use your old buggy, your last year's hat; in fact do almost anything rather than risk your health by eating poor food. And in this connection it may be remarked that the poor food on many of our farm tables has driven quite as many young men off the farm as anything else. When a young man who has been doing all kinds of work from rising till lying down, and living in the meantime on poor food, goes in to see his city cousin, who works in good clothes and in regular hours, and is treated to pie made from fruit and flour from his father's farm, and has cream and cheese and butter on omelette and a broiled chicken ditto, he begins to feel that the farmer after all gathers the fat of the land for others to live on, and he is ready to join in the exodus from the farm. Let every farmer then try to make his table as cheerful and tasteful and wholesome as possible, and at the end of the year his bank account will be the better for it.

Breakfast and other morning duties over, it would be well to consider what things have to be done first, and whether any changes have to be made in the plans for the day. Then assign each person the task to which he is best suited. Encourage him or her by a kindly word, and let the wheels of the day's work be put in motion. By carefully laying out the work, and by being prepared by having tools ready for each season as it comes, the work should, as far as possible, be pushed, so that it does not push the farmer. This, too, is where mixed farming comes in, for by thinking over crops and harvests such things may be sown or planted that the work will not all come down upon the worker at one time.

True, a man cannot lay out all the work of a year in a few minutes after breakfast, but by spending a short time this way every morning one soon gets into a systematic mode of thought, and a business managed systematically will yield double the results of one irregularly run. It is impossible to lay out the rest of the day since the work must vary greatly at different seasons, but sufficient time should always be allowed for meals, both for animals and men. There is nothing gained in crowding the dinner hour into a few minutes. If there is absolute need of your presence in the field, like at the oncoming of a storm in harvest, it is generally far more healthful to have a lunch in the field than to rush in, bolt down a hot dinner, and rush out again.

During the busy season the farmer's life will be well occupied, and if he lays out his work methodically and spends his energies where they will be best repaid, he has lived well. Now as to the slack seasons. This is the time that too many farmers allow things to get ahead of them. An old and successful farmer once said to the writer that the reason some men failed at farming was because they tried to manage their farms from inside the horse ring at the fair, or under the circus tent. Now, while I would not for a moment deny any farmer the well-earned recreation in the fall, yet there is a limit to all things, and some people never seem to see where that limit is; or, to put it in another way, some farmers seem to look upon their home and farm simply as a treadmill, and they never look for pleasure inside their own fences. They continually seek for pleasure abroad. They spend money in searching for it. They grow dissatisfied, and finally tell us that farming don't pay.

If you want to drive your children off the farm, these are just the ideas to give them. But if you want to really enjoy life, if you want to feel that you are following one of the most independent, healthful and pleasurable vocations on earth, take your outside holiday once in a while so as not to grow rusty, but try to so lay out your farm with shade trees, orchard and garden; so arrange your house in comfort and convenience, with books and pictures and flowers that life will move on joyously, and you will not feel the need of gadding about for exciting and cloying pleasures that do not satisfy. You will then find time in your off seasons to get that pile of accounts looked over, and to see which crop paid you best, for "rule of thumb" is surprisingly incorrect; you will be able to read up the summer numbers of your favorite farm journal and to do a dozen little odd jobs for that faithful partner of yours, your wife, whose work you can thus often lighten. You will have time to talk to your children to see what ideas they have of life (for sometimes your poor children are tempted to terrible views of it), and to lead them on to what is right and true. You will have time to visit the district school and make the heart of the teacher glad by your moral support. You will have time and opportunity for every act of friendship, citizenship and fatherhood that you have too often neglected in the past.

In fact, farmers of the Dominion (those of you who are not now doing it), if you will calmly sit down and look this thing in the face and think what you came upon this earth for, you can determine to so keep your farm that it will keep you in good season and in bad season; will keep you

in happiness and health, and with your happy contented family about you, you will from being one of nature's noblemen become one of nature's patriarchs, and finally lose not that better happiness that will never be taken away.

Clauses Applicable to all Granges.

TRIALS, PENALTIES AND APPEALS.

Section 1.—If a member commits an offence against the Order or any member thereof, in violation of the constitution Laws, Rules, Usages or Principles of the Order, charges may be preferred against him by any member of his Grange at a regular or special meeting, upon which a committee shall be appointed who shall investigate the charge and report at the next meeting, and after a fair trial, if such member be found guilty he may be fined, reprimanded, suspended, or expelled by a two-third vote, should the interest of the Order demand it. Any member found guilty of wanton cruelty to animals, excessive use of intoxicating liquors, or whose interests are inimical to the best interests of the Order, or who shall divulge any part of the secret work of the Order, may, after a fair trial, be expelled by a two-thirds vote of the members present at any regular meeting. (Vote to be taken by ballot.)

Section 2.—Any member who has been tried by his Grange has the right of appeal to the next Superior Grange.

Section 3.—In all trials the accused has the right to be confronted with and cross-examine all witnesses against him. The testimony of those not members is admissible at the discretion of the committee and the Grange.

Section 4.—Every member against whom a charge is preferred has a right to a trial by his peers, that is, a member of a Subordinate Grange must be tried by the Subordinate Grange, a member of the Division Grange by the Division Grange, &c.

Section 5.—A member cannot be tried for acts done before he became a member—his election to membership pronounces upon all previous acts, but suspended and demitted members are subject to trial before the Grange in whose jurisdiction they reside. An applicant for membership who has been duly elected is also subject to trial, and may be rejected for unworthy conduct before initiation.

Section 6.—Masters of Subordinate Granges and their wives, if matrons, must be tried by the Division Grange, and may be charged by any member in good standing, for any violation of the Constitution, laws, rules, usages or principles of the Order, or for any conduct prejudicial to the good of the Order.

Section 7.—All officers except Masters, are amenable to their own Grange for violations or misconduct, and must be tried by their peers in such Grange.

Section 8.—Charges against Masters of a Subordinate Grange or any member of a Division Grange may be referred to the Master of the Division, who after a full investigation may suspend the offender till the meeting of the Division, or may summon the Executive Committee of the Division, and try the case and report to the next meeting of the Division, or may proceed to expel the offender, should the urgency of the case demand it.

Section 9.—When any officer (except the Master) fails or refuses to properly perform the duties of his office he may be suspended or removed from office after a fair trial by vote of the Grange. Vote to be taken by ballot. In case of suspension of a Master, the Overseer becomes acting Master until the final action of the Grange, when, if the Master is removed or expelled, the vacancy is filled by election.

Section 10.—The Executive Committee of Division, Provincial or Dominion Grange may hear charges against the members of such Grange during the interval between the meetings, and their decision is binding until reversed by the Grange, subject to appeal by the accused.

Section 11.—Suspended members or members under trial cannot be admitted to the meetings of a Grange.

Section 12.—Every sentence of suspension or expulsion should be immediately reported to the Secretary of the Division and all neighboring Granges and, in case of removal, the Granges near his new residence should be notified and all rejections by ballot be reported to the Division, Provincial or Dominion Secretary.

Section 13.—In case satisfactory evidence shall be brought to the Master of the Provincial or Dominion Grange that a Grange has been organized contrary to the laws or usages of the Order, or is working in violation of the same, it shall be his duty to suspend or revoke the Charter of such offending Grange.

Section 14.—In case satisfactory evidence shall be brought to the Master of a Division, Provincial or Dominion Grange that a Grange has been organized or is working in violation of the constitution-laws or usages of the Order, it shall be his duty to suspend such offending Grange and at once forward the notice, together with the evidence in the case, to the Master of the Provincial or Dominion Grange, as the case may be, who may revoke the Charter of such offenders if, in his opinion, the good of the Order requires it. Granges whose Charters are suspended or revoked, may appeal to the Dominion Grange at its next session.

Section 15.—The Master of a Division Grange must first suspend an offending Grange before the Provincial or Dominion Master can revoke its Charter.

Section 13.—The Division may set aside the decision of a Subordinate Grange, or the Provincial of the Division Grange, or the Dominion of the Provincial, and grant a new trial on account of irregularities. The case should then be remanded back to the Provincial, Division, or Subordinate for a new trial.

Are Farmers' Organizations Necessary or Desirable?

This subject was discussed in Union Grange, No. 118, at the regular meeting, 18th August, 1891. The following is a summary of ideas advanced by its members:—

(1) Farmers' organizations are both necessary and desirable, educationally, socially and intellectually. Socially there is no better way of improvement than by frequently meeting together. When a person is hemmed in by business all the time and takes none for pleasure, is he a social person? If you wish to converse with him on business that particularly affects him financially, he will talk, but for a really good interesting conversation he's not there. Then I say farmers need to meet together frequently to brush off that coarseness which tends to become naturalized to one who sticks closely to his business without intermission or recreation. Intellectually it is much the same but deeper. A person may be what you might call a sociable person to converse with upon subjects relating to mere pleasure, but *true pleasure* comes from *thought*, the product of a fertile intellect. One person may possess a very fine characteristic socially, and be far from fineness in many others. Another may be exceedingly sensitive in one or more of these, and lack in this fineness possessed by the first, thus, by coming together they are both benefitted. Now, in the same way we all possess, to a greater or less degree, intelligence, some in one line and some in another more particularly, but all possess minds capable and needful of improvement. Then, I ask, in what way may we better gain this improvement than by coming together as an organization, cultivating the powers of both that and speech, and thereby prepare ourselves that we may be able to agitate our cause more intelligently and effectually.

(2) By coming together in this manner we are able to discuss questions which affect our

interests with greater force, and draft resolutions, etc., for the improvement of laws which may not appear to us to be agreeable to our greatest advantages. If we do not come together in this way, how can we have force? One man may see what he thinks a defect, because of a misunderstanding of the facts, and if he does understand them it is with much more difficulty that he is able to get his brother farmers to lend him assistance, even with their names, because of isolation, whereas in an organized body he is able to lay the whole matter before its members as easily as to a single person, hence it is easier to obtain legislation in any direction in this way than single-handed.

(3) We are the great producing class in the land. When we are pinched in any way for any length of time those who do not feel it are but very few, an example of which we now see in the great depression which has been so general for the last few years. It is exceedingly necessary that we should be organized in a noble body, and stand for a noble cause. Not only is this necessary for our own particular interests, but for the welfare of our country. If we are awake to our best interests we shall come together and interchange ideas, and discuss questions relating to our business with a liberal mind and free heart, willing to teach and be taught, endeavoring with most earnest zeal to find the best way to lighten our burden and enhance our income, to improve the quality of our products and decrease the cost of production. By doing this we shall find that we help ourselves very materially, and improve the conditions of the community in general.

If, when we are in a depressed condition, others feel it so sorely, in like manner they will rise out of depression as we do. Not this alone, for as we learn to improve our products we increase the demand for them, and as we increase our products we in like manner increase the wealth of the country. On the other hand, as we decrease the cost of production, we greatly enhance the returns and the more freely money is floated; hence you see the vast importance of farmers working together. The great work we have to do cannot be done single-handed. The millions of dollars which are possessed by individuals are influenced to circulate to a greater or less extent by our own efforts which tend to improve our products. These are the very people we want to expect to suit with our products, and if we do this we'll be well paid, for they will pay well for a first-class article. Give the Englishman good butter, cheese and beef, and the American fine mutton, and a horse of good size, with handsome *style* and *action*, and in return they will pay you a good, handsome price for them.

We may not be able to take a handful right out of the pile of the millionaire, but if we want his pile floated we must pitch everything we have at it; if we don't it will not go in a long time, for in our products the germ of *excellency* must be placed, which when it reaches him will create a greater desire for it than his money. When we accomplish this feature we may expect to get some of his pile.

Signed on behalf of press committee, Union Grange, No. 108.

S. P. BROWN, Chairman.
W. J. PHIPPS, Master, } Whitley.
T. E. PHIPPS, Secretary, }

Dairy.

Points in Dairy Practice.

Our wide-awake contemporary, the Farmer's Review of Chicago, quotes what the FARMER'S ADVOCATE had to say recently against the use of "preservative" in milk by factory patrons, and heartily endorses our position.

According to tests carried on at the Iowa Experiment Station quality of milk, so far as measured by its percentage of fat, was changed by feed to a much greater degree than was quantity. Two-thirds of the increase in average gross yield of butter fat was due to improved quality of the milk, and only one-third to increased milk flow. In the published statement it is not shown whether the increased yield was profitable or not, and if it was to what extent. So much, too, depends upon "individuality," that general conclusions should not be hastily drawn from some of these cow feeding tests.

Do not many of our cheesemakers keep their make-rooms at an exceedingly high temperature, especially in summer weather, with doors shut and windows all down? Speaking on this point to the writer recently, Mr. Dillon, Superintendent of Dominion Experimental Dairy Work in Western Ontario, declared that while the curds should be protected from drafts, he was satisfied that many makers were unnecessarily punishing themselves with heat.

From the Salford, Ont., cheese factory, comes the report that some remarkable results have this season been attained in cheesemaking, by setting the milk at 80°, and the "cooking" of the curd performed at 84° instead of 93°. The theory is that the loss of butter fat in manufacture is largely the result of too high heat in scalding. The maker took a vat of milk and divided it, making one-half by the usual 82° and 96° plan, and the other half by the 80° and 84° plan. It took a pound more milk to make a pound of cheese by the 96° plan than by the other, and the 84° plan gave the finest cheese. The curd is allowed to remain in the whey about three hours, instead of from an hour to an hour and a-half.

After twice investigating the subject of cream raising by dilution by an extensive series of tests at different seasons of the year, the New York Experiment Station at Ithaca reports as follows:—"In all the trials we have made in diluting milk we have never received any advantage from the water added, in fact, in all the cases but one the addition of water, either hot or cold, has been a distinct disadvantage. In one case the amount of fat in the skimmed milk was practically the same for the diluted and undiluted samples." Have any of our readers had any experience in this matter? We understand that not a few regular butter dairymen, not having ice or cold running water to use with their creamers, have found by actual practice that it paid to dilute the milk. It is not a new theory that to put water into milk under certain conditions would facilitate cream raising.

According to a test at the Maine Experiment Station a delay of from one-half to an hour after milking before straining and setting "does not

seem to materially affect the completeness with which the cream will rise." Prof. Wing, of the New York Experiment Station, reached a similar conclusion, but qualified his statement by saying there was slight danger of loss in fat in delaying the setting for a considerable time, "particularly if the temperature of the milk does not fall much below 80°." As it would be very likely to cool down a good deal, especially in winter, besides being more or less liable to take up various stray odors, the FARMER'S ADVOCATE warns its dairy readers against delay in milk setting.

Bulletin No. 14 of the New Hampshire Experiment Station claims the following advantages to dairy farmers on behalf of the silo:—
1. More food material can be produced on an acre from corn than from any other farm crop.
2. The cost of 100 lbs. of dry matter is slightly less in corn than in hay.
3. Green food is especially favorable to the production of milk.
4. Silage is comparatively convenient and cheap.
5. It makes the farmer independent of the weather (except, we presume, when being filled).

A Mississippi dairyman, who could not get the cream out of the milk before it soured, to make more than four or five lbs. per day of butter from eight cows, was agreeably surprised to get 7 and 7½ lbs. per day of better butter when the milk was run through a centrifugal cream separator.

At the Texas Experiment Station it was shown that the use of cotton seed meal in a grain ration for dairy cows caused more complete separation of fat from milk in the deep setting process of raising cream, but where the cream was taken out by the separator the food made no difference. It was also shown that the separation of cream by setting milk in cans was less perfect when the cows were advanced in lactation than when nearly fresh. The influence of the stage of the milking period in this respect was very marked whether the food contained cotton seed meal or not.

C. S. Arnold, of Walworth Co., Wis., regularly salts his sweet cream as soon as skimmed, using two ounces of salt for each pound of butter expected. He does it for three reasons:—1. To avoid acidity and fermentation in cream while he waits to get a "churning;" 2. To get more exhaustive churning of the cream; and 3. To make the butter "come" in less time.

Watch the Churn.

"The greatest thief of butter fat I have ever detected about my creamery," observes Mr. Jas. Carmichael, of London township, Ont., "is the churn. It must constantly be watched, for which purpose I use the Babcock in testing the buttermilk." Now that the winter dairying season is approaching, a word of caution on this point, if needed, may save many a buttermaker from severe losses. It is not enough that the milk be creamed exhaustively, eternal vigilance and skill must characterize the dairyman's method of handling the cream and churning in order to obtain the greatest profit. Those who propose starting creameries or winter buttermaking in cheese factories, should take warning on these points in time from those who have had experience. To gain experience by blundering on in the dark in dairying, is too expensive for people of ordinary means, whether they be makers, proprietors, or patrons.

Testing Butter Cows.

There is dissension in the United States dairy camp as to how the proposed test of butter-producing cows at the World's Fair, in 1893, shall be conducted. We trust it will be placed upon such a basis as will give fair play to the competing cows to whatever breed they belong. The actual producing capacity of the cows in these great trials is the point to be determined, and not the respective skill of butter-makers in creaming and churning, processes which admit of too much error and unfairness as well, if we are to credit the reports of how, by skilful manipulation, excessive quantities of caseous matter and moisture have been incorporated in butter in order to swell the record. It is notorious, as every enquiring butter-maker and creameryman knows, that by defective methods there are great losses of fat in creaming and churning, especially in the latter process. The bed rock basis of a cow's butter capacity is butter fat. To the cow yielding large quantities of milk, rich in that fundamental element, the butter dairyman pins his faith. Hence the wisdom in such a competition of eliminating all, or as many as possible, doubtful factors, and getting at the heart of the matter direct in order that the cow get credit for all she is capable of producing and no more. By gravimetric analysis, or by simple, speedy and accurate methods, which modern science has given us, the percentage of butter fat in a cow's milk is now easily determined. Why, then, rely on the uncertainties of a churn test? If those who insist on having the butter made, and nothing but the butter, would insist, say, on the use of the centrifugal "butter extractor," which whirls the fat out of milk into actual granules, leaving but a small fractional percentage of fat in the skim-milk, they would be nearer the mark, though the uncertainties of "working" the butter would still remain. The advocacy of the churn test has come mainly, we believe, from the President and other members of the American Jersey Cattle Club. Hoard's Dairyman, which has been ably championing the fat test as the safe and sound arbiter, asks if the Jersey men advocate the churn "because they think the Jersey milk is the most churnable?" Hoard's Dairyman cannot be accused of being unfriendly to the good interest of the Jersey. Incidentally, we would like the Dairyman to state exactly what is meant by that phrase "most churnable." Is it: 1, that as "whole milk" in the churn the Jersey fluid will more readily and completely yield its butter; or 2, that in the gravity process it will more readily and completely yield up its cream; or 3, that the cream will not only rise more readily, but in the churn may more easily and completely be converted into butter? If breeders wish to test their cows on those points, we make no objection, but they do not constitute the vital issue at stake. Surely at this stage of dairy progress it is not proposed to rely on gravity creaming, either with shallow pans or deep cold setting, when the centrifuge, which long ago won endorsement from hosts of the most practical and scientific dairymen in the world, is ready to whirl practically all the cream, without delay or ice water, out of the cow's milk, irrespective of breed or size of the globules. But this is aside from the real question.

Speaking on the subject at a recent conven-

tion of American Agricultural Colleges and Experiment Stations, Mr. G. W. Curtis, Professor of Agriculture and Director at the Texas State College and Station, who, from childhood, has been a practical worker and experimenter in prime dairies and creameries in different latitudes, said he could take test cows from any part of the world, churn their milk before those present, challenging them to detect anything wrong, and would give them the churn and the cows, too, if he failed to make a difference of from two to ten ounces in their yield. It was utterly impossible for any churner in the United States to churn a dozen samples, and work them to the same, or within 5 per cent. of water. He had, therefore, for the last three or four years emphatically protested, privately and officially, against the use of churns in these tests. The time was rapidly approaching when all public tests would be made by a fat-extracting standard. He did not care by what method, but the simpler the better.

In milking trials and butter competitions at Canadian fairs gravimetric analyses and Babcock tests have been in vogue. The Jersey people have not been backward in entering these tests. Sometimes they won, sometimes not, but we have yet to hear any complaint from them that the methods of testing were unfair.

Hereditary Milk Functions.

Many dairymen, particularly in factory districts, cling with death-like tenacity to the idea that in order to obtain a large flow of summer milk their cows must go dry all winter, and they back up the notion by putting them on starvation rations during that period. We believe such men are pursuing a hopelessly unsound policy—bad for the cows and their progeny, and bad for themselves. "Men say," remarked Prof. Robertson at the Ontario Creameries' Association meeting last winter, and we presume he spoke with actual knowledge to back up his assertion, "that if they milk their cows all winter they will get a smaller flow in summer. As a matter of fact, they will get a larger flow during the summer months. A cow that goes dry in the winter time, that is fed upon dry food, will have her system so ill-adjusted for milk-making that she will give less milk in summer." Our own experience and observation indicates that herds can be so managed as to give a generous flow of milk for winter butter-making without diminishing, to say the least of it, the summer yield for cheese-making purposes. The late Prof. L. B. Arnold, than whom America never had a more patient and thorough investigator of dairy truth, dealing with another phase of this important subject, says:—

"Immediate loss of milk by not supplying full rations of milk-producing food the whole of the milk season is not the end of the misfortune. It affects the flow of milk in after years, and counteracts all efforts for improving the milk capacity of the cows and their descendants. When the udders of the cows are limp or empty one-half of the year this condition becomes a fixed or hereditary quality which may be looked for in the future heifers with as much certainty as like may be expected to produce like in any other particular. On the other hand, if the cows are kept up to their best efforts, they will gradually make their condition a permanent and fixed tendency in their nature and will transmit to their descendants the same as any other quality they possess."

We commend to the careful consideration of our readers these thoughtful observations of Prof. Arnold.

The Babcock Milk Tester.

To the Editor of the FARMER'S ADVOCATE:

SIR,—Some weeks ago a writer on one of the leading daily and weekly papers in Western Ontario, when writing up the Western Fair, among other matters raised the question of the accuracy and reliability of the Babcock Milk Tester, and further stated that the innocent farmer and dairyman was being prosecuted by the milk inspector in the employ of the Western Ontario Dairymen's Association through using this instrument. Permit me to say that seven-eighths (7/8) of the parties who have been called to account for their misdeeds by the milk inspectors through this instrument, have, when brought before a magistrate, acknowledged their guilt and paid their fines. This does not look very much like innocent prosecution, does it? I would further say, that instead of this instrument being the means of prosecuting innocent farmers and dairymen, it is fast putting a stop to the gross injustice that the honest and conscientious farmer and dairyman has been subjected to by such parties as have been caught tampering with their milk. Very few of the honest farmers and dairymen have any idea of the amount they have been robbed of by these rascals for years, because of the want of some really quick and accurate way of catching these fellows. The Babcock Tester has come to stay, is doing good work, and will soon put a stop to the various methods of tampering with milk by the dishonest patrons. Skimming and watering milk will soon be one of the "lost arts". The Babcock Tester will completely change the mode and way of handling and paying for milk at cheese factories and creameries, so that there will be no inducement nor temptation for any man to tamper with his milk; but on the other hand every encouragement will be given to the honest patron, and the one who has a choice herd of cows and is a good feeder.

In order to satisfy myself and the readers of the ADVOCATE, I wrote Prof. F. T. Shutt, Chemist of the Central Experimental Farm, Ottawa, concerning this matter. His letter, given below, will explain itself, as will several others appended.

JOHN S. PEARCE.

MESSRS. J. S. PEARCE & CO., London, Ont.:

Gentlemen,—I am in receipt of your letter of 8th inst. regarding the accuracy of the Babcock Tester for estimating the amount of fat in milk, and in reply I would say that some months ago I made a comparative test between this process and an improved and extremely accurate method of chemical analysis. This test comprised the examination of a large number of samples of milk, and the percentages of fat were determined in duplicate by both methods. From the results then obtained—which were published in Bulletin 12, a copy of which I enclose—and from subsequent work done in the Farm Laboratory and Dairy, I feel quite confident that the percentage of fat as determined by the Babcock method, is within one-quarter of one per cent. (.25%) of the true amount of fat present in the milk. For all practical purposes, such as for the creamery and cheese factory, where it is desirable that the milk be sold and bought according to its quality results, whose variation does not exceed plus or minus .25% of the truth, may be considered sufficiently close. From them the true butter value of the milk may with certainty be estimated. It is, of course, necessary that the pipettes and bottles be accurately graduated, and that the instructions accompanying the tester be faithfully carried out by a careful man. If the apparatus be obtained from a reliable manufacturer who furnishes a guarantee, there will be no reason to question its accuracy. Any intelligent and careful worker may easily acquire the requisite skill in order to get correct results. Yours faithfully,

FRANK T. SHUTT, M.A.,
Chemist Dom. Exp. Farm.

The following letters and extracts from letters written by men of wide experience and large practical information, who have nothing to gain and everything to lose by giving inconsiderate or extravagant indorsements, should convince any reasonable and candid person that for accuracy, simplicity and cheapness, the Babcock method of testing milk will be a great boon, both to the public and to the dairyman:—

UNIVERSITY OF WISCONSIN
AGRICULTURAL EXPERIMENT STATION,
MADISON, WIS.

We have been using your centrifuge for the Babcock test in our laboratory, and are delighted with it. I congratulate you upon getting up a first-class hand machine, which seems durable, easily run, and reasonable in price. Very respectfully,
W. A. HENRY, Director.

KENTUCKY
AGRICULTURAL EXPERIMENT STATION,
LEXINGTON, KY.

I have been trying a Babcock milk test for three months daily, and am very much pleased with its workings. The method, I believe, will come into general use. Yours very respectfully,
M. A. SCOVELL, Director.

THE CONNECTICUT AGRICUL. EXP. STATION,
PROF. W. S. JOHNSON, Director,
DR. E. H. JENKINS, Vice-Director,
NEW HAVEN, CONN.

Referring to your letter of December 18. We have pretty thoroughly tested the Babcock method and the apparatus sent by you, and find them both thoroughly satisfactory. They are in daily use here at this station, and by their help we are able to make about sixty determinations of fat in milk in the course of two hours with two persons.
Very truly yours,
E. H. JENKINS.

MISSOURI
STATE BOARD OF AGRICULTURE,
COLUMBIA, MO., Dec. 23, 1890.

The Babcock test you furnished the Board of Agriculture arrived here only yesterday, too late for the northeast series of meetings. However, in the absence of the one you sent, the Experiment Station granted use of theirs, a Babcock, and the services of the assistant chemist, who operated the machine in a highly satisfactory manner. I, with the chemist, consider the Babcock a first-class milk test; easy of manipulation, rapid and accurate.
In the series of southern meetings to begin Dec. 31st, we will use your machine.
Very respectfully,
LEVI CHUBBUCK, Secretary.

Prof. Stuart is a noted author and writer on dairy and agricultural matters.

HIGHLAND, N. C., Dec 27, 1890.

My Dear Sirs,—In reply to your question I have to say that I have been using the Babcock apparatus for testing milk daily for the past two weeks with much satisfaction. I have tried, at different times, all the common methods of analyzing milk for the contents of fat, but this is the easiest, simplest and most accurate of all. I think this process will afford a solution of the vexed questions in regard to the amount of fat in milk, in the private dairy as well as in the creamery. Yours very truly,
HENRY STUART.

From the Dairy and Food Commission, of Wisconsin:

We have used Prof. Babcock's test for determining fat in milk for three months at the laboratory. It has proven itself a practical and cheap machine. I believe it to be the best, and cheapest now in use, and venture that but few successful factories will get along without it. I have urged for some time that the day is near at hand when a patron will receive pay according to the amount of butter fat in milk, and not according to quantity. The Babcock test, I believe, makes this possible.
Very truly yours,
H. C. THOM, Commissioner.

Prof. Van Slack, of the Geneva Experimental Station, told me last night that at the station they had found the Babcock so accurate that they should in the future use it in the place of the Gravimetric, in the dairy department.
I like your test better and better.
Yours truly,
JOHN GOULD.

The following is from one of the oldest, finest and most progressive manufacturers of creamery butter in Jefferson County:

JOHNSON'S CREEK, WIS.

The Babcock milk tester sent us does the work very satisfactorily, and is the best test we have had yet. With this it is not much of a job to find out what our patrons are giving us. All previous tests have taken one man a considerable part of his time in a large factory to test the milk as closely as it should be.
Very truly yours,
THE GEO. C. MANSFIELD CO.

EXECUTIVE CHAMBER,
MADISON, WIS., Jan. 3, 1891.

Gentlemen,—I am greatly pleased to learn that you have completed a Babcock test churn suitable for farmers' use with their herds. I am certain that there is nothing that the dairymen of this country need so much as a business-like knowledge of what their cows are doing individually. It is the lack of this knowledge that keeps thousands of dairy farmers playing at dairying with cows for years that never have and never will pay for their board. Yours sincerely,
W. D. HOARD.

DEAR SIR,—I cannot speak too highly of your paper as an advertising medium; I get a great many inquiries for fanning mills from your readers, and can trace many sales direct, and I know it does me great service in an indirect way. It would be the last advertisement in my list to be discontinued by me, if I were curtailing.
MANSON CAMPBELL,
Manufacturer of the Famous Chatham Fanning Mills, Chatham, Ont.

The "Non-Exercise" Question.

A. X. H., of Sheboygan Falls, Wis., writes as follows to the Farmer's Review:—

"I have for myself and with my father had some forty years experience in the dairy business, keeping from twenty to fifty cows (no scrubs), and I can fully endorse all D. Nichol, of Ontario, wrote to FARMER'S ADVOCATE on the question of exercise for cows. On some points I would make it still stronger. I do not, I cannot believe that milch cows can stand so much and so long as some great men advocate and not suffer. Of course, I never have kept them so confined, but in the very nature of things I believe it must be so. When I hear of such men as Ex-Governor Hoard advocating no exercise for dairy cows, it makes me think of something that occurred here in Lima. Old Mr. K. was not a great corn husker, but a very modest man. He despised bragging, but he said to his neighbors (he had been husking corn with me): 'H. is smart, but I can husk as much corn as H.' I can say 'Hoard is smart, but I know as much about what a cow needs as Hoard.'"

We are not aware that any "non-exercise" advocate makes his cows "stand" continuously. During the winter they keep them in roomy, well-lighted and well-ventilated stables, reasonably warm and tied with chains, or so that they are free to get up and down and move about to a limited extent at will. They, therefore, do not mean no exercise at all, but under proper conditions, as cited, with clean stables and regular grooming, claim to get far better results in milk from their cows, and so far report no injurious results. They say that practice proves more than theory. On another branch of the question the American Dairyman says:—

"It is a question over which there has been much discussion whether exercise is necessary, or is in anywise beneficial to cows in winter. However the matter may be decided as concerns the cows, there can be no doubt that calves require considerable exercise in the open air in order to keep them in the best possible condition as regards health and vigor. They should have a run in the yard every fair day, and lessons in leading them should be given, so that they will readily yield to the rope when they become older. The keeping of the calves in close stables, as is often done on farms where many animals are kept, must have an injurious effect upon the health and constitution of the creatures thus confined."

Why They Did Not Compete.

With regard to the Western Fair two days' butter trial, the results of which were given in the October ADVOCATE, we understand that there would have been more cows competing, but for the reason that about a week or so before the exhibition notices were sent out changing the age of eligible cows from "three-year-old" to "three-year-old and upwards." Of course, if no cows above three years old were specially prepared for the Western Fair trial, all mature cows entered at the last minute would be on an equal footing, but some who prepared three-year-olds and tested them as to capacity, evidently thought, whether rightly or wrongly we know not, that their young matrons would be in competition with specially prepared aged and fully developed milkers. Were that the case it would have been manifestly unfair. Smith Bros., of Churchville, informs us they intended entering a three-year-old giving 45 lbs. per day of milk, testing 3.80 per cent. fat. Another cow tested since the fair, and which they might have entered had the notice not been so short, gave 22½ lbs. at a milking, testing 5 per cent. fat.

We would prefer, as far as getting accurate knowledge for our dairy readers is concerned, of the butter capacity of cows, that for these tests they should be in their normal condition, and receiving their usual rations when doing full work at the pail.

Stock.

Studs, Herds and Flocks.

AYRSHIRES AT PETITE COTE.

The herd of Ayrshires owned by Messrs. Jas. Drummond & Sons, at Petite Cote, close to Montreal, is not only the largest, but can also boast of being among the very best in the Dominion, many years work having been expended in bringing it to the high position it now occupies. The herd for many years was bred from the earlier importations until Mr. Drummond determined to infuse fresh blood through direct importations of his own. It is from the new blood thus brought in that the herd owes its present excellence, for included in this importation was the bull Promotion, who turned out a remarkably good sire, his get being easily distinguished from their likeness to each other, as well as the many points of excellence aimed at by breeders of high class Ayrshires. Among several fine cows that came with Promotion was Viola 3rd, a cow that has won all before her in the show ring, and is at present a very hard one to beat. Viola 4th, another imported cow, is only second to the last named, as is also Viola 5th, a three-year-old, daughter of the first named and by the bull Promotion. The bull at the head of the herd is Rob Roy; he is of large size and smooth finish, having won many prizes in the show rings of late years, he never having taken a second place. His dam is the first cow mentioned; she is a grand milker, as well as a good individual. A remarkably fine yearling bull is Victor. He was first prize bull calf at Toronto and other prominent shows last season. The heifers of the different ages were a capital lot. In the field adjoining the buildings we counted over thirty cows that would delight the eyes of a dairyman, all recorded Ayrshires and of much the same type. Here the cows sired by Promotion showed themselves to the greatest advantage—fine udders with good teats, and a wonderful likeness throughout the whole lot. By these we were reminded of the grand lot of yearlings which we saw at North Nation Mills, the property of W. C. Edwards & Co., and which were sired by this bull, the latter firm having purchased him from Mr. Drummond.

MR. THOMAS BROWN'S AYRSHIRES.

Also situated at Petite Cote, and still nearer Montreal than the last mentioned, is the herd of Ayrshire cattle owned by Mr. Thomas Brown, a capital selection of which he imported last season, which were much admired at the shows at which they appeared. The three-year-old imported bull Chieftain stands at the head of the herd. Included in the list of cows is Derby, a cow of good size and quality. She has been a noted prize-winner in Scotland. Annie, imported, is another cow of large size. She is of capital form for a dairy cow, and shows plenty of Ayrshire character. Bronnie, a three-year heifer, is very promising, both as a dairy cow and in the show ring. Nellie Osbourne has not yet appeared at Canadian shows, although she has obtained the honor of winning at the London Dairy Show. In addition to the very fine herd of Ayrshires, a number of Clydesdale mares of good breeding and individuality are kept, the whole forming as grand a collection of fine stock as one would wish to see.

THE STUDS AND HERDS AT HILLHURST.

From its first introduction as the centre of a fine stock breeding establishment the name of Hillhurst has been associated with breeding the best of its kind. In the line of importations the noted breeding cow Duchess Ninety-seventh, the dam of the first and second Dukes of Hillhurst, herself afterwards exported, when she became the dam of Duke of Cornwall, now at the head of one of the best herds in England. Still later, Duchess 101st and Duchess 103rd, also of Col. Gunter's breeding, were imported at long figures. Their first calves, Duchess of Hillhurst 1st and Duchess of Hillhurst 2nd, were exported to England at the same figures that their dams cost, a sensation was created that will ever be remembered by those having a knowledge of Shorthorn lore. In this line Mr. Cochrane opened the way for the exportation of fresh blood for the choicest bred herds of England, at once giving Canada a standing in the fine stock breeding circles of the world. Hillhurst, with its broad acres, at once gives the idea of high class farming, whether it is the abundant crops in the grain fields, the rank growing ensilage corn, the grand fields of roots, or, what delights the eye of a stockman better still, the magnificent stretches of grass land. Although the ranks of the Hereford and Polled-Angus herds had been thinned by last spring's auction sales at home and at Chicago, still large herds of both these sorts were retained, which the proprietors most reluctantly have to dispose of in order to make room for their fast increasing stud of horses.

HEREFORDS were the first to which we were introduced. Cassio, the great son of that great sire, The Grove 3rd, still retains much of that massive form and wonderful combined smoothness and thickness of flesh, that has carried him to the front in so many show rings; of necessity he has begun to decline, but his ten years, the last five of unparalleled show yard success, proves how grand a constitution he possessed, or he would not display his present freshness and vigor; his success as a sire is testified to by the number of exceptionally good show things in the herd, all having been got by him. Eastern Empress, by Cassio, dam by The Grove 3rd, shows that Herefords will stand close breeding, if her exploits in the show ring count for anything. Since winning first as a yearling in 1888 she has never taken a second place in her class.

Vanity 3rd, whose two top crosses are also the same as the foregoing, won the championship for the best female at all the shows during 1889 and 1890. She is a beautiful heifer, and is one of many good ones from the imported cow Vanity.

Lady Louise, whose dam is sired by the Lord Wilton bull Monarch, is another to the credit of Cassio as a sire. She is of Mr. Price's Lady family, and is certainly a beautiful calf. Her straight top and underlines and all-round smoothness give promise of honors yet to be won.

A number of good bull and heifer calves of capital form were also in the stables, the above being only an example of those we had the pleasure of seeing.

POLLED-ANGUS.—The Hillhurst Angus herd, which has been noted for producing many cele-

brities known at our Canadian exhibitions, as well as high-priced individuals at the sale rings of the United States, consists of a large herd that can boast of wonderful uniformity. We were very much impressed with the capital matronly character of the extensive herd of breeding cows, which are of large size, and belonging to the heavy fleshed sorts that admirers of this breed are wont to boast.

Lord Advocate has taken the place of his noted sire Paris 3rd, and from what we saw of his calves they appear to be an exceedingly good lot, and are no disparagement to their illustrious grand-sire. Lord Advocate is of the Lady Ida family, and is a particularly good individual, having abundance of natural flesh and smoothness of finish. He has been very successful in the show ring. Among the cows we noticed Blackbird of Hillhurst, dam of the Paris 3rd cow, Blackbird of Paris. She is a very even, smooth beast, of capital doddly character and plenty of thickness of flesh. Closely adjoining her stood Errina of Sir G. M. Grant's Erica tribe. She was purchased at the Earl of Airlie's sale, where Mr. Cochrane paid £380 for her. She was sired by Prince of Chase. Miss Macpherson, her dam, was an extraordinary milker. Her stall mate, Jean the 10th, of the famed tribe of Jeans of Easter Tullock, has been an exceptionally good breeder, and we were told was one of the best milkers in the herd, which she certainly gives evidence of by appearance.

British Bud, a beautiful four-year-old cow that has been quite a prize winner, belongs to the Charmer branch of the Queen Mothers.

Lady Francis Forbes, the last heifer produced by a favorite cow of Mr. Cochrane's, is particularly promising. She belongs to the family whose name she bears, a tribe that has not only been exceedingly prolific at Hillhurst, but has produced a great number of prize-winners.

Prince of Hillhurst is of the Pride family, and Lady Princess of the Lady Ida tribe, but our space will not allow us to make mention of but a few of the numerous good ones with which the herd abounds.

THE JERSEY HERD is small in comparison with the two preceding, but is composed of an exceedingly choice lot, principally bred from importations direct from the island of Jersey; all are registered in A. J. C. C. The bull, Sir Hector 2444, bred by Messrs. Dawes, of Lachine, was sired by Angela's Joy, whose dam, Queen of Darkness, is the only cow that ever beat the great Commaissie on the island. Sir Hector is worthy of his position at the head of so choice a herd. He is a bull of good substance, fine quality, and very handsome in appearance.

SHROPSHIRE SHEEP, a large flock, which are from the most prominent flocks of England, are being continually renewed by fresh importations, while improved large YORKSHIRES are the occupants of the extensive piggeries.

STANDARD-BRED HORSES.—A remarkably handsome horse is the four-year-old stallion Floremont 13182; is at the head of the Standard-bred stud, and along with his beauty of form his blood lines are a combination of speed producing sires. Piedmont, his sire, is the fastest son of Almont, and is a union of Rysdyk's Hambletonian, Mambrino Chief, and Pilot Junior blood. Floremont's dam is Flower Girl, sired by Electioneer 125, who has such a list of stars, amongst which is Sunol, 284, the fastest

trotter yet produced, Electioneer now also having to his credit the greatest number within the charmed circle. The three-year-old, Aubury 9682, is a rangy and stylish bay, is sired by Epaulat, 2.19, while his dam is a big, fast mare by Kentucky Prince. Courage 13182 is a colt of very large size, his sire is Hermod 5588, and his dam, Kathleen, is fast herself and from speed-producing lines. Volition is a yearling of wonderful development, already showing the fast frictionless gait that his fine breeding would indicate. He is sired by Antivolo, a son of Electioneer, his dam being Mona Medium, a daughter of Happy Medium—a combination of blood that should produce speed. The brood mares in the Hillhurst stud have not been selected alone with a view to producing speed; they are at once large in size and handsome in form, with powerful quarters, capital feet and legs and strong, sound joints that are not always to be found in trotting bred families. Among these we were particularly impressed with Mona Medium, dam of the above mentioned yearling; also Adele Wilkes, a dark bay mare by Abdallah Wilkes 7562, a son of George Wilkes, her dam being Lady Seward, by Lakeland Abdallah 351. Winsome is a five-year-old mare, purchased from the proprietor of Palo Alto, and is a fine upstanding beast, with plenty of quality to recommend her.

HACKNEYS.—As early as 1881 Hackneys were added to the numerous breeding departments. At that time the stallion Fordham 287, and the mares, Countess 70 and Gipsy 129, were imported from Yorkshire, England, thus forming the first stud of this now popular breed of horses on the continent. Fordham, described as a black chestnut, was sired by Denmark-Bourdass 177, noted for his success in the stud. The number of good things got by Fordham, not only from Hackney mares, but from mares of local trotting breeding testifies how impressive he has proved as a sire. All alike show the coveted action at knee and hock, while as saddle horses they have a cleanness and courage that brings them in great demand. Six pure-bred Hackney mares are now in the stud, viz., Countess 70, the imported chestnut mare, by Old Times, Cook's 2nd 537, and her three daughters, Consequence, Caprice and Cottillion, all sired by Fordham; also Gipsy 129 imported, a bay mare, and her daughter, Gavotte, sired by Fordham. The Hackneys are all of one type, and only require to be seen to be appreciated, as they, in Mr. Cochrane's hands, appear to cross with advantage with all other lines of breeding. They are not only closely knit, but there is a strength and endurance about them that would make them exceedingly useful in producing light farm team for road work.

Our Next Illustration.

In our December issue we hope to give an illustration of a very superior Jersey Bull, at present at the head of the herd of Mr. A. C. Burgess, at Carleton Place, Ont. Mr. Burgess has spared neither pains nor expense in getting together both breeding and quality in his cattle, and along with these as much utility as possible, as with him the daily output of cream which he has contracted to supply to the dining cars on the C. P. R. R., as well as the refreshment rooms at different points, means a large amount in dollars and cents.

Over-Feeding.

"Unfortunately, it must be recognized as a fact that show stock must be fat, very fat. But is it not time we got over that sort of nonsense? At the fat-stock show it is part of the plan that the animal be fat. The theory is that it shall carry all the fat it can, and that then we shall be told how the fat was created and what it cost to make it. The fat-stock show is to show us the comparative value of animals as meat-producers, and the comparative cost of production. But the fair has no such purpose. If it had, the fat-stock show would not be needed. A lean animal will give us as good an idea of the breed as a fat one. The objection to this stuffing process by which animals are fattened for the fairs is that many animals are greatly injured by it."

The above paragraph, taken from a country exchange, is typical of the feeling entertained by many writers on the the question of feeding. The mission of any journal, whether a general newspaper or a specialty journal, is, or should be, to educate the people; and from the frequent notes of warning (!) sounded by general newspapers, and some agricultural journals, one would very naturally reach the conclusion that the great bulk of cattle on the continent of America were overfed and that a note of warning was absolutely necessary to prevent it. On the contrary, however, the great bulk of cattle in this country are too thin for even healthy breeding condition. We do not often see any reference to the fact that animals bred from sires and dams that are thin are not nearly as valuable as if the parents had been in good flesh at the time of copulation. Such, however, is the case, and the loss to the country from this source is, to put it mildly, dollars, where from overfeeding it is cents. With all due respect for the Shorthorns, there would not be one half the demand for Shorthorn bulls that exists to-day if the common stock of the country was kept in proper breeding condition. It is not in the least an exaggeration to say that not one-fourth of the stock slaughtered for beef in the entire country is too fat for breeding purposes. It is the veriest nonsense to assume that "a lean animal gives us as good an idea of the breed as a fat one". One of the best farmers and most successful stockmen in the Dominion of Canada, or on the continent of America for that matter, writing, says:—"The time is not far distant when the successful farmer, if he wishes to keep pace with his competitors and hold his own in the markets of the world, will be compelled to keep *good cattle, well-fed from birth and high-pressure feeding*". It may be, and doubtless is, true that a fair profit has been realized on cattle on the old system of making the summer restore what was lost in winter, but every man who owns a single animal should endeavor to get every cent out that is in them, and not be satisfied with minimum profits. Who have developed the Shorthorns, Polled-Angus and other beefing breeds of cattle? Is it men who claim to see what is in a breed of animals when the animal is lean as when it is fat? Not by any means. It is men who never see on their farms an animal poorer than when they come into the world—men who insist on a constant daily gain until at last a condition is reached equal to, and very often, indeed, in advance of our beef cattle. Can any of our readers give one solitary instance of a man who kept his stock on the confines of starvation adding anything to the value of the breed he kept? If this be true, and it certainly is, then where will this breeding from poor, thin stock lead us?

Sheep Breeding.

Pairing time is properly the beginning of the shepherd's year. It is at this time that fresh blood is infused through the purchase of stock rams, and also an opportunity is afforded for inspecting and culling out such individuals from the flock that may not come up to the standard required. At this time the shearlings that have not grown out sufficiently should be disposed of or placed by themselves to fatten, and all old or weakly ewes should follow suit, as they have passed their sphere of usefulness. If thoughts of adding fresh ewes to the flock are entertained this is the most advantageous time for doing so, as at this season breeders have more to dispose of than at any other time of the year, and the purchaser will now have the advantage of dictating the cross or manner of mating that he may wish to pursue.

In this country sheep are ordinarily bred and kept by two classes of farmers, one of which breed only such as are known as recognized sorts or pure breeds. These dispose of their surplus in the shape of shearling rams and ram lambs to be purchased to place at the head of the more ordinary flocks, or as have more pretensions, as the case may be. To these breeders the present article is not intended, except to bid them improve to the greatest extent in their power, whatever sort they have chosen to be identified with, and by way of encouragement remind them how few flocks there are that the present season's demands has not drained of too many of their best sheep. For those who are careful and painstaking in breeding and feeding there is abundance of encouragement to increase the number if they will but increase the quality of their flocks. It is to the farmer as a breeder of butchers', or rather export sheep, that this short article is intended to be addressed. With every farmer stock of some kind is a necessity, in order to consume what is being grown on the farm. In this particular, sheep have many advantages over other stock. First the outlay or capital required is less. They also pay a share of their annual feed bill with their wool. Again, the produce in lambs is always ready for sale, if properly kept, from two months upwards. Then all the work required comes in just when the work on the farm is at a standstill, as in the hurried season of seed time and harvest the sheep look after themselves. No stock repay care more thoroughly, and none respond so quickly to attention in breeding. In autumn you purchase your flock, or add to those you already have a superior ram or better ewes, and in less than a year you can sell a sufficient number to recoup the whole or part of the outlay as you see fit.

In five months from mating, the ewes drop their lambs, and at this period the flockmaster must be guided by what he aims to do with the lambs. Early lambs require more liberal feeding for the ewes, but it is well in every case to get the lambing season over before farm work begins. All ewes should be neatly trimmed before the ram is placed with them, and if the flock is large they should be brought home once or twice a day, morning, evening or both, and confined in a small paddock or yard, and the ram placed with them for a few hours daily, when he should be returned and placed in a box stall and fed generously. If the ram is allowed to run

with the flock he soon runs down in flesh, and many of the later bred ewes will be found to be barren. When taken up each day his breast should be smeared with paint. Different colors being used after the first seventeen days, the period at which the ewe returns. A strict account of the dates of service can then be booked, which will be found to be valuable at lambing time, as the ewes can be placed in a warmer building as they become due to drop their lambs. When a heavy show ram is used much more care is required, as he will not be as active, and strict attention will have to be paid or a small crop of lambs may be the result. In many of the improved or pure-bred sheep the same difficulties will be found with the ewes, especially if they have missed a year or lost their lambs and become dry. In this case the shepherd must be on hand or such ewes will be neglected by the ram, and in consequence a barren ewe, and probably the best in the flock, the result. At this season of the year grass will be sufficient feed for the ewe flock, but care should be taken that the range allowed is sufficiently large to keep up the condition of the flock. In the beginning of the season clover hay, or fresh seeds will often bring tardy ewes in heat earlier than an old pasture. Although the ewes don't want grain at this season it is surprising how quickly they will become tame, and allow themselves to be handled by taking them out a small quantity of feed daily, and accustom them to eat from the hand. By this means any of them can be caught when required, and assistance given when needed. When a large stock is kept those ewes that are safe in lamb may be withdrawn from the flock and placed in a pasture by themselves, which will give them a chance to regain flesh before winter, which is of the utmost importance in the case of early lambs, for if the ewe goes into winter quarters thin she will not be likely to gain up in time to give sufficient milk to push forward her lamb or lambs. It must be kept in mind that a late lamb is best unless the ewes are in first rate condition; a thin ewe with an early lamb costs more for feed than the lamb will be worth, while the earliest lamb pays the best if the ewes are kept in good condition. The decrease in the price of wool has had the effect of reducing the number of sheep, but farmers all over the continent alike have become alive to the fact that there is money in producing mutton. This is much more eaten than a few years since. The large influx of the mutton breeds into the Western States has so improved the sheep of that part of the country that mutton is coming in great demand, where it was at one time never tasted. This is simply because the flockmaster has produced an article that now tempts the appetite in place of a red, skinny carcass that no butcher with any pretensions would offer to his customers. In breeding for mutton the success or failure depends on the parties engaged in it. Just as in other pursuits, there is plenty of room for a good article, while there is only a low price and slow sale for second rate stuff.

E. A. Barnard, of Quebec, reports that he gets the best milking results from his cows in the fall months by feeding them, besides their green food, a daily mixture, 3 pounds, made up equally of dried blood, cotton seed meal and dried barley germs, making the milk undoubtedly richer and more abundant, as well as the manure.

Notes of an Address on Sheep Raising.

DELIVERED BY PRESIDENT JAS. MILLS, M. A.

In an address on sheep, delivered before the last Sheep Breeders' Association, President Mills, of the Guelph Agricultural College, stated that the total number of sheep in Ontario, young and old, was 1,344,180 in 1889, and only 1,339,695 in 1890, showing a decrease of 4,485 in one year, from which, he said, it appeared that we have at present only one sheep or lamb to every 8½ acres of cleared land in Ontario, to say nothing of the millions of acres of woodland and pastures distributed over the province and capable of supporting a large number of sheep under the most favorable conditions.

When he considered the facts of the case, he found it difficult to account for the smallness of the number of sheep now kept, and more difficult to give a satisfactory explanation of the decrease in the past year; for he thought that no other legitimate investment which a farmer could make was at the present time likely to bring him so large and satisfactory a return as money wisely laid out in a flock of good sheep. Four things, he said, could fairly be claimed for sheep raising in this province:—(1) the capital required for sheep was less than for horses, or cattle, or even for pigs when the cost of suitable pens was considered; (2) the labor with sheep was less and of a much cleaner and pleasanter kind than with hogs or cattle, or even with horses; (3) the risk was less than with horses, and no greater than with cattle or pigs; (4) the profits, under present conditions, were greater than from any other kind of live stock.

A fair estimate of the number of lambs which one might expect to raise from good, healthy, fairly-managed sheep was 1½ per ewe; and the price paid for lambs for many years past had not been less than \$3. For the last few years good lambs had sold readily for \$3.50 to \$4, and even \$4.50, when taken from the ewes. If these same lambs were fed for a couple of months on rape and clover pasture they would bring at least \$6 each.

Then, said Mr. Mills, suppose one has a moderate-sized farm, say 150 acres of good sheep land, a considerable amount of it in pasture, and the requisite number of acres cultivated for the growing of clover hay, roots, oats, peas and rape; and he buys sheep as follows:

100 good young grade ewes at, say \$8.....	\$800
3 good young thoroughbred rams for service.....	100
Total.....	\$900

Then, according to a moderate estimate, he will have lambs to dispose of as follows:

150 lambs from 100 ewes at \$3 each.....	\$450, or 50 per cent. of the total outlay for stock;
at \$3.50 each.....	\$525, or 58½ per cent. of the total outlay for stock;
at \$4 each.....	\$600, or 66½ per cent. of the total outlay for stock;
or (being fed on rape) at \$6 each.....	\$900, or 100 per cent. of the total outlay for stock.

To say nothing of the wool, this would be a fair estimate of the returns (varying from 50 to 100 per cent.) in one year from the investment of \$900 as above; and from a judicious use of the same stock, without much or any additional expenditure, almost equally good results might reasonably be expected for the next four or five years. Of course, one wishing to continue at the business of lamb-raising would gradually renew his stock before any of it got too old for use.

From this showing Mr. Mills thought he was

justified in saying that it would pay our farmers to raise a larger number of sheep and give more attention to the breeding, housing and feeding of their flocks. He did not know of any better way to clean land, keep it in good condition, and turn pasture, hay, roots and coarse grain into money, with a minimum of dirty work and a large percentage of profit.

LOCALITY AND OTHER CONDITIONS.

Notwithstanding the figures here submitted, President Mills thought it would not be wise for young men or old men to rush into sheep raising without considering the locality and other conditions. It was, he said, undoubtedly true that sheep could be raised to advantage in every part of Ontario, except a few acres of low-lying and very wet or marshy land; but it was equally true that our high or rolling land, with plenty of good pure water and a considerable amount of shade, was best adapted to sheep, especially the lighter breeds. Hence, let everyone consider his locality, the breed best suited to it, and the other conditions likely to affect his success.

POINTS WHICH NEED MORE ATTENTION.

Mr. Mills next spoke of some points which need more attention in order to insure general success among Canadian sheep-raisers.

1. *The need of suitable sheds, with plenty of ventilation and abundance of yard room.*—Sheep sheds should, as a rule, be long and narrow, say 20 feet wide, facing the south; constructed so as to afford complete protection against rain and storm, and having the doors and windows arranged in such a way as to admit plenty of fresh air at all times without danger of draughts. So long as sheep are dry they do not suffer from cold; but in frosty, or even chilly weather, they cannot be exposed to wet in their pens or elsewhere without the risk of serious injury. All sheep, especially breeding ewes, should have plenty of exercise. Everyone knows this, but only very few make due provision for it when planning their yards and buildings. The experience of the Agricultural College at Guelph strongly emphasizes the importance of this point.

2. *A constant supply of pure, fresh water, accessible at all times.*—Judging from appearances and the practice of many, one would think that sheep had but little need of water—that they could slack their thirst on snow in fall and winter, drink the dew in summer and suck up the moisture of the air when closed in dry pens or sheds any time of the year. Such assumptions were the height of absurdity, and no man could be really successful in the management of sheep unless he gave them pure, fresh water every day, allowing them to take a little whenever they felt disposed.

3. *Shade for the protection of sheep in hot weather.*—Anyone who had observed sheep knew that they suffered very much from the sun in the hot days of summer, and the successful shepherd would see to it that his sheep were shorn early in May, and provided with some kind of shade in their pasture during June, July and August.

4. *More taste and skill among shepherds and farmers' sons in trimming their sheep.*—A large number of young men in this province, and not a few of our professional shepherds, seemed to attach little or no importance to the trimming of their sheep. In this respect many flocks were a disgrace to their owners and to all who had anything to do with their care or manage-

ment. They were utterly neglected till a few days before show time, when their attendants had a general clipping bee, which usually served till the time of the next annual fair. In this our young men and shepherds were far behind the sheepmen of Great Britain, and it was a pity that it should be so. There was something in the appearance of an animal—of a sheep as well as a man or woman. A man with a frowsy head and shaggy, untrimmed beard, never passed for half his worth. So a neglected, rough-looking lot of sheep never brought any credit to their owner nor did much to increase his balance at the bank. Our young men and shepherds should wake up to the importance of this point and keep their sheep nicely trimmed and neat-looking at all times, as the opinion which people had of our sheep was formed, not simply in the show ring, but by the appearance of our flocks as seen from day to day.

5. *Constant and persistent culling of flocks, keeping in every case the best for our own use.*—Careful selection, said Mr. Mills, is undoubtedly one of the most important points in stock-raising of all kinds; and it is no less important to the sheep-raiser than to breeders of other animals. Constant culling should be the watch-word of every sheep breeder.

6. *Breeding with some definite idea in view, so as to get improved Canadian types of all the breeds—types which would be admired everywhere for both their beauty and their excellence.* If our principal sheep breeders were all working with definite, well defined objects in view—with a firm determination to improve their respective breeds, it would contribute very much to the success of the sheep industry in this country.

7. *Greater care to protect sheep from burrs in fence corners, hay seeds, &c., in badly-made racks, and chaff in straw stacks and badly constructed sheep shed lofts, all of which injure the quality and reduce the price of wool.*

Messrs. Tazewell & Hector's Horned Dorset Flock.

Mr. H. H. Spencer has bought from Messrs. Tazewell & Hector, the well-known breeders and importers of Dorset Horned sheep, of Port Credit, Ont., a very fine bunch of imported ewes. We visited these gentlemen and inspected their stock with Mr. Spencer, and were agreeably surprised, when we saw their breeding ewes—large, massive and handsome, they presented an exceedingly fine appearance, and handled well. Their wool is very fine, yet strong and lustrous. We sent a sample to a leading woollen manufacturer, asking for his opinion of it. His reply was that it was a clothing wool of extra quality, and very suitable for making into fine flannels.

Mr. H. H. Spencer, who is a well known sheep breeder of long and varied experience, both in England and Canada, was highly pleased with Messrs. Tazewell & Hector's flock, and more than pleased with the honorable and liberal manner in which they conduct their business. These gentlemen claim the following advantages for their favorites, viz.: "That their mutton is only excelled by the Welsh in quality. Their wool is close, fine and only excelled by the Merino. Fleece from 8 to 14 lbs. They compare favorably in size and weight with any close wool breed. The rams have given wonderful results in crossing with grade sheep, having produced 91 lbs. of dressed lamb at 7 months old, without grain. The lambs mature early, and are very hardy; but above all, they are capable of producing what no other breed can—two crops of lambs a year, and at any season."

Our Scottish Letter.

The month September is usually quiet in Clydesdale business. Farmers are too much occupied with harvest operations to spend time on anything else, and this season has been about as trying and anxious as any that have ever gone before it. The weather has been most uncertain, especially in the west of Scotland, and sometimes one would think there was going to be no drying of stocks at all. However, it is wonderful what can be accomplished by patience and care, and, doubtless, once again and ere long we will have recorded another completed period of harvest as there has been a seed-time.

The principal Clydesdale events have been the draught sales at Dalmore, in Ross-shire, and at Kippendavie, in Perthshire. At the former the Earl of Rosebery was a buyer, giving 103 gs., 100 gs. and 91 gs. for three mares. Other buyers were Sir Kenneth Matheson, Bart., and Mr. Munro Ferguson, M. P., who, it will be interesting to Canadians to know, is a son-in-law to your popular Governor-General, the Earl of Dufferin and Ava. The sale was a successful one, and fulfilled the expectations of its promoter, Mr. Andrew Mackenzie, who is well known as a breeder of Aberdeen Angus cattle. At the Kippendavie sale some good prices were obtained. A filly foal by Flashwood drew £136 10s., a two-year-old filly by Knight Errant drew £126, and a brood mare with foal, the former by Prince of Wales, drew £120 15s. Nearly one-half of the animals sold were foals, and yet the average price of 25 was £48 each. The average at Dalmore was fully £10 a head better. At the great autumn sales at Perth, where the surplus stock from several miles around is thrown on the market for unreserved sale, prices were from 15 to 20 per cent. better than they had been in the preceding year. There was an active demand for fillies and geldings, and for the former as high as £85 was realized for a two-year-old, while the latter class was selling at prices that left more than a paying profit to the breeders. Curious though it may appear, in spite of a slackened foreign demand the business of breeding Clydesdales in Scotland was never in a more healthy state than it is at the present hour. Thirteen of the best horses are already under hire for the season of 1892, during the past few days the names of the celebrated Lord Erskine 1744, and Mr. Kilpatrick's fine young horse, The Royal Prince 9153, having been added to the list. The former will stand at Dumfries, and the latter is under hire by the Central Aberdeenshire Club.

I have at different times called attention to the results of important shows as illustrating the success of lines of breeding. At the close of the season the results of the principal shows have been tabulated, and these throw an interesting light on the state of things. Altogether ninety sires were represented by prize-winning stock of greater or less value at the shows of the Royal and the Highland Society, the two Glasgow shows, the Royal Northern at Aberdeen, and the Edinburgh and Maryhill shows. In these ninety were included Prince of Wales, Darnley and Lord Erskine, which may be taken as heads of families. There were besides fifteen sons of the first named, fourteen sons of the second, eight sons of Macgregor, six sons of Lord Erskine and five sons of Top Gallant. Or, to put it otherwise, there were thirty-eight

breeding horses, either sons or grandsons of Darnley, and twenty-six either sons or grandsons of Prince of Wales. This accounts for sixty-six of the ninety. As we have seen, seven more are accounted for by Lord Erskine and his family, leaving but seventeen that were not closely identified with these three sires. The chief amongst these were King of the Forest 1170, whose daughter Polly gained numerous prizes, including first at the Highland; Belted Knight 1395, whose daughter Lizzie of Inchparks was first prize brood mare at the Royal; the two sons of Druid, Gallant Lad 2781 and Druid Chief 2061, Titwood Lord Lyons 3360, and your Canadian horse, St. Gatien 3988, whose son Williamwood was first as a three-year-old both at Ayr and Glasgow. King of the Forest, Titwood, Lord Lyon and Stud Book Laddie may be classed under the head of Lord Lyon 489, and the two Druid horses and Belted Knight under that of Drumflower Farmer 286. St. Gatien stands alone as a son of Old Times, whose female progeny have far surpassed his male progeny for breeding purposes. The twenty best breeding horses are, in order, Prince of Wales, Prince Laurence, Darnley, Macgregor, Flashwood, St. Laurence, Lord Erskine, Lord Ailsa, King Errant, Prince of Albion, Prince Gallant, Top Gallant, Royalist, Cairnbrogie Stamp, Prince of Kyle, Excelsior, Sirdar, Barney, Duke King and Taste's All. Of this twenty, three are sons of Prince of Wales, two got by sons of Prince of Wales, and three are out of Prince of Wales' mares; seven are sons of Darnley, three are got by sons of Darnley, and two are out of Darnley mares; two also are sons of Lord Erskine. That the full import of these figures may be realized it is to be borne in mind that Prince of Wales lived from 1866 to the close of 1883; that Darnley lived from 1872 to the close of 1886, and that Lord Erskine was not foaled until 1879, but is still alive.

The figures for 1891 place Macgregor and Flashwood at the top of the list amongst living sires. The former was foaled in 1878, and the latter five years later. As everyone knows they are full brothers, and, taken all in all, are without doubt the most remarkable pair of Clydesdales so related that have yet been bred. Lord Erskine comes third, and his son Lord Ailsa, foaled 1885, fourth. At this stage we are in the company of much younger horses. Prince of Albion, foaled 1886, is fifth; Prince Gallant, of the same age as Lord Ailsa, sixth; Royalist, of the same age as Prince of Albion, seventh; Cairnbrogie Stamp, foaled 1884, eighth; Prince of Kyle, foaled 1887, ninth; Excelsior, foaled 1886, tenth; Sirdar, of the same age as Cairnbrogie Stamp, eleventh; and Duke King, foaled 1883, twelfth. Barney 4829 comes in before the last, but as he was exported in August, 1888, it is hardly fair to include him. The position he takes suggests that had he remained in Scotland he would have occupied a higher place. He is now owned by McLay Bros., Rock Prairie, Wis. I have mentioned one pair of brothers as remarkable. Another pair named above give promise of making a great reputation for themselves. These are Prince of Albion and Prince of Kyle, the first of that now famous tribe got by Prince of Wales out of Darnley mares. SCOTLAND YET.

Don't judge a heifer too harshly if she doesn't make large returns the first year, provided that she has the indications of a good milker.

The Hog Required by Pork Packers.

BY WM. DAVIES.

I am about to address you as a pork packer, not as a hog breeder, and it is possible I may tread on someone's corns; if so, I cannot help it. I shall nothing extenuate nor set down aught in malice, but shall strongly advocate what I believe will be the best interests of pork packers and consumers, and which of necessity will also be for the profit of the breeders and feeders of swine.

Every intelligent person, whether farmer, manufacturer or dealer, knows right well that the nearer a product can be brought to the taste and wish of the consumer the better the price realized and the larger the quantity consumed.

It is somewhat singular that an animal whose flesh was forbidden to Jehovah's peculiar people, and was the synonym of everything unclean, should have become a staple article of food to dwellers in the temperate zone. Such being the case, it is well worth the while of breeders and feeders to produce the animal that will most nearly meet the requirements and taste of those who consume it. Now, as the maxim in cooking a hare is, "first catch your hare," so the first thing to attain the end suggested is, first catch the pig.

It is well-known that the various breeds of animals have special characteristics. No one thinks of using a Clyde or a Shire as a roadster, and very few thoroughbreds are adapted to work on a farm or draw a cart. The same rule holds good among the various breeds of pigs. The Chester White, the Poland-China, the Essex, the Suffolk and the Berkshires are squarely built, with a natural tendency to lay on fat, which every year is held in greater abhorrence. It is true that a limited quantity of this sort is in demand among lumbermen and those who are interested in feeding their hands very cheaply, but in the towns and cities, and even among the farmers, there is an increasing and persistent demand for lean ham and bacon, for which they are ready to pay a higher price; in fact, with the majority of consumers fat meat is unsaleable. It is a great matter of satisfaction to our firm and other packers with whom we have conversed that the number of Improved Large Yorkshire boars that have circulated through the country within the last two years has very largely and favorably worked in the direction indicated, and among the hogs that we now take in at our packing house from one-third to one-half are white, and, without doubt, are half bred Yorkshires, and we can affirm that this cross has produced the beau ideal of a bacon hog.

While I believe that the breed indicated is the best suited to further the end in view, we rejoice at the enterprise of one of our competitors, who has imported a large number of Tamworths. Personally, I know nothing of their merits, but I have read very favorable opinions regarding them by English bacon curers, and whether we get the long, lean, fleshy hog from this source or some other, I care not, so long as the object sought is attained.

There are two points at which feeders should aim:—First, to have their hogs ready for market in June, July and August, as that is the time when packers can afford to pay the highest price, and I need not tell any intelligent farmer that the difference of $\frac{1}{2}$ c. a lb. may easily be

working for nothing, or feeding at a loss, or making a profit.

The next thing I want to impress upon feeders is to push their hogs along rapidly, and not sell them till they weigh 180 lbs. Two hundred would be better, if they have the characteristics I have before mentioned. I see no reason to suppose that the industry is likely to be overdone, always provided we have the weight and quality indicated. Of course, there will always be a considerable demand in a city like Toronto for pig pork—little fellows weighing 100 to 140 alive, but for packing in winter for sale in summer and for export we must have weight and thickness. We are sometimes asked if we will pay more for a load of Yorkshires. To this I would say we have never advocated the breeding of pure-bred Yorkshires for slaughtering. We contend their value lies in their usefulness for crossing with other breeds or mongrels. I am not alone in this opinion. I will give you the following extracts:—"At a meeting recently of the West of England Bacon Curing Co. the manager stated that a cross between the Large Yorkshire and the ordinary breeds of the district make an excellent bacon pig."

The following probably many of you have read; it is a report furnished by Mr. Reid, the U. S. Consul in Dublin, to the American Government, on the bacon-curing industry of Ireland: "The breed that is most preferred by curers is the Yorkshire. This breed is doubtless more extensively used in the vicinity of Limerick than in any other section of Ireland, largely through the efforts of the curers there. They have made special and vigorous efforts to secure its general introduction among the farmers, distributing, in many instances gratis, breeding animals among the farmers. As a rule, curers prefer pigs of the age of about nine months, and from 126 to 140 pounds in weight." This, of course, is dressed weight.

Referring once more as to paying more for a particular sort, I would say that while that is hardly practicable, yet it is a fact that cannot be gainsaid that the nearer the stock of the country approaches the ideal, the higher will be the price, and it is the interest of feeders not only to adopt the suggestions made, but to do all they can to induce their neighbors to follow in the same line. It will no doubt be in the recollection of some who hear me that the Hon. Mr. Dryden, in speaking on the sheep industry and defending the Shropshire, stated that he could have obtained a much higher price for lambs provided the farmers generally in the neighborhood had kept a similar quality; then sufficient could have been bought to make it worth while for the drover to pay the extra price.

As I look back to thirty years ago, when I first began to slaughter hogs by first going into the country and buying them in the pens, then sending a man to slaughter them and burn the hair off with straw, and to a year or two later, when I made the first attempt in Toronto, (having bought one hundred or so from a drover, who brought boars, stags and sows, with a few good ones), I do heartily rejoice in the great improvement that has taken place, but there is yet room for more. It is well known "there is plenty of room at the top of the ladder".

The following matter deserves the attention of hog raisers; that is, the sows should be spayed. They will feed much quicker, will make a much

superior article, and be in every way more satisfactory to all concerned. This is largely done in the United States, and almost universally in England and Ireland, where they pay a lower price invariably for what are called open sows, and we shall be obliged in Canada, in self-defence, to follow the same course. In urging breeders, farmers and feeders generally, I am merely advising them in their own interest.

In conclusion, let me urge farmers to raise more hogs, better hogs, larger hogs, and have them for sale when highest prices rule.

Since the foregoing was written, fat hogs have been offered in large numbers, but we are not now paying as much by three-quarters to a cent per pound as in the end of July and August. At that time we could make plenty of money, while now at the lowest prices the business is hardly worth doing. Could anything show more plainly that packers and farmers are really in the same boat?

Chatty Letter from the States.

The live cattle exporters have not been very busy lately, but they have bought a good many western range cattle at about \$4.25 to \$4.75. Breeders of pure bred cattle will surely make a mistake if they make a scramble to get out of the business, as some of them have done. Their lane of ill-fortune has been very long, but there must be a turning soon. Northern range cattle received at Chicago this year from the Northern Pacific, Great Northern and Canadian Pacific regions will number about 145,000 head, being about 50,000 less than early estimates. There is much indecision among farmers and feeders about the wisdom of converting their corn into beef this winter; but thousands of men have gone to feeding at once, while the others are hesitating. The best feeders naturally want only good, heavy-feeding steers to put on full feed at once. The fear of a hard winter on the North-western ranges is based largely on the fact that the last two were very mild winters. Rangemen who are willing to hold over cattle that are at all suitable for the market are the exception and not the rule.

The late liberal receipts of hogs at this market have been a surprise to everybody. An extensive Illinois shipper said it took close scraping to find a load in his neighborhood; but he forgets that there are lots of neighborhoods and lots of "scrapers."

High prices still prevail for prime cattle, and some 1,500 to 1,800-pound steers lately sold at \$6.20 to \$6.45, when the yards were full of 1,100 and 1,400-pound steers that "went begging" at \$3.25 to \$4.50. Quantity is not short but quality is scarce.

The pork packers are evidently determined to buy their hogs as near \$4 as possible this season. The question is, Will such prices not tend to make farmers sacrifice the hogs and save the grain?

The Western range country is filling up with sheep. Montana has several counties that contain 200,000 to 300,000 sheep each, and they are mainly of pretty good quality. Sales lately have been at \$4 to \$4.65 for 100 to 118-pound stock.

There are increasing signs that American live stock producers will meet with very sharp competition in foreign if not in home markets from dressed mutton from Australia and dressed and canned meat and live stock from South America.

Texas cattle are being marketed in very large numbers, and are selling poorly at \$1.40 to \$2.10 for cows and \$2 to \$3 for steers, with most of the latter at \$2.50.

The Herd Which Won the Farmer's Advocate Plate.

The following letter, which describes the Ayrshires which won the FARMER'S ADVOCATE Plate given as first prize at the Industrial Exhibition Toronto, has been received from Messrs. David Morton & Sons, Hamilton, Ont., the owners and exhibitors:—

We have received the very handsome set of silver plate given by the FARMER'S ADVOCATE as first prize for the best three dairy cows at the Industrial Exhibition Toronto, for which please accept our best thanks. We are much pleased with the result of this test, as it proves conclusively to our minds that with proper care in the selection of stock the Ayrshires are second to none as dairy cows, and are destined at no distant day to be the leading breed of dairy cattle in Canada as they are in Scotland, where comparatively few of any other breed are kept for dairy purposes. The three of our herd which were put under this test are not by any means the best we have; the best were in the herd that took first prize, and were kept in their places in the show pens in order that visitors might see them. We started this herd by importing a bull and eleven heifers in the fall of 1888. They were selected for us by that well known judge and breeder of Ayrshires, John Caldwell Esq., of Bogside, Dundonald, Scotland. The way they have turned out is a credit to his judgment; we doubt very much if a better or more uniform herd could be got together.

The winners in the test were:

Jess (5503) (imp.), bred by James Gilmour, of Orchardton, Cumnock. She is a very finely bred cow, and although not as heavy a milker as some others in the herd, is probably as profitable a cow as we have, as she keeps up the flow of milk the year round. Blue Bell (5506) (imp.), bred by Hugh Todd, of Harperland, Dundonald, is a blocky built cow, set on very short legs, and to those who are looking for the general purpose cow she fills the bill. Her large body gives plenty of room for the working of her digestive powers, and with her active and vigorous constitution she is always in good condition, and on pasture alone is giving over fifty pounds of milk per day. Judy (5505) (imp.), bred by Hugh Jack, of Little Shewalton, Irwin, is a very finely bred cow and a good average milker. Although we did not intend to enter her in this test, but put her in place of Cherry 3rd, of Bogside (4212), who had gone off her feed from the time she left home, which was a disappointment to us, as we look on her as the best we have for a test of this description, she being very small but a perfect model of an Ayrshire milk cow. The first prize cow and winner of silver medal as best female of any age was Maggie Brown, of Barmoorhill (imp.) (5099), bred by David Gray, of Barmoorhill, Tarbolton. She is a grand cow and fully sustains her appearance when put to the test at the pail. She has given us a fine heifer calf this fall the image of herself both in color and build. In Dandy 1st (5502), we have another fine cow; she is from the well-known herd of Hugh Jack, of Little Shewalton, Irvine. Between Maggie Brown and her a good many judges differ as to which should have first place. At the head of the herd we have the imported bull Royal Chief (1647), from the celebrated herd of Archibald Mair, of Crofthead, Tarbolton. At the time he was purchased we were congratulated on having

secured him, as there was said to be very few his equal in Scotland. The heifers when imported all being with calf to a number of different sires will enable us to make up herds for any who may require them, giving a variety of strains not related to each other, which is a matter of no little consideration in the breeding of all kinds of stock. For the average Canadian farmer who intends giving attention to dairying we don't think the Ayrshire can be beat; they are very hardy and easily kept, giving a good return for the amount of food consumed, and unless for imported or show animals can be had at prices within the reach of all.

Cattle at the Minnesota State Fair.

This fair was considered a success throughout, but from the limited time at his disposal our representative found it impossible to see much outside of the cattle exhibit. In this department the show was well conducted under the able supervision of Colonel Liggett, of the firm of Wilcox & Liggett, Benson, Minn. The judging was, on the whole, well and carefully done, although there was ample room for difference in some of the classes, especially in aged Jersey bulls and Jersey cows. The show of

GUERNSEYS.

was good, some of the winners being remarkably fine animals, the first-prize cow especially. The principal winners were F. C. Phillipsbury, Minneapolis, and Tralt, of Whitewater, Wis. The

JERSEYS

were, like brides' presents, "numerous and costly." Mr. Miller, President of the La Veta Jersey Cattle Company, Topeka, Kansas, was present with a very select herd of Jerseys, and proved a strong competitor, winning a large percentage of the best prizes. In

HOLSTEINS.

Mr. Everett F. Irwin, Richfield, Minn., was the only exhibitor, but had a very good herd, and deserved the prizes. Burr & Leslie, Cottage Grove, Wisconsin, showed a very fine herd of

POLLED-ANGUS.

with the exception that throughout the poll was too flat and not sufficiently pointed. A few red Polls were shown, which may be useful animals, but it requires more faith in "general purpose cattle" than the *ADVOCATE* professes to have to find any especial valuable points in them.

"SHORTHORN

bulls, three years old or over!" shouted the call-man, and immediately every other object in the vicinity ceased to be of interest. In a few minutes a magnificent roan walked into the ring. Such an animal—a long, level back and such width! Two boys might have played marbles on it with safety, and so square it might have been hewn out of a piece of timber. What a majestic head! What neck veins! Where does the shoulder stop and the neck begin? What model horns! Follow along that thick-fleshed side! See the full, deep, thick flank! Note the beef down almost to the hock point! See the wonderfully close twist! Who is he? Young Abbottsburn, the celebrated Canadian-bred champion, the property of Col. Moberly, Richmond, Kentucky—one of the best Shorthorn bulls on the continent. Young Abbottsburn, however, with all his good points, is not perfect, as he does not carry his size of quarter back quite as well as he should do. Next to Abbottsburn stands a fine, blocky, dark red animal of

superior merit, Vice Consul, owned at present by Sanger & Sons, of Waukesha, Wisconsin, but for years the property of Mr. John Miller, Brougham, Ont. Vice Consul is really a fine animal. Third and last is a grand red bull with many admirable points and of superior quality, great length and depth, with a grandly sprung rib and in the pink of condition; he is no discredit to the company he is in. On inquiry, it is learned that this is Oscar—5582—, bred by Aaron Shantz, Waterloo, Ont., and now the property of Mr. N. P. Clark, St. Cloud, Minn. Where the first prize will go seems settled at once, but which shall receive second honors seems to be difficult for the judge to determine. The spectators, too, seem about evenly divided as to the merits of the two "reds." Oscar, while in some respects the superior of Vice Consul, is a little too far from the ground, and is accordingly relegated to third place. In the two-year-old class, Henry Brown, Minneapolis, won first with a grand young animal, Earl Fame, from Bow Park, Ont., who, if he continues as he has begun, will develop into a truly magnificent animal. At this time even, he made no discreditable showing beside Young Abbottsburn in the class, Shorthorn bulls, any age. In the yearling class, Mr. Brown won 1st also, and Col. Moberly, 2nd. In the aged cows there was a grand exhibit. Sanger & Sons won 1st with Lady Cecil, Col. Moberly 2nd, with Forrest Belle 9th. The 1st prize was properly placed, but the 2nd was questionable. A Victoria cow, also owned by the Sangers, was thicker fleshed, closer to the ground and smoother, with better size from end to end, but doubtless the quality, of which those not handling them had no opportunity to judge, had something to do with the award. Two-year-old heifers were also a strong class; six animals were shown, not one of which but would have been a credit to first place. It was in this class that the finest Shorthorn of the show, Victoria of Glenwood, made her appearance and won an easy first. It was universally conceded that in a contest for any age or sex she would have beaten even Young Abbottsburn. This grand animal, as well as the winner of third place, was the property of Sanger & Sons, N. P. Clark winning 2nd. In yearlings, the exhibit was good, Sangers again winning 1st, Moberly 2nd, Brown 3rd. Herds under two years: The competition was not so keen, Moberly winning 1st, also in best four animals, the get of one bull, the latter by 2nd Duke of Hillsdale 51071. The grand sweepstakes of \$500 cash for best herd of one bull and four females was won by Sanger & Sons. In

HEREFORDS

the exhibit was confined to Cosgrove & Co., of Le Seueur, who showed some fine animals. A few

DEVONS

of good quality were shown by Morse & Son, of Wisconsin, and some good

GALLOWAYS

by Hugh Paul, of Minnesota. Many persons present remarked that it was extremely doubtful if, at any show ever held on the continent, the prizes were throughout won by as meritorious animals.

Articles Left Over.

On account of the serious illness of a member of our staff, the enforced absence of two others caused by the changes in our staff explained elsewhere, we have been compelled to leave over considerable matter, not having time to fully prepare it, among which is the report of sheep and swine at several of the leading exhibitions.

Yorkshire Swine at Pine Grove Farm.

In the very interesting report of Mr. Joseph Featherstone's renowned herd of pigs which appeared in your issue for September, I notice one paragraph which is either not quite clearly worded or it contains an error. It is as follows: "Another imported sow, bred by Mr. Sanders Spencer, and another, the choice of the pen which won first at the Royal Agricultural Society's Show in England in 1890." I take this to mean that in the Pine Grove Herd is the choice of the three young sows which won the first prize at the English Royal held at Plymouth last year. If so, a mistake has arisen, as the three yelts which I bred, and which won for me the first prize, were sold; two of them to Sweden where they, with some of their produce and other pigs, I have since sold to the same owner, have recently won several prizes and the medal of honor at the Swedish Government show held once in five years. The third yelt and a sister occupy quite an unique position, as they are the only two English pigs in Liberia, whence they were shipped last year. I believe one of the young sows in the second prize pen was sold to go to Canada, but neither the sire nor dam of these is entered in the herd book, nor is the young sow herself eligible for entry; her sire is given as Billy, and I notice that he is also the sire of pigs entered as Middle White pigs in the Plymouth and the Doncaster Royal catalogues; indeed he is given as the sire of the Middle White sow which was placed first in her class at Doncaster. It is of course impossible for an outsider to guess as to whether this boar Billy is a Large or a Middle White or a mixture of the two or any other breeds. He is evidently a cross-bred or his stock would not some of them pass for Large and the others for Middle Whites. At the present time there is no restriction as to the pigs shown in the various classes for Yorkshires at the Royal shows. In those herds which are not recorded in the herd book the different breeds appear to be bred together, and then those pigs which take after the Large type are shown as Large, and those favoring the Middle are entered as Middle; and even from those herds in which some of the pigs are recorded, we find undersized Large pigs shown as Middle Whites, the pedigrees for the time being dropped.

This mixing of the breeds and the carelessness of those responsible for the entries in the National Pig Breeders' Association Herd Book, has led to several cross-bred pigs being sold as Large Whites; some of those pigs bought by Canadian buyers who know little of the pedigrees or breeding of the Large and Middle Whites are simply cross-breeds. I could mention several, but one or two will suffice, and I will select two which will prove both my contentions, as through the neglect of the Secretary, or some one or more connected with the herd book, these pigs have gained admission into the volumes. Both boars are entered as bred by the Guardians of the Prescott Union, and the property of a Canadian importer; they are entered as Canadian Boy (1723), farrowed July, 1889, and as Prescott IX. (1895), farrowed March 1st, 1890. These are both cross-bred pigs, as their grand sire, Pride of Apperley, was a well-known Middle White boar, owned by Messrs. Wilson, Crosby & Co., of Apperley Bridge, near Leeds, at whose sale Pride of Apperley and some twenty of his Middle White produce were sold.

One of the chief necessities of the herd book was to put a stop to this crossing of the Yorkshire breeds, a system which had become quite common in the north, where large numbers of local shows are held, and where the favorite pig was one with a short snout, big jowls, and as heavy a carcass as could be produced. Of course, no certainty could be placed on the produce of two pigs bred in such a way, but the difficulty was got over in this way: The biggest pigs were sold as Large; the next size, with very short heads, went for Middles, and the smallest had to go for Small Whites. This is grossly unfair to a breeder who makes a point of sticking to the one variety, especially if that the Large White blood, as a pig with a slight cross of Middle blood, will often grow nearly large enough for a Large White, and will at the same time show a trifle more quality and have, for some people who go for short snouts, an advantage. Years ago, before the various types were so distinctly defined or known as they are in England, it was by no means uncommon for pigs to be shown as Middle Whites for a year or two and then to bloom forth as successful Large Whites. I can call to mind several Lancashire or North Country pigs which have performed this feat.

I hope to see a stop put to this, and the correction of several entries and the elimination of others from the herd book, as at the annual meeting five of the six members of the Editing Committee either retired or were relieved from their duties. Most of the newly appointed members are thoroughly up to their work and will give their attention to it. Some of the old ones had been in office for six or seven years and had not attended above once, and one or two not at all.

I hope some of your breeders of Improved Large Whites will send some of their best pigs to Chicago in 1893 in order to show to their American cousins how good the Canadian pigs are being bred now the right breed is taken in hand.

SANDERS SPENCER.

Feeding Bone-Meal and Hardwood Ashes to Hogs Living on Corn.

Successful feeders and observing farmers have long recommended the use of charcoal and hardwood ashes for hogs, especially during periods when large amounts of corn were fed. At the Agricultural Experiment Station of Wisconsin a number of trials have been made with a view of ascertaining their effect. Below we give a table showing the summary of the tests:—

Cornmeal required to produce 100 lbs. of pork.	When bone-meal was fed.		When ashes were fed.		Nothing.
	Lbs.	Lbs.	Lbs.	Lbs.	
First trial	519	543	853		
Second trial	426	417	466		
Last year	518	515	568		
Average for three trials	487	491	629		
Average breaking strength of each thigh bone:—					
First trial	417	340	306		
Second trial	806	780	292		
Last year	817	625	305		
Average for three trials	680	581	301		
Total ash of thigh bones:—	Grms	Grms	Grms		
First trial	109	97	88.9		
Second trial	224.5	215.7	144.1		
Last year	164	138.1	87.6		
Average for three trials	165.8	150.2	107.		

The conclusions arrived at were, that in giving or withholding bone-meal and hardwood ashes from growing hogs living on an exclusive corn diet, 1st, that the effect of the bone-meal and ashes was to save about 130 lbs. of corn, or 28 per cent. of the total amount fed in producing 100 lbs of gain, live weight; 2nd, that by feeding the bone-meal we doubled the strength of the thigh bones; ashes nearly doubled the strength of the bones; 3rd, there was about 50 per cent. more ash in the bones of the hogs receiving bone-meal and hardwood ashes than in the others.

The effect is evident only in building up and strengthening of the bones and aiding digestion. It is clearly shown that great benefit arises from hardwood ashes, and consequently they should be regularly fed as they do the work well and cost but little.

Western Fair.

HORSES.

It is usually in the lighter breeds of horses for road and carriage work that the London show excels. In this particular the Western Fair recently ended fully held its own, and in heavy horses it was without doubt the best yet held; but the same difficulty is to be found as in all other large exhibitions—the horses are there, but a very small percentage of the visitors can see them. In their stalls it is next to impossible to see the horses the visitor especially desires to see, while in the ring a chosen few only are permitted to look on; therefore, at all the large exhibitions the best part of the show is lost to the public. In this particular the smaller township and county shows are far in advance. Although the entry may not be so extensive, yet the public are enabled to see all that are there; but at Toronto and London, and exhibitions of this class, a visitor may come hundreds of miles to see a class of horses with a view of purchasing and go away without seeing but few of those on exhibition, and those he is most interested in he may never see at all, and so leaves disgusted. For this reason we predict that the show which institutes a remedy will become popular alike with exhibitors and visitors. There was more than the usual amount of dissatisfaction at London over the manner in which the awards were given. Where judges make a flagrant error in judging any one ring they leave themselves open to any amount of criticism. The different breeders' associations now recommend judges qualified to judge each breed of horses, cattle and sheep; then why do fair associations still assume the responsibility of appointing men that have no knowledge of what they undertake.

THOROUGHBRED HORSES.

Taking the horses as they appeared in the prize list, Thoroughbreds are placed first. Aged stallions were a large and good class. Good specimens were shown by J. B. Martyn, Masonville; S. B. Fuller, Woodstock; Dr. O'Neil, London; and mares, colts and fillies from the studs of T. D. Hodgson, London; and J. Dymont, Orkney.

ROADSTER HORSES,

as usual, had the largest entry. The prize list, published last month, shows the winners.

THE CARRIAGE CLASS

was fairly well represented. In the aged stallion section W. & J. Friel, Thamesford, were first with a horse of large size, T. D. Hodgson, second, and Robson & Ardell third. Both the latter were imported Cleveland Bays, and displayed their usefulness as sires by having a number of winners in the colt and filly sections.

For the first time at London

HACKNEYS

made a good display, five imported stallions having entered for the two prizes offered, the first prize going to the beautiful horse Neptune Second, owned by Graham Bros., Claremont. Jos. White, St. Marys, won second with a nicely finished brown horse. Mr. Jos. Beck, Thornedale, also had two good horses in the class, while the newly imported handsome chestnut, owned by Prouse & Williamson, Ingersoll, was unfortunately too late out, and was thus passed over.

AGRICULTURAL MARES AND FILLIES

had a number of very handsome specimens to represent this useful class.

CANADIAN BRED HEAVY DRAUGHT HORSES

were not largely represented, but some good ones were present, including stallions, mares and

fillies, in which Prouse & Williamson, Ryder & Parking, Oxford Centre, and McMichael, Seaforth, were the principal exhibitors.

CLYDESDALES (IMP.)

were a splendid lot, the sections for stallions in every case being full of the best imported horses, while the mare and filly classes were still better. In the ring for aged stallions E. W. & G. Charlton carried first with the neat, good horse Wigton Lad, who was looking his very best. Second went to N. Norton, London, and third to Thos. Woodliffe, Brucefield. The three-year stallions were a particularly good lot. First went to Energy, the sweepstake stallion at Toronto, from Thorncliffe Stock Farm, owned by Robert Davies, Toronto, second going to J. Henderson, Belton, with King of Zora, by the Macgregor horse, Macneil—a horse with remarkably good feet and legs, Graham Bros. winning third with Crosby Chief. In two-year stallions Graham Bros. were first with Craighornald, shown at Toronto, J. Snell, Clinton, winning second with a strong, useful colt of their own breeding, and H. Thomson, of St. Marys third. In yearlings Graham Bros. Symmetry was again first, and Macrone second, these colts standing the same as at Toronto, while Prouse & Williamson gained third. Wigton Lad, owned by E. W. & G. Charlton, won sweepstakes. The sweepstakes for best mare of any age brought out the first prize winner of each section, and included R. Davies' grand mare Bessie Bell, his three-year-old mare Edith, and two-year-old filly Sweetheart, and one-year filly Candor, J. Oliver's mare, Polly Macgregor, and Graham Bros. filly foal, Lady Macneilage. This of itself made a most interesting display, Bessie Bell winning the coveted honor, for which her beauty of form and grand quality entitled her. The display made by the combined studs of Messrs. Robert Davies and Graham Bros., while on parade, added a most interesting feature to the show, the crowd showing their appreciation by applauding them as they passed the grand stand.

THE CATTLE CLASSES

were not as full as we have seen them at the previous shows, although some very good herds were present.

IN DURHAMS

those already mentioned at Toronto, including the herd of J. & W. B. Watt, Salem; R. Davies, Toronto; William Russell, Exeter; H. & W. Smith, Hay; R. & S. Nicholson, Sylvan; T. Douglas & Sons, Strathroy; H. K. Fairburn, Thedford; Eastwood Bros., Mimico, were supplemented by drafts from the herds of C. Crerar, Shakespeare; J. Morgan & Sons, Kerwood; J. Snell, Clinton.

IN HEREFORDS

J. Baker, Littlewood, was the only exhibitor.

POLLED-ANGUS

had drafts from the herds of W. Nesbit, Colonville, and W. Stewart, Lucasville, the latter winning most of the prizes.

FAT CATTLE

were shown by Angus McTaggart & Sons, Appleton, and W. C. Short, Salem.

GRADE CATTLE

by W. C. Short, J. Morgan & Sons, and R. Whetter, London.

HOLSTEINS.

J. McNiven & Son succeeded in winning a number of prizes at Toronto, and W. McClure, who also exhibited at the former show, were here in addition to the herd of the Wyton Stock Breeders' Association.

GALLOWAYS.

In this breed D. McCrae, Guelph, had it all his own way.

IN JERSEYS, GUERNSEYS AND ALDERNEYS

the former were the only breed that competed. G. Smith & Son, Grimsby; J. O'Brien, London; A. Clark, Alvinston; R. Gibson, Delaware; C. O. Learn, Union, were all exhibitors.

IN AYRSHIRES

the successful herds at Toronto, including D. Morton & Son, Hamilton; Kains Bros., Byron, competed with the freshly brought out herd of M. Ballantyne, St. Marys.

Poultry.

Poultry on the Farm.

Read at the Farmers' Institute at Minnesota State Fair by Mrs. Ida E. Tilson, West Salem, La Crosse county, Wis.

Like some grasping persons, a hen "wants the earth." In a country home she finds a whole alphabet of delights, through "A" to "Z"—from plump angle worms to fesh zephyrs. Any department of poultry culture is practicable on a farm. Many prizes for fancy fowls are carried off by robust, active birds reared in country liberty. A friend near Pittsburg received seventy-five cents a pair for young broilers; a cousin near Albany fifty cents a piece for hens, while a lady in my our vicinity realized well by sending her chicks to Chicago. Facilities for shipping, nearness to market, and the number of millionaires there will have an influence on choice. My own preference is production of eggs, which are a necessity rather than a luxury. They are welcome alike in coffee, pastry and ice cream, and, as Shakespeare owns, "full of meat." Many farm wives and daughters wish to invest small capital, and, like myself, to spend but a portion of their time on poultry culture. "What profit can be secured under such conditions?" is the first question expected. Last winter, when I had not, as usual, young layers, and grains were very high, was a time for careful book-keeping. Though every item of food, even their skim-milk, was included in the account, the hens more than paid for themselves, besides storing up fertilizers to grow them future crops. It would seem, then, a safe business. With patient, intelligent care it is a profitable one. All the way from nothing to \$100 a year can be cleared on a hundred fowls. True, a hundred dollars is not a fortune, and will not even buy one lot in a "booming" western city; but it can give a trip to the city, start a home library, or aid several benevolent causes. A cage for a bird, and a home for our birds is the first requisite. My two houses, respectively 10 by 12 and 12 by 14 feet, together accommodating one hundred fowls, cost, with their adjoining sheds, but \$75 in all. They are not perfect structures, but answer very well for first attempts at building. "Inward comfort rather than outward show" is a good motto. A double-boarded house of medium height, fairly lighted, perhaps best compromises with winter's cold and summer's heat. Whatever the style, let it be simple, giving little chance for vermin to "play hide-and-seek." The bottom of earth, yearly renewed by a load of dry sand, is wholesome, and affords exercise ground in winter, thus keeping biddy's feet in practice for her spring campaign. If the frame is put on a stone foundation, and earth filled within and without up to the sills, rats will seldom undermine. No stationary furniture is needed, but brackets. Lay boards across these without nailing, and on the temporary platforms use movable nest boxes. Then, when house cleaning and whitewashing comes one need not cry out, Hamlet-like, "Oh! this is too, too solid." If any rough lumber is used put it outside, and save for inside the planed boards, readily cleaned. I have also learned that nest-boxes and other appurtenances need not be made too heavy for easy handling, since both gallinaceous and human giantesses are few. It is wise to have new, clean perches occasionally. Cut in some convenient groove, they can halt at the poultry

quarters on their way to the wood pile. The ideal hen house will have its doors and windows so placed as to approach in summer most nearly the condition of a draughtless shed. During the winters, when vapors freeze before they can decay, little ventilation is needed. Top ventilation has seemed to call down roup rather than blessings on chickens' heads. Certainly least heat and oldest vapors are at the bottom. My nests for both sitters and layers are impartially filled with sawdust—elastic, fragrant and easily arranged. Hot whitewash in the house, sulphur fumigation, kerosene oil, elder or cedar branches scattered about—anything with an odor, will bewilder the hens' enemies, and lend the air romance. The kind of fowl selected depends on taste, purpose and accommodation. An old lady praised some Sebrights in my yard because familiar with them in her native Scotland. In general, "handsome is that handsome does." Asiatics bear confinement, and are good winter layers. The nervous, active, small breeds know how to forage successfully and weigh down the summer-egg basket. Many have found the Plymouth Rock a "good-for-anything" because the chicks mature early, the flesh is tender, the large, rich eggs numerous in winter, when prices are high. A Plymouth Rock also knows much more than "beans when the bag is open." She may find the first peas or tomatoes, but is really very intelligent in the legitimate lines of her business. Leghorns and Plymouth Rocks are a good counterpart and cross. A modern philosopher being asked when a child's education should begin, replied, "With its grandmother." The history of an egg begins there too, for eggs from a laying strain have been found quite apt to produce good layers in turn. Fowls need, as it were, educating to lay. Doubtless incubators are successful with broilers, but the future layer needs a real, live, loving, scratching mother. It is one thing to make a squab, and another to build up a fowl that can stand the wear and tear of producing over a hundred eggs a year, with all their varied elements of yolk, albumen and shell. The incubator-hatched pullet has been supposed to sing:—

"I'm homesick and lonely,
And life's but a dream,
I'm a chicken that was born
In a hatching machine.

"Compelled in this cold world
Sadly to roam,
No mother to shelter me,
No place to call home.

"No mother to teach me
To scratch or to cluck,
I hardly can tell
Whether I'm a chicken or duck.

"If a pullet I prove,
I'll sit round all the day,
And never a bit of an egg
Will I lay."

Pullets need more wheat, crushed bone and such like, than do broilers. So it is difficult to buy wisely-fed, promising birds. There is danger, too, of getting feather-pickers, egg-eaters, or other bad-mannered fowls. I do not trust the young and tender hours of my pullets to another, but set my own hens, as they did in "days of yore." I formerly tried a separate sitting-room, but many were broken up by being moved to it, and others carried their peculiarities right along with them. Now each sits where she laid. When ready, marked eggs are put under her, and in front the nest box is placed a temporary door, consisting of a broad, upright shingle, larger than the nest entrance, and held in place with a

brick. An intruding fowl pushes the wrong way, and cannot enter. Of course this arrangement is only practicable where nest boxes are enough and to spare. A dozen sitters at a time are cared for almost as easily as one hen can be. I find it wise to have on hand an extra or substitute sitter, since an occasional biddie finds, after trial, sitting is prosy, and decides she mistook her sphere. About half an hour each morning is devoted to taking off and feeding my sitters. For a few days I look every two hours to see whether any restless ones have come off independently. The regular morning attention soon creates regular habits in them, and I have sometimes spent the remainder of the day miles away and found at night each true to her post, seemingly saying with Scott's hero:

"Come one, come all! this rock shall fly
From its firm base as soon I."
(CONCLUDED IN NEXT ISSUE.)

Throw Physic to the Dogs.

It amuses me, an old rancher below Florence, to read the wiseacres in the poultry business dilate and dwell upon the ins and outs of the business. A thinks that a little soothing syrup applied in the fall when the rains set in is essential, while B thinks you cannot raise poultry successfully unless you give your birds a patent tonic; and C is positive in his convictions that to have good laying birds you must give them some of Dr. Squard-Brown's Elixir of Life, or a little Hostetter's bitters; while D says wash your hen house in coal oil, take your hens out for a walk due west every morning, to the tune of "Yankee Doodle," or "Annie Rooney," will do the business.

Now, I have been in the poultry business for profit for the past 10 years and have yet to oil my chicken houses, give tonics, or do any one of the thousand things recommended by the average poultry crank. I attribute my success chiefly to two things—cleanliness and plenty of good, healthy food. Every little while I submit the roosts and sides of my hen houses to a thorough bath of boiling hot water, which not only cleans but kills every living thing it strikes. My nests are arranged in square portable boxes. To clean these I had made a much larger box of galvanized iron of sufficient dimension to enable me to entirely submerge the wooden box in boiling water. Under this box I build a fire and in a little while I have all my nest boxes clean and pure. This, combined with general neatness, and, as I said before, good food, is all the attention I give my poultry yard.

The poultry business, like so many other branches of farming, is largely left to run itself. I have found it one of the most profitable branches of my, farm and conduct it with as much care and attention as the average proprietor does his mercantile establishment in town. The trouble is, farmers do not mix brains with their work.

DEAR SIR,—Our experience in advertising in the FARMER'S ADVOCATE has been most satisfactory, and since advertising in it our sales have rapidly increased, and we have had inquiries from British Columbia to Prince Edward Island, so that we can emphatically say that it is an excellent medium for reaching the farmers and breeders of Canada. SMITH BROS., breeders and importers of pure-bred registered Holstein-Friesian cattle, saddle and carriage horses, Churchillville, Ont.

"Chicken Culture," from a Farmer's Standpoint.

According to promise, I will give you a short sketch of my experience on "chicken culture," from a farmer's standpoint.

It is now some twelve years since I commenced raising first-class poultry, and it happened thus: I advertised my Southdown sheep and Berkshire pigs, and I had several offers to trade pigs for fancy fowls; one from a Mr. Lloyd, Cold Springs Poultry Yards, Baltimore, Md. I sent my pigs by express, and Mr. L. sent me two pairs of as fine Light and Dark Brahmas as you want to look at. He was satisfied; that is the commencement of my keeping first-class poultry. And I have never regretted it, as this last year, I made more out of my poultry and a three-acre orchard than of my hundred-acre farm, after deducting working expenses.

After twelve years experience with five different breeds, I have no hesitation in saying, for all purposes, the Light Brahma is the best; and for laying qualities and the table combined, a cross between the Light Brahmas and White Leghorns or Black Spanish. I will give you my reasons; I have raised Games, Light and Dark Brahmas, White Leghorns and Black Spanish; the first are good layers and splendid table fowls, but too pugnacious altogether; the Leghorns and Spanish are fine layers, but very tender in combs and liable to get frozen, but when you cross them with the Light Brahma you have an excellent layer of large white eggs, or nearly white, and a fine table fowl as well; they come early to maturity. The Light Brahma makes an excellent mother, will supply you with eggs all winter if properly fed and kept in a moderately warm place; and when the grain comes off they will wander all over the farm in search of food.

I raise a great many ducks and turkeys, and invariably set the eggs under Light Brahmas; some of them brought out two lots of ducks and were as fat at the end of the two months as when I set them. I never have any trouble in raising young ducks without a mother. I have had as many as twenty hens sitting at once, and I let them all off at once, every day at noon, feed and water them, and by the time we have our dinner over they are all back on their own nests, when I put a shingle in front of them and keep them there until next day at noon. I always set them on the ground if possible; a little cut hay under the eggs. Duck eggs especially should be sprinkled with water every three or four days, and every day before coming out—tepid water is best. I raised about sixty ducks, forty-five turkeys and sixty chickens this season, and think they averaged about ten to each hen set. Unless you adopt some such plan as I speak of, you can not raise them successfully, as the other hens are continually laying beside them, or fighting with them and breaking the eggs.

I think if farmers could be induced to go more into poultry raising they would find it not only pleasant but profitable, if they would feed the same amount of grain to twenty to thirty fowls as they do a pig, they would have them fat, and sell them from eight to ten cents a pound. I have taken the first prize at our Guelph Christmas Show on several occasions for turkeys, ducks and fowls, and invariably sold all I had to spare at twelve and a-half cents a pound. Of course, they were fine young turkeys, weighing thirty pounds a pair, dressed ready for the table; ducks,

fifteen pounds per pair; and chickens eighteen pounds per pair; all young birds. You can always get ten cents per pound for well fattened birds, and I am sure nothing pays better.

I think I have said enough to convince any farmer that there is money in raising poultry, if they go about it in the right way, and get first class stock to start with. A farmer has not time to attend to poultry as he would like, but his wife and daughters have, and there is nothing more pleasant or profitable than attending to first-class poultry.

Fattening Fowls for Market.

A great diversity of opinion exists amongst poultrymen in regard to the quickest and best mode of fattening birds. Some say shut them up in a dark room and give them all they can eat. Others say let them run at large and they will thrive better and get fatter more quickly. Others again resort to the cramming system as they do in some parts of England. I have tried all ways, and find that when shut up less food is consumed, and it is consistent with reason that the less exercise they take the more fat will accumulate. All poultry should be kept in such good condition that at any time a fortnight or three weeks ought to be sufficient to fatten them. I have made my young turkeys at five months old weigh eighteen pounds each in three weeks feeding, geese nineteen pounds in same time, ducks eight or nine pounds each, and Light Brahma fowls nine and ten pounds each. I find the quickest ration for fattening fowls is scalded corn meal mixed with a little cattle spice, and a few scraps mixed with it. I also mixed a little pulverized charcoal amongst the food, being a good preventive of indigestion; give them plenty of gravel, pounded oyster shells, or any gritty substance to help digestion. For drink give them milk either sweet or sour. I always keep a dust bath of road dust or ashes mixed with sulphur in which they can luxuriate, and which is death to the lice which often infest turkeys and chickens. I believe some fowls enjoy a dust bath as much as a man does a good bath of pure water after a hard day's work in the harvest field. Turkeys, geese and ducks should never be mixed indiscriminately when put to fatten. Keep them in separate apartments if possible. Geese and ducks may do together, or turkeys and chickens, but they will all do much better if kept separately. I believe if the room in which the birds are confined should be kept in total darkness, except in time of feeding, they will fatten more quickly. I feed three times a day, and vary the feed; often chopped barley with boiled potatoes is good fattening food, buckwheat is also good, and a handful of sunflower seeds now and again is an excellent thing. I often mix the scalded cornmeal with a handful of shorts in which a little salt has been added. It is a mistaken idea that salt is injurious to fowls, a little is beneficial and promotes digestion. If a fowl does not digest its food properly it cannot fatten. Never give more food at once than they can eat up clean, and if any is left from the previous feed clean out the trough thoroughly, or the mixtures get sour and is very apt to produce diarrhoea. The great secret in feeding any animal is to give it what it can eat up clean, and no more. If any animal gets surfeited it is some days before it recovers its wonted appetite. If farmers could be induced to go more largely into fattening

poultry for the market, they will find it a very profitable investment during the fall months. They can pick up sufficient food in the stubble fields and around the barn yard to keep them in good order, and it only requires a few weeks extra feeding to make them fit for any market. The great drawback to our successful shipment of turkeys to the English market has been lack of quality, the birds both wanting in size and condition. What is true of all classes of animals is none the less true of turkeys, namely, that good stock and good feeding pay. What has been recently shipped to England has not been in the prime condition it should have been, and of course did not command the highest price in the British market. There is an equally good opening in the British market for geese as for turkeys, but if the Englishmen is fastidious in the matter of turkey, in geese he is much more so. Our ordinary geese would not be looked at in the British market, while if larger and fatter birds were sent they would be eagerly sought after at very remunerative prices to both producer and shipper.

J. A.

The Mammoth Bronze Turkey.

BY JAMES ANDERSON.

The mammoth bronze is the largest and most hardy of our domestic turkeys. It is impossible to see a large flock of them in the fall when nearly full grown, with the gobblers strutting about, without admiring their majestic size and brilliant metallic plumage. Being natives of this continent, they thrive well and are almost self-sustaining in summer if allowed their liberty. Six weeks of care for the young broods and they will forage for themselves until the frosty nights commence, which will deprive them of the insect food on which they principally subsist. Mr. W. H. Todd, of Vermillion, the most noted breeder of M. B. turkeys and Toulouse geese in the United States, says:—Bronze turkeys do not get to their growth till three or four years old, and at maturity the hens weigh 15 to 20 lbs., and the gobblers 30 to 40 lbs. each; the first year 12 to 15 lbs. for hens are good weights, and gobblers 20 to 25 lbs. Turkeys lose from 2 to 5 lbs. each if changed or shipped, but usually regain it in a few days if fed well. The bronze are No. 1 layers, rather heavy for mothers, sturdy, make rapid growth, and being good foragers, are death to grasshoppers and other insects detrimental to the farmer. Young turkeys may be raised very successfully by hens. When first hatched we place them on a clean, dry, grassy spot, and for a week feed nothing but curd, or hard boiled eggs chopped fine, seasoned slightly with black pepper, and a few green onion tops chopped fine and mixed in. Young turkeys' digestive organs are very delicate, and they eat but little the first week. After a week old we add a little meal, or bread soaked in milk; after three weeks old they are sufficiently strong to be fed scalded meal, or chopped corn and sour milk. Sour milk at all times within their reach is good for them. After a month old they may be allowed to range with the mother, provided the grass is dry, for if they get wet or chilled they are sure to droop or die. Their natural diet is insects, and they should be allowed to roam as much as possible. Turkeys grow very rapidly, and when hatched even as late as August will mature so as to winter well. A young turkey, unlike chicken, will grow and thrive through the coldest weather

with liberal feed. For the amount of feed consumed they make ample weight, and it costs little more to keep them than ducks or chickens. On a farm where insects are abundant they are very profitable, and are fed grain to good advantage. As a good market has now been established in England for our poultry an extensive business is certain to be done, and all farmers can raise large flocks in confidence. There will be a great demand at good paying prices. Get the largest and strongest stock procurable to start with. It costs no more to raise a large than a small turkey, and you get a great deal more for it when brought to the market. I once paid \$10 for an eight months' old gobbler weighing 28 lbs., and I found it the best investment I ever made, as I sold all my forty turkeys next season at \$5 a pair and upwards. So it pays to get the best always. In my next I will give my experience in fattening turkeys for the market, as I contend it pays to fatten everything in the shape of live stock before you sell it. The amount of grain fed to poultry of any kind is a better investment than fed to pigs. I see by the bulletin issued at the Experimental Farm, Ottawa, my favorite breeds, the Plymouth Rock and Light Brahmas, are still to the fore, and which I advise all farmers to breed for a general purpose fowl, being good layers and fine for the table.

Number of eggs laid by fifteen Plymouth Rock hens:—January, 214; February, 144; March, 233; April, 280; May, 240; June, 211; July, 197; August, 187; September, 130; October, 75; November, 4 (hens moulting); December, 37; total, 2,002. Cost for feed for the year, \$17.09. So you see that poultry pays if well attended to. The Light Brahmas have also a first class showing.

Poultry Pickings.

There are few men breeding fine poultry solely for the love of their birds; by far the greater number of breeders are at it for the money they make out of it. Few, indeed, would be bothered with fowls if they did not make something out of them. The most successful breeder is he who breeds only good stock, exhibits his birds, and keeps his name before the public. The advertising breeders are the ones who make poultry keeping pay. You who have tried keeping fancy poultry without advertising and lost thereby, try one season as an advertiser and see if the result is not worth the investment.

Some experienced mens say: "The Wyandottes are destined to become the greatest favorites ever known among the admirers of a good, useful and beautiful fowl. Even that old favorite the Barred Rock is rapidly taking second place to the Wyandottes. Their low rose combs make them more suitable to our cold winters than the "Rocks," and as winter layers they have no equal. Their great table qualities, and quiet, homely, contented appearance is bound to win them scores of friends wherever they make their appearance."

Don't keep over many old hens; sell them off. Pullets are the best to keep for laying purposes; hens do not lay nearly so many eggs as pullets, and after two years old they barely pay for their keep. If you must keep old hens, do your best to get them through an early moult. Feed a good stimulating diet, not too fattening, and you may be rewarded with a liberal supply of eggs through the winter. It is the winter layers that are the most profitable to the poultry man.

The Apiary.

Marketing Honey.

BY R. F. HOLTERMANN, A. O. A. C.

The bee-keeper once more has reached the season when he is thinking of a market for his honey. To not a few the problem of how to sell is as great as how to produce. To others it is an easy matter, and not only do they sell their own crop, but they sell many thousands of pounds besides. To sell well, offer with confidence to the public; and to establish a market for honey it is necessary to produce a first class article, to put it on the market in right shape, and to sell at the right price. To put a good article out, the best and lower grades should be kept distinct. Never mix a good article with the poorer; do not do it any more than you would mix water with sugar. The higher grade is always dragged down to the lower, or nearly so. Honey should be thick and well-ripened; it should be spotlessly clean. Do not allow particles of beeswax to float in the honey; although quite harmless, it may turn someone against the article who does not exactly understand what it is. Do not sell an inferior grade under the cloak of a better. To put honey on the market in the right shape, do not have it partially liquid and partially granulated. Have the honey in each vessel either one or the other. Half and half looks bad, and is not attractive. What package you shall use must greatly depend upon what your customers want; give them what they want, and then feel your way with a new package. For a country trade some package that can be used for sealing fruit or putting jelly in answers best. Of these there are cans, jam jars and jelly glasses. A pail to hold five or ten pounds answers very well, as after being emptied they are useful in a house. For city trade one can indulge a little more in fancy glass and packages, although even there economy has to be practised more than we are aware of. For the wholesale trade it is, perhaps, best to sell in bulk (60-lb. cans are universally used). Suggest to the retailer the package to use and let him supply it. As to the difference there should be between the wholesale price of honey many have a gross misconception. No storekeeper can buy an article and put it on the retail market at an advance of 20 per cent. I doubt much if he can do it at an advance of 25 per cent. and do a credit business. He is not making that percentage of profit, for he has to pay rent, fuel, taxes, light, hired help, and no matter how careful a man is, if he does a credit business he has to make a certain amount of bad debts. These have to be deducted; so by the time he pays himself the wages of a good clerk, very many have little left for the interest of their money and the risk they run. So do not spoil the honey market by making your wholesale market and retail market price almost the same. By so doing you injure the market, for no retailer will, or should, be willing to do business for nothing. If he does it habitually, I should want my cash from him. If you are in a locality where much dark honey is produced try and dispose of the article in that locality. The people there are educated to see it and eat it, and they know it, as those in different localities are not, and you are likely to get the highest price for that grade of honey right at home. Our fall fairs and exhibitions offer a great opportunity for advertising and selling honey. A neat, attrac-

tive exhibit at the local fairs draws attention to honey, and by selling it in these little glasses (five cents per glass), and all children and adults get a taste of it, they often lead to further business. A record should be kept of everyone who purchases honey from you, and the following year they should be notified that you have honey to dispose of. Whilst it is not advisable to sell too large a quantity of honey to one family, yet one often makes a very small sale just because you have not the courage to try and make a larger. If you give your customer the impression you do not expect them to buy more than one or three pounds you very often sell no more. If you, on the other hand, quote him a 10-lb. can, a 20-lb. can, or even a 60-lb., you may succeed in disposing of that quantity. One can have no idea to what extent one may influence a customer. I have often noticed, too, how one customer influences another in a crowd at a fair. This is particularly the case, so try and make large sales. You can sell any one honey at ruling prices and know you have given him good value for his money. Get confidence in the article; our household of four has honey on the table every day, and consumes at least 150 pounds of honey. You know it is wholesome; it does not spoil when you open a jar of it as fruit; a little of it goes quite a way, and it is a nourishing food. Why then hesitate to feel it, and in that way take the surest way of making others feel so? If you are so situated that you cannot handle your own crop, let some one else do so, and do so at the earliest opportunity.

Winter Preparation.

BY R. F. HOLTERMANN.

The season of the year has again arrived when preparation has to be made for the cold season, and this has to be done particularly with bees. Too often, however, they are neglected, and as a result the owner is punished by the bees perishing before spring. The cattle can show their discomfort, and by their appearance remind the farmer that they require protection, but not so with the bee. If she could fly out and sting her master much loss might be avoided by the sharp reminder, but long before severely cold weathersets in the bee has to remain a close prisoner in her home. Well, long before settled cold weather the colony that is to winter on its summer stand should be protected from the cold. The colony that is to go inside should be carried there as soon as there is reason to believe settled cold weather has come, but the colony that remains on its summer stand should be packed late in October or early in November, so they can have a good cleansing flight after being disturbed in packing. It matters little what the kind of a case is, if there be one or ten colonies in a case, so long as it allows for two or three inches of packing at the bottom, six inches at the outer sides, and say a foot at the top. The case must also shed water, and if it is mouse proof so much the better. My favorite packing is sawdust at bottom and sides, and sawdust or chaff at the top. The only objection I have to chaff is that mice are more liable to trouble these hives than when sawdust is taken, and often mice do much harm amongst bees in winter. When first packing in the fall I put very little on top, raking it to one side; then as the weather gets colder I rake it over the entire top of the hive. I prefer to put a clean quilt or cloth free from propolis over the frames. By so doing the

moisture can pass from the hives into the packing, yet the heat will be retained in the hive. If chaff is used, and no doubt it is excellent but for the mice, it is well to put above it and under the lid mouse poison of some kind. Of course the entrance of the hive must be so arranged by a bridge that the bees can pass in and out at all times.

Many may ask how should the entrances face. A great many appear to have no choice, and any direction they claim answers equally well. I prefer to the west or south-west. If any, the reasons are: It gives the entrance as much sunshine as I dare venture without injuring the bees. If facing the south the bees are often coaxed out and deceived by the warm sun when the wind is quite cold, and the bees fly out, and when struck by the cold wind are chilled and fall to perish. I do not like having the bees face the direction from which we get most of our cold winds, but the greatest harm is, probably, done by any change during the winter. A change either in size of entrance or direction of facing would be very injurious.

Inside wintering is my favorite method, providing a first-class repository can be secured, or unless one has very many bees, when it is well to have some inside and some outside. A good repository consists of one in which the temperature is not easily changed, one dry, one having pure atmosphere, and one in which the bees are not likely to be disturbed. In such they may be placed to advantage. They should be at least 18 inches from the ground, and not nearer than one foot or even 18 inches from the ceiling. It is always more difficult to winter one to five or six colonies inside than twenty-five to fifty, and it should only be attempted in cases where the cellar is very good. This fall in my cellar I calculate to put a ventilating pipe to connect with a stove pipe upstairs. This pipe will go to within a foot of the floor to draw foul air from the bottom, and it will have a sliding ventilator in its side near the ceiling of the cellar. This will be opened when the temperature of the cellar gets too high for the bees, which is often the case after continued warm weather.

Vassot's Grinding Mill.

In this age of progress there has sprung up a demand for a grinding mill in keeping with the times. The old stone process has served its day in *chopping* as well as flouring, and is being laid aside among the relics of the past. The inconvenience, expense and disadvantages of the old process have been removed in such a degree by the "Vassot's Grinding Mill" that this work can now be done very cheaply and with great speed. The improvement in the construction and hardness of the burs now used by him reduces the cost of this part below the labor of dressing stones, and the manufacturers claim that it will grind all kinds of coarse grains and fowl seeds, as well as flax seed, and split peas and cracked wheat. We had the pleasure of seeing one of these mills in operation, and were highly pleased with the working of it. Parties requiring anything in this line will find the manufacturer's address in another column of this paper.

DEAR SIR,—We have always experienced a prompt and vigorous response to our announcements in the FARMER'S ADVOCATE, and consider it one of the best channels of intercourse with our patrons. NOXON BROS. MFG. CO., manufacturers of agricultural implements, Ingersoll, Ont.

Veterinary.

Domestic Veterinary Treatment of the Animals of the Farm.

BY WM. MOLE, M.R.C.V.S., HAMILTON, ONT.
ARTICLE IV.

Every diseased condition of an animal is a departure from a natural existence; to properly estimate how far an animal has advanced in disease, due regard must be paid to an animal's natural life; its habits and natural position in standing, walking, trotting or lying must be thoroughly understood, and by close observation of animals we are enabled to say accurately whether an animal is suffering from disease or in perfect health. The question that is asked by a surgeon on being first called in to attend a sick animal is, When did this animal go off feed; or, when did the ox cease cudging? A great deal depends on this question, for under ordinary conditions of natural life an animal always wants its food and water, not to say pure air. This leads us to enquire "What is life?" Up to the present no individual has ventured to say the source of its origin; but we do know that having the condition known as life present, we can trace it up to the highest order of animal existence, eye, even to man himself. The lowest organization shows the same conditions are present as in the highest, and that the essentials of life are birth, growth, development, decline and death. The term birth when employed in this sense, without reference to any particular kind of living being, may be taken to mean separation from a parent, with a greater or less power of independent life. The functions indicative of life are motion and assimilation. Assimilation is the capability of making dead matter into living, and must consequently be introduced into a living body that has motive power before this change can be produced. We have three kinds of matter—animal, vegetable and mineral. Animals assimilate organic matter only, plants assimilate both, so that the distinguishing difference between the two, animal and vegetable, is that vegetables prepare inorganic mineral matter for the purpose of the growth of the animal kingdom.

Growth, or the power of increasing in size, is not confined to living beings. A crystal of common salt will grow if placed under conditions favorable for obtaining fresh material. Here the growth is on the outside, layer by layer, which remains unchanged. In living matter, where growth occurs, it is by addition of new matter not to the surface only, but throughout every part for the repair and renewal of parts worn out by use. The whole of this explanation is to lead us up by gradual steps to the consideration of the subject of inflammation, and relation of micro-organisms to disease. In many infective diseases, though not as yet in all, the existence of minute living organisms has been established beyond all doubt.

The so-called germ theory assumes that all infective diseases are directly due to the presence and development within the body of specific living organisms or germs, and that these germs have the capacity or power of indefinite multiplication within the body, however small the quantity introduced, and that the particular germ of any one disease produces that disease and no other, as in the case of tuberculosis, pluro-pneumonia, anthrax. Now, it has been found that an animal will generate these diseases,

and then communicate them broadcast by inoculation.

These micro-organisms are known as bacteria, and are of vegetable nature belonging to the order of fungi. They are of various kinds with various names, but for all practical purposes may be described as germs. These cells are all malignant or hurtful to the body, and, therefore, we will consider first those that may be termed benign or good, which have certain functions to perform for the benefit of the animal.

From what has been said before, it may be pretty well understood that a simple cell is the smallest particle of living matter which perform their cycle of existence for the benefit of the animal, and as there are a great number of simple cells, we have only to consider those that we wish to recognize. Blood cells, red and white fat cells, and all cells having the power of assimilation produce different results in different parts of the body. Thus, from the blood passing through the liver, the masses of epithelial cells assimilate, and afterwards give out the elements of bile; the same in the uriferous tubes of the kidney, which select the constituents of the urine, and so on with reference to all other secreting organs. In all cases the secreting organ selects the material of its own secretion, and rejects all other. Any departure from this rule constitutes disease. We have two more important structures to consider: The mucous and serous membranes; the serous membranes are the peritoneum, pleura, and pericardium. The mucous membranes line all passages having an external opening—the eyes, nostrils, mouth, anus and urinary organs. The mucous membranes are those which are chiefly attacked in disease. Catarrh or common cold is inflammation of the mucous membrane lining the nostrils, throat and chest. The whole of the digestive tube, from the mouth to the anus, is lined with this membrane, and gives rise to a variety of diseases. Gastritis, inflammation of the stomach; enteritis or colic, inflammation of the muscular tissues of the bowels; diarrhoea, inflammation of the mucous membrane of the large bowels.

The serous membranes line all closed cavities—the brain, heart, pleura, the outside layer of the lungs, and the inside layer of the ribs. The peritoneum, or investment membrane of the bowels, gives the white glistening appearance that is seen when opening the cavity of the bowels, and known when diseased as peritonitis, or inflammation of the bowels. The serous membrane lines the inner side of the pericardium, or heart sac, and gives rise to heart disease, or pericarditis. There is still another great service this membrane gives the animal, and is described as synovial membrane. This lines all closed cavities, and its function is to furnish a moist surface, to facilitate the free movement of joints and tendons. The common term for the fluid secreted by this membrane is "joint oil," but better known as synovia. An accumulation of the fluid in any position is known under a variety of names, but for our purpose at present we will describe the condition as dropsy of the sac. It is particularly requested that the reader of this article will pay particular attention to all these elementary matters, as, unless a thorough study is made of the subject, the paper on inflammation which follows cannot be thoroughly understood. Every endeavor has been made to avoid the use of technical language. Scientific terms cannot be ignored in anatomy and physiology, any more than any other subject. For example, it would be impossible to give the most superficial idea of the blacksmith's art without employing such terms as fullering, pritchelling, seating, buffer, stamps, etc.; or, the carpenter's art, with such terms as mortice, tenon, rabbeting, mitreing, and a hundred more.

Similarly, nautical terms are quite unintelligible to an ordinary landsman, yet it would be almost impossible to work a five-ton yacht unless one knew something of luffing, jibing, splicing, the jib, kelson, halliard, down haul, etc.; so that in describing the structure of the animal's body many technical words must be employed, but in most cases they will be fully explained when first used. What is blood? Almost every one is acquainted with blood in its everyday

form, but very few know its composition. The blood in circulation consists of a fluid in which are floating a number of red and white corpuscles or cells. On being drawn from an animal's body and allowed to rest, first it becomes solid, and afterwards separates into two portions, namely, the clot and serum. By the process of whipping, while the blood is flowing from the animal's body, a quantity of colorless fibre may be obtained, and after its removal the fluid remains without undergoing coagulation. Animals when struck by lightning are found to have their blood in a fluid condition when a post mortem examination is made; also those that die from rabies, septicæmia or blood poisoning, and it is supposed to be due to the coagulation of the fibrin. Blood may be divided into three portions, fibrin, coloring matter and serum. The serum contains water, salts and albumen; the clots, fibrin and red corpuscles. In transparent tissues you can see the fluid blood passing in two directions, one current flowing out of large vessels from the heart into smaller ones or capillaries, from them into the veins leading into the lungs. There are two kinds of corpuscles, red and white, the white being slightly larger than the red and moving more slowly, the current in the middle moving quicker than at the sides. The white corpuscles are made up of new material in a state of vital activity, and may be said to constitute the new life blood. The question of temperature will often be described in disease, and it is due to this particular portion of blood a normal or healthy temperature of the animal's body is maintained. In a healthy state it may vary from 99° to 101° Fahrenheit, never above or below without some cause of disease.

The temperature of the body of an animal represents the balance between the production and loss of heat, both of which are brought into constant relation with each other by the circulation of the blood. For instance, in inflammatory fever this equilibrium is disturbed and the temperature rises. The quantity of blood in the body varies considerably in different animals. The average is about one-tenth of the weight, but there is always the same quantity, although not the same quality. We will say that suppose an animal is bled two quarts, this amount is again made up in a very short time, and it is mainly due to this fact (although there are other conditions), that bleeding has fell into disfavor of late years. So far as blood-letting doing any good, it is productive of the most serious consequences in the majority of cases. There is, however, no doubt that if a surgeon is called early in acute congestion of the lungs, the abstraction of a quart of blood may be of benefit, and cut short the disease; but very rarely are those cases brought under the notice of veterinary surgeons.

It may be safely said that there are numbers of surgeons and veterinary surgeons who have never bled a patient, or seen one done; and many cases that have come under our notice where bleeding has been resorted to, have generally terminated fatally. The function of the red cells of the blood is chiefly in carrying oxygen to the different parts of the body for the one main purpose of the creation of heat, combining readily with the various constituents of the tissues, chiefly fat, when it absorbs carbonic acid, passes into the veins of a darker color. This used blood being impure, it is necessary to get rid of those impurities during the passage of the blood through the lungs, skin, liver and kidneys, where it gives up this deleterious matter, obtains a new supply of oxygen, which is furnished to the blood through the lungs and radiation of the skin. One of the main objects of respiration is the maintenance of animal heat; yet, very few people are able to say by what process this is brought about, although every one is acquainted with the discomfort of feeling cold.

The development of heat is gained by the absorption of oxygen from the atmosphere by the mechanism of the respiratory organs. A very easy experiment will demonstrate this:—A person feels cold and starts for a short run. The increased exertion causes an increased quantity of oxygen to enter the lungs, and consequently heat is developed. A hearty laugh will do the same thing. Our space is too limited to ex-

plain in detail how this is brought about, but sufficient may be gleaned from the above description to stimulate those desirous of investigating the subject further. The natural pulse, respiration and temperature of farm animals is here given, subject to a variety of conditions, as to food, situation, and the temperature of the stable or barn, which will cause a slight variation, not sufficient to be of any moment:—

	Pulse per Minute.	Respiration per Minute.	Temperature, Fahrenheit.
Horse.....	40 to 45	8	99 to 100
Ox.....	45 to 50	12	100 to 101
Sheep	70 to 80	18	101 to 103
Pig.....	60 to 80	18	102 to 103
Dog.....	90 to 100	25	100 to 101

The pulse and respiration are quickened in proportion to the rise of temperature, and the character of the pulse modified. To be a good surgeon, is to be able to properly estimate the difference between healthy and unhealthy conditions, and any one who can master the pulsation and respiration of any animal has obtained a key that will unlock most difficulties of disease. In stating that disease is an abnormal condition of a healthy body, it is necessary to point out distinctly what is meant by disease.

Disease is a condition in which the functions of an organism are improperly discharged, and threaten the life of the being or organism unless special means are taken to preserve it. Both we and the domestic animals are living in an artificial environment, and from nature's standpoint are diseased, because, unassisted, we should be unable to resist the attacks of the lowest forms of organic life, whose functions it is to destroy life in order to maintain their own, as we destroy animal life to maintain ours.

The chief source of the blood supply being good, it necessarily follows that sufficient food of a nutritious quality must be placed within the reach of every animal when they cannot obtain it for themselves. To expect to maintain an animal in a healthy condition on musty oats, mow burnt hay, or hay that has been exposed to the weather for twelve months and become half rotted with moisture, is as futile as to expect a crop of wheat without seed. The production of muscular activity depends entirely on a free supply of pure arterial blood, which is absolutely necessary to produce vital activity and repair waste. Of various constituents that go to form the food of animals, not one of them, if taken singly, is capable of maintaining life in an active state or the normal constitution of the blood, the principal of which are albumen, fibrin, gluten, starch and vegetable fat; if any of these materials are consumed separately no amount forced on the animal will support life, and only for a very limited period will an animal exist on such a diet. It is only by ringing the changes on all these substances that good, healthy blood can be manufactured.

It is found by experience, and proved by chemists, that clear, sweet oats and well matured hay offers all the necessary constituents for the formation of healthy blood, whilst hay that is burnt in mow, or that has been exposed to the vicissitudes of the weather, loses the chief element of fat, and consequently is deficient in the one great constituent that makes up healthy blood, and while not affording any nourishment to the animal it distends the stomach causing pressure on the lungs, and consequently emphysema or broken wind. The same thing may be said with regard to musty oats; the sugar, starch, gluten and other materials must be in first-rate condition to manufacture healthy blood.

The prevention of disease must sooner or later hold the first place in the work of a surgeon; not the attendance and giving a dose of medicine for this or that complaint, but farmers, herdsmen, and horse owners of all classes must be taught that sanitary science is the great means by which disease can be and is to be prevented. The subject of sanitary stabling, cow sheds, byres, etc., must be considered, and cannot be too often brought before the notice of the horse-loving public.

We cannot enter into the subject just at present, as we must consider the subject of the origin and termination of inflammation in animals, or the theory and practical explanation of inflammation.

Miscellaneous,

Manitoba.

In other columns will be found the advertisement of the province of Manitoba. Those in quest of a home should read this advertisement carefully, and write to the Hon. Thos. Greenway, Winnipeg, Man., for full particulars which will be sent free to all who apply.

Simple Frost Proof Walls.

Searching winds and penetrating frosts will soon again be the chief agents, as far as weather is concerned, that the stock-master will have to provide against. Pages have been written about the necessity of comfort and warmth where the feeder is endeavoring to make an economic use of the provender that has been got together through the growing season. Cattle can and do thrive, and even put on flesh in the open air and in open sheds with the thermometer quite low, provided abundance of feed, particularly grain is dealt out; but no one will argue that there can possibly be any profit where grain or other feed is selling at fair prices. Cattle tied up in buildings with cracks that admit the outer air freely are not in much better condition, and in many cases they fare worse, as they are deprived of the exercise that stimulates the circulation of the blood which keeps them in moderate comfort. It is not possible for every farmer to have a basement barn with all the modern conveniences, but because these are not obtainable there is no reason that cattle should not be kept and fed to advantage.

There are several ways in which buildings may be made much more comfortable with little expense. Since tar paper came into general use it has made the exclusion of cold and the controlling of the temperature much more simple now. Frame buildings as commonly built are but a poor protection against the cold. In fitting up stables in frame buildings tar paper should always be used, and if required to be very close two thicknesses with a dead air space between. This, if built firmly, could be made quite as frost-proof as stone or brick. Where old stables are of frame with the boards running up and down, tar paper can be used as follows: First see that all boards are even and tightly nailed to girts; then on the inside place tar paper, which fasten by tacking laths over the edges, which should lap over each other. Next nail a cleat against the side of each post; to this fasten a two by four scantling, so that there will be a two inch air space, then tack another layer of paper and board up on the inside; this will make the wall almost air-tight.

Another good, cheap way of filling a hollow between boards is to run straw through a straw cutter and ram this down, which will make quite a warm side wall, but is not as good as tar paper. Others use one thickness of tar paper, as before described, tacking it on and nailing the inside boards on the paper, making two thickness of board with only the paper between them.

The many friends of Thos. R. Parker will be pleased to know that his recent European trip has resulted in the restoration of his health, and that he resumes the office of the city passenger agency of the Canadian Pacific Railway, No. 1 Masonic Temple, London, Ont. They, with the ADVOCATE, will extend to him a cordial "welcome home."

A Trip from London to Winnipeg via C. P. R. and Return by the American Route.

It was a hazy, red morning on the 24th of September when we rolled out of London station at eight o'clock sharp on the east-bound Canadian Pacific train *en route* to Winnipeg, via Owen Sound and Port Arthur. The indications of the morning that it would be a hot day proved correct. The dreamy haze was finally penetrated, and then dispersed by the searching, if oblique, rays of Old Sol, who gave us to understand that although daily withdrawing his vertical oversight, he was still capable of impressing us by side glances. The run to Toronto Junction was devoid of any special interest. We whisked past monotonous stubble fields, with here and there a patch of green *in relief*; occasionally a field of oats would nod at us as we hurried by. Cattle and horses, startled by the noise of the rushing train, or pretending to be, galloped insensibly around the field; or the indolent dog, disturbed in his siesta, suddenly rouses himself and seems to regard our approach as a challenge to a half mile dash, as, with hair erect, he leaps forward in a trial of speed with his long-winded adversary. Brave, plucky little fellow he is. How his legs lock and unlock and his body undulates with the falling and rising ground as he straightens himself out in the hopeless race. We steadily forge ahead, and our little competitor is soon lost to view. But all this is familiar to the every-day passenger on a railway train, and we must ask our readers' indulgence for such a digression.

Toronto Junction was reached at 11.40 a. m. and close connection made with the train for Owen Sound. The landscape on this line is of the usual order until Orangeville is approached, when hill and vale begin to pass before you in panoramic fashion. Here the road suddenly presented a steep and winding grade, at which our gallant engine rushed undaunted, but her speed was quickly slackened by the steep ascent and sharp turns. We seemed to be coiling round a miniature mountain, but it was plain that we were slowly but surely scaling the height at each circuit of the train. Our engine appeared to be breaking her heart at the delay, as she puffed and grunted and viciously swung us around the curves. Finally, with a great sigh of relief, she announced that the height was gained, and a level piece of road was ahead; and away we went with a rush for Owen Sound, which was reached at 3.20 p. m. Here we found the steamer "Manitoba" lying at her wharf, and in full preparation for her trip up the lakes. As soon as the baggage had been transferred from the train to the boat we started on our journey up the great "water stretches" to Port Arthur and Fort William. The water in the Georgian Bay was as placid as the proverbial mill-pond. Nearly everybody on board went on deck and indulged in the rare feast of oxygen which so generously surrounded us. But we soon discovered that this feast only gave us zest for the more substantial one which was being spread in the saloon. When the dinner bell rang every person rushed to the table and fell to as soon as the smoking dishes were placed before them. After dinner we sauntered on the promenade or hurricane deck. The evening was delightful, with a clear sky and a gentle breeze. Night quickly settled around us. The tired and fretful children had been put to bed, and

their little souls were doubtless floating in the mist of dreamland.

It was ten o'clock when we cleared the lighthouse stationed in the passage from the Georgian Bay to Lake Huron. Most of us then turned in for the night, and had our first refreshing sleep on board the "Manitoba." Early the next morning everybody was astir. During the night we had skirted the northern shore of Lake Huron, and at seven o'clock we approached Drummond and Cockburn Islands, which are situated at the entrance to the Sault River. Here we had fully sixty miles of tortuous and difficult navigation before us. The waters of the river are in some places very wide, but the channel is always narrow, and as vessels are constantly passing up and down, the skill of the navigator is tested to the utmost to avoid accident. It was twelve o'clock when we reached Sault Ste. Marie, where we were detained nearly three hours waiting our turn to be "locked" in the canal. The Americans are hard at work on their new canal, and across the river the Canucks are as hard at work on theirs. It was nearly six o'clock in the evening when we were well out into Lake Superior with its dark and troubled waters; but we all agreed the lake was well-named. It is a majestic expanse of water, and was in a pleasant mood when we reached it. Its sweeping and easy swell gave the boat a graceful motion, and was not suggestive, apparently, of qualms of any kind, as all the passengers seemed to have their sea legs on, and were moving or sitting around with contented and happy faces. We ploughed our way all night through Lake Superior, the perpetual throb of the engine and the scream of the log growing familiar to our ears. Port Arthur was reached on Saturday between twelve and one o'clock as we were sitting at dinner. The situation of the town and its beautiful harbor was admired by all. The delay here was short, and we were soon on our way to Fort William, which is four miles from Port Arthur, up the Kaministiquia River. This is as yet a primitive, unconventional looking place, but the C. P. R., with their usual energy, are laying the foundation of a large town here. Two enormous elevators have been erected, and a third is being commenced. Here we took leave of our gallant friend, the "Manitoba," "the finest vessel on the lakes," as more than one passenger remarked. Her saloon has an unimpeded sweep from stem to stern, with the exception of the funnel and engine boxes amidships, and her crew is a model one, from the captain down to the humblest hand. Her appointments are perfect, and the *cuisine* is all that the most veritable epicure could desire. In conversation with a French gentleman, who was on his fifth trip around the world, he stated that this was his first experience of the C. P. R. route, and that it was decidedly the most charming he had yet taken, diversified, as it was, by water and rail.

We left Fort William for Winnipeg at 3.10 p. m., passing through the most uninteresting country imaginable, muskegs and rocks abounding on every hand. But the comfort and luxuriance of the cars amply compensate for the deficiency in scenery. Besides, the shades of evening quickly fell and it did not seem long before we were discussing a savory meal in the dining car, and then only a very short interval elapsed before we were making preparations for another night's repose.

We were due to arrive at Winnipeg at 10.10 the next morning, and sharp on time to the minute we steamed into the station. Those of us who were remaining in the city hustled into the omnibusses and started for the different hotels. We will not tire our readers by attempting any description of Winnipeg, as our intention is only to give notes made in transit. After a week spent in the prairie metropolis we took a ticket by the Northern Pacific on our way home. There was one sleeper attached to the train, in which we were soon comfortably ensconced. This car was of the most elaborate design and magnificently furnished throughout, and was calculated to give anyone the repose and comfort needful to a journey of almost five hundred miles to St. Paul, Minn. There seemed to be nothing but great stretches of prairie on either side from Winnipeg to Grand Forks, N. D. Here night overtook us. The next morning at 7.05 we were ushered into the station at St. Paul, having covered nearly five hundred miles in a little over nineteen hours and a half, including stoppages at all stations. Close connection can here be made with the Chicago, Milwaukee & St. Paul Railway, but we preferred to remain over a few hours. At 2 p. m. we boarded a train at St. Paul and started on our journey to Chicago via the Chicago, Milwaukee & St. Paul Railway. This road, or at least that part of it between Minneapolis and Chicago, is one of the most completely equipped which it has been our privilege to travel over. The cars are elegantly upholstered and furnished with the most modern appointments. The company appears to be fully alive to the wants of its patrons, and the popularity of the road cannot but increase from year to year. The run from St. Paul to La Crosse by daylight is charming. On one side of the track flows the Mississippi, and on the other a continuous chain of picturesque hills and steep embankments, verdure-clad from base to summit, complete a picture the effect of which is inspiring. All trains running from Minneapolis and St. Paul to Chicago touch at Milwaukee, which is a great desideratum to tourists and business men. No less than eleven trains leave the latter place every day, except, perhaps, on Sundays, for Chicago, and the distance is covered by all of them in less than three hours, and over a remarkably smooth piece of road. In fact, for rapidity of transit, choice of route and general comfort, we consider that the Chicago, Milwaukee and St. Paul Railway stands without a rival amongst those running between Chicago and St. Paul.

Chicago was reached at 6.45 the next morning, the run being made in sixteen and three quarter hours, including stoppages. Here we remained until 3 p. m. in the afternoon, when we boarded the Wabash train for Detroit, which was reached at 12.30 a. m. eastern time. Close connection was here made with the C. P. R. for London, which was reached at 4 a. m., the run from Chicago to London occupying only eleven hours. Thus it will be seen that but for the delay in Chicago, the run from Winnipeg to London could be made over these routes in forty-eight hours. As it is, only fifty-six hours are consumed in the journey.

A creamery in Vermont has offered a prize for the patron that brings the best milk the year round.

Comrade.

The magnificent thoroughbred stallion Comrade, illustrated in our columns last September, is the property of Mr. E. H. E. Webb Bowen, of Brandon, not of Messrs. McGregor & Co. as stated.

The Patrons of Industry and Combines.

BY UNCLE TOBIAS.

I have been reading a good deal about the Patrons of Industry of late, and of the wonderful increase in the Order throughout the country, and have noted some of the wonderful things and doings that are promised and predicted for the members of this Order by the oily-tongued organizers and instigators of this new Order. It is truly marvellous what they are going to do, and the money that is going to roll into the pockets of all the members. But these smooth-tongued fellows take good care that the money and good things roll into their pockets first and foremost. It is this rolling in of the shekels that makes them so very zealous for the cause here, in my opinion. While on this subject, I would ask the members of this Order if they know, or have any idea, how much these men are making a month in working up and talking up this organization. If you don't know, just find out, and see how much consistency there is between the little pile they are piling up and the 12 per cent. they pretend to say is quite as much and ample to allow the merchant and storekeeper for handling his goods and dealing them out to these worthy patrons. I am a great lover and admirer of consistency, and if there was more of this modest article kept on hand and in stock by both the organizers and the patrons, they would not talk or expect nor ask such unreasonable things. If they would make this their motto: "Consistency," and "Do as you would be done by," and instil this into the minds of all the members—men, women and children of the Order—they would then have made one great stride in advance and have done more to keep themselves and the whole community out of the mire than any arrangement they will ever effect by buying their own goods, or getting them from the merchant at 12 per cent. advance on cost. This, to my mind, is a most unjust and unreasonable demand, and smacks as much of a "combine" as anything I ever heard of. Just think of it for a minute, and see if you can find any consistency? A community combines together, and they go to the merchants and say, you must sell us your goods at 12 per cent. advance over cost, and we must see your invoices. Ye gods! I wonder what this is but a combine? They ask the poor merchants to sign an agreement to this effect, and they are not bound in any way. With all sobriety and earnestness, this is absurd and unbusinesslike. For what man can invest his capital, pay freight, rent, taxes, insurances, allow for shrinkages, breakages, and make other necessary allowance, and get a living at 12 per cent., to say nothing at all about paying any interest on his capital invested? And, by the way, I would just like to know how many of the foolish merchants who have signed this foolish, one-sided agreement have any capital at stake, and are or can be ranked as among our foremost and best business men.

Again, would these "highly intelligent" individuals like to see their produce on the same

basis? If it costs them 75c. per bushel to raise wheat, with a crop of thirty to forty bushels per acre, would they like to sell it at, say 85c.? Why they would rise in rebellion. If it cost them 8c. to produce one pound of butter, how would they like to accept 9c. a pound for it? But if they went to the merchant and said: Sell us your goods at 12 per cent. advance on cost and we will give you all our produce on the same basis, then there would be some "consistency" in their business methods.

A writer in one of our daily papers, commenting on the reports in said paper of the convention lately held in London, among other things said:—

"Why, sir, the farmers belonging to this monstrously unjust society in the county of Monck have openly declared that they would crush out the merchants of Dunville! And in Haldimand one of them the other day said they were going to 'do away with the commercial traveller and his top buggy, and make them work as they (the farmers) did.' As a traveller, let me tell that man that we work every bit as hard as they do, and put in from three to six hours a day more than they. So short-sighted are these 'anti-combine' patrons that they cannot see that by endeavoring to kill off everyone's business but their own, they will, if successful (which is doubtful), kill themselves; for, if everyone is to be a producer, who will consume the surplus produced, and, if no surplus be produced, how can a community thrive? The fact is, the farmer has been spoiled and petted by the merchant until the former has become 'too big for his boots,' and the latter is perfectly frightened to take a firm stand."

There might be a great future in store, and great good could be done by this Order if only the right ideas and principles were inculcated and advanced. But this great future, or great good, will not result from the Order attempting to dictate to anyone at what price he must sell his goods to them. The Patrons of Industry cannot do all the business of the country, and they will find it out to their cost if not careful. Let them profit by some of the mistakes made by the Grange, and take warning. I am not by any means a very young man; have seen a good many of the "ups and downs" of life and of this world, and have been a pretty close observer of human nature and of the acts and attempts of business men to do all the business of the town or countryside, and I never yet saw one of these men start out with that end in view but came to grief sooner or later.

The farmer cannot do without the merchant and the middle man, any more than the merchant can do without the farmer. The one is dependent on the other. The farmer sells his produce wherever he can make the most, and has the right to buy his goods wherever he can get them the cheapest. The merchant has the right to get all he can for his goods, and ask whatever he thinks proper.

I have often heard a good business man and friend of mine, who has a very large business with the farmers of this county, remark to farmers when they came into his store with produce to sell, "It is my business to buy as cheap as I can; it is your business to get all you can. Go and get more than I offer you, and if you do it is all right, and I shall think none the less of you for so doing." This is the true business principle, and I wish there were more such men in the country.

The Wholesale Grange Supply Company.

The Wholesale Grange Supply Company of Toronto, is a farmers co-operative store and warehouse. As such, it has been doing business for a number of years, but not until the last few years has it been in a position to render really valuable service to farmers generally. Mr. Manning, the present manager, is a thoroughly good business man, and is giving excellent satisfaction to his customers. If any of our readers who have dealt with him have any reason to complain we will be pleased to hear from them. As yet we have not heard of a complaint. The company receive from farmers, and sell on commission, all kinds of produce. In this capacity they fill a very important place in bringing the producer and consumer more closely together. Farmers who wish to supply to city customers a fine grade of butter, eggs, apples or other produce, should write Mr. Manning for his terms for handling such. Supply him with good goods of even quality, and he will soon find the sender a permanent and growing market for all he or she can produce, and at better prices than the shipper could obtain by selling on the open market. We have in mind a farmer who ten years ago, commenced to ship his butter to a party in Toronto, and he tried to supply good butter packed to suit the trade, each year trying to improve his quality. Last season he received 35 cents per pound for all he could supply, and received an average return from each of his twenty cows of over \$80 per cow for the year. Those who have never lived in a city cannot imagine the difficulty citizens have to procure good butter, fresh eggs, or really good cheese. First-class produce of any kind is not easily obtained. There are hundreds of city buyers who would gladly give extra prices for fancy produce, but cannot obtain it. If farmers would produce fancy goods, and make a connection with some reliable house, they should receive much above the market price for their goods. It takes skill and a little patience to establish a market, but a rich harvest is reaped by those who persevere. Fancy packages of all sorts of farm produce are in strong demand in all cities. If a commission merchant cannot procure a good market for a careful patron he is not worthy of patronage.

The Grange Wholesale Supply Company besides receiving and selling all farm produce on commission, sell farmers' supplies of all sorts. The manager, under date of October 21st, wrote us:—

"Our trade in September was over two thousand ahead of last September, and more than any month for over two years. Our main lines are boots and shoes, single harness, groceries, grey flannels, guernseys, woollens, cottons, cottonades and shirtings and tweeds. No fine dry goods at all.

After much consideration and numberless requests and enquiries, we have made arrangements to handle all the grain that farmers see fit to consign to us this season, and we hope to have their hearty co-operation and support. We shall do our best to merit their favor. As we are a company owned and controlled entirely by farmers, and carried on in the interests of farmers, we will not handle grain for any but farmers. Prospects are fair for good prices.

SHIPPING DIRECTIONS TO OUR PATRONS IN MANITOBA AND THE NORTHWEST.

We have freight bill made out to Grange Wholesale Supply Co. (Ltd.), to hold at North Bay for further orders. Forward freight bill, with Government Inspector's grade, to us, and we will remit you at once one-half the value of the consignment and the balance, with full statement of sale, as soon as sold. It usually takes from two to six weeks to make complete returns. Where it is impossible to get inspector's grade of car, send us a just and fair sample out of the car with freight bill, being careful to put number of car on sample sent us. Our commission will be one cent per bushel. We solicit farmers orders for such dry goods as we supply, also teas, sugars and other groceries, boots and shoes, hardware, patent medicines, harness, horse blankets, etc., etc. It will pay farmers to deal with us direct."

We would advise our readers to write Mr. R. Y. Manning for price list and particulars. Address, WHOLESALE GRANGE SUPPLY CO., Toronto, Ont.

DEAR SIR,—My appreciation of your journal as an advertising medium may perhaps be best emphasized by stating that it is the only journal whose columns I now use for advertising purposes. JOHN ABELL, manufacturer of traction and compound portable engines, threshing machines, mill machinery and boilers of every description, Toronto, Ont.

Provincial Ploughing Match.

The farmers of the county of Wellington, Ont., have for a number of years held a ploughing match under the auspices of their local association. This year their efforts have been assisted by the Agriculture and Arts Association, who make grants for this purpose to the different divisions, and during this season three districts have applied and received assistance. A field on the Experimental Farm was selected for the match held on the 22nd ult. The lands were laid out across the old furrows, which, in addition to a rather tender sod, made smooth work extremely difficult, especially for those holding ploughs with "high cut"; however, the ploughmen were well up in the art, and some capital work was performed.

The match included a class for long, high cutting ploughs, and four for jointer ploughs, the latter subdivided as follows:—First, open to men; second, to men that have not competed previously; third, to boys between seventeen and twenty-one; and fourth, to boys under seventeen years of age. There was also a class each for single and double sulky ploughs. Each class also had additional prizes for the best "feering," the best "finish," and for the "straightest ploughing." There was a gold medal given for the best ploughed land performed with a high cut walking or sulky plough, and a silver medal for the best ploughed land with a jointer plough. In all some sixty ploughs were in competition on the field. Twelve men competed in the class requiring "high cut," and most creditable work was performed, most of the ploughmen showing their skill by a well-set feering and nicely laid crowns, straight, even ploughing and good finish. In this class a number of imported Scotch ploughs were used. More useful, but not quite as ornamental was the work performed by jointer ploughs. These were in far the greatest numbers, and very neat, clean work was done in all the classes where these ploughs were used, the ploughman aiming to cut a shallow, narrow crease with the jointer, which effectually buried all appearance of grass in the furrow. Although not leaving the high "comb" they were well held, making an even and square cut, and left the furrows well set up. The jointer ploughs used were almost all the well-known Tolton plough, manufactured by the Tolton Bros., Guelph. The Sulky ploughs were exceedingly well managed, and did capital work. In "feering" and shaping the "crown" as well as in even, straight work they were close at the heels of the best performances with long walking ploughs. The work done with the ploughs manufactured by J. H. Groat, Grimsby; Macpherson, of London; and that of Tolton Bros., Guelph, was especially admired, the spectators taking the greatest interest in the work as it proceeded, and as the work on each land was drawing near the finish such crowds gathered on the headlands that the ploughmen often found the greatest difficulty in driving their teams out at the end of the furrow. It would effect a wonderful improvement in this department of farm work if these matches were more frequently held, and each county at least should be able to support an annual match. Many of the ploughmen of our country have never seen a match, and many of them do not know how the best work should be done. Ploughing generally is not nearly as well performed since the matches have declined. A large share of the success of the match is due to Mr. J. E. Storey, the Agricultural College farm foreman, as he was most active in making the necessary arrangements.

Toronto Industrial Exhibition Prize List.

POULTRY.

Class 59. Largest and best collection made by one exhibitor in Sections 1 to 38 in classes 58 and 60—Allan Bogue, silver medal. Largest and best collection made by one exhibitor in Sections 51 to 98—Wm McNeil, silver medal. Largest and best collection of Ornamental Bantams—Richd Oke, silver medal. Best collection made by one exhibitor in class for Pigeons—Maplewood Columbarry, Toronto, silver medal. Class 60. BRAHMAS—Dark, Cockerel—1, E J Otter; 2, John Miles; 3, Allan Bogue. Pullet—1, E J Otter; 2, John Miles; 3, Allan Bogue. Light, Cockerel—1 and 3, J H Paton; 2, John Cole. Pullet—1, John Cole; 2, Chas Jackson; 3, J H Paton. COCHINS—Buff, Cockerel—1 and 3, Geo G McCormick; 2, C H Hall & Co. Pullet—1 and 3, Geo G McCormick; 2, C H Hall & Co. Partridge, Cockerel—1, C J Daniels; 2, Wm Gough; 3, Thos Brown. Pullet—1, Wm McNeil; 2, Allan Bogue; 3, J D Robertson. Guelph, Cockerel—1, Wm McNeil; 2, Allan Bogue; 3, J D Robertson. Black, Cockerel—1, Wm McNeil; 2, Allan Bogue; 3, Henry Hett, Berlin. Pullet—1, Wm McNeil; 2, Allan Bogue. LANGSHANS—Cockerel—1, C J Daniels; 2, E McCormick, Newmarket; 3, C H Hall & Co. Pullet—1, C J Daniels; 2, E McCormick; 3, George Hope & Son. DORKINGS—Colored, Cockerel—1, Allan Bogue; 2, C H Hall & Co. Silver Grey, Cockerel—1, C H Hall & Co. Pullet—1, Allan Bogue; 2, C H Hall & Co. White, Cockerel—1 and 3, Allan Bogue. HOUDANS—Cockerel—1 and 2, Allan Bogue; 3, A Hobbs, Bowmanville. Hen—1, J M Hern; 2 and 3, Allan Bogue. LEFLECHE—Cockerel—1, Richard Oke, London; 2, W M & J C Smith, Fairfield Plains. Hen—1, Richard Oke; 2, W M & J C Smith. CREVE COURS—Cockerel—1, Richard Oke; 2, W M & J C Smith. Hen—Richard Oke. WYANDOTTES—Black or White, Cockerel—1 and 2, Geo G McCormick; 3, John Gray, Todmorden. Hen—1 and 2, Geo G McCormick; 3, John Gray, Silver Laced, Cockerel—1, A G H Luxton, Hamilton; 2, Perfection Fanciers' Club, Dunnville; 3, J E Meyer, Kossuth. Hen—1 and 2, J E Meyer; 3, Perfection Fanciers' Club, Golden Laced, Cockerel—1, C J Daniels, Toronto; 2, F R Woods, Toronto. Hen—1, C J Daniels; 2 and 3, Sydney A W Taunt, Toronto. PLYMOUTH ROCKS—Cockerel—1, Perfection Fanciers' Club; 2, Allan Bros; 3, Norman McLeod, London. Hen—1, J E Bennett, Toronto; 2, Alfred Hobbs; 3, Perfection Fanciers' Club, White, Cockerel—1, H H Wallace, Woodstock; 2, Allan Bros; 3, Leon G Pequegnat, New Hamburg. Hen—1, H H Wallace; 2, Allan Bros; 2, Perfection Fanciers' Club. DOMINIQUE—Cockerel—Wm McNeil. Hen—Wm McNeil. GAME—Black Red, Cockerel—1 and 2, Jas Main, Milton West; 3, W Barber & Co, Toronto. Hen—1, Jas Main; 2 and 3, W Barber & Co. Brown Red, Cockerel—1 and 2, E F Doty, Toronto. Hen—1 and 2, E F Doty; 3, G E Manson, Toronto. Duckwing, Cockerel—1 and 2, W Barber & Co. Hen—1 and 2, W Barber & Co; 3, Ferdinand Troth, Pyle, Cockerel—1, W Barber & Co; 2, Chamberlain Bros, Pyle. Cockerel—1, E F Doty; 2, Chamberlain Bros, Pyle. Cockerel—1, E F Doty; 2, Chamberlain Bros, Pyle. Cockerel—1, E F Doty; 2, Chamberlain Bros, Pyle. Cockerel—1, E F Doty; 2, Chamberlain Bros, Pyle. HAMBURGS—Black, Cockerel—1, Wm McNeil; 2, R Oke; 3, Walter Patterson, Jr. Pullet—1, R Oke; 2 and 3, Walter Patterson, Jr. Golden Spangled, Cockerel—1, Wm McNeil; 2, Allan Bogue; 3, Wm McNeil. Silver Spangled, Cockerel—1, Wm McNeil; 2, Allan Bogue; 3, Wm McNeil. Silver Spangled, Cockerel—1, R Oke; 2, Wm McNeil; 3, A Bogue. Pullet—1, R Oke; 2, Wm McNeil; 3, Holmes & Gammage. RED CAPS—Cockerel—1 and 3, C J Daniels; 2, Jas P Jameson. Hen—1 and 2, C J Daniels; 3, Jas P Jameson. JAVAS—Black, Cockerel—1, C J Daniels; 2, W R Knight, Bowmanville; 3, J D Robertson, Guelph. Hen—1, J D Robertson; 2, C J Daniels; 3, W R Knight. Any other variety, Cockerel—3, A G H Luxton, Hamilton. Hen—2, A G H Luxton. LEGHORNS—White, Cockerel—1, Thos Rice, Whitby; 2, Holmes & Gammage; 3, C H Hall & Co. Hen—1, Thos Rice; 2, A W Graham, St Thomas; 3, Holmes & Gammage. Brown, Cockerel—1, John Pletsch, Shakespeare; 2, Thos Rice; 3, Thos Power, Rose Comb, Brown, Hen—Mrs A Waddell, Angus. White, Hen—1 and 2, Walter Patterson, Jr. Pullet—1 and 2, Alex Ding-Bache, Toronto. Black, Cockerel—1, John Pletsch; 2, Alex Ding-Bache, Toronto; 3, Chas F Johnston, Milton. Hen—1, John Pletsch; 2, Chas F Johnston; 3, E J Otter, Todmorden. SPANISH—Cockerel—1 and 2, F C Hare, Whitby; 3, H Cathbertson, Toronto. Hen—1, A G H Luxton; 2, John G Ford, Milton; 3, F C Hare. ANDALUSIANS—Cockerel—1, A G H Luxton; 2, W R Knight, Toronto; 3, W R Knight; 2, W H Duffan, Jr., Bowmanville; 3, C Stockwell, London. MINORCAS—Black, Cockerel—1, Geo G McCormick; 2, Thos A Duff; Toronto; 3, Frank R Webber; 3, T A Duff, White, Hen Laing, Milton; 2, Frank R Webber; 3, T A Duff, White, Hen Laing, Milton; 2, Geo Robins, Malvern; 3, Geo Laing. POLANDS—White Crested, Black, Cockerel—1, Wm McNeil; 2, Allan Bogue. Hen—1, Wm McNeil; 2, Allan Bogue. White, Cockerel—1, Wm McNeil; 2, Allan Bogue; 3, A G H Luxton. Hen—1, Wm McNeil; 2, Allan Bogue; 3, A G H Luxton. Silver, Cockerel—1, Wm McNeil; 2, Allan Bogue. Hen—1, Allan Bogue; 2, Wm McNeil. Golden, Cockerel—1, Wm McNeil; 2, Allan Bogue. Hen—1, Allan Bogue; 2, Wm McNeil. Buff Laced, Cockerel—1 and 2, Wm McNeil. Hen—1, Wm McNeil; 2, Allan Bogue. Any color, unbarred, except White Cockerel—1, Allan Bogue; 2, Wm McNeil. Hen—1, Wm McNeil; 2, Allan Bogue. Any other variety fowl, Cockerel—1, Chas S Jackson; 2, Richard Oke; 3, E McCormick, Hen—1, Richard Oke; 2, Wm McNeil; 3, E McCormick. BANTAMS—Game, Black Red, Cockerel—1, E F Doty; 2, A Murchison, Toronto; 3, Wm Henderson, Toronto. Hen—1; and 2, W Barber & Co; 3, E F Doty. Duckwing, Cockerel—1, W Barber & Co; 2, A Carwardine, Toronto; 3, E F Doty. Hen—1 and 2, W Barber & Co; 3, E F Doty. Pyle, Cockerel—1 and 2, W Barber & Co; 3, E F Doty. Hen—1 and 2, W Barber & Co; 3, A Murchison. Rose Comb, Black, Cockerel—1, Wm McNeil; 2, Richard Oke. Hen—1, Richard Oke; 3, Wm McNeil. BANTAMS—Golden Seabright, Cockerel—1, Wm McNeil; 2, R Oke; 3, O'Brien & Colwell. Silver Seabright, Cockerel—1, Richd Oke; 2, Wm McNeil. Hen—1, R Oke; 2, Wm McNeil; 3, C R Bache. Japanese, Cockerel—1, R Oke; 2, Wm McNeil. Hen—1, R Oke; 2, Wm McNeil; 3, W M & J C Smith. Hen—1, Wm McNeil; 2, Richard Oke; 3, R Butwell, Toronto. Polish, Cockerel—1 and 2, R Oke. Hen—1 and 2, R Oke. Any other variety, Game or Ornamental, Cockerel—1, R Oke; 2, C J Daniels. Hen—1, C J Daniels; 2, R Oke. Best Black Red Game Cockerel owned and bred by the exhibitor in the Dominion of Canada—James Main.

Class 61. Brahmans, best breeding pen of 1 male and 3 females—1, Jas Penny; 2, C H Hall & Co. Cochins, best breeding pen of 1 male and 3 females—1, Geo G McCormick; 2, C H Hall & Co. Langshans, best breeding pen of 1 male and 3 females—1, E McCormick, Newmarket; 2, E J Elslele, Guelph. Dorkings, best breeding pen of 1 male and 3 females—C H Hall & Co. Plymouth Rocks, best breeding pen of 1 male and 3 females—1, Robert Downes; 2, C H Hall & Co. Game, best breeding pen of 1 male and 3 females—1, W Barber & Co; 2, Holmes & Gammage. Hamburgs, best breeding pen of 1 male and 3 females—1, Wm McNeil; 2, A G H Luxton. Leghorns, best breeding pen of 1 male and 3 females—1, Wm Cole; 2, Wm Fendley.

Family Circle.

Epitaph upon a Poor Woman that was Ster- nally Tired.

Here lies a poor woman as always was tired; She lived in a house where help wasn't hired. Her last words were "Friends, fare ye well, I'm a goin' To where there's no bakin', nor washin' nor sewin'; Then grieve not, my friends, since from you I must sever, For I'll have a nice time, doin' nothin' forever.

Oh! everything there is exact to my wishes, For where they don't eat there's no washing of dishes; And the courts with sweet an' them eternally ringin', But havin' no voice, I'll get rid of the singin'. She folded her hands with her latest endeavor, Crying, "Nothin', dear nothin', sweet nothin' forever!"

TWO OLD LOVERS.

BY MARY E. WILKINS.

Leyden was emphatically a village of cottages, and each of them built after one of two patterns; either the front door was on the right side, in the corner of a little piazza extending a third of the length of the house, with the main roof jutting over it, or the piazza stretched across the front, and the door was in the centre.

The cottages were painted uniformly white, and had blinds of a bright spring green color. There was a little flower garden in front of each; the beds were laid out artistically in triangles, hearts, and rounds, and edged with box; boys' love, sweet williams, and pinks were the fashionable and prevailing flowers.

There was a general air of cheerful though humble prosperity about the place, which it owed, and indeed its very existence also, to the three old weather-beaten boot and shoe factories which arose stately and importantly in the very midst of the natty little white cottages.

Years before, when one Hiram Strong put up his three factories for the manufacture of the rough shoe which the workman of America wears, he hardly thought he was also gaining for himself the honor of founding Leyden. He chose the site for his buildings mainly because they would be easily accessible to the railway which stretched to the city, sixty miles distant. At first the workmen came on the cars from the neighboring towns, but after a while they became tired of that, and one after another built for himself a cottage, and established his family and his household belongings near the scene of his daily labors. So gradually Leyden grew. A built his cottage like C, and B built his like D. They painted them white, and hung the green blinds, and laid out their flower bed in front and their vegetable beds at the back. By and by came a church and a store and a post office to pass, and Leyden was a full-fledged town.

That was a long time ago. The shoe factories had long since passed out of the hands of Hiram Strong's heirs; he himself was only a memory on the earth. The business was not quite as wide-awake and vigorous as when in its first youth; it droned a little now; there was not quite so much bustle and hurry as formerly. The factories were never lighted up of an evening on account of overwork, and the workmen found plenty of time for pleasant and salutary gossip over their cutting and pegging. But this did not detract in the least from the general cheerfulness and prosperity of Leyden. The inhabitants still had all the work they needed to supply the means necessary for their small comforts, and they were contented. They too had begun to drone a little like the factories. "As slow as Leyden" was the saying among the fast-going towns adjoining theirs. Every morning at seven the old men, young men, and boys, in their calico shirt sleeves, their faces a little pale—perhaps from their indoor life—filed unquestioningly out of the back doors of the white cottages, treading still deeper the well-worn foot paths stretching around the sides of the houses, and entered the factories.

They were great, ugly wooden buildings, with wings which they had grown in their youth jutting clumsily from their lumbering shoulders. Their outer walls were black and grimy, streaked and splashed and patched with red paint in every variety of shade, accordingly as the original hue was tempered with smoke or the beatings of the storms of many years.

The men worked peacefully and evenly in the shoe shops all day; and the women stayed at home and kept the little white cottages tidy, cooked the meals, and washed the clothes, and did the sewing. For recreation the men sat on the piazza in front of Barker's store of an evening, and gossiped or discussed politics; and the women talked over their neighbor's fences, or took their sewing into their neighbor's of an afternoon.

People died in Leyden as elsewhere; and here and there was a little white cottage whose narrow foot-path leading round to its back door its master would never tread again.

In one of these lived Widow Martha Brewster and her daughter Maria. Their cottage was one of those which had its piazza across the front. Every summer they trained morning-glories over it, and planted their little garden with the flower seeds popular in Leyden. There was not a cottage in the whole place whose surroundings were neater and gayer than theirs, for all they were only two women,

and two old women at that; for Widow Martha Brewster was in the neighborhood of eighty, and her daughter Maria Brewster, near sixty. The two had lived alone since Jacob Brewster died and stopped going to the factory, some fifteen years ago. He had left them this particular white cottage, and a snug little sum in the savings-bank besides, for the whole Brewster family had worked and economized all their long lives. The women had corded boots at home, while the men had worked in the shop, and never spent a cent without thinking of it over-night.

Leyden folks all thought that David Emmons would marry Maria Brewster when her father died. "David can rent his house, and go to live with Maria and her mother," said they, with an affectionate readiness to arrange matters for them. But he did not. Every Sunday night at eight o'clock punctually, the form of David Emmons, arrayed in his best clothes, with his stiff white dickey, and a nose-peg in his button-hole, was seen to advance up the road towards Maria Brewster's, as he had been seen to advance every Sunday night for the last twenty-five years, but that was all. He manifested not the slightest intention of carrying out people's judicious plans for his welfare and Maria's.

She did not seem to pine with hope deferred; people could not honestly think there was any occasion to pity her for her lover's tardiness. A cheerier woman never lived. She was literally bubbling over with jollity. Round-faced and black-eyed, with a funny little bounce of her whole body when she walked, she was the merry feature of the whole place.

Her mother was now too feeble, but Maria still corded boots for the factories as of old, David Emmons, who was quite sixty, worked in them, as he had from his youth. He was a slender, mild-faced old man, with a fringe of grey yellow beard around his chin; his head was quite bald. Years ago he had been handsome, they said, but somehow people had always laughed at him a little, although they all liked him. "The slowest of all the slow Leydenites" outsiders called him, and even the "slow Leydenites" poked fun at this exaggeration of themselves. It was an old and well-worn remark that it took David Emmons an hour to go courting, and that he was always obliged to leave his own home at seven in order to reach Maria's at eight, and there was a standing joke that the meeting-house passed him one morning on his way to the shop.

David heard the chaffing of course—there is very little delicacy in matters of this kind among country people,—but he took it all in good part. He would laugh at himself with the rest, but there was something touching in his deprecatory way of saying sometimes, "Well, I don't know 'tis, but it don't seem to be in my nature" to do any other way I suppose I was born without the faculty of gittin' along quick in this world. You'll have to git behind and push me a leetle, I reckon."

He owned his little cottage, which was one of the kind which had the piazza on the right side. He lived entirely alone. There was a half-acre or so of land besides his house, which he used for a vegetable garden. After and before shop hours, in the dewy evenings and mornings, he dug and weeded assiduously between the green ranks of corn and beans. If David Emmons was slow, his vegetables were not. None of the gardens in Leyden surpassed his luxuriant growth. His corn tasselled out and his potato patch was white with blossoms as soon as anybody's.

He was almost a vegetarian in his diet; the products of his garden spot were his staple articles of food. Early in the morning would the gentle old bachelor set his pot of green things boiling, and dine gratefully at noon, like mild Robert Herrick, on pulse and herbs. His garden supplied also his sweetheart and her mother with all the vegetables they could use. Many times in the course of a week could David have been seen slowly moving towards the Brewster cottage with a basket on his arm well stocked with the materials for an innocent and delicious repast.

But Maria was not to be outdone by her old lover in kindly deeds. Not a Saturday but a goodly share of her weekly baking was deposited, neatly covered with a white crash towel, on David's little kitchen table, the surreptitious air with which the back-door key was taken from its hiding-place (which she well knew) under the kitchen blind, the door unlocked and entered, and the good things deposited, was charming, although highly ineffectual. "There goes Maria with David's baking," said the women, peering out of their windows as she bounced, rather more gently and cautiously than usual, down the street. And David himself knew well the ministering angel to whom these benefits were due when he lifted the towel and discovered with fearful eyes the brown loaves and flaky pies—the proofs of his Maria's love and culinary skill.

Among the younger and more irreverent portions of the community there was considerable speculation as to the mode of courtship of these old lovers of twenty-five years' standing. Was there ever a kiss, a tender clasp of the hand, those usual expressions of affection between sweethearts?

Some of the more daring spirits had even gone so far as to commit the manifest impropriety of peeping in Maria's parlor windows; but they had only seen David sitting quiet and prim on the little slippery horse-hair sofa, and Maria by the table, rocking slowly in her little cane-seated rocker. Did Maria ever leave her rocker and sit on that slippery horse-hair sofa by David's side? They never knew; but she never did. There was something laughable, and at the same time rather pathetic, about Maria and David's courting. All the out-

ward appearances of "keeping company" were as rigidly observed as they had been twenty-five years ago, when David Emmons first cast his mild blue eyes shyly and lovingly on red-cheeked, quick-spoken Maria Brewster. Every Sunday evening, in the winter, there was a fire kindled in the parlor, the parlor lamp was lit at dusk all the year round, and Maria's mother retired early, that the young people might "sit up." The "sitting up" was no very formidable affair now, whatever it might have been in the first stages of the courtship. The need of sleep overbalanced sentiment in those old lovers, and by ten o'clock at the latest Maria's lamp was out, and David had wended his solitary way to his own home.

Leyden people had a great curiosity to know if David had ever actually popped the question to Maria, or if his natural slowness was at fault in this as in other things. Their curiosity had been long exercised in vain, but Widow Brewster, as she waxed older, grew loquacious, and one day told a neighbor, who had called in her daughter's absence, that "David had never reely come to the pint. She supposed he would some time; for her part, she thought he had better; but then, after all, she knowed Maria didn't care, and may be 'twas jest as well as 'twas, only sometimes she was afraid she should never live to see the weddin' if they wasn't spry." Then there had been hints concerning a certain pearl-colored silk which Maria, having a good chance to get at a bargain, had purchased some twenty years ago, when she thought, from sundry remarks, that David was coming to the point; and it was further intimated that the silk had been privately made up ten years since, when Maria had again surmised that the point was about being reached. The neighbor went home in a state of great delight, having by skilful maneuvering actually obtained a glimpse of the pearl-colored silk.

It was perfectly true that Maria did not lay David's tardiness in putting the important question very much to heart. She was too cheerful, too busy, and too much interested in her daily duties to fret much about anything. There was never at any time much of the sentimental element in her composition, and her feeling for David was eminently practical in its nature. She, although the woman had the stronger character of the two, and there was something rather mother-like than lover-like in her affection for him. It was through the protecting care which chiefly characterized her love that the only pain to her came from their long courtship and postponement of marriage. It was true that, years ago, when David had led her to think, from certain hesitating words spoken at parting one Sunday night, that he would certainly ask the momentous question soon, her heart had gone into a happy flutter. She had bought the pearl-colored silk then.

Years after, her heart had fluttered again, but a little less wildly this time. David almost asked her another Sunday night. Then she had made up the pearl-colored silk. She used to go and look at it fondly and admiringly from time to time; once in a while she would try it on and survey herself in the glass, and imagine herself David's bride—a faded bride, but a happy and a beloved one.

She looked at the dress occasionally now, but a little sadly, as the conviction that she should never wear it was forcing itself upon her more and more. But the sadness was always more for David's sake than her own. She saw him growing an old man, and the lonely, uncared-for life that he led filled her heart with tender pity and sorrow for him. She did not confine her kind offices to the Saturday baking. Every week his little house was tidied and set to rights, and his mending looked after.

Once, on a Sunday night, when she spied a rip in his coat, that had grown long from the want of womanly fingers constantly at hand, she had a good cry after he had left and she had gone into her room. There was something more pitiful to her, something that touched her heart more deeply, in that rip in her lover's Sunday coat than in all her long years of waiting.

As the years went on, it was sometimes with a sad heart that Maria stood and watched the poor lonely old figure moving slower than ever down the street to his lonely home; but the heart was sad for him always, and never for herself. She used to wonder at him a little sometimes, though always with the most loyal tenderness, that he should choose to lead the solitary, cheerless life that he did, to go back to his dark, voiceless home, when he might be so sheltered and cared for in his old age. She firmly believed that it was only owing to her lover's incorrigible slowness, in this as in everything else, she never doubted for an instant that he loved her. Some women might have tried hastening matters a little themselves, but Maria, with the delicacy which is sometime more inherent in a steady, practical nature like hers than in a more ardent one, would have lost her self-respect for ever if she had done such a thing.

So she lived cheerfully along, corded her boots, though her fingers were getting stiff, humored her mother, who was getting feebler and more childish every year, and did the best she could for her poor, foolish old lover.

When David was seventy, and she sixty-eight, she gave away the pearl-colored silk to a cousin's daughter who was going to be married. The girl was young and pretty and happy, but she was poor, and the silk would make over into a grander wedding dress for her than she could hope to obtain in any other way.

Poor old Maria smoothed the lustrous folds fondly with her withered hands before sending it away, and cried a little, with a patient pity for David and herself. But when a tear splashed directly on the shining surface of the silk, she stopped crying at

once, and her sorrowful expression changed into one of careful scrutiny as she wiped the salt drop away with her handkerchief, and held the dress up to the light to be sure that it was not spotted. A practical nature like Maria's is sometimes a great boon to its possessor. It is doubtful if anything else can dry a tear as quickly.

Somehow Maria always felt a little different towards David after she had given away her wedding dress. There had always been a little tinge of consciousness in her manner towards him, a little reserve and caution before people. But after the wedding dress had gone, all question of marriage had disappeared so entirely from her mind, that the delicate considerations born of it vanished. She was uncommonly hale and hearty for a woman of her age; there was apparently much more than two years' difference between her and her lover. It was not only the Saturday's bread and pie that she carried now and deposited on David's little kitchen table, but, openly and boldly, not caring who should see her, many a warm dinner. Every day, after her own housework was done, David's house was set to rights. He should have all the comforts he needed in his last years, she determined. That they were his last years was evident. He coughed, and now walked so slow from feebleness and weakness that it was a matter of doubt to observers whether he could reach Maria Brewster's before Monday evening.

One Sunday night he stayed a little longer than usual—the clock struck ten before he started. Then he rose, and said, as he had done every Sunday for so many years, "Well Maria, I guess its about time for me to be goin'."

She helped him on with his coat, and tied on his tippet. Contrary to his usual habit he stood in the door, and hesitated a minute—there seemed to be something he wanted to say.

"Maria."

"Well, David?"

"I'm gittin' to be an old man, you know, an' I've allers been slow-goin'; I couldn't seem to help it. There has been a good many things I haven't got around to." The old cracked voice quivered painfully.

"Yes, I know, David, all about it; you couldn't help it. I wouldn't worry a bit about it if I were you."

"You don't lay up anything agin me, Maria?"

"No, David."

"Good-night, Maria."

"Good-night, David. I will fetch you some boiled dinner to-morrow."

She held the lamp at the door till the patient, tottering old figure was out of sight. She had to wipe the tears from her spectacles in order to see to read her Bible when she went in.

Next morning she was hurrying up her housework to go over to David's—somehow she felt a little anxious about him this morning—when there came a loud knock at her door. When she opened it, a boy stood there, panting for breath; he was David's next neighbor's son.

"Mr. Emmons is sick," he said, "an' wants you. I was goin' for milk, when he rapped on the window. Father an' mother's in thar, an' the doctor. Mother said, tell you to hurry."

The news had spread rapidly; people knew what it meant when they saw Maria hurrying down the street, without her bonnet, her grey hair flying. One woman cried when she saw her, "Poor thing!" she sobbed, "poor thing!"

A crowd was around David's cottage when Maria reached it. She went straight in through the kitchen to his little bedroom, and up to his side. The Doctor was in the room, and several neighbors. When he saw Maria, poor old David held out his hand to her and smiled feebly. Then he looked imploringly at the doctor, then at the others in the room. The doctor understood, and said a word to them, and they filed silently out. Then he turned to Maria. "Be quick," he whispered.

She leaned over him. "Dear David," she said, her wrinkled face quivering, her gray hair straying over her cheeks.

He looked up at her with a strange wonder in his glazing eyes. "Maria"—a thin, husky voice, that was more like a wind through dry corn stalks, said—"Maria, I'm—dyin' an'—I allers meant to—have asked you—to—marry me."

Things Worth Knowing.

Clean piano keys with a soft rag dipped in alcohol.

To clean a black silk dress, use a sponge dipped in strong, black tea, cold.

Take egg stains from silver by rubbing with a wet rag which has been dipped in common table salt.

To clean a teakettle, take it away from the fire and wash off with a rag dipped in kerosene, followed by a rubbing with a dry flannel cloth.

To clean ceilings that have been blackened by smoke from a lamp, wash off with rags that have been dipped in soda water.

To mend cracks in stoves and stovepipes, make a paste of ashes and salt with water, and apply. A harder and more durable cement is made of iron filing, sal ammoniac and water.

Minnie May's Dep't.

MY DEAR NIECES:—

Our sons are the objects of our thoughts and cares just as much as our daughters, but we sometimes treat them as if they were not, for we think anything will do for the boys. No, it will not; they are just as susceptible to nice surroundings when they are growing as girls are, and this sense of refinement is too often blunted by the sort of treatment they receive at home. Too often a boy is given a room to sleep in and nothing like an appearance of comfort about it. It is not necessary to have his room as dainty as his sister's, but it should be quite as comfortable a room, however small, to call his own, with the necessary pieces of furniture and a bright, cheerful appearance. Let him add his own bookshelves, or what he likes best in his own handiwork to beautify it; insist upon him keeping it tidy, and give him a lamp to call his own, and a little holder for matches. Even such small things will give a boy a sense of independence that nothing else will. This lamp can be cleaned and put in its place when his room is tidied up in the morning, then when study time comes there will be no grumbling requests for a lamp, or a deliberate walking off with the one before which his sister is studying. This room will become a delightful possession to him, and he will ask his companions to come to it, and many a happy hour can be so passed. See that heat enough is secured to make it comfortable, so the time occupied with study need not be divided between it and keeping his fingers warm. You will be well repaid for any little trouble you take for this room by listening to the cheery whistling or merry song when he is happiest. The corner store and village tavern or neighboring barn will lose all their attractions to this lover of home, as he will surely become. And when we think, my dear nieces, how much we can do with so little outlay, the wonder is, Why have we not done more? Keep his clothes neatly mended. Do not ask your boy to face his schoolmates with an enormous patch upon some conspicuous part of his clothing, or an exaggerated darn on the knee of his knickerbocker stocking of another color, when the hole could have been so neatly knitted up. Teach him to keep his nails and teeth brushed. Soap and water is so cheap, and all these little things are educators towards refinement, without which no man is a success. If your boy is fond of animals (and what healthy boys are not?) let him have his pets. Do not growl at him if he wants a little pen to keep two rabbits in or a corner of the hay loft for some pigeons; think how you would have appreciated such things when you were his age, but were not allowed to have them, and do not refuse just because you never were so indulged; rather profit by experience, and your son will love you all the more. Pay him for small extra things he does—feeding the dog or cat, catching mice or rats, feeding poultry or catching vermin, such as weasels, which often devastate your poultry house; and when he sets his heart upon spending his earnings for a book or a new cap do not forbid; you might gently advise, but experience will soon teach him how to spend it more judiciously. Encourage him to bring his associates home with him. What if they do eat a meal with you? You will never be the poorer for it, and your boy will feel increased faith and

freedom in his home. It is this restriction upon boys that too often sends them away after doubtful companionship. Then parents realize too late that their severity with their boys has driven them from their homes.

How much can a boy's sisters help in this good work? All the small comforts of our homes depend upon you, my dear girls. When a brother comes to you for sympathy give it to him, and any kind-hearted sister need not be told how and when and where to help her little brother. Such men as come from homes where kind treatment is the rule will face the world with a fearlessness and pluck that boys can never muster where severity ruled.

MINNIE MAY.

P. S.—Minnie May offers a prize of \$2.00 for the best essay on "Lights and Shadows of Country Life". All communications to be in our office by the 18th of December.

How to Hang a Picture.

Never put a sombre-colored picture in the shade. Put it where the light will fall upon it. Between two windows place pictures with light back grounds that will stand out the more prominent by reason of their dark surroundings. Hang the big pictures first, in suitable positions, and group with smaller ones in two rows in between. Be careful that the pictures do not conflict in color. Use your own taste in this. It is impossible to give any brief rule on the subject. Hang the pictures on the level with the eye, unless they be, as some are, pictures which should be looked up to. Place small pictures in corners and alcoves. Over doors place large and unimportant canvases, anything that looks well. Water-colors may be hung on the same wall with oils when framed in gold, but not when framed in white. White margins on etchings and engravings don't go well with oils. The main light should be on the picture.

Dictionary Lore.

SOME COMMON MISTAKES IN PRONUNCIATION.

How many people are there who pronounce any proportion of their words correctly, not merely by reason of clipping and mouthing, but ignorance of good usage? We find them everywhere, and they lay the accent on the first instead of the second syllable of acclimate, for example: they pronounce the second syllable of acoustics coo instead of cow; they do not put the accent on the last syllable of adept, as they should do; they leave the u sound out of buoy; they pronounce duke with the sound of oo instead of with the simple long u; emphasize the first instead of the second syllable of enervate, and sound the t in often. They are astonished to know that precedence has the accent on the second syllable and placard on the last; that quay is called key; that sough is suf; that the z instead of the s sound is to be given in sacrifice, and the reverse in rise; that subtle and subtle are two different words; that the last syllable of tortoise is pronounced "tis" instead of tus; that it should be used and not ust; and that it is not the "zoo," but the zoological gardens where one goes to see the chimpanzee, and not the chimpanzee. It is quite time, we think, when we hear one of these talkers, for some of the fancy work and fancy studies of the day to be dropped, and a little hard work on the dictionary put in their place.

Recipes.

BAKED QUINCES.

Choose nice ripe quinces, wipe off the down with a damp towel; put into a baking pan, stems down, and bake until soft. Serve with cream and sugar.

QUINCE PUDDING.

Line a mould with light biscuit dough; fill up with pared and sliced quinces, and sugar to taste; cover with some of the dough, and steam for two hours. Serve with sweet sauce or cream.

QUINCE JELLY.

Cut ripe quinces in quarters without peeling; put into a preserving kettle and cover with cold water; boil until reduced to a pulp; strain through a colander, then through a jelly bag, and to every pound of juice add three-fourths of sugar; boil until it jellies, which may be ascertained by cooling a little in a saucer; fill into small pots and cover closely.

QUINCE PRESERVE.

Pare and core ripe fruit; weigh and put into a preserving kettle with the cores of the fruit, and boil until you can pierce them with a straw; lift from the kettle with a strainer, and lay upon a large dish, then strain the water free from the cores and seeds. Allow three-fourths of a pound of sugar for every pound of fruit; boil until it begins to thicken; add the boiled quarters of fruit; boil five minutes, and pour into four pound pots. If properly done the fruit should be a pale pink, and the jelly around them a ruby color.

SCOTCH SHORT-BREAD.

Weigh one pound of butter, beat it to a cream; then add two pounds of flour, and when this is well worked in add half a pound of sugar. Shape into round cakes, and bake in a slow oven.

ROAST PARTRIDGE.

Pick and singe carefully, leaving on the head and feet; when drawn tuck the head under one wing, cross the feet upon the thighs, secure them with string, and bake one hour. Serve with bread sauce or toasted crumbs, which are made as follows:—Take any pieces of stale bread or toast, and parch until it can be rolled in crumbs, then place in a pan on top of the stove, and stir until they are a nice brown; stir a piece of butter in about as large as a walnut, and garnish the partridge before sending to table by making a border around the dish of the crumbs.

A DAINTY DISH FROM AN OX CHEEK.

Cut the cheeks of an ox into square pieces; boil in sufficient water to cover them until soft; strain all the water off, and make a white sauce by adding half a cup of cream, and a teaspoon of corn starch to half a pint of boiling water, in which a spoonful of butter has been melted; put in the pieces of meat, and give one boil up, and serve with parsley around the dish, and a little grated nutmeg over.

The passing-bell was anciently rung for two purposes—one to bespeak the prayers of all good Christians for a soul just departing, the other to drive away the evil spirits who stood at the bed's-foot and about the house ready to seize their prey, or, at least, to molest and terrify the soul in its passage. By the ringing of that bell they were kept aloof, and the soul passed away, as they could not follow if a sound of a bell was heard.

Fashion Notes.

The many-hued materials for winter are bewildering in their variety. Large plaids, lovely and harmonious in tints, are among the best; but high prices prevail only with such as are double-width with a mixture of silk. An endless variety of plain goods as well are shown; and patterns in spots, stripes, figures and designs in endless variety.

Hats are smaller than ever, the largest proportion of them being in front, and feathers, flowers and ribbons, with ornaments of steel, jet, gold, silver, copper and tinsel are used in profusion. Any hat that becomes the wearer most should be adopted, for there is no prevailing style. Strings, even upon hats, are fashionable; and what looks prettier than a broad bow for a dainty chin to rest upon.

Bonnets are no less unique in style. Velvet seems to be the favored material, and all of them have it either shirred or puffed covering the shape. The shapes are very snug, fit the head well, and any face can be suited to a shape.

Veils seem to be in favor again, and the dainty black one holds its place as first favorite.

Whoever is not the lucky owner of a fur jacket has a large choice of cloaking to select from, and the shapes all incline to the short and half length; but no sensible woman who owned a comfortable wrap, coming well to the bottom of her dress, would alter the shape, or wish it otherwise, for they are exactly suited to our cold, stormy days of winter—they button to the feet and keep all the drapery snug and airtight.

In furs there is nothing more favored than others. A handsome suit of furs cannot be a yearly investment, so they come out of their camphor box as good as new, to be donned on chilly days, a box being particularly acceptable.

Gloves are to be had in all shades, and at all prices, and lucky is the woman who can afford a pair to match every toilette; but black is always lady-like, and wear longer than other colors.

For the little people the styles are so pretty and suitable, every mother can find just what she wants, whether for her baby or school-boy. The dressing gowns for wee ladies are very smart and comfortable.

New Uses for Blue-Jeans.

Many articles made now under the head of "fancy work," are often placed beyond the reach of "the general woman" because the materials used are so expensive.

Among these are plush, silk, velvet and linen—than which, common blue-jeans, at twelve and a-half or fifteen cents a yard, will bear more constant and rougher usage. Dust can easily be banished by a good brushing, and washing does not hurt it in the least.

Jeans worked in oak or maple leaf, or any bold, conventional designs now popular, with rope-linen or coarse embroidery silk, makes an artistic piece of work. The pretty effects it produces cannot be imagined until tried.

Foot cushions, sitting-room and library table covers, sewing machine covers, covers for worn-out chairs and stools for bedroom use are all pleasing, made of this material.

An unique crumb-cloth is made of it, with an eighteen-inch border of blue and white striped bed-ticking. Portieres made of blue jeans, outlined in white rope-linen, and finished with long corded tassels across the top, are charming in effect for bedroom doors, and used to conceal closets always useful, but often offending in appearance.

Who is that Old Jay?

A Chicago gentleman of wealth and position was walking upon one of the ultra-fashionable thoroughfares arm in arm with an old man who wore clothes that can only be purchased at a country store. He was one of those kind-faced vigorous old men, and the atmosphere around him suggested the scent of clover fields. In the vulgar parlance, he was a "jay." An acquaintance of the Chicago man, seeing him in company with this suburban individual, in a facetious manner asked: "Who is that old jay?" The following is the answer he received:—

Who is that old Jay? Well,
It won't take very long to tell.
Did I get him out of a grab bag? No;
I made his acquaintance years ago.
It was over there in the Huckleey State
That he and I became intimate;
By Jove! It's thirty five years to-day
Since I was introduced to that old Jay.

Yes, his whiskers are cut a little queer,
His clothes look rather awkward here.
There is a contrast between his and mine.
Well, style never was much in his line;
Yet somehow, I'm kind of fond of him.
Yes, I know he's a farmer, while I'm in "theswim."
I'm showing him all the sights to-day,
And having fun with that old Jay.

The first I remember of him, way back,
He whittled for me a jumping-jack,
I thought it the funniest kind of thing.
It was ecstasy to pull the string;
And then we'd sit by the big wood fire,
And he told me of David and Goliath;
I've spent many happy hours that way,
Being entertained by that old Jay.

Then I've often leaned on his good wife's knee,
And been told of Him from Galilee,
"Suffer little children to come unto me,
For of such is the Kingdom of Heaven," said He.
The gates of Heaven were opened wide,
And Jesus beckoned her to His side.
I shed many, n any swalding tears that day,
As I stood at her coffin with that old Jay.

Time flew fast and years rolled on,
A birthday came, I was twenty-one,
I thought life on the farm too slow,
So I determined that I would go
To some great city and be a swell;
The neighbors said I was going to—well,
Of course the neighbors would have their say,
But one had faith; it was that old Jay.

I left with his blessing and dollars, too,
That blessing was luck and the dollars grew
Heap upon heap until my fortune was made;
I owe it to him and the wise things he said.
I know he looks sort of awkward and queer,
But if it wasn't for him I wouldn't be here,
Let me introduce you. Oh! don't hurry away,
He is my father, is that dear old Jay.

—Chicago Herald.

The weight of a woman five feet high should be 100 lbs.; five feet one, 106 lbs.; five feet two, 112 lbs.; five feet three, 119 lbs.; five feet four, 130 lbs.; five feet five, 133 lbs.; five feet six, 144 lbs.; five feet seven, 150 lbs.; five feet eight, 155 pounds, and five feet nine, 163 lbs.

There are many strange superstitions connected with sweeping the house. In Suffolk the people say that after sweeping the room, the broom is accidentally left up in the corner, strangers will visit the house during the day, while others affirm in the northern counties that to sweep dust out of the house by the front door is equivalent to sweeping away the good fortune and happiness of the family. Care should be taken to sweep inwards, the dust being carried out in a basket or shovel, and then no harm will happen. Furthermore, the spider, which in daily life is little noticed except for its cobweb, the presence of which in a house generally betokens neglect, is by no means an unfriendly intruder. Although the servant oftentimes ruthlessly sweeps this uncared for little visitor from the wall, yet a common proverb reminds us that

"If you wish to live and thrive,
Let the spider run alive."

Ill-luck being supposed to quickly overtake those who kill, or even so much as injure it.

Our Illustration.

"Soft o'er the fountain ling'ring falls the silver moon.
Soft o'er the mountain breaks the day too soon."

It would be an index of character to hear the various comments on our illustration, as the *ADVOCATE* is taken up this month in our homes.

Beautiful pictures on memory's walls are stirred as we look on a beautiful landscape, or sunset, or any of the many beautiful pictures the Master painter paints for us. The leaves rustle in the sunlight and form a shifting picture on natural canvas, and the cloudy day seems to gather in richest beauties at the setting of the sun. To some the memories are deep and far buried in the past, as other scenes of moonlight and water and trees and church steeples are recalled by the picture, for as the scent of pressed flowers calls up faces of long ago, and the refrain of some old song stirs all the better feeling within us, and starts a train of thought, so do pictures call "old times to mind," friends far distant, lives grown cold, scenes of other days, and renews thoughts of the long-forgotten past. The trees wave on in majesty, the moonlight shines as of old, the waters shimmer just as beautifully as when we were young, and all seems to sleep on as it did years and years ago; but when our reverie is broken we have grown old; we soon shall pass away forever, while the stars shine on, and the wind blows, and the waters reflect the moonlight. K R. M.

Why is the world like a piano? Because it is full of sharps and flats.

Home Comforts.

Now the chilly nights are coming, and a little extra covering on the beds is very snug and warm, so many pretty and cheap comfortables can be made at home for half the cost of those

Your comfortable should measure two yards by two yards and a-half. Almost every house can supply a quilting frame, if not you can manage very well without, and as it is only the work of a few hours, the great table in the kitchen will

do, or you can do it on top of a large bed. Lay your cover smoothly and cover with cotton batting in lengths, evenly laid side by side; then another layer over them crosswise, lay on the other cover and baste around the edge; then tack at intervals of one foot in a row; the next row make the tackings come opposite the middle of the space between the others; still measure the twelve inches between. When you take the final tack stitch draw a little tuft of yarn or berlin wool down with it, and these little tufts will make your comfortable look very pretty. When all the tacking is in double in the outer edges and crotchet all around a button-hole stitch of the same color as your tufts. When finished you will have a very pretty, cheap and fashionable cover for your bed, which may be loosely rolled up lengthwise, across the foot of your bed in the daytime.

A pretty brush and comb bag is easily made by covering a piece of pasteboard with silk, plush or colored chintz, and lace over it. The pasteboard should be fifteen

inches long and twelve wide. Bring the two longest edges together, trim them with cord, and leave enough cord to hang it up by. Trim the ends with a frill of deep lace, and you will have a most convenient brush and comb holder.

Where can happiness always be found? In the dictionary.



OUR ILLUSTRATION.

PRIZE ESSAY.

Home Tailoring.

BY FANE HEWITT, BIRTLE, MAN.

I do not know but that it might be considered presumptuous for me with my limited knowledge of tailoring to attempt to write an essay on the subject, and especially as I have come to the conclusion, as far as my experience and observation go, that the least tailoring done at home the better. When, even for small boys, there are such nice, nobby, good and cheap suits to be had ready-made, it does not seem desirable for an over-worked mother or sister to worry themselves in an effort (often a vain one) to produce as good an article as can be made in an establishment where everything that is needed is at hand, and where trained labor is employed. I speak of over-worked women, because it is most frequently that class who feel it their duty to make and save all they can, not realizing how little often is saved. Those who have more leisure at their disposal generally have more money too, and would not think of troubling themselves with home tailoring. Then, in the case of larger boys and men, it seems very undesirable for any but those who have had special training in that department to attempt to fashion those garments so mysterious to the uninitiated, and we cannot but pity, in many cases, the youths and men who are obliged to wear such garments. But, as all rules have exceptions, there are many times when it is a clear saving to be able to make clothing for the boys. I will say nothing about men's suits, having no experience in that work. If a woman understands tailoring, and has time, or can make time without infringing on more important duties, all right; let her go ahead and make them, and it will, no doubt, be money in her pocket, that is, if her male relative should think it his duty to pay her; but very likely he would have something else to do with his money. In the case of small boys, there are many women who have good machines and who are very quick with their needle and handy in cutting suits from the many patterns which are to be had so cheap, and who take a real pleasure in planning and making pretty suits for their much loved little boys, and in such cases it is well for them to make them, even if it were no saving; but if a woman uses good judgment in the purchase of her material, it is, no doubt, much more economical under these circumstances to make the garments at home. In many families there are cast-off men's suits of good material, not much worn, and of a color and texture quite suitable for boys' clothing, and out of these, with a little trouble, really serviceable and handsome suits for small boys can be made, which often wear much better than new material of poorer quality. Of course, if one could dispose of the old suits for the value of a boy's suit it might be as well to do so; but a great many are not in reach of second-hand stores, and either have to give them away or make some use of them. In making over garments there is not much trouble with the trousers, but the coats are more difficult to manage; with the sleeves and back there is no trouble, but the fronts are trying on account of the pockets. By carefully ripping out the pockets and then neatly darning the hole together, sometimes laying a piece underneath and then pressing it well, a front can be cut so that the joins are scarcely observable, especially as

the pocket lapels may be placed so as to cover most of them; but in most cases it is better to cover them with three strips down the front as far as the belt on each side, and then by putting on outside pockets, and a belt from them to the front, very little of the join would be seen. In making these garments, I do not think it necessary to use all the linings and stayings that are given in the directions, but one must always be particular to get a good fit, and have the sleeves put in properly, with a little fullness, without any gathers at the top. Of course there is no objection in following the most particular directions, only to the inexperienced worker they are apt to give what we think a great deal of needless worry, and our idea is especially in making over garments to save all the labor possible, and, with that end in view, we have made over a good many trousers for boys of eleven or twelve in this way: Rip up the inside seam and then lay on the pattern, leaving the outside seam and pockets undisturbed. If the button holes on the fly are good, it and the other linings can be used by making them a little shorter. Then rip the band off at the back and cut off what is necessary, and after having sewed up the back seam, sew the band on again; shorten the pockets and draw the opening firmly together about half an inch. By making them in this way time and trouble are saved, both in ripping and making, and there are always plenty of pieces for patching. As an active boy requires a great many clothes to keep him in good form, I think it a good plan to always keep a good tailor-made suit for best, and making what other he requires out of old ones if you have them; if not, buy the new material. In conclusion, I have only to say that I knew nothing about tailoring till I had it to do, but gradually picked up the knowledge of making boys' clothing. I do not enjoy it, and have often had a great deal of trouble to get things made to suit, and sometimes have made comparative failures, but have always felt compensated even for a good deal of trouble and worry when a respectable outfit was the result, with no other cost than my own labor.

Our Library Table.

"Good Housekeeping," Springfield, Mass., \$2.40 a year. The October number presents a most tempting bill of fare, as all that most interests housekeepers is treated upon in its columns, from cooking to candy-making.

"The Homemaker," New York, \$2 per year, contains excellent family reading, as well as recipes, fashions, poetry and a number of other matters of interest.

"The Domestic Monthly," published in New York, \$1.50 a year, is up to the old standard of excellence. As a domestic magazine the number for October contains full instructions for dressing our little people prettily and economically.

"The Household," Boston, Mass., \$1 a year, is one of the very best of our home monthlies.

"The Ladies' Home Journal," Philadelphia, \$1 a year, is always a welcome guest. Well written, and beautifully illustrated, every page is of value to a busy mother.

A judicious silence is always better than truth spoken without charity.

The man who is invariably whistling does very little thinking, but he keeps other people thinking just the same.

Uncle Tom's Department.

As You Go Through Life.

Don't look for flaws as you go through life
And even when you find them,
It is wise and kind to be somewhat blind,
And look for virtue behind them;
For the cloudiest night has a hint of light
Somewhere in its shadows hiding;
It is better by far to hunt for a star
Than the spots on the sun abiding.

The current of life runs either way
To the bottom of God's great ocean;
Don't set your force 'gainst the river's course
And think to alter its motion.
Don't waste a curse on the universe—
Remember it lived before you;
Don't butt at the storm with your puny form,
But bend and let it go o'er you.

The world will never adjust itself
To suit your whims to the letter;
Some things must go wrong your whole life long—
And the sooner you know it the better.
It is folly to fight the infinite
And go under at last in the wrestle;
The wisest man shapes into God's plan,
As the water shapes into a vessel.

MY DEAR NIECES AND NEPHEWS:—

A November day with snow and mud and whistling wind, and feelings within corresponding in their dreariness to the world without, and what is more dreary? But there is not such a sad state of affairs in the hearts of my merry girls and boys; and as the ills of life beset you on the journey of life it need not be so, if "do right, and fear not" be your motto. There are, to boys and girls, to men and women, the sad days of "wailing winds," and meadows "brown and sear." It is your part, then, my dear children—yours, who are the sunshine of the home—to brighten the long, dull days with bright smiles and pleasant faces as you draw around the glowing fire, with curtains drawn. When the lessons are done, and the family chat or song goes round; when mother pities the wanderer as she thinks of the homeless ones; and father, coming in with his lantern from the stable, says its a bitter night. Too much of the world's wealth or happiness tends to make us selfish; so in the trials and the cares, let us find only helps along the journey of life. Like the Roman soldier, let your spirit say, "I'll find a way or make it." In these long evenings, improved in the dear farm homes, you may build up a tower of strength for the mental work of years to come, from which, in the press and hurry of life, you can draw stores when your time for reading and time of leisure will be but small.

O, improve these moments; they make the hours, and these, in time, the years, and these the whole of life. Ask, and find for yourselves how many of the men who fill the positions of trust to-day gained them, and see that it is by improving the present time; then when the situation opens the man is ready to fill it. Otherwise another takes it, and he who wasted his time in idle talks at the village store, in playing cards at a neighbor's, or knows too well the inside of the village hotel, will be left to say, "it might have been," and start anew at a later time in life, if not to sink back, lose ground, and be swept into that mass who are not making the world any better than they found it.

There are several things I want to say to my elder girls and boys, but little laughing faces look up to me and are asking for a story, and what I have to say might not interest them at the evening hour when the story and the "Now I lay me" follow each other, and the childish voices join in singing

"Away on the mountains, wild and bare,
Away from the tender Shepherd's care,"
and we older folk pray that it may never be
their lot so to be.

The present time is the best yet seen in Canada for the boys and girls. Opportunities for them to win their way and succeed are growing fast, and many are taking advantage of it. Let me say a word to the readers of these letters from month to month. Do not be satisfied with partly doing anything. If you have a talent, develop it, and find or make a way to have it grow. Farmers you know are ahead of other business men, inasmuch as their crops grow while they sleep. So let your talents be in just that condition. Is it musical ability, improve it under the very best teachers to be found. Is it a talent for reading?—one far too little thought of, or its influence yet dreamed. A good public reader may elevate the thoughts of a town. Read at home, and read alone, before father, mother, sisters, and brothers read worthy selections, and your own love of the beautiful and pathetic will grow under their friendly criticism. You will find, if you have the talent, and you train it, and practise on it, and improve it, even as the gardener does his vine, you will not in the most enthusiastic admirers, the greatest applause, find any like those of your own home to be proud of you, to love you, to follow you with loving thoughts, and never, never cease to rejoice when you rejoice, or suffer when you suffer, as do the dear loved folks at home.

Wishing that my nieces and nephews may find out what they have individually to keep Thanks giving Day this year for, and to meet them that day in the thanksgiving service.

UNCLE TOM.

Difference in Gold.

EXPERTS CAN TELL WHERE A PIECE COMES FROM BY THE COLOR.

"Most people suppose," says an assayer in the New York Tribune, "that all gold is alike when refined, but this is not the case. An experienced man can tell at a glance from what part of the world a gold piece comes, and in some cases from what part of a particular gold district the metal was obtained. The Australian gold, for instance, is distinctly redder than the Californian, and this difference in color is always perceptible, even when the gold is 1,000 fine. Again, the gold obtained from the placers is yellower than that which is taken directly from the quartz. Why this should be the case is one of the mysteries of metallurgy, for the placer gold all comes from the veins. The Ural gold is the reddest found anywhere. Few people know the real color of gold, as it is seldom seen unless heavily alloyed, which renders it redder than when pure. The purest coins ever made were the \$50 pieces that used to be common in California. Their coinage was abandoned for two reasons:—First, because the loss by abrasion was so great; and secondly, because the interior would be bored out and lead substituted, the difference in weight being too small to be readily noticed in so large a piece. These octagonal coins were the most valuable ever struck."

Why is the letter k like a pig's tail? Because it is the end of pork.

Brougham once facetiously defined a lawyer as a learned gentleman, who rescues your estate and keeps it himself.

Why are good resolutions like fainting ladies? They need carrying out.

Puzzles.

1—CHARADE.
I have been very busy this last month or so,
To make up for a visit I had;
That a puzzle I scarcely had time to make,
And really I thought it too bad.
But when I saw the ADVOCATE,
I was well pleased to see
Come back unto our ranks again
Our studious friend, Fair B.
And as he left to me the care
Of heading our old band;
TOTAL do I resign the charge
Unto his skilful hand.
FINAL we know that will lead
Us to the port with care.
I only hope we find good FIRST
Whenever we get there.

—ADA ARMAND.

2—CROSS WORD ENIGMA.

In scamper, not in frisk.
In brush, not in whisk.
In bright, not in dark.
In prize, not in mark.
In large, not in small.
In short, not in tall.
In want, not in grief.
In robber, not in thief.
In brave, not in bold.
In crib, not in fold.
In second, not in hour.
In blossom, not in flower.
The total we should strive to send
To Uncle Tom ere the year does end.

—ADA ARMAND.

3—ILLUSTRATED REBUS.



4—METAGRAM.

My first a covering for the head.
Change again my initial, a dozen I mean instead;
Once more, an opening you will see.
Exchange again, I come 'rom trees.
Again, I mean, then, to befall.
Once more, I'm used by travellers, one and all.
Again, on this our mothers oft nursed we.
Trade again, and this a kind of food would be.
Again, and a sharp blow you've spelled.
Once more, a blow that's hardly felt.

—HENRY REEVE.

Answers to October Puzzles.

1—
F A T W
S T R E W S
F A R M E R S
S T E A M
A R M
A S
A D S
R I V E R
A T H R O U G H S
A D V O C A T E S
F O R A M E N
R A T I O
H E N
S

2—There is no secret of success but work.
3—Be not too wise
In your own eyes,
Or you'll soon see
What a great fool you'll be.
4—Because.
5—M-me-met-mete-meter.

Names of those who have Sent Correct Answers to Oct. Puzzles.

Henry Reeve, Ada Armand, Emma Skelley, Arthur Billings, J. Irvine Devitt, Helen Connelly, Frank Smith, G. R. Wilson, Harry Elson.

The fun which gives pain to others is a very mean kind of sport.

Late Advertisements.

It might not be altogether safe to vouch for the genuineness of the following advertisements, but we insert them for what they are worth:—

WANTED—Women to sell on commission.
TO LET!—A cottage in Newport containing eight rooms, and an acre of ground.
WANTED—A steady young man to look after a horse of the Methodist persuasion.
FREEMAN & HUGGS'—Academy. Freeman teaches the boys and Huggs the girls.
FOR SALE!—A piano by a lady about to go across to New Zealand in an oak case with carved legs.

NEW ADVERTISEMENTS.

Sawing Machines—M. Moody & Sons.
Ayrshires—R. Reid & Co.
Poultry—F. T. Docker.
Spraying Outfit—Field Force Pump Co., Lockport.
Turkeys and Geese—Wm. Hodgson.
Plymouth Rocks—C. W. Eckardt.
Manitoba—Hon. Thos. Greenway.
Jersey Cow and Cotswolds—J. C. Snell.
Smoothing Iron—Counter & Co.
Churns—M. W. Alldread.
Business College—R. E. Gallagher.
Shorthorns—E. Jeffs & Son.
Combination Rack—R. Caldwell.

FARMS FOR SALE CHEAP.

SEVERAL IN WESTERN ONTARIO.

Apply by letter to "Farms," Farmer's Advocate Office, London, Ont., stating about the price, locality and kind of farm desired, when full particulars will be sent. 311-a-O

JERSEY COW Handsome two-year-old Heifer; solid fawn; in calf to first prize bull Toronto Fair; due to calf middle December; bred from deep milking and rich butter family. Come and see, or write.

J. C. SNELL,
311-a-OM **Edmonton, Ont.**

COTSWOLD RAM LAMBS Good ones; bred straight from imported stock. A few good Ewe Lambs. Berkshire. Good young Rams and Sows, 6 to 8 months. Also young Pigs, 6 to 8 weeks, bred from imp. stock.

J. C. SNELL,
311-a-OM **Edmonton, Ont.**

Dispersion Sale of Herd of 150 Head Improved Large Yorkshire Swine.

As the undersigned firm are about to dissolve the whole herd will be sold by auction, without reserve, on Tuesday, November 17th, at 1 o'clock precisely, on the farm of Mr. Bunbury, one mile west of Oakville. Terms:—Under \$10, cash; from \$10 to \$25, six months' credit; over \$25, twelve months' credit on approved joint notes. BUNBURY & JACKSON, Oakville, Ont. All trains from Hamilton and Toronto will stop at Oakville that day. 311-a-OM

5-YEAR-OLD

Imported Clydesdale Stallion.

I offer for sale, at reasonable figures, the Imported Clydesdale Stallion Seabreeze (6281), sire Viscount (2477), dam by Jacks the Lad (401). A prizewinner, sound and right and a sure foal getter.

WM. SMUCK. - Commercial Hotel, Ayr, Ont. 309-c-OM

5 SHIRE STALLIONS FOR SALE

CHIEFTAIN, 7 years, imported; 2nd prize at Royal Show '87; ACTIVE, 4 years, imported; 1st prize at Buffalo Show '83; CHARLIE, 3 years, imported; 1st prize at Toronto Show '90. Also a two-year-old and a yearling, both from imported sires and dams. All these horses are registered, and are sound and right in every way. We will sell any or all of them for far less than their value, as we are overstocked and have no use for so many stallions. This is a rare chance to get a good registered Shire at your own price. Address—

MORRIS, STONE & WELLINGTON,
309-g-OM **Welland P.O. and Station, Ont.**

REG. CLYDE STALLIONS FOR SALE!

I will sell either, or both, of my Stallions—Prince Royal (646), or Wait-for-Me—both pure-bred and registered, and a grand three-year-old filly in foal. Prices very low. Write or call. JAS. H. ESDON, CURRIE HILL, ONT., Bainsville, on G.T.R. 310-d-OM

—OUR—
SUBSCRIPTION PRIZES
FOR 1892

According to our usual custom at this time of the year, we have decided to give the remainder of this year AND ALL OF 1892 to all new prepaid subscribers. Agents are instructed to take subscriptions on these terms.

DURING THE PAST YEAR THE ADVOCATE HAS STEADILY AND SURELY GROWN IN PUBLIC FAVOR

Our Subscription List is larger than ever before, and is constantly increasing. We ask each of our old subscribers to send us at least

ONE NEW NAME.

To all who wish to get up clubs we offer the following terms:—

For from 11 to 20 new names sent us within any year	25c. each.
“ 20 “ 50 “ “ “ “ “	35c. “
50 and upwards “ “ “	40c. “

To those who desire to work for **STOCK PRIZES** we offer the following:—

To the **CANVASSER** sending in 100 **NEW NAMES** at \$1.00 each,

A YOUNG BULL OR HEIFER

of any of the followings breeds:—Shorthorn, Ayrshire, Devon, Holstein, Jersey, Polled-Angus or Galloway.

FOR 30 NEW NAMES WE WILL SEND A RAM OR EWE LAMB

of any of the following breeds:—Cotswold, Leicester, Lincoln, Shropshire, Southdown, or Horned Dorset.

AND A PAIR OF ANY OF THE FOLLOWING BREEDS OF SWINE

for the same number of names:—Berkshire, Yorkshire, Suffolk, Poland-China, Chester White or Tamworth.

Older animals of any description on equally favorable terms. All stock sent out by us will be registered in their respective records, and be of good quality. We guarantee satisfaction in all respects. We want good, honest agents in every county of Canada, and will give permanent employment and good wages to suitable persons. Our regular agents are earning from \$600 to \$1,200 and expenses per annum.

In sending subscribers for subscription prizes, send in your names weekly, and the cash as frequently as convenient. Every canvasser will be held responsible for \$1.00 for each yearly subscriber he sends in. In all the larger prizes we will give from three to six months in which to send us the required amount of cash and names. When you commence to canvass, let us know for what prize you are working. As soon as any reliable canvasser sends us one-fourth the number of names required to win the prize for which he or she is working, we will ship the prize if desired, and allow the canvasser a suitable time in which to send us the number of names specified, but we must be furnished with suitable evidence that such parties are reliable.

STOCK FOR SALE.



CLYDESDALES
For Sale.

First Prize-winning Stallions, the get of Darnley (222) and Lork Erskine (1744).

JAS. HENDERSON,
302-y-OM BELTON, ONT.



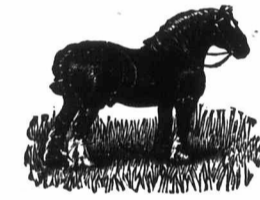
CLYDES, SHIRES
AND YORKSHIRE COACHERS.

MR. FRANK RUSSELL, Mount Forest, Ont., offers for sale at low figures and on easy terms choice stallions of the above breeds; also pedigreed Improved Large Yorkshire Pigs, at \$15.00 per pair. 310-y

Prize-Winning Clydesdales
FOR SALE.

We have on hand a large number of Imported and Home-bred Stallions and Mares which we offer at reasonable prices and easy terms. Visitors always welcome. Catalogue on application.

DUNDAS & GRANDY,
SPRINGVILLE P. O.,
Cavanville Station, C. P. R.
303-y-O



CLYDESDALE
STALLION

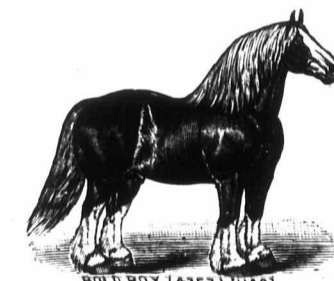
FOR SALE.
Sea Pilot, No. 3177,
Vol. 6.

Apply—
L. GALBRAITH,
Mt. Forest.

D. & O. SORBY, GUELPH, ONT.

Breeders and Importers of

FASHIONABLY BRED CLYDESDALES



We always have on hand a large number of imported and home-bred Clydesdales (male and female) of good breeding and quality, which we will sell at honest prices. Our specialties are good and well-bred horses and square dealing. Come and see us or write for particulars.

BOLD BOY (4257) (1148)
is at the head of our stud.
302-y-OM

S. C. JOHNSTON,

—Letters and telegrams—

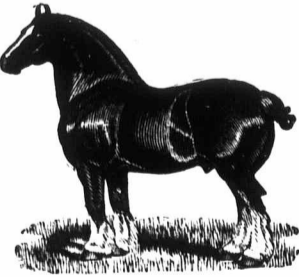
Manilla, Ont.,

(60 miles from Toronto, on the Midland), importer of

REGISTERED

CLYDESDALES.

The 5th annual importation consists of the get of the famous sires Lord Erskine, Top Gallant, Sir Michael S. Kelmorlie. Stock all selected by myself, and for sale at the lowest living profits. 301-y-OM



ADVERTISE IN THE ADVOCATE

HON. LOUIS BEAUBIEN, Pres., MONTREAL.
BARON EDEGRANCEY, Vice-Pres., PARIS, FRANCE.

30 St. James Street, MONTREAL, CANADA.

LA COMPAGNIE

DU HARAS NATIONAL



NORMAN, PERCHERON, BRETON STALLIONS
306-i-OM **Canadian Horses.**

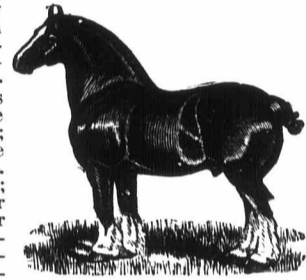
IMPORTED & CANADIAN-BRED CLYDESDALES.

BEATTIE & TORRANCE, Summerhill Farm, Markham, Ont., importers of and dealers in Imp. Clydesdale Stallions and Mares, of the choicest strains; also Reg. Canadian-breds always for sale. 304-y-OM

INGLEDALE FARM, WINONA, ONT.

ROBT. NESS, WOODSIDE FARM,
—IMPORTER AND BREEDER OF—
Clydesdales, Shires, Coachers, Shetlands, and Ayrshire Cattle.

I have still a few of the twelfth yearly importation of high quality on hand, notably, James Arthur (5888); sire Macgregor (14-7); sire of dam Prince of Wales (673); Macheemie (7009); sire Macgregor (1487), own brother to the great breeding horse, Macpherson, Macallum and Energy. Yorkshire Coachers. Seven imported mares from Druid, Darnley, etc.; four in foal. Also some good Shetlands. Having every facility for purchasing direct from the breeder myself, neither acting agent in Scotland or here, and paying cash, I am prepared to sell on any terms agreed upon. Quality and pedigree of the best. Give me a call. The farm is situated 40 miles southwest of Montreal, on the G. T. R., and 100 miles east of Ottawa, on the C. A. R. Station on the farm.
303-y-OM **ROBERT NESS, HOWICK P.O., Que.**



J. CARPENTER, Prop.

STANDARD-BRED TROTTERS, including the produce of such sires as Almont Wilkes (1242), 2.22 1/4, Gen. Stanton (2545), and Superior (3780), out of registered mares by Brown Douglas (10377) and Winfield Scott (1319). Two stallions of the choicest breeding now for sale. **JERSEYS** of the choicest butter strains. All the young things sired by the sweepstakes St. Lambert bull, Nell's John Bull. Young stock for sale. Prices and terms reasonable. Also a choice fruit and stock farm for sale. 307-y-OM

Clydesdales, Shropshires and Berkshires.

Choice Registered Canadian-bred Clydesdale Colts and Fillies, Shropshires, Imported and Home-bred of the very best strains. Berkshires, bred from Snell Bros.' stock. Prices right. Always glad to show stock. **T. M. WHITESIDE,** Ellesmere P.O., Ont., Agincourt Station on C. P. R. and Midland Div. G. T. R., 1 mile. 304-y-OM

- ENGLISH SHIRE HORSES. -

J. G. WARDLOWE, Fairview Farm, Downsview, Ont., breeder of and dealer in Registered Shire Stallions and Mares; also some choice Canadian-bred Draughts on hand. 304-y

STANDARD-BRED TROTTERS

Headed by Mambrino Rattler, alias Crown Prince (12447), the best bred son of Mambrino Patchen in the Dominion. Write for his terms of service. Also standard Mares of choice breeding. A grand young Stallion for sale. **A. M. VANSIE,** Jerseyville Stock Farm, Jerseyville, Ont. 305-y-OM

Shorthorns, Yorkshires and Berkshires.

My Shorthorns are bred from stock imported by such noted breeders as Arthur Johnson, J. C. Snell and Green Bros. I have a few choice heifers for sale. My Improved Large Yorkshires were imported directly from the famous herd of C. E. Duckering, Kirton, Lindsay, England. I have some young pigs imported in their dam, for sale. Prince Regent, bred by Snell Bros., heads my Berkshire herd. Times are hard and my prices are right. Write or call. **A. F. MCGILL,** Hillsburg, Ont. 302-y-OM

OAK RIDGE STOCK FARM



Shorthorns & Berkshires

My herd of Shorthorns are from select milking strains. Young animals at right prices. A few fine yearling bulls now ready. For particulars and pedigrees of stock address

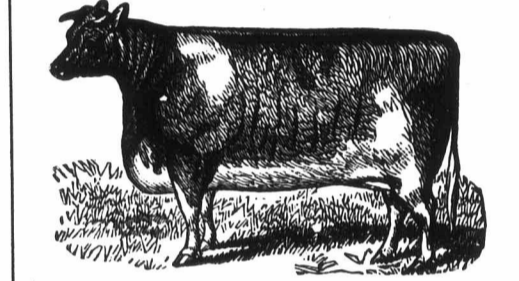
DAVID HAY,
309-y-OM **ARKONA, ONT.**

"SHORTHORNS ARE LOOKING UP,"

But times are hard, and money still scarce. I will sell a few well-bred bulls and heifers of Bates blood, and an aged bull at hard-pan prices. Write me, or come and see them. **M. G. Ireland,** Meadow Lawn Farm, COPETOWN, ONT. 306-y-OM

ARTHUR JOHNSTON,

Greenwood, Ont.,



Announces that he has for sale, at MODERATE prices, a large and exceedingly good lot of young things of both sex. The calves, yearlings and two-year-olds, are particularly good—all by imported sires and mostly from imported dams of the best strains obtainable in Scotland.

EXCELLENT CLYDESDALES OF BOTH SEX FOR SALE. New Catalogue for 1891 now ready for delivery. Send for one; they are sent free.

My motto: "No business no harm."
Greenwood P. O. and Telegraph Office, Clarendon Station on C. P. R., or Pickering Station on the G. T. R. Parties met at either station on shortest notice. Come and see them. 290-tf

SHORTHORNS

—AND—

COTSWOLDS

FOR SALE.

My Shorthorns are well bred, good colors, and have been fine milkers for generations. I have over 100 females and a large number of bulls, from which buyers may select. Prices to suit the times. Satisfaction guaranteed. Correspondence promptly answered. Visitors welcome.

JAMES GRAHAM,

290-v **PORT PERRY, ONT.**

SHORTHORNS

FOR SALE.

We have for sale a choice lot of

YOUNG BULLS

sired by the celebrated Scotch Bull (imp.) Mariner = 2720 =.

Good colors, and registered in D. S. H. H. B. Inspection and correspondence invited.

T. DOUGLAS & SONS,

Farm 1 mile north of town. **Strathroy.**

311-b-OM

SHORTHORNS—From J. W. Russell, Jno. Dryden, and Green Bros.

IMP. YORKSHIRES—From Ormsby & Chapman, and Green Bros.

BERKSHIRES—From J. G. Snell & Bros.

The best that money could buy from these well-known herds. All stock registered.

J. G. MAIR,

310-y-OM **Maplewood Farm, Howick, P. Q.**

SHORTHORNS.



6 Show Bull Calves

from imported cows and their daughters, grandly bred and first class stock; red and rich roan. Price reasonable. 305-OM

D. ALEXANDER, Brigden, Lambton Co., Ont. 308-OM

FARMERS, LOOK HERE.

If you want a registered Shorthorn bull I can give you your pick of three, from 10 to 18 months old, for \$40. These bulls are sired by Royal Harrington 3rd (10210) and out of cows of a grand milking strain, but they and a few choice cows and heifers must be sold as I am going out of the business.

C. PETTIT, South End P.O., Ont.

308-d-OM

Shorthorns, English Berkshires & Improved Large White Yorkshire Swine. Some choice Shorthorn Bulls from six to sixteen months old, the get of "Roan Prince." A number of first-class Berkshire Boars fit for service; also young pigs six weeks old, good quality and from imp. stock. Also improved Yorkshires of same age and from imported stock. Prices reasonable. 305-y-OM



H. J. DAVIS, Woodstock, Ont.

SHORTHORNS AND BERKSHIRES

The herd is headed by the noted Sir Christopher =3877=, and Mina Chief =13670=. The females consist of Mina and Strathallan families. Our Berkshires are prize-winners wherever shown. Choice young bulls and Berkshires for sale.

C. M. SIMMONS, Ivan P. O., Hdernton Stn., Ont. JAMES QUIRIE, Delawon, Ont. 309-y-OM

NEIDPATH STOCK FARM.

We breed Scotch Shorthorns, founded on choice representatives, from the famous Aberdeen herds of Duthie, Marr and E. Cruickshank, headed by the Cruickshank Victoria-Nonpareil bull INDIAN PRINCE. Produce only for sale. Address—



THOS. BALLANTYNE & SON

302-y-OM STRATFORD, ONT., CAN.

SHORTHORNS, BERKSHIRES, Plymouth Rocks, Bronze Turkeys. Write me for prices on the above. I have one of the finest show cows in Ontario for sale. Waterloo-Booth strain. H. Chisholm, Montrose Farm, Paris, Ont. 309-y-OM

SHORTHORNS, CLYDESDALES & COTSWOLDS.



I have now on hand FOR SALE an extra good lot of Truly-Bred Shorthorns, Clydesdales and Cotswolds.

Among my Cows, Heifers and young Bulls are some fine show animals. The Clydesdales are of equal quality.

My Prices are low and Terms liberal. Visitors welcome. Correspondence solicited.

DAVID BIRRELL,

Telegraph and Post Office—GREENWOOD, ONT. 309-f-OM

CHOICE SHORTHORNS

Mr. John Aclrow & Son, Hillside Farm, Highfield P.O., Ont., have been breeding Shorthorns for over thirty years, and now offer a few young bulls and heifers of the richest breeding for sale at reasonable figures. Our cattle are the smooth, short-legged, beefy kind. Imported Scotch bull Reporter heads the herd. Station and Telegraph, MALTON, ONT. 307-y-OM



BOW PARK HERD

PURE-BRED SHORTHORNS.

Have always on hand and for Sale young Bulls and Females, which we offer at reasonable prices.

ADDRESS—

JOHN HOPE, Manager,

303-y Bow Park, Brantford, Ont.

SCOTCH-BRED : SHORTHORN : BULLS, Scotch-Bred Heifers, Imported Shropshire Rams, Imported Ewes, Home-Bred Rams, Home-Bred Ewes, FOR SALE,

in any number. All of very best quality, and at the lowest prices. We want 500 recorded rams for ranches. Correspondence solicited.

John Miller & Sons,

Brougham, Ont.

Claremont Station, C. P. R., 22 miles east of Toronto. 306-y



SHORTHORNS FOR SALE.

The imported Campbell-bred bull Killerby and two grand yearling bulls; also a few choice heifers, and a number of Berkshire Pigs.

311-y-0 E. JEFFS & SON, Bondhead, Ont.

Holstein Friesians

of the most remarkable families and greatest performers. Stock of all ages for sale at the lowest possible prices. Railway Stations—Tavistock and Hamburg, on G. T. R. Post Office—Cassel, Ont. H. & W. F. BOLLERT.

HOLSTEIN-FRIESIAN CATTLE.

My stock is selected from the leading herds. My principle is "Live, and let Live." Before you buy elsewhere, write me for quotations.

W. MCCLURE, Mint Creek Farm, NORVAL, ONT. 310-y-OM

On main line G. T. R.

Holstein-Friesians

My herd is composed of the choicest individuals obtainable, and belong to the best milking strains. Young stock at the lowest living prices. Communications promptly attended to. Watford R. R. Station. 300-y S. D. BARNES, - Birnam P. O.

HOLSTEIN BULLS FOR SALE.

Two nicely marked Yearling Bulls of the best milking strains.

JOHN TREMAIN, FOREST, ONT. 302-y-OM

REGISTERED HOLSTEIN BULLS AND HEIFERS.

John Pringle, Maple Lawn Farm, Agr. Ont., offers for sale a few well-bred bulls and heifers of the above breed at reasonable figures. My bull, Ira's King, was bred by Dudley Miller, and my cows are all of choice breeding. 309-y-OM

HOLSTEIN-FRIESIANS

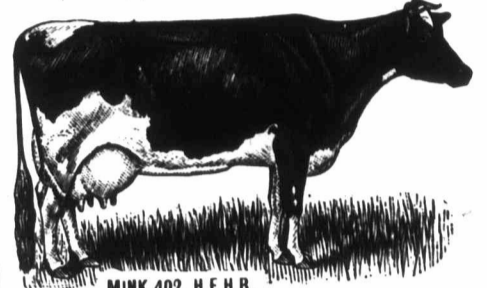
THE CHOICEST HERD IN CANADA.

Stock of highest excellence and most noted milk and butter families of the breed. Stock of all ages for sale. Prices right. Railway Station, Petersburg on G. T. R.; New Dundee P. O., Waterloo Co., Ont. Send for catalogue. 307-y-OM

A. C. HALLMAN & CO.

THE GREAT MILK AND BUTTER HERD OF HOLSTEIN-FRIESIANS.

SMITH BROS., Credit Valley Stock Farm, CHURCHVILLE, PEEL COUNTY, ONT., (24 miles west of Toronto).



MINK 402, H.F.H.B.

This is the place to get stock of best quality at reasonable prices. We have seventy-five head, including prize-takers; best strains, cows and heifers, with large milk and butter records; young bulls of superior quality. Send for catalogue. 202-y-OM

HOLSTEIN-FRIESIAN

STOCK FOR SALE AT REASONABLE PRICES.

All my stock I have carefully chosen for their extra fine breeding and large milk records, and are all registered in Holstein-Friesian Herd Book. A visit, or correspondence solicited.

R. HOWES CRUMP, Masonville, 300-y-OM near London, Ontario, Canada.

BROCKHOLME STOCK FARM

Ancaster, - Ontario.

R. S. STEVENSON,

Breeder of Holstein Cattle and Improved Yorkshire Pigs. Holsteins recorded in advanced registry. Yorkshires bred from imported stock. Young stock for sale at all times. 205-y-OM

Prize-Winning Ayrshires for Sale



GURTA 4th (1181)

Mine is one of the largest and most successful show herds in Canada. They are finely bred and of great individual merit. Bulls, heifers and cows always on hand for sale; also a few good Leicester sheep. Correspondence solicited. Visitors welcome. Address

THOMAS GUY, Sydenham Farm, Oshawa, Ont. 290-y

Ayrshire Cattle & Poland China Hogs, MERINO SHEEP AND FANCY FOWLS.

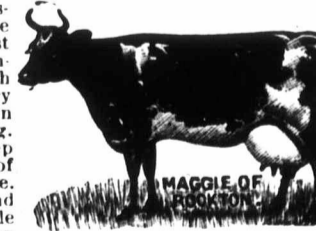
We have the largest herd of Poland Chinas in Ontario. At the last Industrial Fair we carried off 17 prizes out of 26, including both prizes for pens. We breed from none but the best, and our aim is to supply first-class stock at living prices. We mean business. Write, or come and see us.

W. M. & J. C. SMITH, Fairfield Plains P. O., Ont. 310-y-OM

PRIZE-WINNING AYRSHIRES FOR SALE.

I have at present one of the largest & best herds in Ontario, which has been very successful in the prize ring. They are deep milkers and of a large size. Bulls, cows and heifers for sale always on hand.

JAS. McCORMICK, Rookton, Ont. 299-y-OM



MAPLECLIFF STOCK FARM

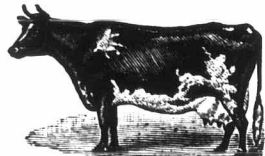
Choice Ayrshire Cattle for Sale.
We make a specialty of these grand dairy cattle, our stock consisting of very heavy milkers, and have some fine young stock for sale; also high grades. One mile from Ottawa. **R. REID & CO.,** Hintonbury, Ont. 311-y-OM

PARK HILL HERD OF AYRSHIRE.

This herd took all the first prizes in Quebec in 1887 and 1888, and in Ontario in 1889, in competition with all the leading herds. Young stock for sale, all of which is from the celebrated bull **ROB ROY** (3971), which is at the head of the herd.

JAMES DRUMMOND,
302-y-OM PETITE COTE, MONTREAL, P. Q.

Imported and Canadian-Bred



AYRSHIRE AND CLYDESDALES FOR SALE.

I have on hand a large herd of finely-bred Ayrshires of splendid quality. My Clydesdales are also first-class. Stock for sale. Prices and terms liberal.

THOS. BROWN,
310-y-OM Petite Cote, P. Q., near Montreal.

SOMETHING NEW IN CATTLE.

The famous Norfolk Red Polled Cattle have for years been favorites with American farmers, combining, as they do, easy fattening and deep milking properties. Canadian farmers, it will pay you to introduce them to your country.

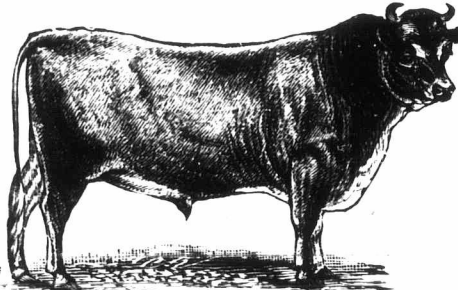
W. P. CROUCH, - Breeder and Importer,
Randolph, Crawford Co., Penn. 309-y-OM

GLEN ROUGE JERSEYS!
WM. ROLPH, Glen Rouge Farm, Markham, Ont., offers for sale Jerseys of all ages from his famous herd. The world-renowned St. Lambert blood a specialty. Also registered Clydesdale Horses. 309-y-OM

REGISTERED DUROC JERSEYS.

The Pioneer Herd of these famous American hogs has its headquarters in Essex County, Ont. Address, **PETER LAMARSH,** 310-y-OM WHEATLY, ONT.

ST. LAWRENCE DAIRY FARM.



My herd consists of choice animals. I breed for the best performers. Have now five bulls for sale of St. Lambert's blood. Quality and prices to suit the times. Address, **ELGIN ROW, Brockville, Ont.** 310-y-OM

SUNNY BRAES FARM
Hillhurst, P. Q.

ST. LAMBERT JERSEYS.

The prize-winning herd of the Eastern Townships, headed by King of St. Lambert (2343), winner of 1st prize and sweepstakes wherever shown. 1/4 made up of pure St. Lambert blood, and 3/4 of the best.

Choice young stock for sale. Write for particulars and pedigrees on application.
Mrs. C. H. Crossen,
Sunny Braes Farm, Hillhurst, P. Q. 310-y-OM

JERSEYHURST FARM, MARKHAM, ONT.
ROBT. REESOR, importer and breeder of A. J. C. C. Jerseys of the choicest breeding, with the St. Helier bull Otolie 17219 at the head of the herd. Stock of all ages on hand and for sale. 308-y-OM

Jerseys for Sale.

Some of the finest heifers and calves I ever bred, and at lower prices than I ever offered before. Registered, and express paid by me to any reasonable point. Herd headed by the famous pure St. Lambert bull, Canada's Sir George, prize winner every time shown, son of Allie of St. Lambert, 263 1/2 lbs. butter in one week; Massena's son, pure St. Lambert sire, dam the great Massena, one of the wonders of the Jersey world, estimated to have made 902 lbs. 2 oz. butter in one year and eleven days—actually yielded 9,099 lbs. milk in one year and eleven days; Signal of Belvedere, inbred Signal, dam the celebrated prize cow, Miss Satalina, 20 lbs. 6 oz. butter in one week, on second calf only.

MRS. E. M. JONES,
303-y-OM Brockville, Ont., Canada.
1835—ESTABLISHED—1835



SHERIFF-HUTTON -- HERD.

Three yearling Bulls for sale from imported sire and dam. Good, strong animals. Prices to suit the times. **WM. LINTON,** 310-y-OM AURORA, ONT.

DR. CRAIK, OF MONTREAL,

Is importing and breeding the very choicest strains of

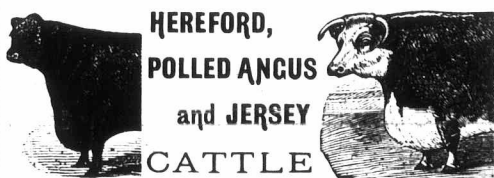
Aberdeen Polled-Angus Cattle

The Ballindaloch stock Erica Bull, "Emlyn" (sire of the first prize yearling heifer this year at the Royal Northern Show at Aberdeen), heads the herd. The herd contains breeding females of the following distinguished families—Ericas, Blackbirds, Prides of Aberdeen, Lady Fannys and Kinochtry Favorites, and Baronesses, with a few of lesser note. The latest addition to the herd is the yearling heifer, Pride of Guisachan 34th, bred by Lord Tweedworth, and winner of the first prize at the Highland Society Show this year at Stirling, Scotland; winner also of the Lochiel champion cup and medal at Inverness, for the best pure-bred animal in all the cattle classes. 310-c-OM

DAWES & CO., LACHINE, P. Q.

—Importers and Breeders of—

THOROUGHbred & SHIRE HORSES



BERKSHIRE AND YORKSHIRE SWINE.

The largest breeding establishment in Canada. Inspection and correspondence solicited. 303 y-OM

HILLHURST HERDS

ABERDEEN-ANGUS, -- HEREFORD

—AND—

A. J. C. C. JERSEY CATTLE.

Choice Young Bulls and Heifers of the above breeds for sale at moderate prices at all times. A few fine, young Hereford Bulls, by Cassio, at low prices if taken at once.

M. H. COCHRANE,
298-y HILLHURST P. O., Compton Co., Q.

HOLSTEINS AGAIN IN FRONT.

At Toronto show we showed eight head, and we brought away 4 firsts, 1 second, 2 thirds and 3rd on the herd. Stock for sale.

J. C. McIven & Son,
307-y-OM Lansdown Farm, WINONA, ONT. 13 miles east of Hamilton on the G. W. Div. G.T.R.

DORSET HORN SHEEP

MY SPECIALTY.

These sheep drop their lambs at all seasons of the year; are good mothers and most prolific. Devon Dairy Cattle, good milkers and grazers. Flock and Herd established nearly one hundred years. Also Shire Horses and Berkshire Pigs. Sheep, Horses and Pigs exported to America have given every satisfaction

THOMAS CHICK,
Stratton, Dorchester, Dorset, England.
285-y-OM

TAZEWELL & HECTOR,

Importers and breeders of Dorset Horned Sheep and improved Yorkshire Pigs. **JOHN TAZEWELL,** Indian Village farm, Port Credit, Ont. **THOS. HECTOR,** The Cottage, Springfield-on-the-Credit, Ont. Stations—Pt. Credit, on G. W. R., Streetsville, on C. P. R. 310-y-OM

SHROPSHIRE -- SHEEP.

This flock has won numerous prizes in England for the last twenty years, besides America, France and Africa. Has been established over seventy years. Several of the best flocks in England started from this flock thirty years back. Sheep always for sale.

F. BACH & SON,
289-y Onibury, Shropshire, ENGLAND.

PURE-BRED : REGISTERED : SHROPSHIRE!

I can sell six dandy Shearling Rams and some choice Ram Lambs, bred direct from imp. stock, at prices to suit the times. Come and see them. 305-y-OM **W. G. PETTIT,** FREEMAN P.O., ONT.

SHROPSHIRE!

JUST IMPORTED.

I have arrived home with a choice lot of Shearling Ewes. I now offer for sale over 100 Imp. Ewes (nearly all shearlings) and an extra lot of Imp. Ram and Ewe Lambs. Also two very fine two-shear Rams from one of the oldest flocks in England. Visitors welcomed.

W. S. HAWKSHAW,
GLANWORTH, ONT.
(7 miles south of London.) 291-tf-OM

SHROPSHIRE.

Imported Ram Lambs, Shearling Rams, Imported Breeding and Shearling Ewes; Ewe Lambs imported or bred from imported sire and dam.

W. E. WRIGHT,
307-y-OM Glanworth.

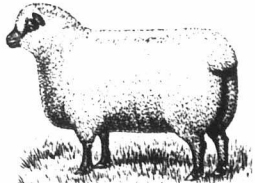
SHROPSHIRE SHEEP

DAVID BUTTAR,

Corston, Couper-Angus, N.B., Scotland
Has taken all the principal prizes in Scotland for several years. His sheep are of the purest blood, and carefully bred; every sheep eligible for registration. Pedigrees and prices on application. 294-y-OM



Greenhouse Short-horns & Shropshires.— I offer for sale at very reasonable prices a very choice lot of imported 2-shear ewes, imp. rams and ewe lambs; also several home-bred lambs and one grand 2-shear ram. Plymouth Rock & White Leghorn Cockerels cheap and good. Write or come and see me. **W. B. COCKBURN,** ABERFOYLE, ONT., G. T. R. Station, Guelph; C. P. R., Corwin. 310-y-OM



SHROPSHIRES.

A fine selection of **SHEARLING EWES, RAM AND EWE LAMBS**

from imported ewes and sired by Royal Uffington 11116

Address— **J. & J. SMITH,** Paris, Ont. 309-c-OM

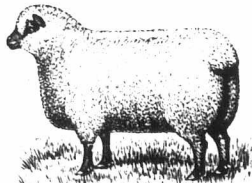


SHROPSHIRES

—AND—

Improved Large Yorkshires

Our breeding ewes are all imported from well-known flocks, and we have an extra good lot of lambs of both sexes for sale, got by our shearing ram that was highly commended at the Royal at Plymouth last year. Also a few choice ewes, and a nice lot of pedigreed Yorkshires from prize stock in England. Be sure to write us, or call and see us before buying. We have ninety head to select from. **WM. MEDCRAFT & SON,** 309-y-OM Sparta P.O. and Telegraph Station.



SHROPSHIRES.

Imported Breeding and Shearling Ewes; Shearling Ewes, Ram and Ewe Lambs from Imported Sire and Dam.



Prices lower than the lowest.

SHORE BROS., White Oak. 298-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 & blood. Evans, Beach, Hays, Coxon and Mansell. The Annual Sale first Wednesday in September.



EWES AND RAMS FOR SALE.

Apply to **J. DIXON,** Loughcrew, Oldcastle, Co. Meath, Ireland. 307-y-OM



MAPLE SHADE

STILL IN IT.

SHROPSHIRES

BOOMING.

Best lot of Lambs ever offered. Choice imported rams and ewes from the best flocks. Write for

prices. Address— **JOHN DRYDEN,** BROOKLIN, ONT. 302-y-OM

CHOICE REGISTERED SOUTHDOWN.

Messrs. A. Telfer & Son, Springfield Farm, Paris, Ont., have been breeding Southdowns for thirty years. A fresh importation just arrived. Stock for sale. 308-y-OM

LORRIDGE FARM, RICHMOND HILL, ONT

MESSRS. ROBT. MARSH & SONS

offer for sale choice Southdown Sheep of all ages, from their well-known flock, which has taken over 2,000 prizes since its establishment. Correspondence promptly attended to. 307-y-OM

LINCOLN -- SHEEP

I always have for inspection and sale a large flock of pure Lincoln Longwool Sheep, including many prize-winners, having taken eighty prizes the last two years at the Royal and other shows, for both rams and ewes, also the first for the best collection of Lincoln fleeces of wool at the Royal Windsor show last year, which proves the character of this flock, which is most famous for their great size and 120 years' good breeding. Also breeder of



WHITE -- YORKSHIRE -- PIGS

Address— **HENRY DUDDING,** Riby Grove, Gt. Grimsby, Lincolnshire, Eng. 307-y-OM

Imported Sheep at Farmers' Prices.

Hampshire Downes, Dorset Horns, Cotswolds and Lincolns. Rams and Ewes, imported and home-bred. For sale at reasonable figures. No duty. No quarantine.

Mrs. Wm. Newton & Son, Pontiac, Mich. 309-c-OM

SHROPSHIRES

We handle none but the best. We sell at living prices. We have one of the most successful flocks in the show yard in England. We import direct from our English to our American flocks. Write for prices. We can suit you.



THONGER & BLAKE BROS.,

Wolf's Head Farm, NESSCLIFF, Salop, Eng. 309-y-OM and GALESBURG, Mich., U. S. A.

TO STOCKMEN AND BREEDERS.

LITTLE'S PATENT FLUID
NON-POISONOUS
SHEEP DIP AND CATTLE WASH.

For the destruction of Ticks, Lice, Mange, and all insects upon Sheep, Horses, Cattle, Pigs, Dogs, etc. Superior to Carbolic Acid for Ulcers, Wounds, Sores, etc.

Removes Scurf, Roughness and Irritation of the Skin, making the coat soft, glossy and healthy.

The following letter from the Hon. John Dryden, Minister of Agriculture, should be read and carefully noted by all persons interested in Live Stock:

"MAPLE SHADE" HERDS AND FLOCKS, BROOKLIN, ONT., Sept. 10, 1890.

DEAR SIR, — I cannot afford to be without your "Little's Sheep Dip and Cattle Wash." It is not merely useful for Sheep, but it is invaluable as a wash for Cattle, etc. It has proved the surest destroyer of lice, with which so many of our stables are infested. I have ever tried; it is also an effectual remedy for foul in the feet of Cattle. I can heartily recommend it to all farmers and breeders.

JOHN DRYDEN. Seventeen Gold, Silver and other Prize Medals have been awarded to "Little's Patent Fluid Dip" in all parts of the world. Sold in large tins at \$1.00. Special terms to Breeders, Ranchmen and others requiring large quantities. Ask your nearest druggist to obtain it for you; or write for it, with pamphlets, etc., to

ROBERT WIGHTMAN, DRUGGIST, OWEN SOUND, ONT. Sole Agent for the Dominion. 303-y-OM

Shropshires & Yorkshires

RAMS, EWES AND LAMBS.

COME AND SELECT FOR YOURSELF

BEFORE THE BEST ARE GONE.

R. GIBSON,

309-b-OM DELAWARE.

BRONZE - TURKEYS

Thirty choice birds for sale. Bred from imported prize-winners. Price, 5 to 7 dollars a pair.

FRANCIS T. DUCKER, Box 27, Dunnville. 311-b-OM

TOULOUSE GESE AND MAMMOTH BRONZE TURKEYS FOR SALE.

I have 100 Geese and Turkeys for sale. My geese won all the first prizes in their class at the last Toronto Industrial Exhibition. Turkeys equally as good. Prices to suit the times.

WM. HODGSON, Box 12, Booklin, Ont. 311-b-OM

HAZELTON FRUIT & POULTRY FARM

Importers of Banded Plymouth Rocks

First prize winners at the largest shows. A large flock of superior birds to select from. Grand Cockerels, pairs and trios, at reasonable prices. Exhibition birds to win a specialty. Write to me before you buy if you want good birds. Illustrated catalogue free.

C. W. ECKARDT, Ridgeville, Ontario. 311-a-OM



Prize Poultry For Sale.

A limited number of breeding fowls at right prices: Bronze & White Holland Turkeys; Emden, Toulouse and China Geese; Pekin, Rouen and Allsbury Ducks; White Plymouths and Light Brahmans. **ARCHIE THOMPSON,** Allen's Corners, P.O. 310-c-OM

Registered Rough-Coated Scotch Collies.

Young dogs for sale from the imported sires Turk II, first prize Toronto, and Moonstone, value \$50, and out of the choicest prize-winning bitches money could buy in England. **Ac. BURLAND,** Sec. Ont. Collie Club, Grimsby, Ont. 307-y-OM

BERKSHIRES

—AND—

COTSWOLDS.

J. G. SNELL & BRO.

EDMONTON P. O.,

Brampton and Edmonton Railroad Stations.

Now is the time to secure young pigs from choice imported sows, and got by the renowned imported boars "Enterprise [1378]" and "Perry Lad [1378]." "Enterprise" won first prize at the two leading fairs in Ontario last year. He weighed just after landing from England 250 pounds. His pigs are coming fine, and are particularly well marked. We have for sale a grand lot of Yearling Cotswold Rams and Ewes which are well worthy the attention of those in want of such. Will be pleased to have visitors come and see our stock. Write for prices. 298-y-OM

S. COXWORTH,

CLAREMONT, ONT.

Breeder of Pure-Bred Berkshires of the choicest strains. The imported boars Royal Standard and Prince Albion (1113) head my herd. My Sows comprise some of the best specimens that money could buy from such breeders as Snell Bros. and Geo. Green. I guarantee every pedigree, and furnish to register. Write for prices, and you will find them and the stock right. Satisfaction guaranteed. 304-y-OM

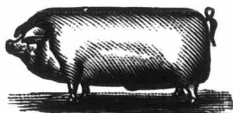
BERKSHIRES, SOUTHDOWN, Silver Grey Dorkings.

Breeding right. Quality right. Prices right. **E. MARTIN,** Nithside Farm, Paris Station, Canning, Ont. 309-y-OM

IMPROVED BERKSHIRES.
Imported and home-bred;
from the best strains
-YOUNG STOCK FOR SALE-
at Right Prices. Apply to—
Richard Belbridge,
WINCHELSEA, ONT.
299-y-O



R. H. HARDING,
Mapleview Farm, Thorn-
dale, Ont., Importer and
Breeder of Ohio Im-
proved Chester Swine.—
My herd represents
some of the best herds
in Canada & the United
States. Over forty pigs now ready for shipping.
Personal inspection invited. Write for prices.
310-y-OM



CHESTER WHITES.—POLAND CHINAS.
SIZE, QUALITY AND BREEDING COMBINED.
The Sweepstakes Herd of Chester Whites at Toronto
Write for prices. We can suit you. Every pig on
our farm registered.
H. George & Son,
310-y-OM Crampton, Ont.

E. D. GEORGE
PUTNAM - - ONT.,
Importer and Breeder of
Ohio Improved Chester White Swine
I make this one breed a specialty,
and furnish a good pig at a fair
price. Pedigrees furnished.
Write for prices. 305-y

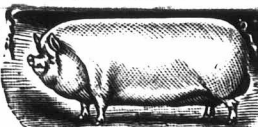


IMPROVED -:- LARGE -:- YORKSHIRES!
One of the oldest herds in Ontario. Imp. Boars
of Spencer's and Duckering's stock in use ever since
founded. Choice stock for sale. **JAS. FIELD &
SON,** Castle Hill Farm, ANCASTER, ONT. 305-y-OM

IMPROVED - YORKSHIRE - PIGS
OF THE BEST QUALITY CAN BE OBTAINED AT
MODERATE PRICES, FROM

C. E. DUCKERING,
THE CLIFF, Kirkton, Lindsay, England,
the oldest and most successful herd in the country,
having gained since 1856 nearly 3000 prizes. All pigs
supplied either entered or eligible for entry in the
herd book. 300-y-OM

**IMPROVED
LARGE YORKSHIRES**
Sixty head of the best
strains and quality.
Write for prices.
SMITH BROS., Credit Valley Stock Farm,
CHURCHVILLE, - ONT. 302-y-OM



**A Good Pig with a Straight Pedi-
gree at a Fair Price.**

The Pioneer Herd of Improved Large Yorkshires
still sticks to its old motto and maintains its old
reputation for good stock and square dealing. A
few very nice young sows, bred to imported boars,
and some excellent May pigs, just ready to wean,
for sale at reasonable figures. First come, first
served, so write soon. Address—**J. Y. ORMSBY,**
V. S., Grange Cottage, Streetsville, Ont. 308-y-OM

Pedigreed -:- Improved -:- Large -:- Yorkshires.

Mr. G. S. Chapman, of the late firm of Ormsby
& Chapman, is still breeding pedigreed Yorkshires,
and is prepared to book orders for young stock.

ADDRESS:—**C. S. CHAPMAN,** The Grange Farm,
305-y-OM Springfield-on-the-Credit, Ont.

**Improved Large (White)
Yorkshire Pigs and
Scotch Shorthorns.**

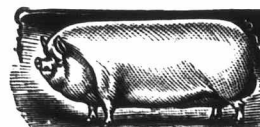


Entire breeding stock of
Yorkshires are imported:
specially selected from
stock of F. Walker-Jones and Sanders Spencer,
Eng. Registered sows and boars supplied not akin.
Shipped to order and guaranteed to be as described.
J. E. BRETHOUR, Burford, Brant Co., Ont.
301-y-OM

The **MARKHAM HERD** of **IMPROVED LARGE YORKSHIRES**
Markham Physician [96] at head of herd. A few
spring pigs for sale yet. Am booking and filling
orders for fall pigs. All stock registered.
Address—**LEVI PIKE,**
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FIRST SWEEPSTAKES HERD OF
IMPROVED -:- YORKSHIRES
- - IN CANADA - -

Selected from the
well-known herds of
the Earl of Kilmere,
Prescott Union, and
C. E. Duckering, Eng-
land, by Jas. Main,
who is considered one
of the best judges of
pigs in America. Also one imported Sow and
several other Canadian-bred Sows and Boars of the
well-known herds of Sanders Spencer and F.
Walker-Jones, England.



REGISTERED SOWS AND BOARS MATED NOT AKIN.
Joseph Featherston,
Pine Grove Farm, STREETSVILLE.
P.O. and Telegraph. 300-y-OM

**Improved Large White
Yorkshires, Pedigreed.**
We have lately added
to our herd, which are
from the strains of San-
ders Spencer, Charnock,
and F. Walker-Jones, England. Young stock on
hand at all times for sale. Apply to
Wm. Goodger & Son,
306-y-OM WOODSTOCK, ONT.



TAMWORTHS
- AND -

Improved Large Yorkshires.

Our stock is all imported from the very best
herds in England, and every pig traces to the
English Herd Book. We offer for sale at lowest
figures Boars and Sows of the above breeds and of
all ages. Write for prices, or give us a call and see
our stock. Over forty head on hand.

JAS. L. GRANT & CO.,
Ingersoll, Ont. 308-y-OM

CHOICE PURE-BRED BERKSHIRES
A few grand pigs of both sexes, just weaned, from
a first-prize sow. **A. D. ROBERTS,** Walmer
Lodge, ANCASTER, ONT. 305-y-OM

PURE-BRED TAMWORTH HOGS AND CLYDESDALES
JOHN BELL, Clydesdale Farm,
L'AMAROUX P.O., ONT.,
offers for sale young Boars and Sows bred from
registered stock, imported from the best herds in
England. This famous breed of bacon pigs is re-
commended by the largest bacon curers in the world.
Try them, it will pay you. Orders now booked for
spring pigs. Some A1 Clydesdale Stallions kept for
service. Imported and home-bred Colts and Fillies
for sale. 304-y-OM

PURE-BRED REGISTERED VICTORIA HOGS.
Choice young pigs, both sexes, from Geo. Davis'
stock, sire a prize winner at Toronto. **Charles
Brown,** Drumquin P. O., Ont. 306-y-OM

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HAMILTON, ONT.

The Leading College of Business and Short-
hand in Canada. Established 30 years. Students
may enter any time. For handsome Catalogue
just out, apply to
311-b-O **R. E. GALLAGHER,** Principal.

**ADIES, SEND HALF-A-DOLLAR FOR
YARN REEL—Handiest Made—Catalogues
Free. J. J. HAZELTON,** Guclph, Ont.
300-y-O

COUNTER & CO'S
**IMPROVED
SELF-HEATING SMOOTHING**
— AND —
Polishing Iron.

THE NEW PATENT IMPROVED GRATE
which I now use in this iron makes it a most
complete success. It can now be kept hot without
the least difficulty, which, combined with its other
superior qualities, renders it the most pleasant and
profitable article in existence for performing this
most necessary work. We will send them on
approval. Write for terms and testimonials, also
for

Mrs. M. Counter's Patent Ironing Table
and Shirt-board Combined.
Awarded 1st prize at Toronto Exhibition. Only
needs to be tried to be fully appreciated.
Address—

COUNTER & CO.,
450 CHURCH STREET,
311-y-O TORONTO.

GOLD MEDAL, PARIS, 1878.
W. BAKER & Co.'s
**Breakfast
Cocoa**

from which the excess of
oil has been removed, is
**Absolutely Pure
and it is Soluble.**

No Chemicals

are used in its preparation. It has
more than three times the strength of
Cocoa mixed with Starch, Arrowroot
or Sugar, and is therefore far more
economical, costing less than one cent
a cup. It is delicious, nourishing,
strengthening, EASILY DIGESTED,
and admirably adapted for invalids
as well as for persons in health.

Sold by Grocers everywhere.
W. BAKER & CO., Dorchester, Mass.

ALLDREAD'S IMPROVED CHURN
Patented Sept. 4th, 1891.

Parties desirous of obtaining an easy working
and perfectly satisfactory churn, will find it to their
advantage to become acquainted with the

ALLDREAD : IMPROVED : CHURN
AND PRICE

before investing elsewhere. Write for informa-
tion to
M. W. ALLDREAD,
311-y-O ELLINGTON, ONT.

NEW & 2ND
ILLUSTRATED MACHINERY
CATALOGUE FREE
H.W. PETRIE
TORONTO, CANADA

NOTICES.

A GRAND INSTITUTION.—The Canada Business College, Hamilton, Ont., which has had a most successful career, covering thirty years, has opened this term with the best results in its history. The College is the best equipped and most successful of its kind, and offers young men and women a good practical course of instruction with excellent opportunities to get a start in business life. Parties desiring information should apply to Mr. R. E. Gallagher, Principal, at Hamilton.

SIR,—We have pleasure in stating that the FARMER'S ADVOCATE is one of the best advertising mediums we have on our list. WM. RENNIE, Seedsman, cor. Adelaide and Jarvis streets, Toronto, Ont.

STOCK GOSSIP.

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

Messrs. Shore Bros., White Oak, report a continued demand for Shrops, with sales at satisfactory prices. They still have a few imported ewes for sale.

DEAR SIR,—I find the ADVOCATE a splendid advertising medium. I am satisfied my card in the Breeders' Directory of your paper is the key to my success as a breeder. I have no trouble selling at good prices all the Ayrshire cattle, Shropshire sheep and Berkshire pigs I can raise.

JOSEPH YULL,
Breeder of Clydes, Ayrshires, Shropshires and Berkshires, Carleton Place P. O.

We desire to call attention of our readers to an advertisement of Messrs. T. Douglas & Son, Strathroy, who are offering some choice young Shorthorn bulls and heifers for sale.

W. S. Hawkshaw, Glanworth P.O., Ont., has imported and sold a large number of Shropshires this season. At present he has a very fine stock of imported ewes on hand.

DEAR SIR,—Our experience in advertising in the FARMER'S ADVOCATE has been most satisfactory, and since advertising in it our sales have rapidly increased, and we have enquiries from British Columbia to Prince Edward Island, so that we can emphatically say that it is an excellent medium for reaching the farmers and breeders of Canada.

SMITH BROS.,
Breeders and importers of pure-bred registered Holstein-Friesian cattle, saddle and carriage horses, Churchville, Ont.

Mr. Anzias - Turenne, writes us:—"That the horses of the Haras National were quite successful at the late Montreal Exposition, and won the following prizes: Percheron stallions—1st prize and diploma, July (1888), 2nd prize, Boston (1888), Coach horses—1st and 2nd prizes with their French coaches. Roadster—2nd prize with the French coacher Holopheme."

DEAR SIR,—The advertisement of my champion herd of Galloways in your paper has brought me applications from parties in all parts of this North American continent, from the Atlantic to the Pacific, and from Hudson Bay to the Gulf of Mexico, for the past five months at an average of fifteen a week. Your journal must have a very extended circulation, and from the style in which you conduct it, editorially, and as an advertising medium, you certainly deserve success.

W. KOUGH,
Breeder of pure Galloway cattle, Owen Sound, Ont.

Mr. Joseph Stratford, Brantford, writes us as follows:—"Mr. John Stover, Norwich, bought from me a very fine Jersey bull calf, a nephew of the great Bertha Moran, sired by Stoke Fox's 3rd. I have a few Holstein bulls left, Royal Aagie stock, that are destined to leave an imprint upon their descendants that will be apt to tell in the milk pail. At the recent sale of Shropshires, the property of the late Andrew Easton, Drumbo, I was one of the largest purchasers, buying the majority of the one and two shear rams—a fine lot in grand condition."

In a communication from R. Reid & Co., Hintonburg, Ont., they write as follows:—"Our herd of Ayrshires is headed by Robby Dick 5363, bred by Thomas Brown, Pettit Cote, P. Q.; sire Bonnie Scotland 3914; dam Docey 3224 (imp.), winner of two milk tests. Some of our females are Sunbeam 762, bred by Thomas Guy; sire Prince Charlie 126; dam Maggie 401. Sunbeam was winner of 3rd prize in 1886 at the Provincial; 1st prize three-year-old at Grand Dominion in 1884, and winner of Dominion medal as best female of any age; also winner of 1st prize as three-year-old at Toronto Fair and Grand Central Fair, Hamilton, 1884, and 1st in her class all over the Dominion in 1882 and 1883. Susie Jane 1123, bred by Joseph Yull, Carleton Place; sire Ramsay Chief 547; dam Ramsay Lass 527, a noted prize-winner for years, with a record of 32 quarts of milk in one day on grass alone. Queen of Meadowsire 1199, bred by Joseph Yull, Carleton Place; sire Jock 314; dam Pride of Ramsay 967, also a specimen of the Ayrshire breed, and winner at several of our leading shows. Lady Caroline 323, a grand year-old, the picture of her dam Sunbeam 762; sire Rob Roy of Ramsay 89. We have several young bulls, among them Sultan II.; sire Jack of Shade Park 42; dam Susie Jane 1123, winner of 3rd prize at Ottawa this year, showing very fine milk points. Emperor, sire Macduff 479; dam Sunbeam 762, a very promising calf. We have bred Ayrshire cattle for fourteen years, and our aim has been to produce milkers."

A FARMER'S STORE

35 Colborne Street, Toronto, right west of the Market.

OWNED AND CONTROLLED BY FARMERS.

The GRANGE WHOLESALE SUPPLY COMPANY was organized for the purpose of supplying farmers with all descriptions of goods at the lowest possible figures for CASH. We buy in large quantities for CASH, and all the profits we need is enough to pay our running expenses.

Be sure and order your grey flannels and woollen guerneys direct from us.

We can save you money on almost every class of goods you use, but we would especially draw your attention to these lines: Sugars, teas, and all kinds of groceries; boots and shoes; harness; stoves and scales. We are carrying a very large stock of the above, and having bought in large quantities we obtained these goods at figures that enable us to sell them at prices that will astonish you.

We are able to handle any quantity of good butter and eggs.

It will pay every farmer to send to us for their boots and shoes.

READ THIS CAREFULLY:

Mr. Kennedy, Grand President Patrons of Industry, after repeated visits to our warehouses, says: "Mr. Manning you may refer the patrons to me in any way you think best. I believe the Grange Wholesale Supply Company is just the thing the farmers should support." 309-f-OM

D. CAMPBELL & CO.,

REAL ESTATE

And Financial Agents,

415 MAIN STREET, - WINNIPEG.

A large number of choice farms for sale on easy terms. City Lots and House Properties at great bargains. 309-y-OM

FRED. D. COOPER,
Real Estate, Insurance and Financial Agent,
BRANDON, - MANITOBA.

A large number of choice improved farms for sale on easy terms in the fertile districts of Brandon, Souris and Pipestone. All information, advice and assistance cheerfully given to intending settlers. 308-y-OM

MEN WANTED—TO SELL FOR THE FRONT-HILL nurseries of Canada, which have been increased to 700 acres; stock choice and complete in all lines; newest specialties; hardy Russian fruits, etc. Liberal pay weekly; can start men to work at once; first-class outfit free. Write without delay for particulars to Stone & Wellington, Nurserymen, Toronto, Ont. 309-f-OM

FARMERS -- IN -- ONTARIO

Wishing to settle in Manitoba or the Northwest should write us before purchasing improved farms or wild lands in any part of the province. Cheap farms on easy terms of payment. Write to

WAUGH & OSBORNE,
Or to 496 Main St., WINNIPEG.
JOHN STARK & CO.,
307-y-OM 26 Toronto St., TORONTO.

BOYS FOR FARM HELP!

The managers of DR. BARNARDO'S HOMES desire to obtain good situations with farmers throughout the country for the boys they are sending out from time to time from their London Homes. There are at present nearly 3,000 children in these Homes, receiving an industrial training and education to fit them for positions of usefulness in life; and those who are sent to Canada will be selected with the utmost care, with a view to their moral and physical suitability for Canadian farm life. Farmers requiring such help are invited to apply to

MR. ALFRED B. OWEN,
AGENT, DR. BARNARDO'S HOMES,
204 Farley Avenue, TORONTO. 301-y

THE CELEBRATED BAIN BROS.' WAGON



Farmers wanting an easy running & serviceable wagon should be sure and purchase the BAIN BROS. All timber and material used is carefully inspected by ourselves before it is put together.

ADDRESS—
BAIN BROS. MANUFACTURING CO.
(LIMITED),
Brantford, - Ont.
310-k-O

THE BIGGEST SNAP EVER OFFERED

FAIRCHILD WASHER!

Sells on Sight.

A Genuine Good Article No Fake about it. Relieves Women from their Hardest Work.

CRAIG & SIBBALD,
Meadowvale, Ont. 310-y-OM

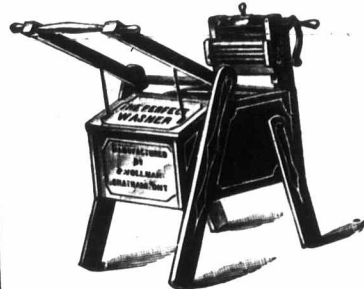
HOME STUDY

Secure a Complete Business Education at Your Own Home.

Thorough and practical instruction given by MAIL in Book-keeping, Business Forms, Penmanship, Arithmetic, Business Law, Letter Writing, Grammar and Shorthand. Prepare for Success in Business. Low rates. Distance no objection. Satisfaction guaranteed. Over 1000 students registered. Send for free Circulars to

BRYANT & STRATTON'S COLLEGE,
300-v-OM 24 Lafayette Park, Buffalo, N. Y.

THE PERFECT WASHER



Has given the greatest satisfaction to all who have used it, combining ease in working with a great saving of time and the least possible wear on the clothes. All machines are warranted for

one year, and breaks from imperfect manufacture will be replaced free. Sample machines will be shipped on trial. Testimonials furnished. Address,

PHILIP VOLMER, Manufacturer,
301-y-OM CHATHAM, ONT.
Send three cent stamp for price list and circular.

J. F. QUIN, V. S., BRAMPTON, ONT.
Ridgling horses successfully operated upon; write for particulars. 275-y

SUBSCRIBE FOR

— THE —

FARMER'S ADVOCATE

— AND —

HOME MAGAZINE,

London, Ontario.

THE LEADING AGRICULTURAL PAPER IN CANADA.

ONE DOLLAR PER YEAR.

AGENTS WANTED!

GOOD SALARIES & PERMANENT EMPLOYMENT

GIVEN TO SUITABLE PERSONS.

ON 40 DAYS' TRIAL
THE GREAT SPIRAL TRUSS

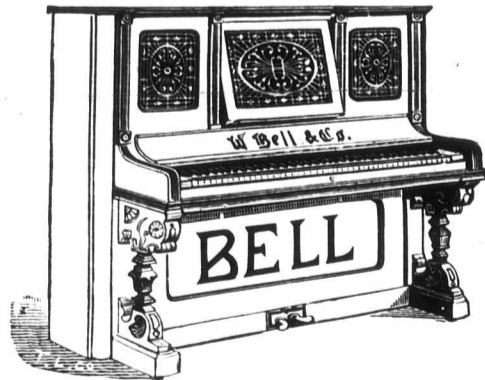
This Pad closes Hernia as if your extended hand was drawn together, closing the aperture. Truss is held positively without friction day and night, and healed like a broken leg. **There is no duty in pay when received or returned,** which many Canadians found more expensive than the truss. It is the easiest, most durable, and cheap Truss. Sent by mail. Send stamp for illustrated book.

CHAS. CLUTHE Surgical Machinist, 134 King St. W. Toronto.

J. Y. ORMSBY, V. S.

(Ont. Vet. Col.), Live Stock Auctioneer and Commission Dealer, Streetsville, Ont. Sales of pedigree stock a specialty. Member of the leading English and Canadian Live Stock Associations. Pedigrees searched and traced. All commissions personally executed.

308-y-O



Pianos, Reed Organs & Church Pipe Organs

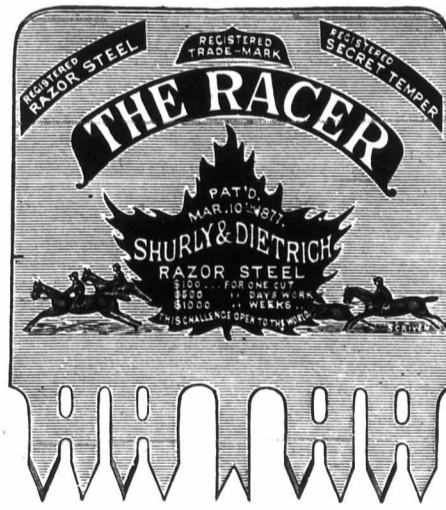
THE STANDARD INSTRUMENTS OF THE WORLD.

Send for Catalogue.

BELL ORGAN AND PIANO CO., Guelph, Ont.

309-y-O

The Razor Steel, Secret Temper, 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 cts. 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.

MANUFACTURED ONLY BY

SHURLY & DIETRICH,
GALT, ONTARIO.



Alma Ladies' College,

ST. THOMAS ONT.

The finest buildings and furnishings, lowest rates, largest attendance and highest record. Graduating courses in Literature, Music, Fine Art, Commercial Science and Elocution. Rates from \$40 to \$60 per term for board and tuition; \$190 cash pays for board, room, light, laundry, calisthenics, and tuition in literary course, music and fine art for one year. 27 pp. 60 pp. announcement sent on application. Address—

309-c-O

PRINCIPAL AUSTIN, B. D.

GRATEFUL—COMFORTING.
EPPS'S COCOA
BREAKFAST.

"By a thorough knowledge of the natural laws which govern the operations of digestion and nutrition, and by a careful application of the fine properties of well selected Cocoa, Mr. Epps has provided our breakfast tables with a delicately flavored beverage which may save us many heavy doctors' bills. It is by the judicious use of such articles of diet that a constitution may be gradually built up until strong enough to resist every tendency to disease. Hundreds of subtle maladies are floating around us ready to attack wherever there is a weak point. We may escape many a fatal shaft by keeping ourselves well fortified with pure blood and a properly nourished frame."—*Civil Service Gazette.*

Made simply with boiling water or milk. Sold only in packets by Grocers, labelled thus:
JAMES EPPS & CO., Homoeopathic Chemists,
311-y-O London, England.



W. G. EDWARDS & CO

IMPORTERS AND BREEDERS.



SCOTCH SHORTHORNS.

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.

Pine Grove Stock Farm
ROCKLAND, ONT.

ELMHURST STOCK & DAIRY FARM

CLARENCE, ONT.

Shorthorns, Shropshires and Berkshires

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. 303-y-OM

Imported Clydesdale Stallions and Mares for Sale.

Highest Prize Winners in the Leading Shows of Scotland and Canada,
AND THE GET OF FAMOUS SIRE



Such as Lord Erskine, Darnley, Old Times, McCammon, Prince Lawrence, Lord Hopton, Bold Magee, Sir Wyndham, Good Hope and Fireaway.

Prices Reasonable. Catalogues Furnished on Application.

ROBT. BEITH & CO.

BOWMANVILLE, ONT.

Bowmanville is on the line of the G. T. R., 40 miles east of Toronto and 294 west of Montreal. 289-y



IMPORTED AND REGISTERED CLYDESDALE AND HACKNEY STALLIONS AND MARES

CONSTANTLY ON HAND, AND FOR SALE AT REASONABLE PRICES

Our last importations comprise a large number of one, two, three and four-year-old registered stallions and mares, the gets of such sires as Mackregor (1857), Darnley (222), and Prince of Wales (673). Also a few choice **SHETLAND PONIES**. Correspondence solicited, and visitors always welcome.

GRAHAM BROTHERS

Twenty-five miles east of Toronto, on the C. P. R. 305-OM CLAREMONT ONT.

SECTIONAL VIEW OF WHITE SELF-CONTAINED RETURN TUBE BOILER, SHOWING DRY PIPE.



This style of boiler is used with all our threshing engines, enabling our customers to produce abundance of steam with long, rough, cheap wood. We utilize water space surrounding and at back end of fire box in connection with our improved internal straw burner.

Manufactured only by **GEORGE WHITE & SONS**, London, Ont.

Ontario Veterinary College

Temperance Street, Toronto.
The most successful Veterinary Institution in America. All experienced Teachers. Session begins Oct. 21st. Apply to the principal, **PROF. SMITH**, V.S., Edin. TORONTO, CANADA. 273-v

Dr. A. Wilford Hall's Health Pamphlet.

Health without medicine. This is no fraud, but a practical thing which, in use, is giving health to hundreds of thousands. "Microcosm" extra sent free, giving particulars.

C. C. POMEROY, General Agent,
304-y-OM 49 1/2 King st., W., Toronto.

THRESHING MACHINES & HORSE-POWERS (ONE, TWO AND THREE-HORSE)

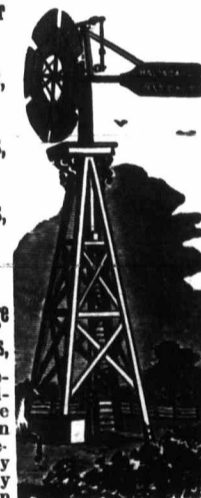


Guaranteed to be "the best" Tread Horse-power Threshing Machine made, and takes the lead wherever introduced. Agents wanted.
JOHN LARMONTH & CO., Manufacturers,
Point St. Charles, Montreal, Que.
E. G. PRIOR & CO., Agents, Victoria, B. C.; **W. F. BURDITT & CO.**, St. John, N. B.; **G. A. LEBARON**, Agent, Sherbrooke, Que. 306-f-OM

HALLADAY STANDARD WINDMILLS

For supplying constantly pure and fresh water for the following purposes, viz.:-

- Pumping Water For Stock.
- Farm Buildings, Mansions, Villa Residences, Public Institutions, Gardens, Green Houses, Town & Village Water-works.
- Hotels, Colleges, Pumping for Railway Stations, Fire Protection, Irrigation, Tanneries, Breweries, Sewage, Mines, Draining Low Lands.



These celebrated Windmills are made from one man to forty horse-power. They are perfectly controllable in gales, and uniform in speed. Catalogue and Price Lists with references mailed free on application to

ONTARIO PUMP CO'Y

TORONTO, ONT. 301-ff-OM

THE TEMPERANCE AND GENERAL LIFE : ASSURANCE : COMPANY

Offers the most desirable policies farmers can possibly secure. Speaking of its ordinary life policy, a prominent agent of one of the largest and best of the American companies truthfully said: "It is the safest and fairest policy I have ever seen." Every farmer who can possibly get it, should protect his home by having one of these policies for such an amount as will save his family from embarrassment, in case of his premature death.

HON. C. W. ROSS, President.
H. SUTHERLAND, Manager.
302-y-OM

STOCK GOSSIP.

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

David Dale, Glendale, Ont., reports his fine stock of Southdowns doing well. He has a number of very good ewes, which he offers for sale at reasonable prices. Write him for particulars.

Mr. ARTHUR JOHNSTON, of Greenwood, Ont., importer and breeder of Scotch Shorthorn cattle and Clydesdale horses, writes:—"I am one of your oldest, continuous advertisers of live stock, and I have continued to advertise with you because it has paid me to do so. While it has always paid me to advertise in the *ADVOCATE*, it has paid me much better lately than ever before."

Amongst the recent sales by Messrs. Weld Bros., of Kildonan, was the first prize young Berkshire boar, Handy, to Henry Newmarch, Strathewen, Man. He weighs over 200 lbs. now, and was farrowed on 8th March 1891.

W. D. REESOR, of Markham, Ont., the well known breeder of Jersey cattle, Clydesdale horses and Horned Dorset sheep, in a recent letter, says:—"Please find enclosed a cheque to cover my account. I find that advertising in your paper pays 'big.' I have received a large number of enquiries and made satisfactory sales since advertising with you."

Mr. J. C. Snell reports a very active demand for good Cotswold sheep, both in Canada and the United States. He has made good sales, and his sheep are in fine condition. He has a choice lot of ram lambs and ewe lambs for sale. Write him.

DEAR SIR,—Kindly stop our card in Breeders' Directory as the larger ad. will make this necessary. We have derived great benefit from this little card. Very many of our best sales came through it. It has brought us enquiries even from England, and we must acknowledge the *FARMER'S ADVOCATE* the best advertising medium we know of in this country, and we are satisfied that our enlarged ad. will bring us an enlarged trade.

H. & W. F. BOLLERT,
Importers and breeders of Thoroughbred Holstein-Friesian cattle, Cassel, Ont.

The herd of Holstein-Friesian cattle, owned by Mr. S. D. Barnes, Birnam P. O., in the township of Warwick, has been selected with care. Although the herd cannot boast of a very large representation of the breed, the families are select, and the individuals compare favorably with many of the more prominent herds.

MESSRS. G. BACH & SON, of Onibury, Craven Arms, Salop, England, writes:—"Advertising through your medium has brought us this month several Canadian and American buyers, besides letters of enquiry. Mr. W. S. Hewshaw, of Glanworth, Ont., has just purchased from us thirty-two choice shearing Shropshire ewes, and one fine shearing ram named Wool Merchant. Our flock last year won first and second at the Royal A. S. of England, for wool; also numerous prizes at all the leading shows."

The thirteenth annual sale at the Agricultural College Farm, Guelph, was held on the 7th of October, and this year a quantity of seed grain was also sold. Seven Shorthorns, principally calves, were offered, one was withdrawn, the remainder were sold at an average of \$47 per head. Some of the calves offered were fairly good, others were not good, and for some reason looked out of condition. Three Hereford calves were put up, one of which was withdrawn; the other two sold for \$69. The Aberdeen-Angus bull, Bognie, of Kinnoul Park, was sold to W. White, Ayr, for \$69. He was four years old in October, 1891. An Angus bull and heifer calf of good quality brought \$50 and \$31 respectively. An Ayrshire yearling bull and a four-year-old cow were sold, the former for \$70, the latter for \$61; both were vigorous and in good condition. An Ayrshire heifer calf brought \$41. A yearling Holstein bull of good quality, in fine condition, was bought by D. C. More, Peterboro, for \$75. The Jersey cow, Oakla Bella, was the highest priced animal sold at the sale, realizing \$100. Eleven Berkshire pigs were sold at an average price of \$8.36; 31 Yorkshires, average price, \$10.51. Six Shropshire sheep were sold at an average price of \$22.50; five Southdowns, average price, \$10.60; three Horned Dorsets, average price, \$16; eight Leicesters, average price, \$8.62; and one Cotswold sold for \$16. The pigs were a very good lot and had the appearance of being well cared for. Among so many there were, of course, some rather common; on the other hand there were some very good ones. The sheep were not in good condition. All were registered or eligible except the Leicesters and Horned Dorsets.

GLENHYRST.

50 acres, bordering on the City of Brantford.

JAMES MAXWELL, SUPT.
Shropshire Sheep.
Shetland Ponies.

Apples—(in quantity)—Plums.

Registered Stock, all ages, for sale. Three grand modernized stock farms under one management.

JOSEPH STRATFORD, PROP., [309-y-OM]

OAKWOOD FARM.

100 acres, bordering on the City of Brantford.

GEORGE WALTER, SUPT.
Have on the farm a modern wooden Silo, Capacity 250 tons. Dorset-Horned Sheep. Jerseys, A.J.C.C. Holsteins (Royal Aak-gie family). Advance Register. Chester White Pigs.

Registered Stock, all ages, for sale. Three grand modernized stock farms under one management.

[309-y-OM]

CEDARS FARM.

175 acres, eleven miles from City of Brantford.

ROBERT WALKER, SUPT.
Oxford-down Sheep.
Shorthorn Cattle.

Medium Yorkshire Pigs.

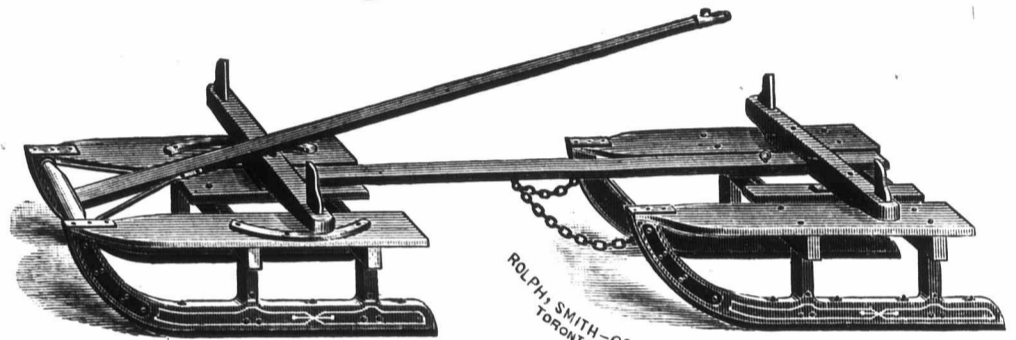
BRANTFORD P. O., CANADA.

SPRAYING OUTFITS PERFECTION

Best, Latest improved and Cheapest. Our Perfection and Empire Pumps stir the liquid automatically and will spray 100 Trees Per Hour. We make the Little Gem and Garfield Knapsack Sprayers and the Vermorel, fine spray nozzle, most economical spray nozzle in the world. Also a Horse Power Sprayer at low price. We sell Sulphate of Copper, Paris Green and London Purple at wholesale prices. Catalogue free. Write address plainly, giving county. FIELD FORCE PUMP CO. 127 Bristol Ave. LOCKPORT, N. Y.



The Bain Wagon Co., Woodstock, Ont.



FOR THIS SEASON OUR SLEDGE IS STILL UP TO ITS FORMER HIGH STANDARD.
MADE FROM THE BEST SELECTED STOCK.

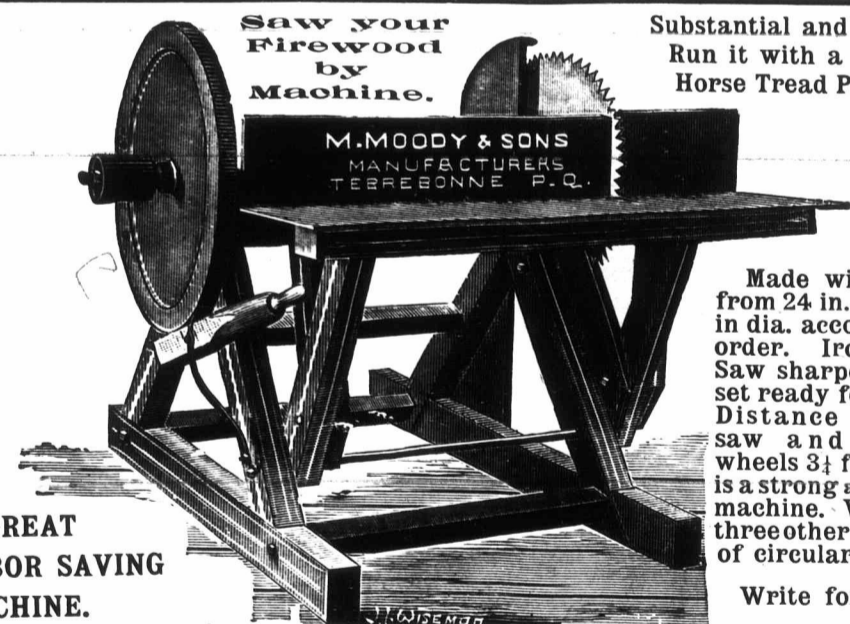
WE MAKE ALL KINDS FARM, FREIGHT OR DELIVERY WAGONS

Any size of arm or width of tire. The Studebaker Arm and Truss Rod used on all Wagons. We purchase them from the South Bend factory, and we have not had a broken arm reported to us this season. Write for prices.

WE WON'T BE UNDERSOLD.

BAIN WAGON CO'Y.

Swing - Frame - Saw



Saw your Firewood by Machine.

Substantial and Cheap. Run it with a 1 or 2 Horse Tread Power.

A GREAT LABOR SAVING MACHINE.

311-a-OM MATTHEW MOODY & SONS, Terrebonne, Que.

Made with saws from 24 in. to 30 in. in dia. according to order. Iron table. Saw sharpened and set ready for work. Distance between saw and balance wheels 3 1/2 feet. This is a strong and cheap machine. We make three other patterns of circular saws.

Write for price.

LAND FOR EVERYBODY.

FREE GRANTS OF GOVERNMENT LAND.

CHEAP RAILWAY LANDS FOR SALE ON EASY TERMS.

GOOD SOIL!

PURE WATER!

AMPLE FUEL!

The construction of the Calgary & Edmonton Railway, and the Qu'Appelle, Long Lake and Saskatchewan Ry. has opened up for settlement two new districts of magnificent farming land, viz., that between the North and South Saskatchewan Rivers, and that between Calgary and Red Deer. Full information concerning these districts, maps, pamphlets, etc., free. Apply to

OSLER, HAMMOND & NANTON,

LAND OFFICE, 381 Main Street, WINNIPEG.

Calgary and Edmonton Railway, Qu'Appelle, Long Lake and Saskatchewan Railway Company.

309-y-OM

MANITOBA THE GREAT GRAIN AND CATTLE PROVINCE HAS WITHIN ITS BORDERS HOMES FOR ALL!

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 663,764 acres.
In 1891 there was under crop 1,349,781 acres.

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

HORSES, CATTLE AND SHEEP

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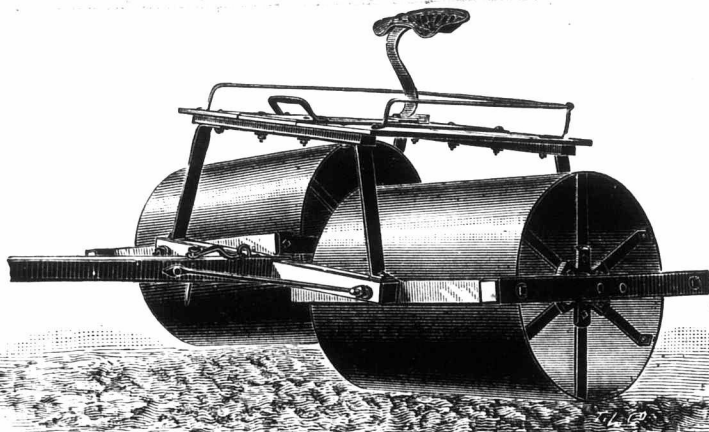
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