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AND HOME MAGAZINE.

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THE FARMER'S ADVOCATE

—AND—
Home Magazine.

WILLIAM WELD, Editor and Proprietor.

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Hard Times.

This is a general complaint. There always has been a fluctuation in business of all kinds. Canada enjoyed a long season of unusual prosperity; many that were here became independent. At the present time we are passing under a cloud, and the same depressing wave extends over this continent, Europe, and some other parts of the world. It is our impression that Canada can weather the storm as well as any other country. There have been many failures amongst our merchants; but few are holding their own at the present time. Some farmers say farming does not pay. On the aggregate, it has not been very remunerative this past year; many who have incurred debts, and gone beyond their means, will suffer, particularly those who depend principally on cereals.

Those who are engaged in the dairy business, and have proper appliances and conveniences, will find that their market will improve. Most of this class of farmers can bear the present low rate; they cannot make as much as in former years, but if they hold their own they are doing well, and some are doing more than that. Those who have been engaged in raising beef and mutton are still making money, and those who have been raising good, useful horses have a profit.

Despite the present low prices and small crops, farming is the safest business to be engaged in. We do not say that every branch of it in every locality offers a good field for capitalists, but for the industrious, hard-working man, the farm is the safest and surest place for progression. Some farmers with capital, also some capitalists, are employing their means in opening up our great Northwest Territory; there is room and an open-

ing and a competency to be obtained by all industrious, healthy, and active persons in this Dominion. There is a desire among many to change. The flattering accounts of other lands have tempted many a man to desert the flag that has protected him, and many a hundred who have left this Dominion would gladly return. The tongues of some we have personally known who left our Dominion are now silent; their bones are enriching poor soil that has been lauded and praised by placards and pamphlets beyond its merits. Some persons are apt to fly from the evils they know to those they know not of. Gain all the information you can about your business; persevere and do your duty the best you can; bend to the storm; let progress be your aim, duty your watchword, and prosperity will return and reward you; winter after summer will come, and after depression prosperity will return; it has always been thus.

England has had ten times heavier depressions than she has now. We are a part of that noble Empire. Heed not any of these gloomy tales of croakers who say that England's glory has passed and must now decay. We believe that her glory and honor and power are increasing at the present time faster than ever, and with her returning prosperity we shall prosper. We have traveled a little in the sunny South, in the Eastern and Western States, in England and France, and from what we have yet seen or heard, we say to Canadian farmers: "Stick to your business; stick to your country." Your position and prospects are good, and unequalled by any offered in any part of the world we have yet seen.

On the Wing.

Having heard of the depressed state of the nursery business, we took a trip to Rochester, New York State, this being the great American centre for this business. We found the old-established house of Messrs. Ellwanger & Barry progressing, nearly equal to times past, and having good hopes for the future. This year they will graft and bud about 2,000,000 trees and shrubs. Passing through their extensive conservatories, where numerous fine plants are to be seen, our attention was particularly drawn to a most beautiful palm; we admired this plant more than any of its species we have seen, either in England or America; it is a most perfect specimen, short in the stem, but the graceful length, density and form of the leaves were even surpassing in beauty and grace to any we have yet seen depicted on paper. Despite this, the gardener said they wished to dispose of it, as they required the room. We asked the price; \$30 was the reply. We felt as if we should like to present that plant to our Princess, but justice forbade us.

We called at Mr. Frost's. He possesses an immense rose tree, the stem of which is nearly one foot in circumference; it is in a con-

servatory, and is 20 years old. This is a white rose; 1,500 flowers have been gathered from this tree at one picking. These flowers sell for \$5 per 100, and are sent all over the States; there is a great demand for them for wedding festivities, balls and parties, and for Easter decorations. From this rose-bush or tree more money has been made than from 100 acres of nursery stock for the past five years. Some kinds of roses bring \$15 per dozen; this is for single flowers, while for the young bushes from which they are grown, not half that sum could be received. All kinds of flowers have been selling well, but the really useful and ornamental plants have been a drug in the market; for instance, pear trees that retail for 37½c. to 50 and 75c. each, have been sold at auction at \$50 a thousand, and lots of choice apple trees at \$30 a thousand; in fact, acres and acres of young trees have had to be cut down and burned. After the labor and expense of cultivating and raising trees, \$100 per acre is now being paid to grub them up and burn them. Many farmers near Rochester had planted largely of particular sorts. There has been a stagnation in business; sales could not be effected, and every device has been adopted to move the surplus. Some agents have purchased blocks of trees of varieties that have been in excess, and sold such at reduced rates; some do not scruple to attach the name of any kind of tree to any kind of stock.

Many persons have been ruined here and in other parts of the county. Brokers will not advance money on nursery stock. Now the great Bloomington Nurseries have failed—liabilities \$500,000. Many an industrious man has nothing now to show for his land and stock. The old firms and reliable nurserymen that can weather the storm will emerge from the wreck and will prosper as of yore.

Now is the time for our Canadian farmers, who have cleared farms and are clear of debt, to step in. We can instance many that have cash at interest and have unplanted farms; to such we would say—take some of that money and purchase a lot of silver maples and Norway spruce; plant wind-breaks, shade and ornamental trees. You never will have the opportunity of purchasing so cheaply again, and we believe it will pay you double the interest you are now making to plant ornamental and shade trees extensively. Make out a list of what you want, and send your list direct to several of the Canadian and American nurserymen whose names appear from time to time in the *Advocate*. Tell them you will pay cash for a good order, and you will find that you can get some kinds of trees that you want lower than ever offered to you by any traveling agent. Deal direct with the nurserymen; they are responsible; all agents are not.

If you put your name to a traveling agent's paper you are pretty sure of one thing, that is, you will have to pay, whatever rubbish you may get.

Last summer an uncommon hail storm passed over the county in the vicinity of Mr. Hooker's and Mr. Little's nurseries; the storm spent itself within one mile in length and a half a mile in width. Mr. Hooker had twenty-five acres of young fruit trees just ready to dig, the bark of which was so badly damaged by the hail that he cut the whole lot close off to the ground, and teamed them away to burn. He says the trees would have grown over the wounds, and might have been sold this year, but his experience had been such that he knew they would not give satisfaction in after years. Black rot would set in, and might show itself when the trees were in bearing. Many people would not act so honorably, but would sell to agents for what they could get. Mr. Hooker informs us that large orchards are found not as profitable as small ones, because parties having small orchards can and do manure them better than large ones. Without proper nourishment, apples of good quality and size cannot be produced. There is a difficulty in getting sufficient manure for large orchards; hens, calves and pigs help the small orchardist, and these are not so readily obtained for the large orchards.

Canadians complain about high taxes. In Rochester they pay \$3.75 per cent., and building lots are only half the value they were. We hear that lots of property can now be purchased throughout the State at one-quarter the former prices. Labor costs only half what it formerly did; laborers now get 87½c., formerly \$1.75; carpenters \$1.25, formerly \$3.50.

You need not imply that all kinds of trees can be had below cost; some varieties are still scarce. Norway spruce and silver maple can now be purchased at the right places lower than ever before, or perhaps lower than you will be ever able to procure them again.

A BIG EAGLE.

We had a conversation with Mr. Hiram Sibley, who is considered the most wealthy person in Rochester. He is and has been a remarkable person, a kind of natural genius and a self-made man. He informed us that he never served an apprenticeship to any business, but has worked as a journeyman at five trades. When a boy he saw a shoemaker make a boot, and on a wager he took the tools and made a mate to it; the customer could not detect the difference between the one made by the shoemaker and that made by Mr. Sibley. Mr. S. moved from Massachusetts to Rochester, and was not worth five shillings. He commenced trading—got a horse and made a kind of a jumper, and started for Canada with whips, boots, spinning wheels and other Yankee notions. He traveled through Ontario and got acquainted with every merchant, making sales to all; and in the winter of 1830 he drove 3,000 miles in Canada and collected every dollar from sales made. He says no trader ever did such work and none shall ever do it again. He next dealt in iron, and put up several mills and manufactories in Canada and the States. He built the manufacturing village of Sibleyville. He next projected the Pacific Telegraph Line and carried it through. He then went to Russia and obtained the assistance of the Czar to build a line across Behring's Straits *via* Siberia; he made much money and owned half the capital in one bank. Besides constructing railroads, he lent a lot of money to farmers on mortgages; now the hard times are set in, he says the owners of the farms are throwing up the sponge in all directions and he has to take the land. He lent nearly \$600,000 on the Sullivant Farm; this farm is in Illinois, contains 32 square miles and has 332 miles of hedge dividing it into blocks. He came into possession of it about three years ago, and is now

farming it at a cost of \$123,000 for labor for one year to run it. Corn is the principal crop in summer; it takes 400 men and 400 mules to cultivate it. The corn cribs on this farm, if placed in a row, would be 4½ miles long. Last year, besides corn, they grew 4,000 acres of flax. Lots of other farms in New York State and other places are falling into his hands; he says they are coming in in showers. He now owns over 400 farms of an average acreage of 140 acres, or land equal to it. While we were there one farm of nearly four hundred acres, in New York State, fell into the hands of this gentleman. The owner paid \$27,000 for it; Mr. Sibley lent him \$10,000 on it. Mr. S. considers the farm worth what the man paid for it, but money is so scarce and tight that people that are in arrears find it difficult to live. He had loaned the monstrous Seed Establishment of Briggs Bros., of Rochester, over \$300,000 last November. He took that whole establishment, and now claims to be the largest farmer and largest seedsman on this continent. He does not wish to hold the lands or seed business. When a suitable opportunity occurs he will sell his lands, &c., as he considers he can use money to better advantage.

He gives some of his wealth for beneficial purposes; he has erected a Hall for Science and presented it to Rochester; he also built and endowed a college at Ithaca, and his wife built a church on the site where Mr. and Mrs. S. were born. Mr. Sibley saw the first tree cut in the city of London, Ont., for the site for the court house; this was the first demonstration ever made for the establishment of London as a place of note. He was taking a meal with General Brant, when that General got up from the table attacked by the cholera, from which he died. He had a kind of a fight with Sir Allan McNab, and vanquished him. He relates with pleasure and gusto many pleasing incidents about Canada. He is now between 70 and 80 years old, and never lost a tooth until over 70; he feels as young and active as ever.

We do not wish to tempt our readers into trade. If they look at the failures and know anything of the trials connected with trade, they might soon wish themselves on the farm again. We doubt if any one of you would have the ingenuity to make a boat without being taught.

U. S. Stock Disease—Danger.

In this issue, we willingly insert a letter from our contributor, Professor James Law, on Pleuro-pneumonia, especially referring to an article in the January number. We say it is our duty to ward off the probability of danger. It is of no use "locking a door after the horse is stolen," neither is it of much use to attempt to separate the name of good, sound Canadian productions from inferior or dangerous productions of the States. The safest way to err is on the right side; if we never attempt to gain a name for superiority we shall never have it; if we had our way we would not allow another horn or hoof of cattle or swine to be admitted into Canada from the States, under any pretext, until the diseases be entirely stamped out in that country—pleuro-pneumonia, foot and mouth disease, trichina and cholera. Railway interests and commission men might suffer, but our farmers would be able to obtain the highest prices and make money. There is no grand victory gained without some sacrifice; the greatest interest of this Dominion must be agriculture, and stock must be the most profitable part of that business. We say close the ports immediately against danger. If there is one legislator who has the interest of the farmer more in view than other matters, we hope his attention will be called to this by some of our readers.

YET ANOTHER PEST AMONG U. S. CATTLE.

We have not heard of any such disease in Canada as that mentioned in the following extract from a U. S. exchange:

"SINGULAR DEATH OF CATTLE.—Mr. George Gentry, of Illinois, informs us that last Saturday he had three head of cattle—two milch cows and a steer—die in a somewhat mysterious manner. After their death he cut open their bodies and found along the 'short ribs' on each side of them, just under the skin, a double-handful of singular-looking worms. The worms were about three inches in length and had many legs, looking somewhat like 'thousand legs.' They had stripped all the flesh off the bones of the poor brutes in their vicinity, and this no doubt caused their death."—[Interior Journal.]

Off the Wing.

(Continued from Jan'y No., Page 9.)

While lying at the foot of the tree Mr. Smith's two fine deer hounds came to us. Mr. Smith's mustang had become so unmanageable that he was obliged to return home; our other companion kept on his course for some miles, expecting to find us. We know not how long we remained on the ground. We never have seen our mustang since; he was seen about four miles from the spot, on a lope towards Texas, where it was first captured. We got up, washed the blood off as well as we could, then laid on the ground trembling from head to foot in a fearful manner. A beautiful Cardinal bird, perched on a tree close by, sang very sweetly, and quails and other birds were



THE RETURN.

heard. After lying about an hour, we got up, cut a bush for a parasol, as the sun was hot, and emerging from the wood, found the road to return. On our way we saw through the dense foliage of the trees three black things on an oak tree; at first sight we thought it was a bear and two cubs; we crept stealthily along and peered through the brush, and found them to be only three very black and large knots, growing to the body and on the limbs of an oak tree.

At our hotel we changed our damaged clothes, washed, took a little spirits from a "pocket pistol," and rested the remainder of that day. We could not purchase any spirits at the hotel, the sale of it being prohibited in Missouri, except by chemists; there were three chemist's shops there, and they appeared to be doing a thriving business. One man we saw there said he had been out fishing and got wet; he wanted some chemical. Another had hurt his hand with a log; he wanted some drug. And the third had the diarrhoea. The chemist's shops were the principal places of resort for chat, &c., and spirits are largely sold there for medical purposes. One would think they had a plague or pestilence in that place, for we saw more people hanging around these shops than we have seen about a Canadian country hotel for some years. We saw no quarreling or fighting, and the people were civil and obliging.

This place, Poplar Bluff, may become a place of some note some day; in fact, at present no

station is equal to it for more than 100 miles each way. Village or town lots bring a good price. There is a farm just back of the station on the bottom land, on which is a house, orchard and clearing; the land is black and rich, and the price asked is only \$10 per acre; other farms are offered for \$7 per acre. The upland on the opposite side of the station is much dearer, but what, in the future, millions and millions of acres in this part of the county will be worth, we cannot conceive. Some of the land looks good, but grass does not grow as with us; a great deal is flooded to the depth of three or four feet by a sudden rain. Millions of acres have been taken up from the Government and the State, and have fallen back again into the hands of the State, because the taxes could not be paid. People at a distance have been tempted to invest; it appears all very fine to be the owner of a million acres, but millions of dollars have been sunk in attempting to hold land. It has proved a most ruinous investment for capital. We would rather own one acre of good farming land that we have seen in England, Canada, New York State or Michigan, than a thousand acres of land that we have seen in Missouri and Arkansas. From the one acre a profit could be realized; from the thousands we have seen we do not believe one cent of profit can be realized in this or the next generation. Still there are spots and localities to be found where people can and will do well in this country. The climate is most relaxing; the energy and vim is soon taken out of a man and they settle down into a kind of careless, indolent, shiftless state; still they can talk, and one might almost think they were living like princes. But on going to the houses there is not one-fourth part of the comforts and luxuries to be found that there are in the bleak, cold, snow and ice-bound country of Canada.

At the right season of the year the South may look pleasant, but danger lurks unseen and will show itself most assuredly in many ways undreamed-of. We do not condemn all the Western and Southern States; there are some good localities and openings in both. But we have yet to learn if there is a finer and better place for farmers on this continent than Ontario. We cannot advise you to go to Missouri, Arkansas or Kansas; we say from anything we have yet seen in either of these States, stick to Canada, and you will be wealthier, happier and more contented.

February is considered by many the duller month of the twelve; by others the most important. It is considered that a heavy body of snow and continued frost throughout this month are of great importance; if the bare ground is seen the prospects for the other twelve months are not so good, as this month is said to govern the year. Your plans for this year's labors should now be fully planned. If you intend to use ice for the dairy, you must now get it. Building material should now be on the ground, and the planting of trees or vegetables should be now planned. If you intend to reduce your arable land, and seed more to grass, prepare now for the change; and if you intend to have a creamery in your neighborhood, be up and doing. Have a Farmers' Club established; we hear of good, useful information being disseminated at such.

The annual election of officers of Agricultural Societies took place during the past month. The law applying to the necessary payment of subscriptions previous to the commencement of business, will cause all interested in such societies to make punctual payment in future. Some officers have lost their seats and others their votes by not duly attending to this subject.

Breeding Cattle for Export.

BY A. C.

Now that it has become an established fact that cattle can be exported to the British markets at such rates and at so moderate a risk as to give shippers a fair margin of profit, many of our farmers will find it to their interest to commence grading up their cattle to the highest standard of excellence in regard to size, early maturity and feeding quality. Already the demand for first-class beefs exceeds the supply. For many years to come the grading and feeding of cattle for exportation is certain to prove a grand source of revenue to those farmers who will begin in the right way and persevere through to the end. Three things are necessary to success—good stock, good feeding, and comfortable quarters in the winter.

To commence with, large framed thrifty cows and heifers should be procured. Cross them with a Shorthorn Durham bull of good quality and unexceptionable pedigree. A grade bull, no matter how good he may appear to be, has not that concentration of blood in him to ensure his being depended upon to bring good progeny. No Shorthorn can be considered thoroughbred unless the pedigree shows a direct descent on both sire and dam's side from animals that trace back to direct importations recorded in history or the herd books. Our Canadian Herd Book Record is faulty in this respect, that it admits animals to record that can show four crosses. In many of these they end only in a common cow, not a shorthorn, or entitled to any record. Once the crossing of Shorthorn blood is begun it must be preserved in, and the further up it can be carried the better will be the results. The produce of a first cross of a shorthorn bull upon a common cow will be half shorthorn; the next cross upon this produce, if a female, will be three-fourths pure blood; the next seven-eighths, and so on. Let the calves be kept in a thrifty growing state while young, and the males steered when very young. Good pasturage and water in summer, with plenty of feed and warm quarters in winter, will bring them on rapidly so as to be ready to put up to fatten at three years old, by which time the young steers should average 1,400 pounds live weight, if not more. The heifers had better be retained for breeding, and fed off after having had two or three calves.

If it is not considered desirable for the farmer to feed up for beef these young grades at 3-years' old, they ought to fetch good prices from those who make a practice of feeding on a large scale. A common scrub would be dear to a feeder at 2½c. per lb. live weight, when a good grade would be cheap at 4c. per lb. If a fair price cannot be had from a drover, do not sell, but feed yourself, and the exporters will find out where good animals are and pay full value for them. Steady perseverance in breeding only a high class of stock will soon bring up the standard of excellence of the general run of our cattle to a much higher point than they can show at present.

The article in this issue by Professor Arnold on "Coloring Cheese and Butter" deserves perusal. Question:—Would it not be well to withhold prizes from butter and cheese artificially-colored at our Exhibitions?

It is stated in the *Michigan Homestead* that one bushel of barley is worth about two bushels of oats for feeding purposes. As the cost of production is not materially greater than that of oats, bushel for bushel, the profits of the crop as stock feed must be much greater than is generally supposed.

Mr. Slow and his Friends.

BY T. H.

Now that we are on the commencement of a new year, let us consider the situation and see what can be done to remedy the existing state of things. The true and only remedy may, in my opinion, be condensed in a very short sentence, namely—Good Management and Strict Economy. The first should be practiced at all times, and the latter should be only relaxed as the circumstances of the individual may justify, from increased income—the result of good management.

Now, what can we do at this season of the year to contribute to these ends? Much can be done. 1st—To solemnly and sincerely determine that, with God's blessing on your efforts, you will honestly and earnestly endeavor to improve the position of yourself and family; that you will practice the strictest economy until your paying power has increased sufficiently to pay your way as you go; that you will contract no debts whatever that you can possibly avoid in the meantime. 2nd—That by good management of your farm or business you will strive to so increase its productiveness that the increased returns will enable you to reach that position which every man should aspire to, viz.: "To pay as you go!" This should be every man's motto. And an endless amount of vexation and annoyance would disappear, and this fair country of ours would appear in a new light, and to possess charms and beauties which many of her sons to-day cannot see and do not believe she possesses, simply because they are enshrouded in a mist through which they cannot see their way, said mist being largely composed of debts, dues and demands, in every imaginable shape and form, from a mortgage to a shoe bill, till the frightened and wary traveler comes to the conclusion that this is a dreadful country to live in, and he must seek a home elsewhere. Poor man! He little thinks where the fault lies. In nineteen cases out of twenty the fault lies with himself, and good management and economy practiced during the past ten years would have removed all these obstacles from his path and enabled him to see clear. Now, having formed this resolution, which may be called the foundation of future success, he must next think, and while he is thinking he must act; in fact these two factors must be kept constantly in operation, allowing only proper periods for rest and nourishment; and he must be always vigilant, he must keep a watch over himself, and see that his old enemies, idleness and extravagance, &c., do not again ensnare him, and so once more reduce him to slavery. Having resolved to stick to his new friends, "Good Management" and "Strict Economy," he must study their component parts, individually and collectively; he must know them fully in detail; he must study them like his multiplication table; he must be able to place his finger on the very figures he wants at any moment. The more he studies the more he will learn, and the more he learns the more he will study, because he will find it profitable. Let us now proceed to examples. Good Management says: "Mr. Slow, those cattle of yours are getting poorer every day, and the sheep are no better, they require better food and attention. I know they are only scrubs, but still, since they are all you have, you should provide them better food and shelter, and, mind you, they want something better than snow to slack their thirst. If you have no roots or meal to give them, you can at least procure them water, and stick up some temporary shelter, and make up your mind to provide better food for them next year. Those calves are poor and lousy, and those sheep are full of ticks; try and destroy them at once, and let the poor things get

the benefit of what poor nutriment you have to give them. Mind you, you want to raise beef, and butter, and mutton, and wool, in place of sheep ticks and cattle lice. And I notice also that your sheep are covered with burrs, and between burrs and ticks I fear you will have little wool for market or for use in your family. Moreover, those sheep should be clipped behind about the 1st of March, so that they do not spoil a large amount of their small fleeces by scouring when they begin to gnaw the heart out of the grass in the spring, for of course you let them run all over your meadows as soon as the snow begins to disappear. You have to do this, I know, to keep them from starving. At the same time, I would remind you it is equal to mortgaging your hay crop at 20 per cent. Think of this, Mr. Slow, and before I leave you I would advise you to look after things yourself, and not leave all for the boys to do. Those pigs of yours look half starved, and you have twice too many of them these times. Remember there is no profit in pork raising in this country at present prices, and unless you have well bred and well fed hogs you will be a loser. Next year I would advise you to winter only one or two good sows, and be sure to send them to a good hog early in the season; then feed well and sell alive if you can early in the season. It is very bad management to try to fat hogs in cold weather, (hogs should be fat ready to kill the moment the cold weather sets in). And say, Mr. Slow, be sure and send those cows to a good bull next season. Mr. Sharp has a good Durham bull, a good pedigree animal; also a good Clydesdale horse; and Mr. Dollar has some good Cotswold rams and Berkshire pigs. Try and remember this at the proper time, and try and raise some better stock, and get rid of those scrubs as soon as possible; there is no profit in feeding such animals. Again, I notice your horses not looking any too well, and your harness looks as if it had not been cleaned since it was new, which is some time since. Better get it fixed up and cleaned before the spring work comes on; you won't have time then. And if your stable is very cold, a few battens over the cracks, and a blanket on your horse, is cheaper than hay and oats, even at present prices. These things all require your immediate attention, and you will perhaps be surprised to see the change for the better in a short time, and you will learn to take more interest in your cattle and stock than heretofore. Try and make the acquaintance of every animal about the place; take a currycomb or brush and rub them down once or twice a week; they like it, it makes them gentle, and you will ascertain the exact condition of every animal about the place; and when you have occasion to handle them for market, or any other purpose, it will save you much trouble and annoyance. And Mrs. Slow informs me that she never can get her hens to lay early like some people. She says that when eggs are a good price she never has any to sell. Fit up your hen house, make it warm and comfortable, and give your hens some meat scraps. You can call at the butcher's next time you go to town and get a beef liver or pluck, and get Mr. S. to boil it and chop it up; this and a little barley in cold weather will soon make your hens lay. Remember, one dozen of eggs now are worth twenty by and bye.

"Excuse me, Mr. Slow, for telling you all this, but I wish you well, and would gladly see your circumstances improve, and this prompts me to speak plainly; and while I am about it I may as well tell you that I have noticed for some years that your place has been running down; your fences are getting bad, and no effort is being made to renew them. Your land is very foul, and I

am sorry to see that you had neither fallow nor green crops last year, and very little pasture; two thirds of your land has been under wheat or barley for the last ten years, and still you find yourself getting poorer every year. No wonder! you make nothing but straw yard manure, which is not worth hauling to the rear end of your farm. Your grain is choked with thistles and foul weeds till you hardly know whether you have the greater bulk of thistles or straw, while your grain is nearly half hen feed. You require a change of seed. Get some good reliable kind, none of your Eldorado, but something you can depend on. Sow less straw grain, and seed down to clover every piece of land in rotation as fast as you can. Raise more peas and corn and roots; feed all you can afford to feed to your stock, but do not cram it all into your horses; remember working horses do not require to be fat to be strong, they only require to be kept in good health without any superfluous fat. Much wealth is lost by over-feeding farm horses, to the great detriment of the rest of the stock. I would also remind you, that if you could manage to provide a ton of bran at present prices, you will get it back twice over before the year is ended: 1st. In the increased product of your cows next summer. 2nd. In the increased yield of grain or grass where such manure is spread, to say nothing of the improved condition of the soil."

(To be Continued.)

The Month.

Get the old ship ready; see that every block is ready for running smooth, every sail in order, every rope taut; have her painted up and sails all prepared. Next month you may begin another annual voyage; be prepared for storms or fine weather. See that everything is now ready and convenient.

Feed your teams well; give all your stock lots of bedding this cold month. This saves feed; it keeps them warm and comfortable; the bedding saves the ammonia for your crops; if you have not plenty of bedding, buy some from old Slow Coach or Starve Farm; if not sufficient, get some sawdust from the mill, if convenient; give the hogs bedding enough to bury themselves in. Give some corn to the chickens to scratch in; take a drive to the best farmer's house within reach of you, and see if you could not change some seed with him; your change should be from clay to sandy soils, or the reverse. At the end of this month the boys might put up a hot-bed; the girls would be pleased to look after it, and have flowers and vegetables before their neighbors.

Look well after the lambs; they will be your most profitable crop this year; don't lose one; have a warm place to put the ewes in that are about to lamb. Should you get one chilled in a cold-snap, take it to the fire, rub it dry, give it a little warm milk with some whisky in—this has saved the life of many a lamb. Give the sheep a little grain, and the young stock also. This is the time to feed; it will pay better than selling grain, or money at interest. If you have your stock in right trim now, and you keep them right this month, we will risk your success for the season. If you go to a farmer's yard in February you can tell whether you can trust him or not. A farmer that has everything right in February can either borrow or lend money profitably. The farmer that has bags of bones in his yard now can neither borrow nor lend money profitably. Farming is now on a cash basis. The rule of thumb will answer no longer in Ontario.

Caution.

We have one complaint from London Township, and another from Exeter, in the County of Huron, that there are some smart agents travelling through both sections of the country, who have induced lots of farmers and farmers' wives to subscribe and pay cash for papers published across the lines. We hear that a large amount of money has been collected, and that the expected papers have not been received. They fear they have been defrauded, and we presume their fears are well founded.

Would it not be well if our Government were to raise part of its revenue by making travelling merchants pay a good sum as a license, equal to what the rent of a building in a city would be, and grant licenses only to those who are following a really legitimate and useful calling. There has been so much deception and fraud that many honest and too credulous farmers, and even citizens, have been injured by these unprincipled travellers, that we believe an act to check this class, and stop the roving population, would be of good service to the country. It would tend to reduce the tax now heavily borne by permanent settlers, and also throw business into its proper channel instead of being in this roving carpet-bag system under which it is now carried on.

What revenue do these travellers return to the public treasury? Do they not take the cream from permanent establishments? They should be made to bear part of the expenses of our country; whereas they are untaxable, unassessable, and sometimes unreliable. Farmers, what do you say?—Shall we take the class in some way, and try to have some of them stopped altogether? Of course there are some travelling agents who really do good, and a judicious discrimination should be shown, but all should bear part of the expense of our Government.

Notice.

Some few persons have formed the erroneous idea that we give prizes to subscribers. We only give the paper for \$1. Should we give presents we would be compelled to curtail the expenses on the paper, and that would not suit us—we wish to improve the paper in every possible manner. We give handsome presents to those who will take a little time and induce others to subscribe for it.

Our Dominion Picture we are now sending out to those who have earned it by sending us two new subscribers, or have paid one dollar for it. It has cost us many hundreds of dollars in getting up the design, etc. We first intended to have had it made in England, but the failure of a firm there prevented it, and a Canadian company agreed to get it up quite as well as we could have it done either there or in the U. S., but have not fulfilled their agreement as satisfactorily as we could wish. However, we may be fastidious. We quote the following remarks anent the first picture sent out, and the only one yet received:

"The picture is a very fine one, and reflects credit on all concerned in its production. It is expressly interesting to the juvenile members of my family. I intend to have it framed and present it to my daughter."
T. H., Meaford."

We hope to see this Dominion Picture in nearly every subscriber's house. To show this picture properly frame it full size of paper in 2½-inch gilt frame.

Thomas Boak, of Milton, Ont., has sold his Shorthorn bull, Duke of Cumberland, to Henry Wood, of Stratford, for \$5,000. Duke of Cumberland won 15 1st prizes and 7 diplomas, besides medals, and the Centennial award of 1876 for the best bull of any class. An account of this bull appeared in our October No., 1877, which may have assisted the sale.

Dairy.

Coloring Butter and Cheese.

BY L. B. ARNOLD, SECRETARY AMERICAN DAIRYMEN'S ASSOCIATION.

There is constant complaint coming from both dealers in and consumers of dairy products, and we will not say unjustly, of a want of skill in producing goods which are durable, palatable and wholesome. But these same parties almost invariably insist on conditions which contribute more or less directly to the very faults of which they complain. Reference is made to the demand for artificial color in butter and cheese. There is a limited demand for uncolored butter and cheese, but the great bulk of either must be obtained with a pigment, or be accepted at a loss in the market.

The most favorable view that can be taken of this artificial coloring is, that it is useless and expensive, but it generally happens that it is a positive injury. It is a fact, apparent to those who are careful to observe, that coloring in cheese is detrimental to both quality and keeping.

The matter from which the color is derived—annatto or an extract of it—is not very objectionable, except that it occasions a needless cost. It is a comparatively inert substance. But the strong alkali, in which it is prepared, is a different thing. An alkali is invariably injurious both in butter and cheese, according to the amount used. Its chief injury is not, as one might naturally suppose, from saponifying the fats in either. Its chief action upon both is upon their albuminous matter, for which it has a stronger affinity than for their fats. The powerful action of potash upon fats in soap-making, leads to the supposition that its strongest affinity is for fats. But this is not true. Potash has a stronger affinity for flesh and flesh-forming matters, of which casein in cheese is one, than it has for oleaginous substances. There is from one-half to two per cent. of flesh-forming matter in butter, and it makes up about one-third of the substance of cheese. The action of alkalies upon cheesy and other flesh-forming matter is to soften, dissolve and decompose them, and hence hasten their decay; and it is from this action of the alkalies used to cut the coloring for cheese and butter, that the injury from coloring usually comes. Our butter and cheese are, in their best estate, too short lived, and we have no occasion to impair their keeping by treating them with alkaline solutions to hurry on their decay.

The affinity between alkalies and the coloring matter in annatto, is also stronger than their affinity for fats, and it is from this strong attraction that concentrated solutions of potash and sal soda are used to dissolve and take up the coloring. Fats also have a considerable affinity for coloring matters, and are capable of taking them up quite freely. These various affinities of alkalies, fats and coloring matters, when used in cheese, occasion some curious changes which it may not be altogether uninteresting to trace. In using, the liquid coloring is mingled with the milk of which cheese is to be made, just before the rennet is applied. Upon mixing with a large mass of milk the lye becomes so diluted that its action is slow and weak and only noticeable after some time and by careful observation. In the cheese the following changes occur:—The potash and sal soda slowly let go of the coloring matter and combine with the cheesy matter, for which they have a stronger attraction, and which they tend to soften and dissolve. The coloring matter being now free from its alkaline companions, is at liberty to unite with something else, which it does by uniting with the fat in the cheese, for which it

has a stronger affinity than for the caseous matter. In the curing of cheese, the fat holds all the coloring matter and the casein none. This is proved by separating the constituents of cheese by digesting with pepsin. The casein dissolves out in a colorless liquid, and even lumps of undigested curd appear as white as snow. The fat not being much acted on by stomach digestion, separates and rises to the surface, holding all the coloring, its final digestion appearing to be the slower the more coloring it holds.

Observation has settled the fact that caustic alkalies destroy the action of rennet, fast or slow, according to their strength. If an extract of rennet is made alkaline, its destruction is only a question of time. All the caustic alkali put into cheese, counteracts the cheesing process to the extent of its strength, and impairs the texture of the cheese. If enough is put in, the cheesing will be entirely arrested and the curd not without curdling.

The quantity of lye used in coloring cheese, though small, is enough to enable an expert cheese-maker to discover that his highly-colored cheese cure a little more slowly and imperfectly, and get "off" a little sooner than his uncolored ones.

From the readiness with which potash and sal soda dissolve annatto, they are generally used to prepare coloring for both cheese and butter. But other things are sometimes used. Ureic acid, a well known and offensive acid of animal origin, is sometimes added to potash or soda, forming a urate of potash or soda. The action of the urate is less severe upon the cheese, and makes a finer color to begin with, than the caustic potash or soda. But strong, lactic acid decomposes it, often changing its hue and causing the surface, and sometimes the interior, to have a mottled appearance. It is a filthy coloring for either butter or cheese.

For butter, alkaline coloring is always wasteful. It must be used by mingling it with the cream, when the great bulk of it is taken up by the buttermilk, which is only the worse for being colored. The very small part which attaches to the butter is too minute to produce any ill effects which are immediately visible. After a time they develop. But they are so slow and so slight that many people—the writer among them—have been led to believe, and to express the opinion, that no injury was done. More extended and careful observation have shown otherwise.

The juice of carrots and other vegetables are sometimes used for butter, but the vegetable matter carried into the butter soon decays and changes its fine aroma and develops rancidity. No matter what artificial coloring is applied to butter, the butter is always intrinsically the worse for it. But consumers require it and the requisition must be heeded. In complying it is best to use what is least objectionable. This is believed to be coloring prepared in oil. It takes the smallest quantity, leaves no color in the buttermilk, and affects the butter the least. If skillfully prepared it is nearly inert. But even this is unsafe, for if oil, which is not sound and pure in flavor is used, it leads to rancidity and decay. But if oil is employed which will remain sound and sweet as long or longer than the butter-fats with which it is to mingle—it reduces objections to a minimum. But it would be better to avoid artificial coloring at all, both in butter and cheese, if it could be done without a loss. So long as it cannot, it must be regarded as a necessity and legitimate. If dealers would join with manufacturers in trying to do away with the foolish demand, there might be some hope of success. But so long as dealers encourage it, and such high authority as the executive committee and judges of the late International Fair, insist on giving to artificial color as much importance as they do to flavor, texture and make, there is little hope of mending the injurious, expensive and foolish custom.]

Scientific Butter-Making.

The milk stands thirty-six hours before it is skimmed, and after that of the evening has been received, our superintendent, like a good clerk, fills out her return for the day. She has printed blanks which give the names of the cows as they stand in the stable. Two columns are ruled for morning's and evening's milk, and the weight of milk given by each cow is recorded as we have said. The disposition made of the whole quantity is then noted, and the dairy is charged with its proportion, when deductions have been made for the house, the families of the men, and the young calves. Such a report is filed daily, and so complete is the system that it takes only a few hours at the end of the year to tabulate a full statement of the 365 days.

The cream is strained or filtered, by which a thorough homogeneity is secured, and without which it is impossible to obtain all the butter except by a second churning. The strainer in this instance is a cylindrical can divided into two compartments by double bottoms, the upper one having two tube-like sieves with conical mouths, into which two "plungers," worked by a pump-handle, fit. The cream is poured into the upper compartment, and the "plungers" force it through the sieves into the lower compartment, in which it arrives ready for churning. The churning is done twice a week, in a Blanchard factory churn, and, the temperature being 62°, the butter appears in about 40 minutes. The next process is known as "working," which is altogether done by a machine, in quantities of 30 pounds at a time. The machine consists of a turn-table in the form of an exceedingly flat truncated cone and a conical grooved presser. Between the revolving cone and the presser the butter passes, and is crushed and crushed again until all the buttermilk is forced out of it, and discharged into a pail at the outside edge of the turntable. The crank that causes the revolutions is attended by an assistant, while Perdita herself supervises, dredging in the salt, and taking care that the work is not overdone.—*Ec.*

The Production of Butter and Cheese in the United States.

The rapid development of this source of national wealth in the United States within a few years has done more for the advancement of improved agriculture than any other industrial pursuit. It has been a means of diverting the farmers from the almost exclusive attention of the cultivation of wheat and maize; to the care of cattle and to the providing food for them for winter, as well as for summer; to the growing of grasses and leguminous plants, and as an inevitable result to the enriching of the soil by improved systems of agriculture. The more stock fed on the farm, the more manure. The importance attached to the dairy industry by the United States was well shown by the interest centered in the International Dairy Fair, held at New York, during the week ending December 2nd. Within a period of thirty years the production of butter and cheese, as specialties, has extended throughout the States of New York, Pennsylvania, Ohio, Illinois, Wisconsin and Iowa. California has within ten years changed from an importing to an exporting State in dairy products, and even in Colorado there are cheese factories.

"The productions of cheese and butter have increased 33 per cent. this year, and the exports have been in like proportion. The cheese and butter exported this year have paid freight to the amount of over \$1,000,000 to the ocean commerce of this port, or a sum almost sufficient to support a line of weekly steamers. These articles pay to the railroad companies over \$5,000,000 annually for transportation, and the article of milk pays nearly as much more. Loaded on railway cars, ten tons to each car, the butter and cheese produced in the United States in one year would fill 22,000 cars, and make a compact line 135 miles long.

The great extension of this industry is of great interest to Canada, as well as the States. The productions of butter and cheese as well as meat for the European markets is with us but in its commencement, and even now it is acknowledged that Canada within a brief period has become a competitor worth noticing in the English markets—competitor to the extent of 80,000,000 pounds yearly, whereas she formerly imported cheese from the United States.

Agriculture.

Too Much Farming.

We believe that one of the greatest evils among our farmers is that they try to cultivate too much land. Too large a number never stop to think that it takes more time and considerable more expense to half cultivate a large farm than it does to well cultivate a small one. One of the richest and most successful men in this section told us recently that for twenty years he never cultivated more than twenty acres, but he made it a point to cultivate it well.

We have seen farmers put in sixty or seventy acres of wheat with one team. As a consequence, it would be put in in a very poor condition, and of course it would be a poor crop. Well, it takes a good while to drive a reaper over that amount of ground; it takes more time to drive over the ground to bind and shock it; still more time to haul it in to the stack, besides having only half a crop. Suppose he puts in twenty acres of ground; he has time to plow it well, harrow it two or three times to get the ground mellow and fine, and drill it down, and, if necessary, top-dress part of it with manure, reserving only a small piece to drill. Then he can cut, bind and shock it at a great deal less expense, and he gets a good crop.

The farmer we have spoken of said he never raised less than twenty bushels of wheat to the acre, if he only had fifteen acres. Any one can see how much money he would make clear if he got three hundred bushels off his fifteen acres. More than the man who had thirty acres and got ten bushels to the acre. The saving in seed, plowing, harrowing, &c., would be considerable.

What we need is closer farming. To raise big crops, manure your land and cultivate your crops well. What is said of wheat can be said of corn, oats, hay, potatoes, fruit and stock. A great many farmers never stop to think that it costs as much to feed a poor hog, horse or cow as it does a good one. But that style of farming doesn't pay now. Every business man has to manage on the closest basis possible to obtain a profit, and the farmer who now expects to make anything must work everything to the very best advantage. It is better to leave half your land idle, or use it as a pasture, than to half cultivate and raise half a crop, when by close cultivation and manuring you can raise the same quantity of grain on half the land, and in doing it have a better quality.

Raise a variety of crops. Keep good stock and good tools, and farm what you farm to the very best advantage. Make what land you cultivate yield every cent it will, and it will pay twice better than double the number of acres poorly cultivated.—[N. J. S., in Rural World.]

Our opinions—Cultivate fewer acres, cultivate well, make every acre pay its utmost.—Ed. F. A.

Animal Refuse as Manure.

Attention is being directed to the importance of torrefied animal refuse, such as bones, horns, leather clippings, hair, woolen rags, blood, &c. By special contrivances these matters are so scorched as to retain their organic richness, though reduced to a state of powder. This powder ferments—in other terms, dissolves—easily and gradually; the phosphates are assimilated with facility, and the humus in the soil economized. This torrefied refuse peculiarly favors a large return per acre of beet, in addition to the juice being markedly rich in sugar, because less alkaline salts or nitrogenous matters are present. Beet thus raised has been sold as high as twenty-four francs the ton, or six francs more than usual rates. It is admitted that the manure ensures the uniform germination of the seeds in a remarkable manner, and keeps off insects, owing to the offensive odor of the compound. It is most efficacious when employed in moist weather, autumn or spring.

FLAX CULTURE IN ONTARIO.—A correspondent writes that there is no section in Ontario so well adapted to the growing of flax as about seventy square miles of country south and west from Watford, between the Great Western and Canada Southern Railways. The soil is clayey loam, and there is some little gravel—rather low at present, but as it is being drained it will make one of the finest agricultural sections in Ontario. It is well worthy the attention of any party intending to do a large continuous business in flax.

Experiments with Potatoes.

A French agricultural journal, the *Basse-Cour*, describes the result of some experiments in potato growing recently conducted by scientific men in Germany. The principal conclusions to which these sages have come seem to be two in number. The first one of them is that the vigor of the potato plant is always in direct proportion to the weight of the tuber used for sets, a theory which certainly finds some support in common sense alone, considering that the young shoots for some time draw their sole nourishment from the mother potato.

The second conclusion is that there is a great variety in the productive power, not only of different eyes in the same potato. It is found that the eyes at the top of the potato produce a much more vigorous offspring than those in the lower part, and the consequence is that those agriculturists who cut their potatoes in half before planting them are not well advised in cutting vertically, but should always divide them horizontally, planting the upper half and using the other as food for cattle.

But the best plan of all is to plant the tuber whole, cutting out, nevertheless, all the eyes except those in the top part. Experiments were conducted in a garden soil by Prof. Gantz, the amount of crop produced by several different settings of potatoes being accurately estimated in statistical tables. It appeared that from tubers divided vertically, only five tons were produced per acre, and from whole potatoes seven and a half tons.

In this particular, however, some of the other professors do not agree with Herr Gantz, but maintain that, other things being equal, the whole potatoes will always produce more than halves, however cut. On the fourth, however, all agree, the lower eyes having been cut out, produce eleven and one-half tons per acre, or more than double the result by the sets first mentioned.

Ashes and Bone.

In 1866 I had a worn farm that needed renovation, and not being able to procure manure enough by ordinary farming, I bought leached ashes. They cost, delivered two and a half miles from home, twenty-five cents per bushel. I applied them at the time of seeding, at the rate of one hundred and fifty bushels to the acre, in connection with other manure, the whole being well harrowed in. This practice was continued for ten years, having used in that time seventeen thousand bushels. My soil was a hard gravel, and in some cases hard clay loam. The ashes produced both a mechanical and chemical effect on the soil. They made the soil finer, and in my opinion set at liberty latent plant-food by breaking down the minerals in the soil; it was darker in color after the application. The effect was to largely increase the hay crop. As this course was begun before the high price of hay in 1870-71, it proved very profitable. Hay then sold at thirty dollars per ton at the barn, twenty tons being taken from seven acres in the latter year at a single cutting. When the crop showed signs of failure we plowed and seeded with ashes and manure as before, but with hardly as good results as at first. It took more ashes for the second than for the first application to produce the same amount of hay. This is the general verdict of those who have used them extensively. The ashes induced the growth of red clover, which continued from year to year. We cut our fields twice in a season, often getting more at the second time than at the first cutting. Our fields came to be known far and near for their productiveness. We had continued this course so long that a change was thought desirable. We have taken bone, using half a ton to the acre with manure, with satisfactory results. It is much easier to apply, having sown about ten tons the present year. Some of the large farmers in Salisbury, Mass., who formerly used large quantities of ashes, have for years given up their use and substituted bone in place, with the very best success. An Irishman who had worked for one of them bought an old run-out farm in a town miles away, and surprised the natives considerably by buying a number of tons of bone-dust. They predicted that it would never pay and that they would look a long time at fifty dollars before paying it for a ton of bone. After several years' trial I find on making inquiry that it has proved a successful and paying experiment.—[Letter to Germantown Telegraph.]

Plowing Table.

The following table, that appeared some time since in the *Scientific Farmer*, will be a matter of interest to our readers, showing the distance traveled by a horse in plowing an acre of land:

Breadth of furrow slice.	Space traveled in plowing an acre
7 inches.	14½ miles.
8 "	12½ "
9 "	11 "
10 "	9-10 "
11 "	9 "
12 "	8½ "
20 "	4-10 "
24 "	4 "

From this table can be seen the gain in the labor account with a crop which comes from the use of a broad furrow in plowing. If we call 16 miles a day the day's work for the horses, we plow but 1½ acres a day by making a 9-inch furrow; nearly 2 acres by making a 12-inch furrow; and when a gang plow is used, which plows a 24-inch furrow, the acreage is increased to nearly 4.

The use of an improved plow, which turns a broad furrow and pulverizes, is therefore an economy on land suited to its use, and there is great gain from the use of a gang plow under circumstances where it is applicable.

Cheap Manure.

The question of cheap sources of manure is always interesting and important. It seems to us that sufficient attention has not been given to the manure to be obtained from stock fed on good rich food, either purchased or raised upon the farm. Dr. Lawes, of Rothamsted, England, has given this matter very serious attention, and has published a table worthy of the careful study of every feeder of stock; it will be noticed that in the case of wheat bran the value of the manure is estimated to be \$14.50 for every ton of the bran fed; now this same bran is usually worth only \$15 to \$18 per ton, and there would therefore seem to be a good margin in feeding in either to milch cows or to store pigs.

Linseed cake and cotton seed cake also offer inducements in the very rich character of the manure obtained by feeding them, and it would seem that these materials ought to be used to the full extent that the stock are able to digest them and maintain their health.

The price of linseed cake is about \$40 per ton, and nearly all that is made in this country is shipped to England, where it is fed to cattle and sheep with profit. Is there not an equally good margin for feeding it here?

The manure made from a ton of corn-meal is estimated as worth \$6.65, and as the meal is now worth only \$20 per ton, the value for feeding would be reduced to \$13.35 per ton, at which price it would almost pay to feed to hogs even at the very low price of pork.

The manure from a ton of clover hay is estimated worth \$9.64, or about as much as the hay is worth in many places; it should be well understood that clover hay ought to be fed on the farm and never sold; if any hay is to be sold let it be the English meadow, the manure from which is worth only about half as much.

The values given in this table are based upon the market value of the nitrogen, potash and phosphoric acid in each case at such prices as they can be purchased in standard fertilizers such as sulphate of ammonia, superphosphate of lime and potash salts.

With this table before him any farmer will be able to make up his mind whether he will find his account in buying the fertilizers ready made, or in buying the food and the stock, and feeding with the double purpose of increasing the manure heap and of selling fattened stock or milk or dairy products to pay for the trouble and expense. We believe the skillful feeder will find a handsome margin even at the present low market value of dressed meats.—[Ploughman.]

—Mr. Harle, speaking of roots alone being of very little use as a feeding material, he might say that it was a common practice in the North of England for large flocks of sheep, about 18 months old, to be put on to turnips without any dry food whatever, and they ate turnips out of the ground up to January, and got fat upon them. In the north they consider roots the main stay of their land in producing manure. He thought one of the weak points of farming, in some other places, was the quality of the farm-yard manure. He thought sufficient cattle were not kept on roots and good feeding materials to produce the best manure.

Barley—Sheep

The following extract from the *Agricultural Gazette* is replete with very good practical advice on barley growing. Our farmers, while getting valuable hints from it, can easily adapt to their circumstances any thing not immediately applicable under the present circumstances and mode of agriculture in Canada:—

It is none too soon to be thinking of our barley crop. We have seen too much thin barley during the last two years, and we have found the difference between 35s. and 50s. per qr. This fluctuation in value has not been, as in the case of wheat, the consequence of changes in the markets of the world. The same farmer has been selling his barley, the same week, at the two figures above quoted. It is entirely a matter of quality, and it is of vital importance for a farmer to secure as far as he possible can the quality to command the top price. We have discussed the subject on former occasions, but it seems as necessary as ever to direct attention to it, and invite discussion thereupon. So far as we have been able to ascertain, success seems to depend upon the following points:—

1. Moderate manuring.
2. Early plowing.
3. Early sowing.
4. Good seed.
5. Successful harvesting.
6. Careful preparation for marketing.

Above all these controllable circumstances is what is called "season." Seasons beat the best of us; they constitute the element of chance in the agricultural game. Just as the careful whist player finds himself beaten by cards, so the clever farmer, after taking every precaution, finds himself beaten by the season. Still the skilful player wins in the long run, and the plea that much depends upon season in farming matters is no more worthy of attention than the complaints of a bad whist player against uniform bad luck. We consider the six points of successful barley cultivation just laid down as incontrovertible. We are, however, inclined to allow a certain amount of latitude as to the precise meaning of "good seed." After a correspondence in these columns upon the subject last spring, we are ready to believe that thin barley, if it is of a good breed, and has not been too often grown on the same land, may succeed as well as stout barley of the same description. This is precisely the same as allowing the possibility of inferior animals of a good strain, propagating good offspring. In both cases, however, the balance of probability would be upon the side of individual excellence as well as excellence of lineage. No doubt cake and corn are to blame for much thin barley. Sheep should lie off the fold at night. By this means two portions are manured instead of one, and the barley is certainly improved in quality. Where, as the season advances, we are compelled, for the sake of our sheep, to bestow cake and corn with a more lavish hand, oats will be more likely to succeed than barley, as they prefer a grosser diet and yield proportionately a better return.

THE FREE GRANT LANDS.—A writer in the *Kingston News* says the emigration to Olden and Sharbot Lake district is rapidly increasing, no less than twenty-eight settlers having moved in since the 1st of November, all respectable farmers and men of means from Wolfe Island, who will, no doubt, help to increase the value of the land, and make the country really what it should be—a valuable stock country, as it is more adapted to stock-raising than agricultural purposes, and will, no doubt, be valuable for minerals when the country becomes cleared. The country is bound to be settled up (that is, all the land that is suitable for settlement), and very little of the Sharbot Lake is unfit for this. In fact there is more good land in Olden and Oso than most of our frontier cousins imagine.

Clover may be sown at any time before the spring rains. When the seeds are sown on the snow, that melts and carries them down into the crevices of the earth left by the frost. Some prefer to wait until the frost is out, and the ground will bear the weight of the teams, and then harrow in the seed and roll.

Soiling Stock—A Season's Record.

On the 1st of October I sowed two bushels of Winter rye where I had raised my last fodder corn, some of which was planted so late as July 20, and yielded a very heavy crop. November 6 I fed the last of my barley green fodder; this was sown August 1, where I had harvested early potatoes and peas. The barley was a heavy crop; I should think nearly equal to two tons to the acre of dry feed. I never had barley do better nor look better; at the time of feeding it was a very rich, dark green. I had an excellent crop of barley fodder where my earliest planted corn grew; this I fed off in October. And one of the advantages of soiling I will here state. The manure used for July-planted corn was made during June, and the manure spread on the ground where I sowed the barley was made in July; in September I seeded down over two acres of ground where I had raised a heavy crop of Hungarian; the land was manured in May previous to putting in Hungarian, and after ploughing in September I had manure enough to give the ground a good dressing before putting in the grass seed; the manure I harrowed in before sowing the seed; then brush in the feed and afterward roll it; and I sowed with the grass seed a little flat-turnip seed. The turnips I took out of the ground to-day, the last of them, and I have a nice lot, although they were not sown till September; these I have been feeding over a week, tops and all, and shall have enough to last me till near the 1st of January. I feed them immediately after milking, and find no taste of the turnips in the milk. With the turnips I am feeding barley fodder, dry, which was cut in July, and timothy and red top hay.

I find the fall the best time to put in timothy and redtop seed; I prefer the month of August for sowing it, but this year I was a little later, but I have an excellent catch, and the grass is looking well; I shall get a good crop of hay next summer from this, which will be ready to cut about the middle of July, and after that I shall get a good crop of rowen. Your readers must bear this in mind, that upon my land manure is a great consideration, and with us horse manure is worth at least \$8 per cord; and I have brought up my land from supporting two cows ten years ago to supporting ten now, and have purchased very little manure and very little special fertilizers, but I have bought a good deal of shorts, corn meal and brewers' grains, and I have endeavored to take good care of my manure, saving all refuse and raking up leaves, together with loam to absorb the urine. I have thus been enabled to make a big manure heap. I have now in the barn cellar three or four cords, and intend plowing for spring rye and for an early sowing of barley and clover; when I have ploughed, I intend drawing out the manure and spreading it broadcast and letting it remain till spring, then harrow it in and sow seed and harrow in that, and then roll it. I find in soiling a great advantage in getting the seed in early, for a week or two of early feed in spring is worth a good deal. My winter rye always comes early, but I want something to follow it, which must be spring rye and barley. Persons who intend trying soiling will find an advantage in following my system, although they may not adopt the whole of my method; every man must vary to suit varying circumstances, and I may materially vary mine if I find some other method superior.—T. W., Hillside Farm, in *Tribune*.

The *Perth Courier* finds that during the past two years there has been shipped from Kingston nearly 10,000 tons of phosphate. This enormous amount has all been brought into Kingston either by the Rideau Canal or by wagons from the adjoining townships. The average price paid for the material during 1877 was \$10 per ton, and during 1878, \$12 per ton. This was sold for shipment to England and elsewhere at from \$13 to \$13.50 per ton. It is probable that a large quantity of phosphate will be mined during the winter in Ottawa county. In all there are about twenty mines opened, and an average of ten men employed at each, making in all two hundred. On an average each man will take out half a ton of phosphate in a day, so that every week about 600 tons are taken.

Meadows and pastures that need renovating may be improved by passing a heavy harrow over them in different directions and sowing two bushels of fine bone-dust and five of ashes upon them. Seeds may be sown either of clover or timothy and orchard grass mixed, and a heavy roller passed over the fields.

GLEANINGS.

Farmers are like fowls; neither will get full crops without industry.

White stone is ground up in New England to adulterate flour and sugar.

Half the vinegar which is sold in shops is rank poison. Farmers make your own vinegar.

In Montreal they have an excellent habit of fining people who carry uncovered lights into barns or stables.

Clydesdale working horses have recently been sold at auction in Great Britain at from \$300 to \$375 each.

Bark grows thickest on the north side of trees; thus, to tell which is north when in a forest, girdle a tree.

The average net weight of the hogs slaughtered in the United States is 226 pounds, and the lard in each hog between 38 and 39 pounds.

The exports of sugar from Boston for 1878 amounted to 21,696,941 pounds, including 14,634,218 pounds to Canada. Let us have home-grown sugar.

At Maple Rapids, last week, a cow and yoke of oxen had been regaling themselves by chewing a lot of tobacco stems, and shortly after died from the effects of their picnic.

Ohio has 23 linseed oil establishments. This is one State. Canada can raise as much lint fibre (flax) and linseed as any portion of the States. Let us, too, have linseed establishments.

The exports from Wallace, N. S., amount to \$19,340, not including the value of cattle sold and taken away. Of this amount, 3,500 bushels of potatoes brought \$5,100.

A very fine sample of wheat, full and plump, grown eight miles from Fort McLeod, proves that that section of the Northwest Territory is a splendid wheat growing country.

American green corn is sent to Europe by steamers during the season in large quantities, and finds a ready market. Cannot Canadians try their hand in the same business?

A despatch from Liverpool says the British steamer *Speka Hall*, which arrived from Boston on the 7th inst., lost 140 cattle by death on the passage. It is not said if the deaths were from disease.

A lecturer in Boston, U. S., says hundreds and probably thousands of barrels of "terra alba" (white earth) are sold in our cities every year to be mixed with sugars in confectionary and other white substances.

Land to be sowed with beans should be plowed early, for it will be all the better for remaining a few weeks in rough furrow exposed to the elements ere being sown. Oats in particular always like a stale furrow.

An instance of spontaneous incubation is reported from a Western New York barnyard, when the heat of litter accidentally thrown over a nest of eggs hatched out eleven healthy chickens.

An agricultural exchange urges that horses and cattle thrive best when watered regularly three times a day the year round. A greater number of times impedes digestion, and with a less number the animal suffers from thirst.

Four tons of cholera-killed hogs are rendered daily at Rockford, Ills. The oil is run into kerosene barrels and shipped to Chicago, where it is converted into lard oil. We Canadians are happily free from not a few evils that affect our neighbors over the border.

There have been amazing crops of potatoes raised in America—sometimes 600 to 800 bushels to the acre. At the same time it is well to enquire what is the ordinary yield. The average yield of the whole country in 1878 was 69 bushel per acre, against 94 bushels in 1877.

The wool clip of Australia is about 284,000,000 pounds; the total clip of the world in 1877 was about 1,496,500,000 pounds; this, when scoured, would yield about 852,000,000 pounds clean wool. We are increasing our wool product in Ontario, and we have room for a very great increase; while Algoma and our great Northwest afford almost unlimited fields for sheep-farming.

A Mistake.

The editor of the *Germantown Telegraph* is opposed to the packing of the snow upon fields of wheat by rolling it, in order that the snow may remain on the ground longer and thus protect the roots from the freezings and thawings of early spring. He says:

We think this is a mistaken policy, and will give our reasons for it. The packing of the snow closely upon the grain is liable to shut out the air, and in that event it will destroy the wheat instead of protecting it. We doubt if there is a farmer forty years of age in any of the States, where the temperature falls to zero at any time, but who can recollect that when heavy snows have fallen, followed by a freezing rain or sleet completely coating the snow, they have proved most disastrous to the wheat crop.

We would suggest, on the contrary, that instead of rolling the snow roll the wheat as early in the spring as the ground will admit. This will force the roots, which the alternate thawings and freezings may have spewed out, back to their natural position, and will completely restore the crop, which otherwise might be seriously damaged by the exposure of the roots and the lack of support to the growing stalk.

We have tried this and know of the happy results that followed. We have been told of others who have followed the advice we gave them several years ago to this effect, and they all have testified to the same.

A New Wheat (?)

We have received from the Secretary of the North Lanark Agricultural Society a sample of wheat and a circular, giving a most flattering account in regard to it. The wheat sent has a very large and white kernel; it is claimed to be a spring wheat, and is sold at a high figure under a new name. Our opinion is asked regarding it. We feel justified in saying, if the sample sent us is spring wheat, we feel satisfied that it will never be of service to Canadians; we have seen too many samples like it tried. There will be plenty of green people, who do not take the *Advocate*, that may be induced to invest in it. We would advise our subscribers to leave it alone. We have seen no account of the wheat from any reliable seeds-

men, and if any good, new seed is procurable they will be sure to have it. Do not be led away with circulars, dodgers, or talkers. We have also two other letters enquiring about it. We deem it best not to mention either the name of the wheat or the vendor.

According to *Land and Water* sunflowers are raised to a considerable extent in Russia for the sake of "a very clear and palatable oil" expressed from their seed, and which, like cotton-seed oil, is used, after purifying, "for adulterating olive or salad oil."

Sharpless' Seedling Strawberry.

With pleasure we now give the accompanying illustration of this new strawberry. We have never seen the plant or the fruit, and know nothing about it, further than what we glean from others. Messrs. Ellwanger & Barry are gentlemen of wealth and position, and have a name of honor to maintain, which now stands as high as that of any nurserymen or florists in the States. We quote the following from their catalogue:—

Large to very large in size, an average specimen measures about one and a half inches in diameter. A specimen exhibited at the Nurserymen's Convention, held in Rochester, June 20, 1878, weighed one and a half ounces and measured 7 inches in circumference. Generally oblong in form, narrow-



SHARPLESS' SEEDLING STRAWBERRY.

to the apex, irregular, often flattened. It is a clear light red in color, with a smooth shining surface. Its flesh is firm and sweet, with a delicate aroma, first in quality. The plant is vigorous and luxuriant, hardy and prolific.

A new variety having fruited with us (Ellwanger & Barry) several seasons, we have no hesitation in recommending it as the largest and best strawberry now in cultivation.

As all new plants are sold at high prices, they sell single plants at 25c. each. We have made such arrangements that we can send every old subscriber two plants if they will send us one new plant subscriber to this journal.

Stock.**The Fat Stock Show in Chicago.**

The first Show of Fat Stock ever held in the U. S.—at least the first show of any prominence—was that which closed on the 7th Dec. in Chicago. The design was to encourage the rearing and feeding of the best meat-producing animals, and to reward those who have made efforts in this work; to give opportunity for a comparison of breeds, in a competition in which the test should be adaptation for the butcher's block rather than the possession of "fancy points." The show was not perfect; it was not so largely attended as it

ought to have been, and the State Board of Agriculture, under whose auspices it was held, will doubtless have to make good some deficiency of receipts, but it paid its cost, nevertheless, in its general good results. In the cattle classes—which included animals not from Illinois only, but from Kentucky, Iowa, Missouri, Indiana, Michigan, Ohio and Canada—by far the largest showing was of Shorthorns and their grades; next came the Herefords, then a few Devons.

The judging was done entirely by practical butchers, and the awards, in general, commanded the hearty approval of the best judges among the spectators. One of the lessons emphasized by the committees in their awards and in their reports is that:—Great size and excessive fatness are not necessarily points to be greatly desired. The views of these experts—for they were carefully selected for their practical experience and knowledge—are thus summarized:—The earliest matured steer is the most profitable for the feeder, butcher and consumer, and the development and most rapid growth of young cattle should be encouraged. Feeders and breeders are strongly urged to grow block steers, reasonably small in bone and short in leg, neat in head and neck. The best bullocks for the butcher and consumer have square, broad backs, carrying the width and thickness of loin from hip-bone to shoulder-blade; well rounded and filled with firm but mellow flesh from behind the shoulders to the last rib; filled well down in flank, making the hind-quarter,

ter equally well developed with the forequarter, and carrying flesh down to the hock.

No award of the committee's excited general criticism except that on "the best car-load of steers;" yet in this the committee carried out their views. Probably a majority of the onlookers expected the first prize to go to ten steers shown by Messrs. Van Meter & Hamilton, of Kentucky, averaging nearly four years in age and 2,251 lbs. in weight, and certainly this was a remarkable collection of steers; yet the committee placed it third, giving first prize to a lot entered by Mr. J. D. Gillett, of Illinois, averaging probably, a few months less in age, and 2,040 lbs.; with second prize to a

lot by same owner, under three years old, and averaging 1,666 lbs. All the animals were graded or full blood Shorthorns. The committee's description of the first prize lot shows them to be "very uniform, compact and blocky animals, short and fine in leg, evenly fattened, with flesh well distributed; small in bone; heavy, well-proportioned, square quarters, and decidedly the most profitable lot for the butcher and consumer."

For this prize specimens of the Shorthorn, Hereford and Devon breeds, steers and cows, the animals weighing from 1,600 to 3,150 pounds, competed. The prize went to a three-year-old grade Shorthorn steer, bred and owned by Mr. Gillett, weighing 2,185 pounds (home weight 2,250 pounds.) This steer also received first prize in its class and first prize in the sweepstakes class, in which all breeds could compete, and so may well be called "the champion steer for the year." In a very unusual degree this was a symmetrical animal, with small bones, neat, rather small head and neck, and without any approach to "paunchiness" of flesh. He stood 4 feet 9½ inches at shoulders; 4 feet 8½ inches at hip; girth, 8 feet 7 inches at heart; 9 feet at flank; breadth of body, 6 feet 2 inches, and

number of the very best animals shown, including all of Mr. Gillett's exhibit, have never been housed, and have never had other food since being weaned than grass and corn—fed unground and unshelled. This has been the treatment of the champion steer—who was never handled until a few days before the show. The car-load lots shown by Mr. Gillett had never been broken to lead, and two yearling steers, also shown by him, were so wild that they were penned up closely, yet all these were in most admirable health and nearly perfect condition.

The Herefords fairly held their own. The cow spoken of was certainly one of the best animals shown, and a Hereford bull, not in competition, was as deep-bodied and short-legged as any animal ever shown, perhaps. At least two of the Devon steers were well worthy the high reputation of this breed, although the committee did not make them equal to the best grade Shorthorns. After what has been said about the very large animals, it is only fair to state that a Shorthorn steer, from Iowa, five years old, and weighing 2,800 pounds, was almost as smooth in finish as any of the smaller steers.

and removed from the churn, worked, washed and salted on the butter worker, at the proper temperature, we find upon breaking it, that it has a granular look. The mass seems to be made of little particles with a slightly glistening appearance. This is called the "grain." These small particles are partially kept apart by films of water, (after salting, this water becomes brine) and the peculiar texture thus imparted to the butter is a test of a proper manufacture. Over-churn or over-work it, churn or work it at the wrong temperature, and the grain is gone, never to be restored; and with it is gone a large percentage of the selling value of the butter. Enough water (brine) must be retained to produce this appearance, which distinguishes butter from grease. Consequently the most perfect grain is obtained by washing in the churn before the butter is gathered.

Tumor on the Neck.

H. C. R., Farmington, writes:—"I have a three-year-old heifer that has a bunch nearly as



measuring 10 inches from ground to body back of fore legs. It will be interesting to compare these measurements with those of the sweepstakes cow, a pure breed Hereford four-year-old. Her weight was 1,575 pounds; height at shoulders, 4 feet 3½ inches; at hip, 4 feet 3 inches; girth, 7 feet 9 inches at heart; 8 feet 1 inch at flank; breadth of body, 5 feet 7 inches; 19 inches from the ground to belly.

This cow received the prize over, among others, a beautiful and very perfect Shorthorn cow weighing perhaps 400 lbs. more, but the committee held that the smaller cow was the most profitable. The remarkable development of a number of the steers under two years old is well worth mention. Not only were some of them very large, weighing nearly 1,500 lbs., but they were in shape to "cut up" as profitably as any of the animals in the show. Messrs. J. N. Brown & Sons, of Illinois, made an interesting exhibit of four pure Shorthorn yearling steers—castrated because not of the popular red color. These, with a barren Shorthorn heifer, were sold at 6 cents per pound, live weight, the steers for export and the heifer for slaughter in Montreal. It will be a surprise to many to know that a

Young Mary—Shorthorn Steer.

This, we presume, is the best fat steer on this continent this year, from the prizes gained by him. He was owned by Vanmeter and Hamiltons, of Winchester, Ky. The beautiful proportions of this animal must be admired by all stockmen. He was raised from the stock known to Shorthorn breeders as the Young Mary Stock. They derive their name from a famous cow of that name from the celebrated Rose of Sharon stock. We understand the Young Mary stock are principally in the hands of Captain Cunningham and the Hamiltons, in Kentucky. The name appears strange to apply to a breed of cattle.

Butter Making.

When the butter has "come," and appears in little irregular masses, from a pin's head to a large pea in size, is the time to draw off the buttermilk and wash the butter in the churn. This removes most of the buttermilk. After being then gathered

large as my two hands on the upper right side of her neck, just forward of the shoulder; is not very hard nor sore; is usually the largest in the morning, and sometimes seems to make the neck curve at that place; has been there about a month; would like to know what it is, and a remedy for it, if there is any."

Reply.—Such tumors as this are an indication of a scrofulous habit of constitution, and are difficult to remove in some cases. The usual treatment is to apply iodine ointment to the surface, or to inject a weak solution of iodine into the substance through a fine tube and syringe, to remove the growth of tissue by the knife or to cause them to slough away by means of a seaton passed under the skin. The choice of these remedies should be made according to the circumstances of the case, and as a matter of convenience; and guided, if possible, by competent surgical advice. Perhaps it might be suggested as the easiest and safest mode, to apply ointment of iodine twice a day for a week or two, and if that is not effective, to put a seaton in the tumor, using ter-chloride of antimony and lard upon the tape used as the irritant. —[Tribune.

The Kind of Large Horses for Breeders to Select.

The opposition to breeding the small common mares of this country to large stallions is fast disappearing. The splendid results obtained from breeding to the compact, elegant formed, clean-legged, active, wide awake Percheron, has done more to bring about this change in opinion than anything else. The demand has been and is still rapidly growing, for larger horses than we can raise from our native stock.

Years ago this caused some of our most intelligent farmers to import and try the plan of crossing Percheron stallions from 1,500 to 1,800 lbs. weight with their ordinary mares. This course was at first opposed by almost every one as absolutely ruinous to the mares, and contrary to every principle of breeding that had been advanced up to this time, and the result was looked upon as a certain failure. The trial, however, proved a grand success, and since the introduction of the first Percheron horse west of the Alleghany Mountains, about 25 years ago, their reputation has increased so rapidly that over seven hundred have since been imported and distributed over all parts of the United States, and have found their way into Canada (two of which took the second and third prizes at the Provincial Exhibition this last fall). The remarkable results obtained from the French crosses has had evil effects as well as good, for it has given rise to the impression among many that a large stallion is all that is needed to accomplish the desired end, no matter of what kind or quality; they have been liberally patronized, and with the characteristic eagerness of Americans to realize immediate benefits, many have recklessly gone to the greatest extreme, demanding the largest stallions that could be procured, apparently satisfied with great weights. We are sorry to say that this idea has gained considerable strength, as may be seen from the large number of coarse, clumsy brutes to be met with in many parts of the country without a single redeeming quality to recommend them other than their size. Nor are these worthless caricatures upon horses confined to any one breed. The coarse, big-headed, straight-shouldered, small-bodied Clydesdales, with ponderous, hairy, spongy legs and flat feet, without spirit or action; the rough, high-hipped, slope-rumped, crooked-legged, clumsy things, bred in Northern France and Belgium; the over-grown and over-fed English cart horse, as well as the small, giraffe-looking, big-legged Yorkshire horse—all have contributed to this supply.

This is all wrong, and those who have become possessed of the idea that weight alone is what is wanted in horses, cannot too soon be convinced of their error.

We are in great need of a larger class of stallions in Michigan, but the greatest care should be used in their selection. We want pure-blood, symmetrical-formed, attractive stallions, with energy, action and quality, clean limbs and good feet. Every such horse brought into our State will be of immense value.—[Mich. Farmer.]

The Teachings of the Shows.

But frequenters of our fat stock shows who have for years watched them closely, though as spectators only, can not fail to be impressed with certain general facts and principles. Nothing is so evident as the steady progress in the science of breeding and feeding. As a general rule the animal that is of a good shape, as a store or lean ox, sheep or pig, will fatten well and retain his symmetry. But aptitude to fatten and the lying on of good flesh do not always bear the same relation to symmetry in one animal as in another. The frame may be almost perfect, whilst the flesh put on in the process of fattening may be unequal in its distribution and poor in quality. A tendency to put on fat in lumps and patches frequently exhibits itself. The flesh of one portion of the body gets developed at the expense of another. The flesh may be deep on the ribs and light on the buttocks, the brisket well packed with meat and the loins scanty and bare.

Modern breeders and feeders have improved greatly on the type of fat stock exhibited a generation or more ago. Mr. Mechi remarks that when the Smithfield Club held its shows "in the side of a stable" in Aldersgate street, "what were then considered beautiful animals were deformities,

with masses of pure fat put on here and there, and, comparing them with the animals at the present time, the latter showed a great advance." But in nothing has there been greater progress than in producing animals that reach an early maturity. The classes of aged oxen are gradually becoming weaker, and the two year old class stronger than ever.

Slow, long continued feeding is unremunerative, and the quicker animals can be made ripe for the butcher the more profitable they are to the feeder. There is a point soon reached up to which the feeding of an animal pays. Any attempt to go beyond it entails loss. After the animal has reached what is called prime fat condition every additional pound of flesh costs more to produce than those which were produced before. This may be seen by referring to the comparatively small increase of weight in twelve months in an animal that has arrived at maturity, and has been exhibited more than one year at a fat cattle show. For the purpose of exhibition, not only is the continual attempt at forcing costly, but the result frequently takes an undesirable turn.

The animal, we will presume, is this year almost a perfect model in shape, and obtains a first prize in its class. The ambition to make it still better overleaps itself, and by the end of another season weight may be added, but the symmetry is destroyed and the perfect show form is gone to return no more. Reporters of shows then speak of the animal getting "patchy," and that it has "lost its bloom." The exhibitor finds he has overshot the mark, and that his best road to retreat is to take his animal straightway to the shambles. "Champion" animals at fat cattle shows do not hold their position long, and perhaps it is well they do not. They should make way for other younger competitors.—[London Farmer.]

Form of a Milch Cow.

A good sized udder and milk veins are invariably essential. The shape of the udder and teats is not imperative, but they must be capable of producing, storing, and delivering the milk. We all look for a well-quartered udder, for nothing is more annoying to the milker than to have one hand finish its work long before the other, which will be the case unless the quarters hold about the same quantity of milk, and the teats are about equal in size and delivery. The teats are to be squarely placed, tapering, large enough to fill a man's hand, and not fleshy.

Besides this, the perfect milch cow should be capacious in body, indicating feeding capacity, thin and light before, with thin neck and shoulders, sharp withers, light head, etc. She should be lower in front than behind, because she needs room for her large udder, and length of leg to keep it from hanging too low, while it is an advantage to have short fore-legs, which brings the head nearer to business. This gives the general idea of the "wedge-shape" in milch cows so much talked about, but only in respect to the side view. The view from above would be similar, that is, broad behind, the broadest point being at the hips and thighs, and the lines converging towards the head. This matter of form is important, and it is valuable in bulls, also, as being likely to be transmitted to their daughters.

The milch cow must have bone enough in the leg to carry a capacious and heavy body. In this point they rarely fail, yet, occasionally, upon rough pastures we find that more bone and stronger joints would be of service.

The head, horn and tail can hardly be too light, and happily we are taught to regard these, when small, as points of special beauty. In Guernsey the proverb runs "that a long head indicates much milk;" and upon that island I found special value placed upon a broad muzzle and big mouth, on the ground that with such a mouth the animal could much quicker fill herself and lie down, and it is quite true that then more food will go to milk production, and not to supplying the necessary wastes of the muscular system, increased by prolonged exercise.

The thighs should be thin through the muscular-portion above the hocks, for this gives room for the udder, and thick thighs occasion irritation in walking when the udder is distended.

A thin neck and shoulders are usually found accompanying thin thighs, but not always. Meaty withers and a thick neck are a bad indication, and rarely if ever found on a first rate milker.—American Agriculturist.

Miscellaneous.

BEST FOOD FOR WORK HORSES.—The West Division Street Railway Company, of Chicago, works about 2,000 head of horses, and after a careful test of various kinds of food, have adopted a mixed ration of corn and oats ground and fed with cut hay, slightly wetted. In winter the bulk of the ration is $\frac{2}{3}$ ground corn and $\frac{1}{3}$ oats, but a gradual change is made as warm weather approaches, until in the heat of summer the ration consists of $\frac{1}{2}$ corn meal to $\frac{3}{8}$ oats, which is again changed as winter approaches.

GOOD FOR NEW ZEALAND.—A New Zealand bullock of prodigious size turned the scale at 3,948 lbs., or 35 cwt. 1 qr. The following are his measurements:—Height, 6 ft. 1 in.; length, 11 ft. 9 in.; girth, 9 ft. 10 in.; at belly, 10 ft. 11 in.; hocks, 2 ft. 1 $\frac{1}{2}$ in.; arm, 3 ft.; width across loins, 2 ft. 11 in.; yoke, 7 ft. 8 in. His age is eight years, and it is not likely that a larger-framed or heavier beast was ever produced south of the line. The largest heard of in Great Britain weighed 28 cwt., and took the first prize at Edinburgh in December, 1873.

A WATERING TROUGH FOR WINTER.—There is in the *Rural New Yorker*, a sketch of a good winter trough. It is simply a trough made in the usual manner, hung at each end on pivots, fastened to upright short posts. When the animals have done drinking, it can be swung bottom up, supported by a prop, and the water all runs out, instead of freezing and filling the trough, so as to require chopping. This is a vast improvement on the old fashioned plug.

A Connecticut farmer states that a few winters ago, when milk brought him six cents a quart, the diminished flow consequent on discontinuance of the use of the "common flat field turnips" convinced him that they were worth twenty-five cents per bushel for cows. They did not save hay, but helped digestion and promoted health. He thinks it important to give only sparingly at first and gradually increase the ration; also, to feed just before milking, so that the flavor will not be imparted to the milk.

Mr. Cheever, of the *New England Farmer*, very justly says that "the question whether butter made from milk that is closed in tight cans as soon as drawn, is in every way equal to that made from milk which is exposed to the open air, is, we believe, still an undecided one. Much would depend upon the purity of the milk when brought to the milk room, and also upon the purity of the air in which it is set. We never drank sweeter milk than that which had been submerged in Cooley cans within ten minutes after being drawn from the cow."

In a lecture delivered in Philadelphia by Dr. Richardson, on the germ theory of disease, great stress was placed upon the sanitary influence of soap and hot water. It was stated that 60,000 typhus germs may thrive in space not larger than a pin's head. That they may be borne like thistle seeds everywhere, and, like demoniacal possessions, may jump noiselessly down any throat. But these spores cannot stand water at a temperature of 120 degrees, and soap chemically poisons them. Here sanitary and microscopic sciences come together. For redemption, fly to hot water and soap. The water is sanitary. Soap is more sanitary. Fight typhus, small-pox, yellow fever and ague with soap. He concludes: "Soap is a Board of Health."

CORN IN DRILLS.—A New Jersey paper says that ninety years ago it was regarded as a settled point that corn in drills gave a larger product than in hills, but that now, after much discussion, it remains unsettled. This remark would not be made by any one who has informed himself on the subject. We have thoroughly tested this question by measuring the results, and find almost uniformly an increase of 25 to 30 per cent. with drill corn over hills—provided the proper distance is given for the plants. It would be easy to obtain a diminished amount from the drills if too thinly planted, or ears of an inferior quality, if much too thick. John Johnston informs us that after long experience he arrives at results precisely similar to those we have mentioned.—*Country Gentleman*.

Veterinary.

Impaction of the Stomach.

SIR,—Will you kindly advise me as to the following case:—

I have a horse which I found sick on my visit to the stable in the morning; he was loose in his stall; the barn-door communicating with the stable was also open, and in it was a barrel containing seed wheat, bran, &c. The horse is in pain at intervals, looks continually at his side, and strains as if trying to pass manure or water. I have given the remedies prescribed in the Doctor's Books for cholera, but without effect. There is slight fever, and the ears are first warm and then cold. He is rising three years old.

S. J. F.

This is a case, undoubtedly, of "Impaction of the Lower and Posterior part of the Stomach," and most probably of the "small intestines," caused by the horse having overloaded that organ with food, which, from its nature, requires a sufficiency of liquid to ensure of its being in such a pulpy condition as to be passed by the aid of the gastric juice (juice of the stomach) through the pyloric orifice (posterior opening of the stomach) into the first intestine.

The food being devoured voraciously by the animal is received by the stomach until the distension of that organ is such that it can receive no more.

Passage of food into the stomach naturally causes a flow of the gastric juice, of which the partial duty is to liquify the food received into the stomach, but in this case the amount of juice thrown out, combined with the saliva, and the heat of the stomach, was only sufficient to form the food into a paste or dough, and thereby to cause a total or partial bar to its passage into the intestines. Some people hold the erroneous opinion that the impaction exists only in the intestinal canal and cannot exist in the stomach, but post-mortem examinations prove the contrary. For I have seen the food taken from the stomach after death of such a consistency that it could hardly be cut with a knife.

The symptoms in these cases are, as a rule, very similar to those of spasmodic cholera; the paroxysms are, however, less frequent and also less violent, the animal rather straining in its endeavor to pass the accumulated mass of fecal matter, than struggling under the intense griping pains of spasmodic cholera; the pulse, however, and the Schneiderian membrane (lining of the nostril) show more signs of fever than in cholera, owing to the derangement of the circulation by the overloading of the stomach, and, as a collateral consequence, the liver becomes more or less affected, and the biliary secretions are consequently impaired.

This disorder requires to be treated both promptly and effectually, otherwise gastritis, or inflammation of the stomach, either by itself or in conjunction with enteritis, or inflammation of the bowels, will quickly supervene, and the result will, in all probability, be fatal.

Give the horse immediately three pints of raw linseed oil, warmed, together with three drops of croton oil and two drams of tincture of capsicum; follow this up with injections of hot Castile soap-suds, to be repeated in the proportion of a pailful each hour for three hours, or until a passage is insured, for although the liquid thrown up by the injection pipe cannot reach anywhere near the stomach, still by its exciting action on the rectum and large intestines a sympathetic action will be produced in the small intestines, and through them, though in a less degree, on the stomach itself. If the above dose does not operate in eight hours, repeat it. The animal should be

gently walked about for ten minutes at a time every now and then, to assist the action of the medicine, and in the intervals, cloths, wrung out of very hot water, should be applied to the abdomen.

The horse must be warmly clothed and allowed as much warm linseed tea as he will drink.

This treatment will prove effectual, providing that inflammatory action has not set in to any serious extent, in which case, of course the disease assumes an entirely different character, and requires a correspondingly different treatment, and that of a more energetic kind. When the medicine has operated, a bran-mash diet should be given for three or four days, the chill also being taken off the drinking water, and it would be advisable, considering the weak state in which the animal's stomach will be left, to give him such powders as may restore a proper and healthy tone to that important organ. For that purpose I should recommend a continuation of such tonics as carbonate of iron, gentian, ginger, capsicum, &c., &c. The horse should be kept in the stable and carefully looked after for a short time, as this disorder is liable to predispose the stomach, and incidentally the liver, to many other diseases which may cause the owner much trouble and expense.

This disorder occurs, not infrequently, amongst cattle; the impaction, however, in these cases takes place in the "rumen," or second stomach; the danger, nevertheless, is not so great as in horses, for it is possible in extreme cases where medicine seems to be ineffectual to make an incision into the "rumen," and thereby remove the impacted mass; the animal, moreover, seems to be little or nothing worse if proper care is taken in the operation, and if, also, the animal is judiciously dieted, warmly housed, and well looked after until convalescence ensues.

STANLEY G. TATTERSALL, V. S., Nairn, Ont.

Choking.

Prof. James Law, in his "Farmers' Veterinary Adviser," thus treats this subject:—

This is especially common in cattle feeding on roots, potatoes, apples, pears and the like, because of the habit of jerking up the head to get the object back between the grinders. Pieces of leather, bone, etc., chewed wantonly by the cattle, often slip back in the same way.

Horses suffer mainly from the badly-shaped balls or sharp-pointed bodies, dogs from bones. Ravenous feeders will choke on dry chaff, cut hay, etc., being imperfectly mixed with saliva, and the same will happen in cases of diseased teeth, or salivary fistula or calculus.

Symptoms of pharyngeal and cervical choking.—When the object is arrested in the throat or neck there is great distress, staring eyes, slavering, violent coughing, with expulsion of dung or urine, continuous efforts at swallowing, and in cattle tympany of the first stomach, which may suffocate the animal in fifteen or twenty minutes. I have seen an animal die in five minutes when the object was lodged directly over the opening in the windpipe. In horses there is in addition an occasional shriek, and water returns by the nose when drinking is attempted. In omnivora and carnivora retching and vomiting are prominent symptoms. A careful examination along the furrow on the left side of the neck will usually detect the offending object.

Symptoms of thoracic choking.—If the object is lodged in that part of the gullet which lies within the chest, cough, slavering and gulping may be absent, but there are efforts at regurgitation and the discharge of liquids by the mouth—in horses the nose. This, with the inability to swallow solid food, is usually slight, and there may be tremors at intervals.

Symptoms of choking with finely-divided dry food.—These are the same as for solid masses, ac-

ording to the situation, but in addition there is in the groove on the left side of the neck a diffuse, soft-yielding swelling, provided the obstruction is situated above the chest.

Treatment.—Sharp-pointed bodies lodged in the throat must be carefully sought for and extracted. Solid objects in this region can usually be withdrawn with the hand. Have the animal held with the head elevated into a line with the neck, and the mouth held open with a balling iron; then the tongue being drawn out with the left hand, the right hand is passed through the mouth into the throat, and the middle finger hooked over the offending body so as to withdraw it. If lodged still lower it may often be worked up into the throat by pressure beneath—it with one hand in each furrow along the lower border of the neck. A vigorous jerk at the last, seconded by the action of the pharynx, will often lodge it in the mouth, but if not, it is easily extracted as above advised.

Should this fail, and tympany prove threatening, lose no time in gagging the animal. A smooth roller of wood two inches in diameter is tied into the mouth by cords carried from its ends around the top of the head—behind the horns in cattle. Swelling never increases dangerously with this applied, and in a few hours the obstruction usually passes on.

More prompt relief may be obtained by using a probang of leather or other material with a spiral spring wire internally, the whole two-thirds of an inch in diameter, six feet long and with one end enlarged to one and a half inches in diameter and cup-shaped. This is oiled, and the head having been brought into a line with the neck, the balling iron introduced and the tongue drawn out, the cup-shaped end is introduced and pushed on until the obstruction is reached. Steady pressure must be kept up on this for a few seconds, when it will yield and should be passed into the stomach by introducing the probang to its whole length. If it resists, leave the animal gagged for an hour or two, and try again.

In the horse the probang cannot be safely passed without casting, and it should never be passed on until by examination in the furrow on the side of the neck the operator has ascertained that it has entered the gullet, and is clear of and above the windpipe.

For the small animals the probang must be made correspondingly small.

The use of whips and such-like objects is very reprehensible as being liable to tear the gullet. An effective probang may be constructed out of a piece of stiff, new rope, a few bundles at the end of which have been opened out and tied back so as to form a cup-shaped extremity. After being used this may be hung up straight on several nails driven into the wall, and will be ready for the next occasion.

In choking with finely-divided food the probang only packs it firmer, and gagging and time will rarely dislodge it. Pour water or well-boiled gruel down, and seek by manipulation to break up the mass and allow it to pass on little by little. Instruments have also been devised for extracting the obstructing mass. Failing otherwise, the gullet must be laid open, the offending matter extracted, the wounds sewed up and the animal fed for a time on liquids only.

Horses are sometimes choked by eggs given by foolish grooms. These may be punctured with a needle and then crushed between two solid bodies on different sides of the neck.

Prevention.—Besides the more obvious resort of withholding dangerous articles, the mere tying down of the head will prevent choking in cattle feeding on turnips, apples, etc. A loop of rope fixed to the ground is to be hung over the horn when such food is supplied. Solid food should be to a large extent withheld for a week after the relief of choking, until the slight irritation or inflammation has subsided.

The following has been recommended as a cure for galls in the shoulders of draught animals: Dissolve six ounces of iodine in half a pint of alcohol, and apply it on the sore with a feather as soon as the collar is removed, and when at rest, twice a day morning and evening. The article should be in the stable of every farmer, as it is an excellent application on horses where the skin is broken, and is a sure cure for splints if used in a proper manner.

The Apiary.

The Advantage of Attention to Bees.

BY C. P. D., COLBORNE.

ITALIAN HONEY BEE.—This new species of honey bee is highly commended by those who have had the opportunity of observing and experimenting upon its habits. Its superiority over the common bee is well established. Some of its chief peculiarities and excellencies are the following:—It is a tough, hardy creature, will stand the cold of northern winters better, collect honey much faster, work earlier in the morning and later at night, than our native kind, and will often be seen working when black bees are detained in the hive on account of unfavorable weather. They will collect honey from flowers which other bees pass by. Their proboscis is a trifle larger, and as they are strong and more active, they will frequently tear the anthers of flowers open to obtain the sweets, which the black bees never do. The pure Italian bee is more gentle to handle and less liable to sting than our native kind. The Queens are more prolific, and will brood much faster than the common species, consequently they cast earlier swarms, and more of them. They differ somewhat in color and shape from the common bee. They are larger, and their bodies taper nearly to a point; they have three gold bands encircling their bodies just under their wings. The drones are not so strongly marked. The queens vary in color, some being dark and others quite light, approaching a beautiful gold color. Queens reared when honey is scarce, or early or late in the season, are seldom as large or well colored as those reared in the warm honey season. But this does not generally affect the color or activity of the workers.

THE BEE MOTH.

The bee moth need hardly be mentioned now, unless it be to advise you to drive them out with the Italians, for whenever they are introduced into an apiary, the moths get out without any further trouble. This one feature alone is enough to justify introducing Italian queens in place of the blacks.

BUYING BEES.

The present month is a good time to buy and move bees that are standing out-doors. Sleighing furnishes good transportation. Look out for sufficient honey and plenty of bees; bees ought to be seen in at least five layers between the combs. If in the box hive, invert it, and cover the open end with wire-cloth or muslin, fastening with carpet tacks. Bees ought not to be moved from a cellar or warm room without allowing them to fly for a day in fair weather. If housed, bees sometimes get very uneasy after long confinement; it would be well to set such hives out for a few hours, about noon of some very warm day.

CARE OF STOCKS.

As a general rule, disturb the bees as little as possible; raise hives that are out-doors, on a warm day, and sweep out the accumulations of dead bees and fragments of comb. Move such as are to have their locations changed before they mark their present places in the spring, otherwise the bees will return to the old spot and be lost. Set the hives four or even five feet apart, unless crowded for room. Hives painted of different colors—light colors are best, because cooler—and standing with the alternate ones advanced a foot, will be found serviceable when they must be placed closer than four feet. Be careful to shade the hives after light snows if the sun comes out bright.

Winter Care of Bees.

It too frequently happens that when we put our bees away in their winter quarters we are not particular enough in knowing the exact amount of honey each stock has to last it through, and often lose them for want of food.

If this is the case, you can easily see the little pets clustered on the combs, and not unfrequently, if you will take the pains to examine, will find them all dead with many of the workers in the cells, and hovered over the queen, which is also dead—starved for want of food.

I have often found them when they presented the above appearance, and have taken them into a comfortable room, sprinkled sweetened water over them and brought them to life again, and then prepared a heavy syrup and fed them during the remainder of the winter. To do this take a glass tumbler, fill it full of the syrup, tie a cotton cloth over it and turn it upside-down on a two-inch hole in the top of your hive, and you will find the bees will take the syrup and store it away in their combs for future use.

You should set the bees in a cellar that is dark and not cold enough to freeze. The temperature should be about 40° or 50° above zero.—J.M.H. in Cincinnati Bulletin.

Honey sent to England in the comb from New York a month ago, for the first time, reached Liverpool safely on the 5th, and the experiment is pronounced successful. Cannot our Canadian bee-raisers take a hand in this trade? The *Pall Mall Gazette* says there is no limit to the demand for honey there.

List of Officers of the Agricultural Societies.

FURNISHED BY THE SECRETARIES.

Last year we tried to procure the names of the officers of Agricultural Societies from the Bureau at Toronto, but the list was incomplete. We give the following list of officers elected for 1879, received at this office:—

- AMELIANBURGH, N. S.—President, Geo. H. Sprung; Vice President, John G. Peck; Sec. and Treas., Edward Roblin.
- ADELAIDE.—President, John Crummer; Vice President, W. T. Galloway; Sec. and Treas., Robt. Forsyth, sr.
- BRUCE, SOUTH.—President, R. Rivers; 1st Vice President, A. Wichter; 2nd do., Joseph Hinton.
- CORNWALL.—President, John B. Macdonald; 1st Vice President, H. Lowell; 2nd do., C. H. Wood; Treasurer, A. P. Ross; Secretary, Robt. Anderson.
- DELAWARE.—President, Wm. S. Weld; Vice President, E. G. Hacker; Sec. and Treas., A. Thomas.
- DURHAM, EAST.—President, Col. Williams, J.P.; 1st Vice President, R. Howden; 2nd do., R. Grandy; Sec. and Treas., John Foott.
- ELGIN, EAST.—President, S. Day; 1st Vice President, George Lawton; 2nd do., Mark Wallace.
- ESSEX, SOUTH.—President, Theodore Wigle; 1st Vice President, Hanson Elliot; 2nd do., Thos. Armitage.
- FRONTENAC.—President, Henry Cuninghame; 1st Vice President, D. J. Walker; 2nd do., J. M. Fair; Treasurer, J. Simpson; Secretary, T. Mills.
- GREY, NORTH.—President, Wm. Roy; 1st Vice President, Major Cameron; 2nd do., John Douglas; Secretary, R. Todd; Treasurer, Thomas Gordon.
- HASTINGS, EAST.—President, P. R. Palmer; 1st Vice President, D. R. Leavens; 2nd do., Wm. McLaren; Secretary, J. W. Sills; Treasurer, Jas. McCready.
- HALDIMAND.—President, Geo. Murray; 1st Vice President, Maxwell McClung; 2nd do., John Lynch; Sec. and Treas., Wm. Musson.
- HALFON.—President, T. Boak; 1st Vice President, J. Brothers; 2nd do., W. J. Pettitt; Sec. and Treas., W. C. Beaty.
- HURON, SOUTH.—President, Dr. Coleman; 1st Vice President, James Pichard; 2nd do., Hugh Love, sr.; Sec. and Treas., G. E. Cresswell.

HURON, WEST.—President, W. J. Hayden; 1st Vice President, H. Snell; 2nd do., John Salkeld; Secretary, J. A. Varcoe; Treasurer, R. B. Scott.

KENT, WEST.—President, Thomas Holmes; 1st Vice President, B. Wemp; 2nd do., David Wilson.

LANARK, SOUTH.—President, James Jackson; 1st Vice President, J. G. Campbell; 2nd do., John P. McIntyre.

LENNOX.—President, John Herring; 1st Vice President, Peter Bristol; 2nd do., Benjamin Brisco, jr.; Sec.-Treas., C. James.

LEEDS, NORTH, AND GRENVILLE.—President, H. D. Smith; 1st Vice President, W. Kidd; 2d do., J. H. Chalmers.

LEEDS, SOUTH.—President, A. D. Cowan; 1st Vice President, A. Elliott; 2nd do., D. Nichols; Secretary, J. E. Brown; Treasurer, Wm. Bell.

MAIDSTONE AND SANDWICH EAST.—President, Patrick McNalby; Vice President, John Halford; Treasurer, Thomas Moran; Secretary, T. F. Kane.

MONCK.—President, Mathew Gash; Vice President, David Price; Sec.-Treas., John A. Whitmore.

MONA.—President, Benjamin Watterworth; Vice President, Mitchell Walker; Secretary, W. J. Simpson; Treasurer, Isaac Rathburn.

MUSKOKA AND PARRY SOUND.—President, C. G. Huntz; 1st Vice President, P. M. Shannon; 2nd do., G. M. Ewing; Secretary, W. E. Foot; Treasurer, J. W. Dill.

NORTHUMBERLAND, EAST.—President, H. J. Scripture; 1st Vice President, J. W. Jones; 2nd do., Thomas Caslow.

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PEEL.—President, Richard Hamilton; 1st Vice President, John Smith; 2nd do., James Jackson; Secretary, A. Armour; Treasurer, D. Kirkwood.

PRINCE EDWARD.—President, D. H. Spenser; 1st Vice President, Isaac Minaker; 2nd do., John Cowan; Sec.-Treas., R. T. Roblin.

PERTH, SOUTH.—President, James Pickard; 1st Vice President, Wm. Box; 2nd do., Roger Hedley; Secretary, W. N. Ford; Treasurer, R. B. Hartstone.

PETERBOROUGH, EAST.—President, P. M. Grover; 1st Vice President, William Burgess; 2nd do., James Drummond; Sec.-Treas., W. E. Roxburgh.

SANDWICH.—President, Elisha McKee; 1st Vice President, James Naylor; 2nd do., Thomas Plant; Secretary, F. F. Kane; Treasurer, James Naylor.

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VICTORIA, SOUTH.—President, Thomas Ray; 1st Vice President, W. L. Russell; 2nd do., James Thorndike; Sec.-Treas., James Keith.

WATERLOO, NORTH.—President, D. M. Shoemaker; 1st Vice President Benjamin Devitt; 2nd do., B. J. Ballard.

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VICTORIA SOUTH.—President, Thomas Ray; 1st Vice President, W. L. Russell; 2nd do., James Thorndike; Sec.-Treas., James Keith.

It is found in England that many of the artificial manures act chiefly as a stimulant, and that after a time the land refuses to answer the spur. This is most apparent on the poor and lighter soils, but even strong land loses heart unless a fair proportion of farm manure is applied. The loudest agricultural complaints in Great Britain are from districts where scientific farming has been carried to its highest pitch, such as the Scotch Lothians, and in Norfolk.

Poultry.

Winter Care of Fowls.

At this season of the year you should give your fowls more attention than at any other in order to make them profitable. One dozen eggs in the winter will command as good a price as three in the summer, and with a little care the fowls will pay as well or better than any stock on the farm.

If you desire your fowls to lay you must feed them well, keep them comfortable and give them work; unless they are employed this cold, windy weather they will huddle together and be shivering all the day. Throw into them a good layer of chaff, cornstalks, or what is better, if you have saved them, is dry leaves four or five inches in depth; and throw the corn, buckwheat, etc., among the chaff or leaves and you will see how soon they will come to the scratch—instead of seeing them standing around freezing, they will go to work, and will look warm and comfortable.

You will now require to give them a nice warm breakfast occasionally; boil a potful of potatoes and turnips, and then mix in shorts and cornmeal with a little salt and cayenne pepper. Avoid feeding them more than they will eat up perfectly clean, giving them fish, meat or scraps from a packing-house, and then give them the grain in the afternoon strewn among the straw. It will be necessary to remove the leaves, or whatever you may use, about once a week, and replenish with clean. Give the fowls as great a change of diet as possible, and as much green food as they will eat—such as cabbages and sliced apples—and always have a bundle of rowen in the house, so that they may help themselves to it, and if it has been well cured they will eat a great quantity, remembering to give them drink once a day, either water or milk; they are particularly fond of the latter.

It is necessary in the winter season to provide a dust bath for them, which may be done in this manner: Take a box about two feet square, fill it with sand and ashes, and if kept in good condition they will make good use of it. Pounded oyster-shells or lime and gravel should always be in the house for them, which furnishes the shell-making material, and is almost impossible for them to procure unless provided for them. Kill off all the fowls that are over three years old, as they do not lay nearly as well after that age.

Farmers will find this extra attention a good investment.

What Kind of Fowls.

Farmers should restock their poultry yards every two or three years, for the old breeds being bred in-and-in, soon run out and become unprofitable. It is not every farmer, however, that can afford to buy full-blood fowls of any kind sufficient to stock the place. In order to work into pure-bred chickens there are several methods of procedure, all very good, because very cheap. The first is to buy a couple of thorough-bred roosters and turn them with the native hens. If the Leghorn variety is selected the progeny will be far better layers than the old ones, partaking in a very great degree of the excellency of the new breed. Then, when the half-breeds commence to lay, sell off the old hens entirely, keeping only the half-breed pullets, also getting rid of the half-breed roosters, for the breed will not improve if they are kept. Keep the same thoroughbred roosters the second season, though it would be better to change every year. But under no circumstances should they be kept to cross on their own progeny longer than the second season. The first cross will be half-breeds, and if none but thoroughbred males are used, the second cross will be three-quarters pure blood, which for all practical purposes are equal to the thoroughbreds. If, however, after the first cross the half-breed roosters are kept, the grade will not improve and the chicks will still only be half-breeds, and poor ones at that. Hence it is important that none but thoroughbred males should be used.

As to the best breed, that depends on the circumstances. It is conceded on all hands that there is more money in eggs than in raising chickens, and if this branch of the business is followed, there is no fowl that can equal the Leghorn. They are good foragers, hunt their own living to a great extent, and are tough and hardy. It will be necessary to keep other breeds to hatch the eggs, as Leghorns will not sit.

Garden and Orchard.

Seasonable Hints—February.

BY HORTUS.
OUTDOOR WORK.

Orchard trees should be inspected several times during the winter season to see that they are not being injured by mice or other vermin girdling them; the snow should be firmly tramped around the base of the trunk of the tree, which from thus being compressed will freeze and soon resist any attempts of mice to penetrate it to get at the bark. It is generally toward spring that the mischief happens, and especially in severe winters such as we are now experiencing, is it more aggravated. We have seen trees eighteen inches in diameter totally ruined by these pests, when you would have thought from their size and strength that they would have been out of danger. When planting out young trees from the nursery, a great many persons forget to take off the labels, intending at some future time to make a record of the trees and varieties and then remove the labels; but the recording is never done and the labels are left on, and the trees grow and the wire cuts into the bark, till finally some day the top breaks off, and then there's a tree gone all through neglect to take off the labels. So it will be well to examine your young trees for any label wires. Any fine weather may be taken advantage of in the way of pruning and trimming.



If your trees are old and have been neglected, plenty of work will be found in removing dead branches, diseased limbs, suckers, and in scraping off the old loose bark. We would advise you to be careful in pruning off any large limbs. We would rather submit to a good deal of inconvenience from the position of large branches in the orchard than run the risk of removing them and endanger the usefulness of your trees. In a young orchard the knife should be used altogether instead of the saw, or in other words, keep the knife going so that the saw may never be required; by calculating the possible growth in the coming years from your knowledge of the fertility of the soil and the natural habit of the tree, you can so direct the growth of the tree, balancing the head, as it were, that in after years no large branches will require removing at all.

It would be well also to examine strawberry beds and borders of tender plants covered last fall, to see that they are not now exposed to the wind or other causes. The long sunny days and sharp freezing nights of spring months cause more damage to plants and fruit buds than any other means.

INDOOR WORK.

The root-grafting of apples, pears and plums, and the making of cuttings, may now be gone on with. Practical nurserymen will be well through with this work by this time, so as to enable them to get their pruning done. Root-grafting is an easy method to propagate rapidly fruit trees, and is light and pleasant employment during winter. The young growth of last season is used for cions, which are cut up by the grafter in two or three pieces, according to the strength of the cion. Seedling roots, from one to three years growth, are used to fit the cions to. The graft when made is about six inches long. The best grafts are made from the butt end of the cion fitted into

the collar of the root. For tying them, in former years waxed cloth and the waxed paper was used, but now waxed string is used instead, which has many advantages over the old methods. The string used is No. 8 cotton warp, which is put on a reel large enough to hold it taut. From this it is unwound, running it through melted wax and winding it on another reel, thus preparing it for tying the grafts; three or four twists of it is sufficient to hold the cion firmly on the root, like cut—when it is broken off—no knotting being required, enough wax being on the thread to make it stick.

The grafts are now packed away in sawdust in boxes and kept in a cool place till planting time comes.

Every plant and tree in a well ordered fruit garden should have a label to it with the name neatly written on it. The best labels are made from dry cedar—cut into blocks eighteen inches long, and split into pieces one and a half inches square. These are then shaved and pointed at one end to go into the ground. They should receive two coats of white or other light paint, and the sharp end dipped in coal tar. Labels thus made should last for ten years. It would be well to make these now ready for use.

PHYLLOXERA IN VINERIES AND VINEYARDS.

We suspect there are very few graperies in Canada that are exempt from this pest. When plants are infested the leaves become yellow in patches and easily drop off, and the whole growth of the vine soon becomes puny and weak. Several remedies are in use, but from the insect working in the roots underneath the soil, it is difficult to apply any remedy that will not injure the plant. Flooding the ground with water for several days is practiced, but this requires the vineyard so situated that this may be practicable. We cannot advise anything better than to give the best care you can to the vines in the shape of thorough cultivation. Stirring the soil, and removing the same if old and exhausted, returning fresh loamy soil, sods, old bones, &c. Apply crushed bones and lime in abundance, and give good drainage. This treatment will enable the vines to defy the insect by the luxuriance of its growth.

Starving Orchards.

A ton of dry, unleached ashes per acre will furnish nearly the same ingredients advised by the *Scientific Farmer* for the fertilization of orchards, which is 200 to 250 pounds of bone dust, and 300 to 400 pounds of sulphate of potash per acre. This gives some 70 or 80 pounds of potash, 50 to 60 pounds of lime from the bones, and 10 to 20 pounds of nitrogen, and some magnesia in the potash and fertilizer, all of which are called for to nourish orchards on insufficient soil, as the flesh of most fruits contains much potash as well as lime, in combination with the fruity acids, and the seeds phosphoric acid. Whether the ingredients required are applied in the formula given or in the unleached ashes suggested, it is recommended to sow broadcast and lightly harrow in, leaving it to the rain to more thoroughly incorporate with the earth. Such treatment has proved successful in orchards showing signs of decay both in this country and Europe.

Coal ashes and salt are used with great benefit on some soils, especially in orchards bearing sour fruit. Orchards, the soil of which from close pasturage or other causes, is nearly destitute of humus, will gradually deteriorate and finally die unless restored to that state of fertility which is necessary for the thrifty growth of the tree and its existence in a healthy and vigorous state. Such orchards are greatly benefitted with a top-dressing of leaf mold, rotten chip manure, muck from a creek, broken bones, animal hair of all kinds, and similar material generally at hand on farms, which can be applied without other expense than the time and labor expended. When manures are used they should be well decomposed; fresh, warm manures excite young trees to a very rapid growth, but the wood is watery and feeble.

Do Raspberries Pay?

BY E. M., DRUMMONDVILLE, ONT.

As a delicious and healthy food for home use they do pay, and should be cultivated by nearly all who are landholders. The cultivated varieties are better in quality, and cost less than it usually does to travel through brush and wet grass to gather the wild berries. All landholders who are distant from a daily market should have a raspberry patch for family use.

As a market crop, under favorable circumstances, they pay about as well as strawberries or vegetables.

Upon a suitable soil, near some town or village, with thorough cultivation and persistent attention, success may be expected, but not otherwise.

Red raspberries bring double the average price of strawberries, and cost twice as much for picking. They yield less per acre and are too soft for distant markets. A raspberry plantation lasts much longer than a strawberry plantation, and costs rather less for planting and cultivation. At the present price of strawberries, in the vicinity of small fruit centres, it is likely, that in such localities, raspberries would pay best.

Those who are not both able and willing to give raspberries careful attention year after year, should not grow them on a large scale at all.

It takes over 2,000 raspberry plants to stock an acre, and these may be purchased at from ten to twenty dollars per thousand. An acre can be stocked as cheaply as with strawberries, and can be planted by a man and a boy in one day. As a matter of course, we pre-suppose a nicely prepared mellow soil.

Raspberries are very suitable for planting in young orchards. They are effectual in securing a thick coating of snow in winter, while the trees in turn assist the raspberries by acting as a shade and windbreak. The raspberries should receive exactly the kind of cultivation that the orchard requires. Plowing may be avoided altogether by using Copp Bros.' new iron cultivator. This implement is capable of endless modifications, and may be worked deeper than an ordinary plow.

Ten acres of red raspberries have yielded over \$4,000 in gross receipts. The average crop is, of course, much below this.

Blackcap raspberries are firmer than the reds, and may be shipped to distant markets. The writer has sent them safely 200 miles by railroad. In the vicinity of most of the principal towns and villages of Ontario there is an opening for the profitable cultivation of raspberries.

Woodpecker vs. Apple-worm.

If woodpeckers are plentiful in the orchard they will take care of the apple-worm, even when cuddled up under the paper bands dreaming of wings, and do away with this necessity of examining the bands every week or two. At first I thought the codling moth had hatched in advance of our bi weekly visit, and escaped the rub of the smoothing-iron by boring through bands instead of escaping from under them; but the rattling stroke of the red-headed woodpecker a few trees off, and the similar peck of his industrious little white-and-black-backed downy cousin (*Picus pubescens*) told the story of the holes, and promised that just in proportion as their crops were filled the apple-crop would prosper. From some bands every larva and pupa had been dislodged by our thorny-tongued benefactor; indeed if any were present where he had been, they had evidently come since his departure and before his return. A barrel of apples for every one is a small valuation. If sheep and swine can be kept in the orchard so much the better, but in any event I mean to try to keep in the woodpeckers and keep out the gunners; and ask and expect that every tree will cease to be a wormy nuisance and "comfort me with apples" fit for other uses than vinegar and the still.—[E. B. U. in N. Y. Tribune.

Care of the Orchard.

Young orchards should be cultivated and manured for the first ten years, when they will bear good crops if properly handled," wrote M. C. Baldwin, of Chemung, N. Y., in a letter to the Elmira, N. Y., Farmers' Club, on the management of orchards. For twenty years he left the wormy fruit that dropped from his trees on the ground, when the apples became so wormy and small that he was obliged to change this practice. For the past three years he has turned in sheep and hogs; they have eaten the drops, and, he thinks, destroyed the worms. For trees that need cultivation he throws manure or coarse mulch around them, and the hogs root it up and turn it over and over again until it is thoroughly mixed. He stacked his stalks and coarse fodder, and fed all in the orchard, and also draws coarse manure there, such as tobacco-stalks, straw or mulch. Leached ashes is considered first-rate, and a little lime is pronounced beneficial. The result is that his fruit is clean, free from worms, smooth and handsome, and the trees bear great crops.

President Hoffman said that many of the orchards of Western New York are treated as Mr. Baldwin treats his. Mr. Barry thinks that the ravages of the codling moth are materially lessened when pigs and sheep have been allowed free run. Joseph Harris, he believed, also approved of this practice. Some farmers leave their orchards without cultivation, but keep the surface of the ground well scarified by using sharp drags freely. If the land is set with grass, President Hoffman had no doubt but that good results follow such treatment. And if pigs or sheep are permitted to pick up all the wormy fruit that falls, they will certainly destroy so many of the worms from which moths are developed as to lessen the damage materially. He did not, however, recommend allowing any stock to run in the orchard at the expense of injury to trees. But where it can be permitted without damage it is a good plan. Essex pigs, which are peaceful and quiet, will do no harm.

G. S. McCann did not approve of allowing any stock to run in the orchard. Cattle, sheep and swine, in his opinion, all do mischief. Better pick up the wormy fruit as fast as it drops and feed it to the hogs than allow a hoof of any kind to enter the orchard. Eighteen years ago he planted an orchard, and for a portion of the trees applied a wagon-load of manure around each one, working it well. There was no doubt about the effect. It could be seen for years. He kept the land cultivated until the trees had made considerable growth, but for some years past it has been in grass.

D. T. Billings ventured the opinion that it is a mistaken notion that hogs and sheep rid the orchard of the codling moth. If the fruit has not been wormy this year in the cases cited, there may be other causes for the exemption. Next year, perhaps, will bring a return of the pest, and its mischief be as great as ever. The sole explanation of the smooth fruit of the past season he believed to be the fact that conditions have been unfavorable for the work of the moth.

W. A. Armstrong said that even should sheep and pigs get all the wormy fruit that drops, there are still enough left on the trees to propagate moths. He does not approve of keeping sheep, pigs or cattle in orchards; has had trees girdled by calves, and others ruined by hogs stripping the bark in the spring.

J. S. Van Duzer had known instances when trees had been badly injured in a short time. On the other hand, pigs will run in orchards for years and do no injury. He had turned hogs, a hundred at a time, in his orchard for days without hurt, although he did not regard the experiment as entirely safe.

For peach, apple and pear trees there is no better plant-food than common ashes scattered over the surface of the soil under the tree. Cinders from a blacksmith shop or foundry are excellent for the apple, pear and cherry. Common salt scattered over the surface of the earth under pear or apples trees about as thickly as you do wheat when seeding, is highly recommended as an antidote to blight. This also secures protection against the aphid on pears or other fruit trees. The aphid is a small woolly insect that works on the roots of apple or pear trees, frequently destroying life.

The Fuchsia as a Window Plant.

It is no wonder that the Ladies' Ear-drop caused a sensation when it was first introduced to the public. The skill and care of the florist have wrought great changes in it since that time, and now it is one of the most attractive and beautiful plants with which our ladies can ornament their windows.

Not only do these plants present a great variety of coloring in their flowers, but they flower so abundantly, each flower hangs so gracefully from its tiny bough, that the whole plant is an expression of grace, and elegance, and beauty.

Another quality which these plants possess commends them strongly to the majority of our friends, they are of the easiest culture, and grow rapidly. They need attention, to be supplied with water, and kept free from insects, and as they increase in size to be transferred to larger pots. They enjoy being taken frequently to the kitchen and showered with tepid water from a fine rose with the garden syringe. Unless this is frequently done they are in danger of becoming infested with red spider. While requiring plenty of light, they should not be exposed to the direct rays of a burning sun, and should have fresh air as abundantly as possible. A little study of their wants while caring for them, will soon enable any one to grow the Fuchsia to perfection. It is always most attractive when grown in pyramidal form, a single upright stalk with the branches thrown out regularly on all sides. When first purchased of the florist the plants will usually be in three inch pots. As soon as the roots are found to have reached the sides of the pot, the plant should be carefully removed from the pot by turning it upside down and gently rapping the rim upon the edge of the bench, and preserving the ball of earth and roots entire; set the plant in the centre of the pot one size larger, fill it with rich porous soil, pressing it firmly around the ball as you put it in, give it a good watering, tie the centre shoot to a stake, and set it in the window to grow. In order to keep them symmetrical it will be necessary to turn them every day, else the branches stretching towards the light will soon give the plant a mis-shapen form. As soon as the roots have filled the new pot, making their appearance against the sides, it will be time to shift the plant into another pot a size larger, and so continue to shift them until the pot is as large as you care to have it. The plants require to be watered freely, but water should not be allowed to stand about the roots, and in order to prevent this the pots should be first well supplied with bits of charcoal or of broken crocks in the bottom before the plants are put in. Having the plant now in as large a pot as is desired, it will soon become a mass of bloom, and continue to bloom for a long time. After it has done blooming it is more satisfactory to throw it away than to winter it over and try to make it break nicely in the spring. Young plants can be had so cheap of the florists now, and they give so much better satisfaction than the average results with old plants, that it seems a great waste of labor and care to try to do anything with them.—[Canadian Horticulturist.

Raising Early Cucumbers Under Glass

D. K. Bliss, New York, advises, when planting cucumbers in hot-beds, one hill to each sash, leaving but three plants in a hill; cover the frame at night with mats or a layer of straw. As soon as the plants are up admit fresh air from the back part of the beds in pleasant weather, and when they show their third rough leaf nip the end of the vine, which will cause it to branch and bear earlier than it otherwise would. Keep up the heat by lining the bed with hot manure as the temperature of the bed subsides. To obtain early cucumbers in the open garden they may be started in a hot-bed by taking pieces of heavy turf or sod, from six to twelve inches square, and placing them grass-side down and planting the seed on the top. When the plants are of sufficient size, and the weather is warm enough, remove to carefully-prepared hills and protect with boxes when the air is cold.

An English gardener names several sorts of potatoes seen at the Paris Exposition, declares them "better for table purposes than the Americans," and advises his countrymen "instead of adding so many worthless American varieties to try some of the French kinds."

CORRESPONDENCE



NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post-Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. 3. Do not expect anonymous communications to be noticed. 4. Mark letters "Printers' Manuscript," leave open, and postage will be only 1c. per ½ ounce.

Corn Growing near Lake Huron.

SIR,—I get a great deal of useful information in your paper, have been a subscriber for the last five years, and would not like to give it up.

Crops were very poor in this neighborhood this year, with the exception of fall wheat and some fields of oats. One of my neighbors had over 35 bushels to the acre on an average. Spring wheat was a good fair crop on good cultivated and under-drained land. For the last three years I have been raising corn, or trying to, and I am going into it stronger next year, for I think it pays better than peas to feed or even to sell (for the Canadian yellow corn sells well, for making corn meal, at 70c. to 75c.) The first year I planted only half an acre on a very hard thistle patch, well manured with barnyard manure. I found that when I cultivated the land enough to keep the thistles down I had just done enough to keep the corn growing. The next year I planted 2½ acres, but, to my sorrow, the crows got it all, and made a large addition to the turnip patch for us. Last spring I planted about four acres, but before I planted it I got some coal tar and mixed it with the corn, just enough to brown it a little, and in that way fooled the crows, for they never touched it, and I had a very good crop. Some of my neighbors are trying the same trick. There was considerable corn sown on this line last year, and next summer I think the amount will be far more than doubled. One man told me he was going to plant about eight acres; he had three last year. I have a piece of sod; part of it was plowed last fall, the rest to be next spring. I intend to put corn on it, and in the fall, as soon as it is ripe, cut it and draw it out of the field to the barn and set it up to dry and the corn to harden, and plow over the ground and put in fall wheat. I think that I can get it in in September, and as some advocate sowing fall wheat late, that may stand a good chance on well cultivated ground. The sod is clover and timothy, and the greater part of it laid only one year, mowed and then pastured. I intend to plant the corn pretty early, as we are not often troubled with spring frosts here on the shores of Lake Huron, but five miles east makes a vast difference. The land is very good here on the lake shore, a loamy clay, or rather a crumbly clay, but it wants underdraining.

One question I wish to ask: Is it better to wet the cow's teats when milking or to milk them dry? Some around here say it is far the cleanest way to milk dry; others say it does the cows harm and creates warts on the teats, while others prefer wetting them with clean water instead of milk. Does it create warts to milk dry?

H. D. W., Brewster, Ont.

Notes from Michigan.

SIR,—The agricultural importance of the great State of Michigan has never shown to a better advantage than during the two years just past, viz., 1877 and 1878. True, prices for all farm products have ruled low, but the corresponding low prices for all the farmer has had to buy has made the purchasing power of the products of his labor fully equal.

This condition of things has been no serious drawback to the farmer who was out of debt. But, of course, he who was in debt for property, bought when prices were high and rates of interest also high, has found the last year one of severe struggle.

The statistics furnished by the Supervisors of the several townships, of the number of acres of wheat sown for the above-named years, and the number of bushels raised in the total, with the average per acre for each county and the State,

show conclusively that one of the greatest money-producing crops, if not the greatest, is wheat.

The *Michigan Homestead*, in a recent article on this subject, put the yield for 1878 at over 28,000,000 bushels, with an average per acre of 18 bushels for the State.

The corn crop has, for many years, been an important crop for Southern Michigan—and from repeated trials and tests it is proven to be a very cheap crop. The cost per bushel scarcely going above ten and twelve cents per bushel for ears.

The oat crop comes next in importance, and the same authority puts the product of the State 12,000,000 bushels for 1878, which is no doubt much below that of former years, but this must be attributed to the smaller average sown, for the yield per acre has been fully up to the standard of former years.

The unusual good crop of wheat in 1877, with the fair price realized, and the prospects of the continuance of the European War, was probably the cause of the large amount of wheat being sown again in the fall of 1877, to the detriment of the oat crop the following spring.

Field peas are growing in favor with the farmers, and but for the trouble of getting the seed cheaply, would soon become of vastly greater importance. Peas raised here cannot be kept through the winter on account of bugs, and, as a consequence, we must depend upon Northern Michigan and Canada for our seed every spring. And here comes in another serious trouble, viz., that the Canada peas often bring with them seeds of the Canada thistle, and, between the bug and the thistle, many of our farmers are deterred from raising what would otherwise be a very profitable crop.

The potato crop is one that Michigan may well feel proud of. No State excels Michigan in quantity or quality of her potatoes, though we cannot boast of the crop of 1878 particularly.

The apple crop of 1878 has been immense, and of a superior quality. Millions of bushels have wasted for want of a price in the market that would pay for the picking. The crop was so good over the entire country that shippers dare not invest to a large extent.

The patent drying houses of the various kinds have been as busy as could be, and have used up all they could, but that, large as it was, is but a drop in the bucket, compared with the amount grown. One factory in this county alone has used up not less than 35,000 bushels, which was bought at prices ranging from six to twenty cents per bushel, and the one township, where it is located, could have supplied many times as many more had its capacity been large enough to have taken care of them.

There was sown again a full average acreage of wheat last fall, and the weather during the fall was all that could be desired for its starting, and the abundant grain grown, that fell early in December and still covers the ground, promises another abundant yield in 1879.

S. B. M., Adrian, Mich.

SIR,—I have been a reader of your valuable paper for several years, and with pleasure renew my subscription. I will try and increase its circulation, but people here don't think as I do, that "the FARMERS' ADVOCATE" is worth its weight in gold, or they would more readily subscribe. During my absence in Britain I did not see an agricultural paper with so much real practical information in so little space. We have much to learn in the way of farming and stock raising.

J. W., Hinch, Ont.

SIR,—Your article in the January number on "Yellows in the Peach," calls to mind an experiment which I tried. About the middle of summer, especially should there be fruit on, this disease can easily be detected by its premature ripening and general yellow and changed appearance; my practice has been for years, when I discovered these symptoms, to make at once a decided mark on the south side of the stem, that was understood to mean total destruction as soon as the fruit was off. The two trees in question were left standing to experiment on. On the 1st Oct., 1877, a circle four feet around these trees was covered one inch thick with fresh gas lime; evergreens that were planted near, whose roots were not covered with lime, were mostly killed by the poisonous odor. One of the trees died, the other came out green last spring, blossomed, and, very late, ripened its fruit, the tree remaining green longer than any

other. I give this to the public for what it may be worth. I have tried similar experiments on others, with what success I shall know next season.

I am in favor of a commission to extend over the United States, who would be competent to examine nurseries especially, and report each one, that the public may be protected from spreading this terrible malady. A few years ago I had no disease in my nursery, but purchasing peach trees for stock from New Jersey, I soon became filled with it. I then abandoned budding, and now purchase my young trees from the State of Delaware, where, as I understand, the yellows do not prevail. If not for this scourge on Long Island, we might export this delicious fruit, instead of purchasing nearly all we use. This tree is one that thrives best near the salt water.

P. H. F., Babylon, L. I., N. Y.

Much in Little.

Hard times.

Money scarce.

Potatoes rotten.

Peas small.

Grain small and no price.

Still we must have the ADVOCATE! Send it along!

Wishing you and staff a "Happy New Year."
R. M., Sunbury, Ont.

SIR,—As an old subscriber to your excellent paper, the FARMERS' ADVOCATE, I am venturing to write to you personally to solicit you affording me some information relative to shipping cattle to England, that I believe you can supply me with. The points I desire enlightening on are chiefly these, viz.:

1st. Is there, to your knowledge, any Canadian Farmers' Agency in Liverpool to whom one could consign cattle, from this Province, to sell on commission, and feel sure of an honest, intelligent, economical, and altogether satisfactory handling and returns. If so, will you be so kind as to give me their address.

I have heard that more than one set of farmers in different parts of Ontario have joined together and sent one of their number to England, establishing him there as their regular agent to sell for them; if this is so, I should like to join one of these companies, and ship conjointly, receiving my proportionate due returns. Any information you can give me would be highly valued.

W. O., Birchton, Q.

[We know of no such person as you enquire for. We know several that are working on their own account, but could not name one to fill your bill.]

Mr. W. Dyke, Canadian Emigration Agent, Liverpool, we have seen, and consider information from him would be reliable. He is anxious to do all he can for Canadians, and you might write to him. We know of no better person to supply you with the information.

We believe there is a good opening for a good man to establish a general Canadian agency in Liverpool, and hope to hear of the vacancy being filled.]

Retrograde Farmers.

SIR,—I have been trying to induce some of my farmer neighbors to take the ADVOCATE, but without success, although it would be to their benefit; and yet they pretend to be good farmers, on farms valued at \$4,000 to \$7,000 per 100 acres. They have not a single head of cattle that any farmer near Guelph would winter. We bought a thoroughbred bull last February, and very few of them patronize us, although we charge only \$1.50 per cow. They will find their mistake when they have been two or three years in stock-raising. We induced our nearest neighbor, who has a farm of 150 acres, to go to the Xmas Fat Cattle Show at Guelph, and he was completely bewildered. He says his neighbors won't believe him if he tells them what he saw there. He brought home with him a good grade cow and heifer in calf, which is a move in the right direction—and all through us and the ADVOCATE. I tell the others they will never know how to farm until they read more agricultural papers. They know nothing about growing roots or how to use them.

T. C.

To Inquirer, Elora.—Thorley's cattle food maintains the highest reputation in England. Mr. Thomas Shaw, of Hamilton, has advertised Thorley's improved cattle food for months in various journals. Write him for full particulars.

Stall-feeding Cattle.

SIR,—I wish you to give in your paper an article on stall-feeding cattle—as to what they are fed on, and how often; whether fed on hay or straw, or both; how often and when fed on turnips, cut or whole; how often on provender, and what quantity and quality, also whether watered; and how much to each animal? These questions are of the greatest importance to us farmers just now, as we look to stall-fed cattle as the mainstay of our prospects, and as furnishing the best means of marketing our wools and rough grains. Our trade with England in cattle is now firmly established, and I think an article on the subject would be a benefit to farmers generally.

R. Y. G., March P. O.

["On what are fattening cattle fed?" The Canadian farmer must rely principally, if not wholly, on the products of his farm for stock feeding and fattening, and herein lies a source of his profit. The English stock-raiser imports food from foreign countries. This he is enabled to do by the brisk demand for meat in the home market. Our distance from the best market, and the lower prices we consequently obtain, make it necessary for us to be more economical. We can, however, raise on our own soil what is needed—hay, straw, grain and roots are at our disposal at first cost, and linseed meal and cake, products of the flax, we can have if we will. Good beef for the English market may be fed on well-saved hay and turnips.—this is the result of our own experience. The better the condition of the animal when taken from the pasture to stall-feeding, so much the less time and food will be required for finishing them. We have always found it profitable to add to their food—during the last few weeks of their fattening—some grain and linseed cake. The quantity of food daily given varies with the size and quality of the animal, and no general rule would be applicable in all cases. Fully as much of fattening, and the profit therefrom, depends on the care of cattle. The feeding-house should be kept dry and warm, their food must be given regularly, and its ingredients changed if the animals do not relish the food given; and it will be found profitable to add to its richness as the animal-fattening draws to a close. It is only a well-bred animal which can make full use of liberal feeding and leave a fair average profit. Fattening cattle, fed liberally on good food, having a moderate proportion of grain, hay or straw, with roots, will on the average consume twelve or thirteen pounds of the dry substance of such mixed food for one hundred pounds live weight during the week, and should give one pound of increase for twelve to thirteen pounds so consumed. An experienced feeder in England had a lot of small cattle fed on 50 pounds of pulped turnips, 2 pounds of rape cake and 20 pounds of cut wheat-straw daily, and they thrived well. It is asked, Does stall-feeding pay? Yes, if the conditions given above be complied with. They pay for the food used and a fair profit; but the great profit is from the increased fertility of the farm produced by the very rich manure made by the fattening cattle.]

Killing Seed Wheat With Pickle.

Last spring I had some seed wheat that was foul with seeds, light wheat and oats, and in order to take out the same I made the pickle as strong as I could make it with cold water and salt. I then swam the wheat and left it in the pickle over night, and then took it out and dried with wood ashes. I then left it four days before sowing. I examined it twice to see if it was heating, and thought it strange that there was no sign of heat about it. I then had it sown, and after eight or ten days went to see how it was coming on, and found that there was no sign of it growing, for I had completely killed it with salt and ashes. I write this to let others see what too much salt and ashes did for me.

N. S., St. Croix, N. S.

"Rinderpest at Washington" a Mistake.

SIR,—Will you kindly allow me to correct a mistake which has crept into the January number of the *ADVOCATE*? The article in the *New York Tribune*, for which I must assume all responsibility, does not assert the existence of the Rinderpest around Washington, but an unfortunate play upon the word "Rinderpest," the primary meaning of which is "a cattle plague," has apparently conveyed a wrong impression on a cursory reader. A second reading of the article in question will show you that care was taken to avoid this error. The sufferers around Washington called it the Rinderpest, and Mr. Graves enquired as to the correctness of this designation. The answer was: "This is undoubtedly 'a Rinderpest' (cattle plague), but not 'the Rinderpest' (Russian Cattle Plague)." Then it goes on to state that it is "the Common Bovine Lung Plague of Europe." In other words, it is what is known in Great Britain as the "Contagious Pleuro-Pneumonia of Cattle," which has prevailed in some of our Eastern States unintermittingly since its first importation in 1843. The farmers of Canada need be under no increased apprehensions as to any probable invasion of this disease. At the present time it probably does not exist further north than the environs of New York city, whereas on different occasions during the last thirty-six years it has invaded the New England States, thereby approaching into far closer and more dangerous proximity to the Canadian frontier. At present, therefore, its restriction to a few of the Middle Atlantic States only, gives a better guarantee of immunity than could have been offered on many past occasions, and unless a current of live stock commerce should set in towards Canada from New York and the Atlantic coast southward, the farmers of the Dominion need be under no apprehensions.

On the other hand, the existence of such a disease, even in the Eastern States, is a constant threat to the great stock interests of the west, and the United States are called upon by every consideration of self-interest and foresight to root out such a baneful possession, and not bequeath to future times a legacy which cannot fail to become increasingly disastrous and ruinous. As for Canada, she is not in the line of any cattle traffic from the infested districts, and can only be endangered by the importation of high class cattle from the area of contagion. By a careful avoidance of such imports the Dominion will safely protect her herds until the contagion reaches our Western States. Should the United States Government prove so shortsighted as to permit of such an extension, it will then be imperative on your Administration to close the frontier against all United States cattle and whatever may have been in contact with them. Until then you have only to avoid a narrow strip of our Eastern seaboard from New York city south—a district from which nothing but high-class breeding cattle would be drawn to Canada.

Yours, etc.,
JAMES LAW, Cornell University,
Ithaca, N. Y.

[See reply in editorial column.—Ed.]

SIR,—In looking over the January number of your journal I saw an enquiry about a sick cow. I have cured three cows affected in the same way by giving them about two pails of fresh churned buttermilk pretty warm, as soon as possible after it was churned. Old buttermilk is of no use. Fresh churned buttermilk causes fermentation at once and carries off the trouble.

I recommended it to a neighbor who had a cow sick for ten days, she would not eat a mouthful or chew her cud; they had no hopes of saving her, but tried this remedy, and before 24 hours she was all right. I think if Mr. W. B. had tried it he would have saved his cow. I think with you that enemas of strong soap-suds would assist, and could not injure.

I cured a young foal by using enemas of very strong soap-suds (it had not had a passage for a week). After a veterinary surgeon had tried his skill and failed, he said he thought there was some obstruction.

I often think simple remedies succeed the best, and are not so likely to injure afterwards.

C. W., Binbrook, Ont.

[Many thanks to our fair correspondent for her communication. We will be glad to hear from her at any time. Her remedy is simple, practical and easy of application.]

Scabby Stock.

I bought a high-bred Shorthorn bull two years ago, and nine of my calves are very scabby around the neck and head, some scabs being as large as a penny. There were some on the bull, but they are dry and scaly. If you know of anything to cure them please inform me in your next issue.

J. H.

[Your calves are troubled with a disease of a scrofulous nature. It has been transmitted from your bull, and can be cured by the following preparation: Take one ounce of corrosive sublimate and dissolve in twelve ounces of alcohol; dress the part affected once a day with a piece of sponge for about a week; use a salve on the part once a day made of sulphur one part and lard six parts. You will give the calves some laxative medicine, and be careful in regard to their food—not giving them any of a heating nature.]

Ground Rye for Feed.

SIR,—Please give me your opinion of ground rye as feed for colts. I have been feeding my yearling and two-year-old colts on ground rye and cut cornstalks dry, and they seem to be doing well. I have been told by some parties that it would ruin them. By answering the above in your next number you will greatly oblige.

Mountain View, Ont.

[We would not advise you to continue to feed ground rye alone with cut cornstalks. We would give a change of some other kind of food; one feed of ground rye a day would be advisable, as it has a tendency to make fat, but we think it too heating a food to continue with young horses.]

"Side Bone."

SIR,—Can you tell me the best means to cure a side bone on a horse's foot? Can the extra growth be taken off or not?

Varna P.O., Co. Huron.

[Side bone is a conversion into osseous or bony structure of the cartilages attached to the wings of the coffin-bone. It is a disease very common to heavy horses, and frequently causes lameness. The enlargement cannot be removed; it may be reduced some by a course of blistering, or in old cases it might be well to have recourse to the firing-iron and blister afterwards. Ossified cartilage is incurable. No drugs can force nature to restore the cartilage once ossified into that soft and pliable form that nature made it.]

SIR,—Being a new subscriber to your paper, I want to know what is the first cause of smut in wheat, that is, when we sow good clean seed, what causes smut in the following crop? My opinion is that it is caused by a kind of fungus in the land, that attaches itself to the wheat when sprouting to grow. Others are of a different opinion. Please state what is the best preventative and also the cause.

S. J., Ravenna, Ont.

[Smut is of the genus of parasitic fungi that contains some of the most deleterious parasites which affect especially those grasses which are cultivated for the nutriment of man and domestic animals. Those species which affect cereals are all of a dingy tint and of very simple structure. Smut is a parasite that fastens upon the grain in the ear just after the bloom is past, and it changes the filling ear into a mass of blackish dust. This parasite is produced from very small seeds or spores that adhere to the seed grain, and in some unaccountable way ascends to the heads of grain (wheat, barley, oats or corn) and there grows and consumes the vitality of the immature grain. The most important question for farmers is how to destroy this pest. Immersion in a solution of blue vitriol, arsenic and corrosive sublimate are recommended for this purpose. But a simpler, safer, and equally efficacious remedy is common salt. It is well known that salt is a destroyer of all fungoid life, and that by steeping seed for a short time in strong brine the vitality of the spores is destroyed. Prepare a strong brine, steep the seed grain in it for twenty or thirty minutes, then throw it on the barn floor and mix it with air-slaked lime. The lime will dry the seed for sowing, and also preserve it from diseases and cutworms and invigorate its growth. A couple of days on the floor will dry it and prepare it for the sower.]



The Family Circle.

"Home, Sweet Home."

Helen.

(Concluded from January No.)

Once, when she had laid her in her crib and was sitting alone, still humming softly to herself the old cradle song she had been singing to Helen, a sudden vision came to her of the years that were gone and the life that could never be recalled—her sister's life and her own.

For the second time the lesson appointed to her, the light that was to light her path, came in pain, came at the hands of the child she had named Helen, the light of her life. From that day Miss Laureston learned to distrust herself.

The two children grew up inseparable in all their plays, having only one chronic bone of dispute between them—for Harry would not own that Helen was as pretty as his sister.

When she was fifteen, and was beginning to put on the shy, delicate ways of young womanhood, Miss Laureston was nearing what the world calls old age.

At fifty-five a nature can be wholly changed, if indeed it ever can. Miss Laureston did not understand that there were uses for all kinds of natures, and she was painfully trying to change her own to a model it never could have fitted.

But whoever else misunderstood her, Helen never did so, or was other than fearless in the presence of the love that had sheltered her from all the storms of life.

Miss Laureston had forgotten the existence of the picture, and was struck with a keen remorse. She at once ordered it to be brought down stairs and hung in a place of honor, at the same time giving Helen the outline of her sister's story.

It was a bright sunny day in late October that the picture was rehung, and the clear eyes of Milly Laureston looked down upon the home life as they had done long ago.

Miss Laureston was so shaken that she was unable to think or reason, but she knew in her inmost heart that such a likeness could not be accidental.

"You told me, too, that the woman was dark, and in feature wholly unlike Helen, did you not?" she asked.

"In fact, there is only one way," continued Mr. Adams—"to put the matter into the hands of private detectives. And I fear that will be very unpleasant to you."

At last, one frosty night, a little, dark, alert man, with eyes like an eagle's, presented himself at her door, and she knew that he was a detective, and that he had come with news.

Such, in substance, was the detective's story; and if he knew more than this, if he knew Mrs. Gessner's name before her first marriage, or guessed whose child Miss Helen Laureston really was, he gave no sign of it.

How the words repeated themselves over in Miss Laureston's brain that night, and refused to harmonize with any recollections of that lost sister, little Milly, who had always been the weak one, to be taunted and protected!

But morning came, and with it the need of action. She told Helen as gently as possible the story of her life, and this late discovery of her mother. It comforted her not a little when the child clung to her and refused to leave her even for the sake of an unknown mother, who was to her only a dream.

It was a quiet country town, so peaceful under the last light of the setting sun that the trouble unconsciously slipped from her heart as they walked together up the climb-

dered street. But she still kept Helen's hand in hers, and did not let it go even when they saw the name they had come to find, and turned up into the shady street where Milly lived.

"Now we must ask where Mrs. Beckwith lives, auntie," said Helen, her voice trembling in spite of her.

"Stop here, Helen," said Mrs. Laureston eagerly. "They will not notice us as other people would."

"Mrs. Beckwith?" repeated the man slowly—"do I know where Mrs. Beckwith lives? Just you step in here, mistress, a minute."

"Just look here, mistress," he said again; and following his motions they saw a little boy fearfully deformed, who could not have been more than seven years old, lying on a low bed.

"There, there, the mistress only wants to know where Mrs. Beckwith lives," interposed his wife soothingly.

They had no trouble in finding it; it was a large quiet house deeply set in among the trees. They waited a few minutes in the dim parlor and a lady came softly in through the door.

Could that be the child Milly?

Only one prayer had Milly to be forgiven for the wrong she did her sister; only one feeling, when the long story was told, and the lost child given back to her—a gratitude and blessing for her sister that all loving words and caresses failed to make known.

Yet even with Milly's hands clasping hers, Miss Laureston's eyes wandered constantly to Helen, and all her thoughts were trembling round the fear that Milly would take Helen away from her.

"You will come and live with me now, Milly, will you not?" she asked at last, putting the question with intense dread; for if her sister said No, would it not be natural that she should expect her daughter to stay with her?

Mrs. Beckwith looked up and saw anxious faces—the sister's she had left and the daughter's she had never known—waiting for her answer, saw and understood that they were more to each other than she could be to either of them.

She raised her face to kiss her sister, sober, middle-aged lady that she was, in the very same humble way that she used to do in her childhood, and Agnes understood a little of the love that must go out before love of others can come in.

But she never understood in all her life the simple self-sacrifice with which Milly gave her child over to the sister whose life was in her, and consented to go to the home where she would take only a second place as in the days of her childhood, and could be first in the heart neither of sister nor child.

Miss Laureston and Helen staid with her for several weeks, and when they went home she went with them. In that time something of the strangeness which separated them had worn away.

On dark nights, when the fire shone brightly, the window again threw back the figures of the two sisters—the one white-haired, the other gray-haired—both going down to old age peacefully while that young and beloved life clinked the morning slopes beside them.

Harry was away at college now, and now and then looked at Helen's picture as if he might sometime come to think it prettier than any other face in the world.

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Minnie May's Department.

MY DEAR NIECES.—I want to have a little chat with you this month upon sauces and garnishes. We had boiled chicken a few days ago for an eight o'clock supper, at which our friend Miss C. was a guest. We all said "How delicious!" but we were almost tempted to feel annoyed at Miss C., because she helped herself to tomato catsup, consequently could not enjoy the delicate flavor of the chicken. When will people learn that delicacies like boiled chicken do not require the aid of strong sauces to make them palatable? Of course, when a joint of cold meat is put on the table, pickles, catsups, and sauces should accompany it. Years ago pickles, pies, spiced meats, cheese, etc., were introduced at tea or supper, but now we do not do so. Judgment must be exercised in preparing a meal, as in every thing. If a friend or friends from a distance are of the party, the hostess should provide something substantial and appetizing for their refreshment. Nothing more displays the good breeding of a lady than consideration for the actual wants of her guests.

We used to laugh at a cousin who insisted upon eating mustard with mutton and mint sauce with beef. Many persons eat vinegar with sardines, but we think it destroys the delicate flavor of the fish. Now, a few hints in regard to garnishes for meats, which may be of use to some of our young housekeepers. Horse radish scraped into shavings for roast beef; leaves or tender sprigs of spear-mint around mutton or lamb; parsley for chicken, veal and fish, to the latter two slices of lemon may be added; red beet root, boiled and sliced, and boiled carrot sliced, makes a pretty garnish for corned beef; fried sausages or balls of force meat around turkey and roast chicken; parsley around boiled fowl; game should be garnished with jelly.

MINNIE MAY.

RECIPES.

A subscriber sends her receipt for cleaning coat collars and all woolen goods:

Get soap-tree bark, which can be procured at the drug stores, break a piece about two inches square into small bits, and pour over it half a pint of boiling water, let it stand an hour or two, then sponge the collar well with the liquor. A second sponging with clean water will clean it nicely. Both washing and rinsing water should be as warm as for flannel. We have, by using this bark, washed black and blue Empress cloths successfully, and have cleaned hair-cloth chairs which had been soiled by contact with the head.

MRS. C.

BARLEY PUDDING.

To make pearl barley pudding, which is cheaper and better than rice, soak the barley over night, having first washed it thoroughly. Boil it in the same water it was soaked in, in a covered tin vessel, set inside a kettle of water to prevent the barley burning. When cooked soft, add eggs, sugar, currants, raisins and nutmeg in the same proportions as for a rice pudding.

SANDWICHES.

For mixed sandwich, chop chicken, tongue and ham very fine. Melt half a cup of butter, add a dessertspoonful of good mustard; if liked, a little pepper; stir it with the beaten yolk of one egg into the meat and spread on thin slices of bread neatly trimmed and buttered. Or, chop fine such parts of a well boiled or baked ham as cannot be cut in neat slices for the table; add four teaspoonfuls of melted butter; mustard if liked, and pepper; chop up two or three hard boiled eggs, and the well-beaten yolk of one, to bind the whole together, and stir up the whole with the ham till well mixed, and spread on nicely cut slices of bread well buttered.

SPARKLING BROTH, OR BEAN SOUP.

Procure one quart of small black beans, or white ones will do, and soak them in boiling water

over night. In the morning put the beans in six quarts of water in a large boiler, adding some beef or mutton, or any kind of cold meats that may be in the house, first cracking the bones and cutting off the fat from the meat. Put to it one large onion, some nutmeg, and whole pepper; set it on the fire where it will simmer nine hours; then strain it, rubbing all the mealy parts of the beans through a sieve; wash the boiler and return the soup to it to heat up. When served, cut up half a lemon in very thin slices and lay in the bottom of the tureen, pouring the soup, boiling, over them. A wineglass of claret is a great improvement.

BAKED FISH.

Take any nice fish, boil it, remove the bones, and chop considerable parsley very fine, with one small onion; have about as much bread crumbs as fish; take a pudding dish and butter it, then lay in a layer of bread crumbs, then a layer of fish, ending with the bread crumbs; mix your parsley and onion with salt and pepper through your bread crumbs; put lumps of butter over the top, a very slight grating of nutmeg, and pour over it all sweet cream, or very rich milk, till it rises nearly to the top. Bake in a quick oven till it has a nice, rich brown crust.

FRESH ROLLS.

Heat a pint of new milk; make a thick batter, into which put a teacup of yeast; after it lightens, beat up three eggs, one teacup of sugar, and put in the batter; then rub a teacup of lard in some flour, make it into a dough with the sponge, and after it lightens work out into rolls. Let them lighten then bake.

TO CLEAN OLD TEA AND COFFEE POTS.

Take a little concentrated lye, with enough water to fill the vessels about half full. Boil slowly for about fifteen minutes, and they will be as bright as new.

TO PREVENT THE HAIR FROM FALLING OUT.

Wash the head carefully in salt water and shaving soap; then rinse the soapsuds off and wipe as dry as possible. Repeat this operation two or three times a week, brushing the hair thoroughly after it is dry, until the hair no longer combs out.

HOUSEHOLD WEIGHTS AND MEASURES.

Wheat flour—One pound is a quart. Loaf sugar, broken—One pound is a quart. White sugar, powdered—One pound one ounce is one quart. Best brown sugar—One pound two ounces is one quart. Eggs, average size—Ten are one pound. Liquid measures—Sixteen teaspoonfuls are half a pint.

MEAT, DIET.

It is a great mistake to suppose that much meat is necessary in order to give us strength and nourishment. It is very well in proportion, but rice eaters, buckwheat eaters, cracked wheat and oat meal eaters are the strongest people living, and the healthiest also. A fair proportion of milk supplies every needed ingredient not furnished by the grains.

CHICKEN SALAD.

Take equal bulk of cut chicken and celery, and make the following dressing for two chickens: Mash the yolks of eight hard-boiled eggs, and mix with them one and one-half teaspoonfuls of good dry mustard; stir in the yolks of two or three raw eggs, then add slowly, stirring all the while, one quart bottle of salad oil, cayenne pepper, salt and vinegar to taste, at the last. If the dressing "separates," that is, looks curdled, at any time during the process, add a little vinegar, and if that does not bring it together, a little raw white of egg. After the oil is in, and before the vinegar is added, the dressing should be stiff enough to hold a spoon upright. Salt the chicken and celery previous to mixing the dressing with them. Save a little of the dressing to spread on top, and garnish the edge of the dish with celery tops.

STOVE POLISH.

Stove lustre, when mixed with turpentine and applied in the usual manner, is blacker, more glossy, and more durable than when mixed with any other liquid. The turpentine prevents rust, and when put on an old rusty stove will make it look as well as new.

TO PREVENT STOVE-PIPES FROM RUSTING.

Oil with turpentine and oil, and keep in a dry loft.

APPLE TAPIOCA PUDDING.

Put one-half cupful of tapioca to boil; slice thin a large pudding-dish of apples, and sweeten very sweet (brown sugar preferred), then mix with the boiled tapioca and bake two or three hours in a moderate oven, stirring occasionally till the whole dishful becomes clear looking. Eat with cold cream.

Will some of our readers kindly send us a recipe for bleaching common shells a pure white?

Judging by Appearance.

"Here's a nice place, Mabel," said the elder of the two ladies who had just entered the train. "And we'll try and keep it undisturbed too," she added, proceeding to deposit their satchels, satchels, etc., upon the end of each seat, while the two ladies seated themselves facing each other.

They were evidently mother and daughter, the mother large, portly and fine looking, the daughter a slender, bright-faced little thing, and just as evidently people of "position," marked by the belongings of wealthy travelers.

Elegantly braided linen dusters over suits of black silk, stylish hats, dainty kid gauntlets, Russian-leather satchels and shawl straps were their distinguishing marks, besides that indescribable air which stamps its possessor as one used to good society.

"So very warm! Do reach my fan, Mabel!" said Mrs. Glennor. "We have a terrible hot day for our ride."

"But there is such a nice breeze. I think it will be lovely," returned bright-eyed Mabel.

"Oh, you're always contented with everything. Dear me, I hope the carriages won't be crowded."

"They are almost that now, mamma. We have the only vacant seats, I believe."

"And I mean to keep them too," announced Mrs. Glennor.

At that moment spoke a voice at her elbow:

"Is that seat engaged, madam?"

Mrs. Glennor and Mabel both looked up to see a young lady dressed in a plain, untrimmed linen suit, with a brown veil covering her hat entirely, and shading a plain, homely face.

Her speech was that of a well-bred person, but her exceedingly plain attire stamped her in Mrs. Glennor's eyes as "common folks," not worth an effort to be polite.

She turned to the window and settled herself in her place without seeming to hear, but good-natured Mabel spoke at once:

"Mine isn't. You are welcome to share it."

And notwithstanding the decided frown on her lady-mother's face, she tossed her "traps" over on the pile already beside Mrs. Glennor, and smiled a reply to the young stranger's quiet "Thank you," as she sat down, holding in her lap the small satchel she carried.

"It will tire you. There is plenty of room over here with ours," said Mabel, reaching out her hand towards the satchel.

The young lady placed it upon the seat herself, saying:

"I was afraid it might trouble you."

"Not at all," returned Mabel.

But Mrs. Glennor, with a little accent of spite, addressed her daughter:

"Mabel, don't make yourself over-officious. I wonder how far it is to Hamilton?"

"Don't the time-table tell you, mamma?"

"No. Only the larger stations are down. Well," with a sigh and a glance at the intruder, "at least we shall be able to select our own society there."

"Mamma, don't," pleaded Mabel in a low tone, flushing at her mother's rudeness.

"I detest these trains where every rude person who chooses may intrude upon you," went on Mrs. Glennor coolly.

Mabel knew there was no telling where her mother would stop once she was on the track, and she noticed the flush which overspread the young stranger's face. She quietly changed the subject.

"Do you know Mr. Hamilton's family, mamma?"

"Not the children. Not since they were grown, that is. I saw them when they were little."

(To be Continued in March No.)

Land-Poor.

BY ROBERT COLLINS.

I've another offer, wife, a twenty acres more
Of high and dry timbered land, as level as a floor.
I thought I'd wait and see you first, as lawyer
Brady said—
To tell how things will turn out best a woman is
ahead.
And when the lot is paid for, and we have got the
deed,
I'll say that I am satisfied—it's all the land we
need.
And next we'll see about the yard, and fix the
house up some,
And manage in the course of time to have a better
home.

WIFE.

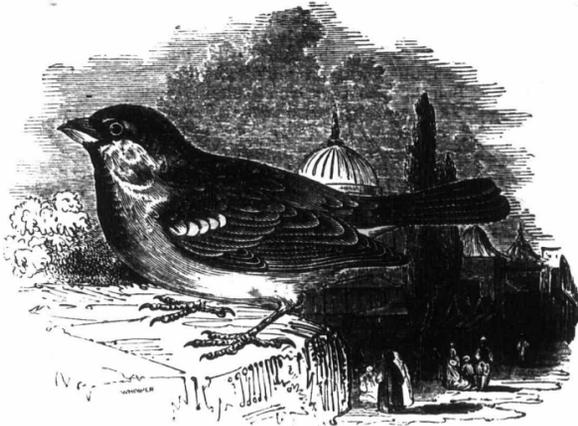
There is no use of talking, Charles; you buy that
twenty more,
And we'll go scrimping all our lives, and always
be land-poor.
For thirty years we've tugged and saved, denying
half our needs,
While all we have to show for it are tax-receipts
and deeds.
I'd sell the land if it were mine, and have a better
home,
With broad, light rooms, in front the street, and
take life as it comes.
If we could live as others live, and have what
others do,
We'd live enough sight pleasanter,
and have a plenty too.
While others have amusements, and
luxury and books,
Just think how stingy we have lived,
and how this old place looks.
That other farm you bought of Wells,
that took so many years
At clearing up and fencing in, has
cost me many many tears.
Yes, Charles, I've thought of it a
hundred times or more,
And wondered if it really paid to al-
ways be land-poor;
That had we built a cozy house, took
pleasure as it come,
Our children, once so dear to us, had
never left our home.
I grieve to think of wasted weeks and
years, and months and days,
While for it all we never yet have
had one word of praise.
They call us rich, but we are poor—
would we not freely give
The land with all its fixtures for a
better way to live.
Don't think I'm blaming you, Charles;
you are not a whit to blame;
I've pitied you these many years to see you tired
and lame.
It's just the way; we started out our plans too far
ahead;
We've worn the cream of life away, to leave too
much when dead.
'Tis putting off enjoyment long after we enjoy,
And after all, too much of wealth seems useless as
a toy.
Although we've learned, alas! too late, what all
must learn at last,
Our brightest earthly happiness is buried in the
past.
This life is short and full of care; the end is always
nigh—
We seldom half begin to live before we're doomed
to die.
Were I to start my life again, I'd mark each sep-
arate day,
And never let a single one pass unemployed away.
If there were things to envy, I'd have them now
and then,
And have a home that was a home, and not a cage
or pen;
I'd sell some land if it were mine, and fill up well
the rest;
I've always thought, and think so yet—small
farms well worked are best.

Bottling Cider.

Cider should remain in barrels until February;
bottle when the weather is clear; fill the bottles
full, and leave standing six hours; then put in the
corks; in each bottle put in a piece of rock candy
the size of a pea; lay the bottles on the side; put
wax over the corks so as to make air-tight; to
keep cider sweet put one ounce of English mustard
seed in the barrel.

The English House-sparrow.

These birds are now rapidly increasing on this
continent. They are to be seen in nearly every
town and in many villages in the Eastern States.
We are pleased to hear the old familiar chirp
and chatter of these bold little pugnacious friends.
We look on them as friends because they destroy
so many injurious insects; some persons look on
them as enemies because they will not live on air
and dust alone. Birds will eat some things that we
would rather they should not touch. We should
not condemn them for living, but consider if they
do more harm than good. In some European coun-
tries, and at different times, they have been nearly
exterminated. The result has been diminished
fruit and grain crops, and the sparrows have been
allowed again to increase. We require more birds
in our country; let us protect them. Look at our
meagre average of bushels per acre when compar-
ed with Europe. If the British farmers were
desirous to exterminate them they could all be
destroyed in a few days. They are the farmers'
and fruit-growers' friends. Do not shoot a bird
because it partakes of crops that it has helped you
to raise. Would it not be well to put a good tax
on guns kept, and only allow persons to carry



THE ENGLISH HOUSE-SPARROW.

them free expressly for the purpose of destroying
vermin and birds of prey? Our quails and partridge^s
are already exterminated in some localities.
Scarcely a bird is to be seen near our towns or
villages. It is necessary to raise a revenue; per-
haps a tax on guns would have a twofold benefit.
When in Paris last summer we were pleased to see
an old man in one of the boulevards, seated on a
bench, take from his pocket a few crumbs and
throw them in the air. The sparrows came from
the surrounding trees. He repeatedly threw them
crumbs in the air, and the sparrows were so tame
and accustomed to this kind treatment that they
came around him and caught the crumbs before
they reached the ground. There were lots of
sparrows; they scarcely let a crumb fall to the
ground. You would have been pleased to see this.
Perhaps in time some of you may practice it here,
but not if everybody is allowed to carry a gun.
Boys and men will shoot at birds—the temptation
is too great if opportunity is favorable. We hear
that in some parts of the United States they are
killing these birds, but we do not think this will
be attempted in Canada.

We have pleasure in announcing the receipt of
some fine pieces of music from Oliver Ditson &
Co. Among them are selections from H. M. S.
Pianoforte, Warren, How, Severance, for which
please receive our thanks.

Curing Hams.

When the hams are nicely trimmed rub each
one with tolerable fine salt and pack in tight
casks holding about one hundred and forty gallons.
Make a sweet pickle by using one and a half gal-
lons of molasses, or its equivalent in sugar, and six
ounces of saltpetre, to forty gallons of water
with salt enough to float a potato when it is made
—let it stand till the scum rises and is skimmed
off. Have the hams in the cask weighted down so
they will not rise when covered by the pickle. They
should remain from five to six weeks according to
the temperature of the place. If exposed to
freezing weather they will cure much slower than
in a cellar. Some persons take their hams out and
stir the brine, as by long standing it grows
weaker on top. When the hams are taken out,
rinse them in clean water and hang up to dry
ready for the smoke house. Smoke with hickory
wood.

The best size for family use is from hogs weigh-
ing about 250 pounds when dressed. They
should be as near uniform weight as possible in
each cask, as large hams require more time in
pickle.

Canvassing has little or nothing to do with their
flavor, but it is only necessary to protect them
from insects, and should be done in all cases before
the weather is warm enough for their appearance.
Soon after smoking wrap each ham in coarse
brown paper and sew it up in cotton cloth out
to suit the size of the ham, or tie it up in a cotton
bag that may be used the next year.
The canvassed hams of the West
are sewed up closely, showing the
shape of the hams, and dipped in a
wash made of lime and water and
colored with yellow ochre. When
hung up they soon dry, and when to
be kept long should hang in a cool,
dry place.

Girls Should Have a Trade.

An exchange thinks that it should
become part of every girl's education
to learn some trade by which in an
emergency she could support her-
self, and perhaps others dependent on
her, and thus runs over some of the
arts adapted to her physical capaci-
ties. "Sewing, dressmaking, millin-
ery, she is supposed to know some-
thing about, but too often nowadays
that something is a very trifling
quantity. Teaching requires long
preparation and considerable natural
adaptation. Cooking is an art ne-
glected in this country, and one
which would seem to promise well to those who
should make themselves experts in it. Telegraphy
is easily learned; so is type-setting, and both are
permanent businesses, always furnishing a large
amount of employment. Painting on china, en-
graving and carving on wood are all occupations
in which women would be likely to excel, and in
which fair remuneration could be earned. Book-
keeping, too, is a profession easily learned, and
for proficient in which there is always a demand.

Staining Floors.

The London *Furniture Gazette* commends the
following method of staining floors in oak or walnut
colors: Put 1 oz. Vandyke brown in oil, 3 ozs.
pearlash, and 2 drms. dragon's blood, into an
earthenware pan or large pitcher; pour on the
mixture 1 quart of boiling water; stir with a piece
of wood. The stain may be used hot or cold. The
boards should be smoothed with a plane and glass-
papered; fill up the cracks with plaster of Paris;
take a stiff brush, dip in the stain, and rub this in
well; the brush should not be rubbed across the
boards, but lengthwise. Only a small piece should
be done at a time. By rubbing in one place more
than another an appearance of oak or walnut is
more apparent; when quite dry the boards should
be sized with glue size, made by boiling glue in
water, and brushing it in the boards hot. When
this is dry the boards should be papered smooth
and varnished with brown hard varnish or oak
varnish; the brown hard varnish will wear better
and dry quicker; it should be thinned with a little
French polish, and laid on the boards with a
smooth brush.

Aunt Tom's Department.

MY DEAR NIECES AND NEPHEWS, — Stealing from sleep is the subject I want to discourse with you upon this month. I know some of you are in the habit of stealing precious hours which ought to be given to sleep, for a dozen other purposes, which are perhaps proper in themselves but most injurious in the manner you take them.

UNCLE TOM.

PUZZLES.

17.—MISCELLANEOUS ENIGMA, I am composed of twenty-two letters: My 13, 2, 18, 6, 5 is an article of clothing.

18.—INCOMPLETE SENTENCES. In each of the following sentences fill up the blanks with suitable words having the same sound, but spelled differently and having different meanings:

19.—CROSS-WORD PUZZLE. My first is in blossom, but not in fruit. My next is in wardrobe, but not in suit.

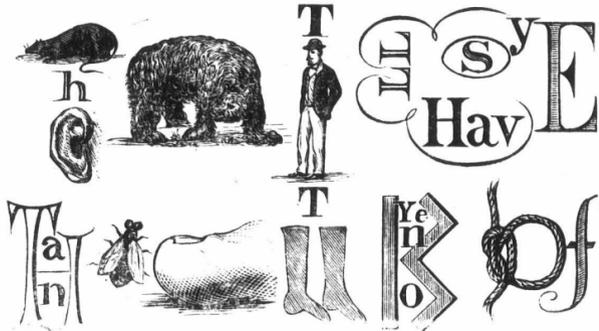
20.—CHARADE. When you come in from walking, My first doth meet your view; Mind, do not miss my second, Whatever else you do;

21.—ANAGRAMS OF ANIMALS. 1, Gun; 2, fowl; 3, Basle; 4, a mall; 5, rag-bed; 6, no rag oak; 7, a tree-ant; 8, a chill-chin; 9, rest the hood lot; 10, A rich man repent.

22.—CAARADE My first, a conjunction, is small, it is true; My second's a weight, far more heavy than you; A substance my third, largely makes up my whole, Which has oft along rivers a very large bole.

23.—EASY ZOOLOGICAL ENIGMA. I am composed of seven letters: My 1, 2, 3, 4 is an animal found in cold climates. My 4, 5, 6, 7 is an animal found in warm climates.

24.—DECAPITATION. 1. Behead a portion and leave an animal. 2. Behead an animal and leave part of the human frame. 3. Behead a part of the human frame and leave a fish.



25.—PICTORIAL REB'S (GOOD ADVICE). 26.— What author might with truth have said, "Cut off my head—behold my bed"?

26.—EASY CLASSIFIED ACROSTIC. My first is in deaf, but not in hear; My second is in doe and also in deer; My third is in May, but not in June;

Answers to January Puzzles. 1.—Derby. 2.—1 Crabbed; 2 Duckling; 3 Redstart. 3.—Hard, aloe, nose, deed, dish, into, star, horn. 4.—Charles Dickens.

9.— L L G I N M A V I S B O H E M I A L I V E R P O O L J U M P I N G C R O W D L

Names of Those Who Sent Correct Answers to January Puzzles.

Eliza Douglas, Wm J Drope, John Suvart, A F Grass, Emma M Grass, G Wade, Maria Briggs, Emma Knapp, Sarah A Leach, Maud Smith, James Graham, Lulu Roberts, Harry Bennet, William Carson, John McKenzie, Nellie Emerson, Bessie Harding, S Sutherland, George Davis, Bessie F Stevens, Mary Brady, G Davis, Thos Saunders, Ellen Smith, Jas Taylor, Georgina West, Emily Anderson, Thomas Frank, John Scott, Abraham Leslie, Herbert Jones, Renry Rowland, A Webb, Barbara Emery, J W Walker, Robt Wilson, A F Munn, Harry Hunter, Maria Haworth, Irene Ellison, J W S Richardson.

HUMOROUS.

In giving a concert programme, a New Orleans paper announced that "Farewell to the Forest" would be sung by a "mule quartet." A Florida preacher closed an unsuccessful revival meeting recently with the remark: "I tell you, my hearers, it don't pay for the gas."

A man was boasting that he had an elevator in his house. "So he has," chinned in his wife, "and he keeps it in the cupboard in a bottle."

Junior clerk—"Would you kindly permit me to absent myself to-morrow to attend my father's funeral?" Head of the firm (deep in figures)—"You may, Hawkins, but pray—do not let this happen again!"

"Whiskey is your greatest enemy," said a minister to Deacon Jones. "But," said Jones, "don't the Bible say, Mr. Preacher, that we are to love our enemies?" "Oh yes, Deacon Jones, but it don't say we are to swallow them."

Little Laura was tired and sleepy on New Year's night when she prepared for bed, and forgot to say her "Now I lay me," and in apology to her mother for the neglect said, as she tugged away at her little stockings: "I couldn't go to heaven to-night, mamma, any way in the world, 'cos I'm too tired."

It was a rich old widow who wondered that the handsome young man had fallen in love with her. "Yes, it is wonderful," said Mr. Spruceup, "but I do love you to destruction. Why, I even love the ground you walk on." "I thought so, observed the widow, "but I am not in want of a landlord at present."

"Chickens allus come home to roost," is a mighty good proverb, but dat don't allus apply to dis part. Kase I'm been look all day, an' all I kin fin' ob mine dat didn't roos' home las' night was a few fadders in de cullud preacher's do' yard.

Lawyer—"How do you identify this handkerchief?" Witness—"By its general appearance, and the fact that I have others like it in my pocket." Lawyer—"I don't doubt it at all. I had more than one of the very same sort stolen."

A kicking cow, says Josh Billings, never lets drive until just as the pail is full, and seldom misses the mark; it is just so with some men's blunders.

A lady taking tea at a small company, being very fond of hot rolls, was asked to have another. "Really, I cannot," she modestly replied; "I don't know how many I have eaten already." "I do," unexpectedly cried a juvenile upstart, whose mother had allowed him a seat at table. "You've eaten eight; I've been countin'!"

The hardest man to convince is the one who agrees to everything you say.

Irish Humor.

THE ADVENTURES OF MICK CALLIGHIN, M. P.

A most amusing book is "The Adventures of Mick Callighin, M. P.," just published in London. Mick, on the evening before leaving the paternal roof to seek his fortune, goes to the room of his tutor, Father McQuade, whom he never found enveloped in a capacious night robe, surmounted by a cap of the ancient extinguisher shape, tied around his head with a red cotton handkerchief of a wonderful pattern.

"An' now," said he, "kneel down till I give ye my blessing. I'm not in my canonicals, but all the pitchers I've seen o' the blessed Sint Pether represents him wid bare legs—seein' I suppose, bein' a fisherman, he had frequently to wade in the salt water; an as for driss, I never seen more on him nor I've an mysilf this blissed minit. It's not the vistmints makes the praste, Mick, nor the gntleman ayther, as maybe yell foind te yer cost."

In the course of events Mike gives assistance to a man driving pigs to market. Both being hungry they go into an eating-house, and one of them takes up a dirty newspaper which is well marked with mustard.

"Mustard," said Larry, "bedad that reminds me av Micky Murphy and Dan Collins, two frins av moine that came over to England for the rapin av the harvest, and was walking on the quays in this town, an moind ye now, Danny had niver been over before, but Micky had niver been out or the car-radius of the town of Tipperary. They war that hungry after the vyage they didn't know what to do at all at all. Thin Danny sees 'Ristorant' writ up over a shop. 'See now,' ses he, 'that's a place to ate,' an in they both goes, an thin sur they sees the waither wid a towel over his arm, and ses Danny, ses he, 'What can we get to ate?' 'Any thing at all,' ses the waither. 'Thin bring a plate o' mate,' ses Danny. So in comes the waither with a plate o' mate an a large bowl of mustard; an moind ye now, nather Micky or Danny had iver seen mustard before in all their born days. 'What's to pay for the mate?' ses Danny. 'A shillin', sur,' ses the waither. 'An what's that?' ses he, pointing to the bowl. 'That's mustard,' ses the waither. 'An what do ye do wid it?' 'Yez ate it wid the mate, to be sure.' 'And what's to pay for it?' 'Nothin', sur,' ses the waither. Thin Danny looks at Micky, an Micky looks at Danny, an they both winks. Whin the waither turned his back, ses Danny, 'see here now, Micky,' ses he, 'I'll tell ye what we'll do, we'll pocket the mate for the journey, an ate the stuff they give for nothin'; an wid that Micky rolls up the mate in his hankercher, an puts it in the crown av his hat; an Danny he kep stirrin' up the mustard, an after a while he opens his mouth an takes a great dollop av it. Down goes his head, an the tears kep runnin' down av au his eyes. 'Danny, lad,' ses Micky, 'what does be the mather wid ye?' Danny would'n't let out at all. 'But,' ses he, 'whin iver I think o' the death o' me poor great-grand-father that was kilt at the battle o' the Boyne, I can't kape from cryin' at al.' 'Don't take on wid ye loik that,' ses Micky. 'There now, we're over in England, an we'll make a power o' money at the rapin before harvest's over.' All this time Danny he was stirrin' the mustard, and he hands the spoon to Mickey. He takes a big spoonful, too, an the tears come runnin' down his nose. Danny wakes up, an ses he, 'Micky,' ses he, 'what does be the mather wid ye?' 'Fegs,' says Micky, 'I'm cryin because ye warn't kilt along wid yer great-grand-father at the battle o' the Boyne!' Ha! ha! ha! Begarra he gave him a 'rowlint for his illphant' that toime!"

JOSH BILLINGS' PHILOSOPHY.—I have no objection to a man parting his hair in the middle, but I shall allwuss insist upon his finishing up the job bi wearing a short gown and petticoat.

There is sutch a thing az too much energy. I have seen those who were like a young hound in the chase, get away ahead of the fox.

There iz nothing we have got so little ov, and nothing we think we hav got so much ov, as originality.

It ain't so much the amount a man knows, az the ability to use what he duz kno at the right time and place, that makes him a power.

I have been trying to find out for the last forty years at what time ov life a man iz the most phoolish, and just as soon as I find out, I will let you kno.

More Truth Than Poetry.

"Every cloud has a silver lining,"
"Yes, but you know 'tis hid from sight,"
"Behind the cloud the sun is shining,"
"Making others a pleasant light."

"To every sorrow a joy belongeth,"
"For some one else, but not for me;"
"Have hope—'tis that which overcometh"—
"Much better yet, my friend, a V."

ADRIETTA SLAGGLE.

How Boys May Succeed in Life.

The choice of a occupation depends partly upon the individual preference, and partly upon circumstances. It may be that you are debarred from entering upon that business for which you are best adapted. In that case make the best choice in your power. Apply yourself faithfully and earnestly to whatever you undertake, and you cannot well help achieving a moderate success. Patient application sometimes leads to great results.

You emphasize the fact of your being a poor boy, but this affords no grounds of discouragement. Not only many, but most of our successful business and professional men were trained in the hard school of penury.

Rich boys are often spoiled, and their energies sapped and undermined, by luxurious habits, the too free use of money, and the lack of that discipline which comes from indulgence.

As an element of success great stress must be laid upon incorruptible integrity, which, of late years, is unfortunately rarely found. A business man once said to the writer,—

"I can find plenty of smart young men to work for me. What I want is an honest clerk, whom I can implicitly trust."

Scarcely a day passes in which some defalcation is not brought to light.

Wide-spread misery often results from the lax principles of some young man placed in a position of trust. Let your young friend resolve that he will live on bread and water rather than appropriate a penny that is not his own. Let him imitate the stern integrity of John Quincy Adams, who would not write a private letter upon Government paper, but provided a separate stock of stationery for such uses. A boy or man who establishes a reputation for strict honesty will not remain out of employment.

A good mother, when her son was leaving the home of his childhood and going out into the great world, knowing that he was ambitious, gave him this parting injunction:

"My son, remember that though it is a good thing to be a great man, it is a great thing to be a good man."

No sounder or truer words were ever spoken. A great man may dazzle, but a good man is a beacon shining afar, by whose beneficial light a multitude are enabled to walk in safety. The best success is often achieved by the humblest, and an obscure life well-spent is better than a wicked renown.

A MASTER OF CEREMONIES.—"Now you Hamerican gents," said the master of ceremonies at Halifax to a party of American visitors, "afere you are introduced to 'is Hexcellency an' 'er Royal 'Ighness, there's a few rules to be hobserved. Don't hexpexorate hon the carpet has you're in the 'abit of doing at 'ome, you know, and don't keep your 'ats on, has you halways do in Hamerica. And no revolvers or bowieknives is hallowed to be drawn in the presence of 'is Hexcellency an' 'er Royal 'Ighness, wich is what you're doing of in Congress continual. An' you'll walk in forwards, an' you won't think of shaking 'ands with 'er Royal 'Ighness, nor even with 'is Hexcellency; nor, hof course, you won't hadress 'em as 'old hoss' nor 'old sardine,' as if you was talkin' to your President, you know. You'll simply bowan' hassume a hatitude of reverence, so far as you know 'ow, and then retire backward out of the royal presence."

"What is your name?" asked a Sunday-school teacher of a boy. "My name's Jule," was the reply; whereupon the teacher impressively said, "You should have said Julius, sir. An now, my lad," turning to another boy, "what is your name?" "Billious, sir."

It iz the little bits ov things that fret and worry us; we kan dodge a elephant, but we kan't a fly.

Queer-Tempered People.

One unpleasantness about these queer-tempered people is, that you never know when, or where, or how to have them. If they are "not i' the mood," it is in vain for you to strive to please them or to get help from them. You must watch your opportunity—whether for communicating information, or for asking a favour—as closely as you watch the tide, or the wind, or the starting of a steam-vessel or a railway carriage. They are all honey, or all gall; and it sometimes happens that the gall is most plentiful when honey is most needed. The husband, while at work, or on his way home, meets with something that dosen't please him; and, though his wife has got a nice meal ready, and greets him with a smile, he sits down with her and the children without saying a word to either, or giving merely a grunt, or a "yes," or a "no," to any question that is put to him. Instead of cheerful intercourse, all is gloom or glumpiness for an hour or two. Or the wife may be the offending party. Something has happened of a pleasing nature, which the husband hastens home to communicate; but the wife, because her copper-flue is out of order, or her bread has turned out heavy, or the line has broken and let her clothes in the dirt, or her babe is "cross," or "Bet, that clumsy thing! has broken the teapot that was dear mother's favourite for thirty years," or some other matter not of very deep interest to the husband, is sullen or complaining, and the poor man can hardly get a civil answer from her. These breezes do not blow long, and rarely rise into a storm; yet the family atmosphere would certainly be much more pleasant if it were not disturbed by them at all. The persons to whom we now refer are not what people would call bad-tempered—far from it; nor do we mean to say that the families, of which they form a part, are not, upon the whole, happy families.

How Diphtheria Was Spread.

A few weeks ago a young girl, who had just recovered from diphtheria, was taken by her parents to visit a family in a neighboring town. She slept with the children in that family, and shortly afterward three or four of them were taken with the malady, and some have since died.

The family permitted relatives and neighbors to visit them, and the result is several cases in the neighborhood. They had public funerals, even keeping the remains of one child an unusual time waiting for another to die, so as to bury them together—and this also spread the contagion.

The physician was not powerfully impressed—as some physicians are not—with the contagious character of the disease; therefore he did not take the necessary precautions for the protection of the neighborhood or of his own family, and the result is that one of his own children has died and another is dangerously ill. A lady who went to one of these houses to robe the victims for the grave has called at houses in the vicinity where there are children, without any change of her garments or any attempt at disinfection, and has fondled the children in those families apparently in utter ignorance of the danger to which she was exposing them.

AVARICE INCAPACITATES FOR ENJOYMENT.—In order to enjoy any kind of good, it is indispensable that we should experience some degree of contentment during the period of enjoyment; "but he that loveth silver shall never be satisfied with silver; nor he that loveth abundance, with increase." The desire of riches enlarges faster than the most successful and romantic increase of gain possibly can; and were acquisitions to accumulate as rapidly as the most favoured minion of fortune could wish, the eager mind would still overleap its possessions, and demand new additions to its wealth with accelerated avidity. As the desires increase, the fear of losing, and the reluctance to enjoy what is accumulated, are proportionally increased. Instead of furnishing himself with more gratifications, and enjoying them more highly, the miser lessens them in number and degree, and tastes them with a more parsimonious relish. His dwelling, his dress, his sustenance, his attendants, all continually become more decayed, mean and miserable; because he feels, or fancies himself less and still less able to afford, first conveniences, then comforts, and then necessities. "Although he wanteth nothing for his soul of all that he desireth; yet God giveth him not power to eat thereof;" a rich man, who lives like a beggar, is only a beggar dreaming that he is rich.

Commercial.

FARMER'S ADVOCATE OFFICE, }
London, Jan. 29, 1879. }

A month of cold steady weather and plenty of snow has had the effect of stimulating trade somewhat. The very severe snow storm in the early part of the past month completely upset business for the time, and has been the means of making travel on all the roads running north and south anything but pleasant. In many sections the farmers had to turn out and do a large portion of their statute labor. As this is being written the weather has changed, and rain has been falling for the past 12 hours, which has had the effect of settling down the snowbanks. We hope to see a change again to cooler weather and more snow.

WHEAT.

The markets have been very quiet and steady the past month. The deliveries have been liberal, and the export movement has been free, with very small margins to the warehouse men and also to the exporters, with very little profit to the English dealers, and in many instances a smart loss. Farmers may complain of the low price they are getting for their produce, but we know for a certainty that those who are handling it for them are getting little or nothing out of it; in fact, by taking everything into consideration, if they make "the two ends meet" they will do well. The same applies to the railway and steamship companies. Grain is being now shipped on a through rate to Liverpool for nearly 20c. per 100 lbs. less than this time last year. This is equal to 12c. per bushel, which if taken off the present price of wheat would make it cheap indeed. Farmers will thus see that if they are getting low prices for their grain other people are not making money at their expense.

English advices report the stocks of wheat as being light, with no disposition to speculate. On the other hand, the stocks in the elevators and warehouses on this continent are said to be large, and the opinion generally expressed is that there is a great deal still to come out. The winter so far has been favorable for the growing crop, and the prospect of the same will soon be the subject of comment among wheat men.

PEAS.

The deliveries have been comparatively light, and in some instances almost nil. Many express the opinion that the bulk of them are now in.

BUTTER

continues unchanged, the demand being chiefly local. A Montreal circular quotes: Store packed Western, 6c. to 9c.; dairy Western, fair to good, 8c. to 12c.; Morrisburg, good to choice, 13c. to 17c.; Eastern Townships, 14c. to 19c. The reader will thus see there is a difference of 6c. to 7c. between dairy Western and Eastern Townships. There should be no occasion for this difference. Western Ontario should make as good butter as any other section, and we hope to see the farmers waking up to the fact that they are the losers by thousands of dollars from the quality of butter they bring to market.

CHEESE.

There is little improvement to note, and stocks continue heavy. There is a good deal still in the hands of factorymen throughout the country; they seem loath to part with their goods. There is one thing that factorymen have lost sight of too much, and have not studied its wants and requirements: that is the home trade. It becomes the manufacturers of cheese to carefully consider why the home demand for this product does not increase rather than decrease, and to devise plans

for making cheese a more popular article of diet. We do not think manufacturers of cheese have sufficiently studied the demands of the home market. They have adopted the plan (and we think very much to their own detriment) of selling the best cheese for export, and what they cannot sell to good advantage for that trade they keep in the factory and peddle it out at home. Let any one compare the style and taste displayed in getting up and manufacturing cheese with that of canned fruits, pickles and jellies. Besides the contrast in appearance, the quality is quite as great a contrast.

The following were the highest prices per cwt. on the 31st of December, 1878, for the last five years in Liverpool:—

	Pork.	Bacon.	Lard.	Cheese.	Butter.
1878....	50s 0d	34s 0d	31s 0d	47s 0d	100s 0d
1877....	72s 6d	34s 0d	42s 0d	65s 0d	90s 0d
1876....	80s 0d	44s 6d	53s 6d	69s 0d	120s 0d
1875....	95s 0d	49s 6d	59s 6d	57s 0d	114s 0d
1874....	92s 6d	49s 0d	64s 0d	72s 0d	138s 0d

CLOVER SEED.

The deliveries have been light as yet, with little or no foreign demand. Holders here are asking more than the markets will warrant shippers in paying. Those who held their seed over for better prices this season will be somewhat disappointed.

PORK

has been highly active at a steady advance. Choice Canadian hogs are always taken in preference to the Western by our packers when they can be had at their market value. Their worth is beginning to be known to the English dealers in bacon as well, and Canadian hams and bacon are quoted several shillings higher than American.

LIVE STOCK.

The export trade in cattle, sheep and horses has steadily increased the past year, and is likely to continue to do so. We shall endeavor to give some facts and figures under this head in our next.

Little Falls Cheese and Butter Market.

Reported for the FARMER'S ADVOCATE by PROF. X. A. WILLARD.
LITTLE FALLS, N. Y., Jan. 31, 1879.

The market for dairy products here during the past month has been very much depressed, and prices have ruled low on all description of goods.

CHEESE.

A large quantity of "late ends" has been sold and shipped at rates ranging from 5½c. to 6½c. for "November make," while September and October have in some instances reached from 7½c. to 8c. for extra fine qualities. There is considerable cheese yet remaining back in producers' hands, the factorymen refusing to accept prices offered, which during the latter part of the month ranged at about 5c. to 5½c. for Novembers and early Decembers. The price now asked by factories holding "odds and ends" is from 6c. to 6½c., which is above the views of buyers, but holders are of the opinion that rates can go no lower, while there are hopes that they may advance "Farm-dairies" may be quoted from 4½c. to 7c., according to quality.

BUTTER.

Butter has come forward very freely during the month, but "winter-make" from "farm-dairies" has ruled low—ranging from 14c. to 17c., while extra fall make and creamery have sold from 18c. to 22c. to supply home demand. There is a scarcity of really "fine butter of fall-make" in this market, with a good demand for anything extra or fancy for home use.

Our letters from England are to the middle of January. Our London correspondent says Eng-

lish cheese is very quiet, and Dutch cheese, although unsatisfactory as to quality, still maintains its price. Fine September American cheese is in demand at extreme quotations, and there is more doing in secondary sorts. Prices are as follows: American "faultless," 54s. to 56s. per cwt.; fine, 52s. to 54s.; good, 40s. to 48s., and common 20s. to 36s. per cwt. English Cheddar sells for 70s. to 78s.; Wiltshire double, 56s. to 68s.; Cheshire, medium, 38s. to 50s.; fine, 60s. to 74s., and Scotch, 60s. to 66s. per cwt.

Fine butter is scarce and steady. Clenmels sells at 116s. to 120s.; Dorsets, 160s.; Danish and Swedish, 120s. to 150s.; Normandy, 120s. to 136s. American butter brings from 40s. to 80s., and American creameries from 110s. to 120s.; Canadian butter from 40s. to 90s. per cwt.

The sale of Oleomargarine is not good; Dutch brands, 7½s. to 80s., and American, 50s. to 60s. per cwt.

London Markets.

London, Jan. 31, 1879.

GRAIN.		PRODUCE.	
Per 100 lbs		Per 100 lbs	
Deihl Wheat	\$1 45 to 1 50	Peas	75 to 80
Treadwell	1 45 to 1 48	Oats	80 to 85
Clawson	1 40 to 1 47	Rye	90 to 100
Red	1 42 to 1 47	Buckwheat	75 to 85
Spring	1 00 to 1 30	Corn	60 to 70
Barley	90 to 1 30	Beans	90 to 100

Eggs, retail	20 to 22	Cheese, lb	7½ to 8
Roll butter	16 to 18	Clover seed	per bush, 3 25 to 3 75
Tub butter	8 to 10	Timothy	seed 1 35 to 1 90
Cordwood	3 50 to 4 50	Hay	8 00 to 10 00
Carrots	25 to 30		
Potatoes, bag	1 00 to 1 12½		

POULTRY.		MEATS.	
Chickens, pair	40 to 50	Ducks, pair	50 to 60
Geese	45 to 60	Turkeys	75 to 1 25

Beef, per qu	3 50 to 5 00	Mutton, lb	6c to 7c
Lamb, lb	6 to 7	Dressed hogs	3 75 to 4 25

To onto Markets.

Toronto, Jan. 31.

Barley	\$ 50 to 80	Hogs	5 00 to 5 50
Springwheat	70 to 84	Flour, sup	3 20 to 0 00
R. Winter	80 to 85	Spring, extra	3 60 to 0 00
Treadwell	86 to 87	Extra	3 8½ to 0 00
Deihl	80 to 91	Superior	4 05 to 0 00
Oats	28 to 31		
Peas	55 to 60		
Wool	00 to 00		

Montreal Markets.

Montreal, Jan. 31.

Superiors, \$4.40 to \$4.45; extras, \$4.20 to \$4.25; fancy, \$4.05 to \$4.10; superfine, \$3.55 to \$3.65; strong bakers', \$4.20 to \$4.40; fine, \$3.10 to \$3.20.

New York Markets.

New York, Jan. 31.

Flour dull. Rye Flour dull and unchanged. Wheat, No. 2 Red at \$1.09½. Rye dull. Corn at 4½c to 4¾c. Pork firmer, at \$3.62½. Lard firmer, at \$6.75. Peas—receipts to-day, 3, 464 bush. Canada Peas neglected and unquotable. Hops at 8c. to 15c.

Chicago Markets.

Chicago, Jan. 31.

Wheat, No. 2 Spring at 85½c. Corn, 30½c. to 31½c. Oats 20c. to 20½c. Rye unchanged. Barley, 84c. to 85c. Pork unsettled and generally lower, \$9.30 to \$9.35. Dressed hogs ditto, \$3.75 to \$3.87½.

Chicago Live Stock Market.

Chicago, Jan. 30.—The *Drovers' Journal* reports: Hogs, receipts 25,000 head; shipments 5,500 head. Market is generally a shade lower; choice heavy at \$3.50 to \$3.85; light at \$3.45 to \$3.60; mixed \$3.30 to \$3.40. Cattle 10c to 15c lower; shipping at \$3.90 to \$5.40; other grades steady. Sheep, \$3 to \$4.80.

English Cattle Markets.

LONDON.

Best beef quoted at 6½d to 8½d per pound. Best mutton 8½d to 9½d per pound. The supply of cattle and sheep in the market to-day was small, and the trade for which was steady.

Liverpool Markets.

Liverpool, Jan. 30, 5.00 p.m.

GRAIN.		PRODUCE.	
s	d	s	d
Flour	22 0 to 22 0	Barley	3 0 to 0 0
Wheat, spring	8 0 to 8 2	Pork	41 0 to 43 0
R. Winter	9 0 to 9 2	Lard	30 9 to 0 0
White	9 3 to 9 11	Bacon	25 0 to 26 0
Club	9 1 to 9 6	Cheese	46 0 to 47 0
Corn, cental	4 4 to 4 8	Tallow	36 6 to 00 0
Oats	5 6 to 5 6	Beef	77 0 to 78 0
Peas	6 5 to 00 0		

Close Our Ports.

Farmers, read the following taken from the *Country Gentleman*, Jan 30:—

"I was living in Alabama, near Eufaula, when I first saw the disease now known as hog cholera, in the fall of 1860 or 1861. It broke out among my largest hogs, and only a few died. I then knew nothing of the disease, not even as 'hog cholera,' and it struck me at the time as a disease of the brain. We tried bleeding and other simple remedies for those first attacked, without any effect, so we stopped all remedies and let nature take its course. Several that were sick got well, and more than half the number I had at that time (over 100 head) escaped taking the disease. In 1866 I moved from Alabama and settled where I am now living, in Floyd county, Ga.; a country noted for its salubrity of climate, pure springs of water, and clear mountain streams, and a country famous for its grain crops, clover, grasses, and fruits, as well as cotton. I am thus particular in describing this country, as I am going to give my opinion on 'hog cholera,' from what I have seen and observed. I have seen a great deal of it since living in this section of Georgia.

"About every three years it seems to break out afresh among my hogs, and I can trace no cause from contagion. Sometimes I have it among my hogs, when my nearest neighbors living in sight do not have it among their hogs, and sometimes my neighbors have it when I am free from it; therefore, I do not believe it contagious. As for corn diet, I have tried that sufficiently, and have seen it fairly tested, with hogs that ate very little corn, and mostly subsisted by feeding on what they procured in the woods and turned-out fields. These are equally as liable to the cholera, and have it and die off, as those fed regular from the crib. A preventative or cure has not yet been discovered to my knowledge, and for the last two or three years when it has broken out among my hogs, I left them to their fate. Some get well, but most of them die. From the appearance of the disease so far as my observation goes, I have been long satisfied in my own mind, that there is no cholera about it. What it is, I am unable to discover, but so far as what I have seen of typhoid fever among the human family, I am inclined to the opinion that the disease termed 'hog cholera' partakes more of a typhoid type than that of cholera. I believe it is difficult for doctors to settle on the cause of typhoid fever, and so it seems to be with this scourge, that it is so fatal to hogs and poultry.

"I have come to the conclusion that the only safety is to ascertain what produces the disease, and then we may try and guard against it. There is no doubt of its being a disease that was unknown up to 1860, when it made its appearance, and ever since has been the great scourge in pork-growing. Our only hope is that men of science may discover the nature of the disease, and ascertain what produces it. Like typhoid fever, it is confined to no one locality, but it is a general disease throughout the United States. The so-called 'chicken cholera' is even more fatal than the hog cholera, and is believed by most persons to be contagious. It makes its appearance as does the hog cholera, missing one or two years, and then breaking out again. But how can it be considered contagious among poultry, when it breaks out on isolated farms, where the poultry has no intercourse with other poultry, and reappears after a lapse of time, as among hogs? There is a cause that produces the disease, but what that cause is, is to be ascertained. We find it equally as fatal in malarious climates as in salubrious ones, among the swamps as in the mountains—in a word, everywhere.—[J. H. Dent, Floyd County, Ga.]

In our last issue we called attention to the Rinderpest, or Pleuro-Pneumonia; which ever it may be, we don't want it. We neither want trichina in our pork, nor do we want this flesh eating grub spoken of in this issue; neither do we want the hog or chicken cholera.

Diseases do pass from animals to man. Are our descendants to be swept off the face of the earth by any of these dangerous and destructive pests that infest the United States? No! We must protect our stock, our families and our country, and the only safe way to do it is to close our ports against any of these dangerous disorders. Immediate action should be taken; no paltry side issues should be heeded. We are as yet free from these pests; keep us so. The farmers, we know, will support us in the request to close our ports against animals that are diseased.

A Call.

Mr. J. Waterous, sen., of the Waterous Manufacturing Co., Brantford, should be invited to Ottawa to give his views about opening trade with foreign nations. If his remarks were heard and acted upon they would tend more to benefit this Dominion than half what our M. P.'s will do all the time they are in Ottawa.

PROMPT ACTION.—As we go to press we notice that our Dominion Government has caused an investigation to be made as to American cattle diseases, which, we presume, will cause the closing of our ports to American cattle. Hogs should also be excluded. We trust that our farmers' interests may be placed as they should be above all others; if they are, we feel sure our ports will be closed against these threatening dangers.

A \$4,000 Libel Suit.

The way of the libeller is hard, as has been very forcibly shown in the important libel suit just concluded at the Assizes, brought by the Ontario Copper Lightning Rod Company of this city against one Simeon Hewitt, a Brantford lightning rod dealer. This suit was instituted in respect of a libel published by Hewitt in June last, in a Toronto paper called the *Saturday Night*, and also in some three or four thousand posters and hand-bills which were issued by him in May last.

The alleged libel consisted in the defendant, in the article and the posters and hand-bills referred to, charging the plaintiff's Company "with practicing an imposition on the public by selling their rod for 37½ cents per foot," and asking the public to beware of the plaintiff's agents as extortionists. The defendant endeavored at the trial to prove that the alleged libellous matter was true; but in this he failed, it having been shown that the prices charged by the plaintiffs for their rods left a very small margin for profits after deducting expenses.

The case occupied the greater part of three days, and great interest was taken in the result. The jury returned a verdict that the libel charged was false and malicious, and awarded the plaintiffs \$4,000 damages.

Much as the plaintiffs must be pleased with the substantial nature of the verdict, still more must they value the complete justification of their course of dealing with the public which it imports.

Mr. Oaler, Q. C., and Mr. Teetzel for the plaintiffs, and Mr. Robertson, Q. C., and Mr. Wilkes for the defendant.—[Hamilton Times.]

A Few Words Regarding a Successful Insurance Company.

To keep our readers posted at all times on matters affecting their interests is our duty. The other day we visited the office of the London Mutual Insurance Company, and had the pleasure of meeting a few of the Directors. We found that the business of the Company was progressing, and although the losses have been exceptionally numerous this year from "lightning,"—21 total losses, 32 damages and 19 claims for live stock killed by lightning in the fields,—that the aggregate would not foot up much higher, if as high, as last year—something about \$66,000. The manager states that the receipts of the Company have increased very considerably, and remarked, "We will show a tip-top report next year, one that we never approached before since I gave you your first policy 20 years ago."

We were one of the first policy-holders in the Company, and have had every reason to be satisfied. The Company have paid out nearly three-quarters of a million of dollars amongst the farmers of Canada, and the Directors are not the men to quibble or take advantage of any one. The London Mutual has been the only successful Farmers' Insurance Company in the Dominion, and this is owing in a great measure to their avoiding speculative insurance. This year the Company have had claims in 146 Townships in Ontario, which will show the extent of the Company's operations. Another thing we like about this old Company is that any member can inspect the books when he wishes, and the officials are ever ready to give information.

The annual meeting will be held on the third Wednesday in February.

Stock Breeding.

Messrs. D. A. Appleton & Co., New York, will accept our thanks for the above named book. It is a practical treatise on the application of the laws of development and heredity to the improvement and breeding of domestic animals. It is written by Manly Miles, late Professor of Agriculture in the Michigan Agricultural College. It is a work well deserving the attention of all stock breeders that wish to understand the real principles of stock breeding.

D. P. True, Leeds, Me., reports the loss of about fifty Northern Spy apple trees just coming into bearing, by heaping hay mulch quite high about the trunks, "causing the bark to rot at the base." Also that an orchard kept in grass and pastured by sheep is in much better condition and its fruit much more free of worms, than another of same size and same age on same kind of soil, ploughed and dressed three years and then seeded and mowed. In the latter "the trees now show signs of dying."

A single steamer delivered at London the week before Christmas, a valuable consignment of American poultry, comprising two hundred and three barrels of turkeys and nine cases of geese and ducks, nearly four thousand head in all. Canada has also been exporting poultry in large quantities, and we hope her exports will increase.

A number of American diseased cattle have been shipped to England in a Canadian vessel with Canadian stock. The disease infected the Canadian stock. England has now closed her ports against diseased animals. If we had closed our ports soon enough it would have redounded to our favor.

The Ontario Poultry Association will hold an Exhibition in Guelph on the 25th, 26th, 27th and 28th of February, 1879. Entries close on the 22nd of February.

ADDITIONAL CORRESPONDENCE.**Agricultural Education.**

SIR,—It is my opinion that the FARMERS' ADVOCATE has done more good for the farmers of Canada than the Ontario School of Agriculture has done or is likely to do. Why should we be taxed to educate the wealthy? If this school has done any good we should like to hear of it. Why do you not give us more information about it? If the Government really wished to give more agricultural education they might order a number of the FARMERS' ADVOCATE to be read in every school in the Dominion. There is much in it that might be read with pleasure and profit by all.

Wishing the ADVOCATE staff a "Happy New Year."
D. H., Strathroy, Ont.

SIR,—Can you direct me where I can get pure Black Spanish and Brown Leghorn eggs, as I wish to breed for exhibition?

J. M., Westville, N. S.

[If any poultry fanciers have such to dispose of they should insert card in this journal.]

Salt.

SIR,—I am well pleased with the ADVOCATE, and please send it on another year. I have seen a great deal about the use of salt lately in your paper. I have used it on turnips, barley and spring wheat, with good results. Do you think it would do to sow on fall wheat in the spring? I did not sow any last spring on account of the wet weather, but a neighbor sowed a field and left a space through the middle of the field, which could plainly be seen, particularly when heading out, about a week behind in heading. What amount should be sown to the acre?
J. C., Clinton.

[It will answer to sow salt on winter wheat in the spring. Sow about 15 lbs. to the acre; some sow more and some sow less.]

SIR,—I have foot rot in my sheep. Can you give me a cure in the ADVOCATE?
R. B., Hazel Grove

[Pare the hoofs off with a good knife, scrape the earth, &c., away, and wash with a strong vitriol wash.]

Inflammatory Fever.

The following letter of inquiry and reply, from the New York World, will be found valuable to those who may have cattle similarly affected.—

"M. B., Wilmore, Pa.—'A new and fatal disease is now prevailing among the cattle in this locality. The symptoms developed are stupidity and unwillingness to move, very high fever, hot mouth and head. In from six to twelve hours after been attacked swelling commences; in some cases it is confined to the shoulders, in others to the breast, and in others to the hind-quarters. The swelling increases at a fearful rate until death takes place and ends excruciating sufferings, which generally takes place in from eight to twelve hours. I have lost two fine steers eighteen months old.'

"This attack is inflammatory fever. It is a disorder caused generally by over-feeding and the animal taking on flesh too rapidly. The character of the cattle attacked and the seasons of the year prove this fact. It occurs in late spring and the autumn when the grass is most luxuriant. The animals attacked are those principally predisposed to taking on both fat and flesh, and by a too sudden removal from scanty pasturage and low-feeding to that of rich herbage which possesses much nutriment and is stimulating in character. The disease in some instances occurs when the cattle have been removed from one pasturage to another without any apparent change in its quality, and located on the same farm; but more particularly so, when they have been driven from poor land, at a distance, to a richer soil. In the last-named instance there are two causes—the previous poverty, the fatigue and exhaustion of the journey. There is no doubt that the evil arises to a great extent from negligence and oversight in feeding and managing young stock. This disease, when once fairly established in the animal system, rarely admits of eradication, but, fortunately, it may in general be prevented. As soon as the attack is discovered the animal should be immediately housed, warmly clothed, and the following purging drench administered, if between the age of one and two years: Take twelve ounces Epsom salts and four drachms of powdered caraway seed; dissolve in one quart of oatmeal gruel, made thin. As soon as the bowels are well relaxed commence to administer a new drench, composed of one drachm antimonu et potassa tartras, thirty grains powdered digitalis, and three drachms of pulverized nitre. Mix and give in one quart of oatmeal gruel made a little thick. This fever drench should be administered three times daily, and no food fed other than a little mash. At the very first appearance of the attack of this disease, and before swelling of any of the parts of the system gets under much headway, hot fomentations should be applied several times daily to the principally part or parts for at least one hour each time. For this purpose take two thick pieces of woollen cloth and keep one of these constantly submerged under the hot water, and change the cloth often, and apply in as hot a state to the swollen parts as they can be borne without causing distress. As soon as the febrile symptoms have evidently subsided and the animal appears like itself, and eats a little, the fever drenches should not be given oftner than once daily at night. This disease is of an highly-inflammatory character, which soon terminates its course favorably or otherwise, and where it does not terminate fatally, the attack is often succeeded by great debility, which is almost as dangerous to life as the fever. The bovine species of animals, therefore, must not be too much lowered in condition."

BONE MEAL FOR GRAPES.—The editor of the London Horticulturalist asserts that among all the fertilizers proposed for the grape, none embody more of the necessary ingredients than bone meal. It should be applied as early in the season as possible. About a ton to the acre makes a dressing that will prove valuable for two or three years. In the West, as a rule, the necessity for the phosphates is not yet felt to any considerable degree. Where it is so bone meal is to be recommended. The quantity, however, is excessive. One thousand pounds ought to make itself felt for years.

Results of Feeding Early.

Professor Miles noticing the exhibition of fat steers made by Messrs. Shearer & Baker, butchers at Lansing, gives the history of four of the animals to illustrate how profitable it is to feed animals from the very earliest age if we desire to promote early maturity. He says:

The four steers were all got by the same bull—a Shorthorn now owned by the exhibitors. No 2 was out of a three-year-old heifer, and No 3 and 4 were out of two-year-old heifers, which cannot be considered as advantageous in determining their development as feeders. They were all raised on "skim-milk," so that their rapid development cannot be attributed to pampering or extra high keep when calves. A uniform system of feeding from birth to secure a continuous increase in weight has apparently determined the results, which might undoubtedly have been better if a higher system of feeding had been practiced.

The ages and weights of these animals were given as follows: No 1, age 626 days, weight 1,225 lbs.; No 2, age 606 days, weight 1,200 lbs.; No 3, age 582 days, weight 1,100 lbs.; No 4, age 614 days, weight 1,160.

The weight per day from birth would therefore be: for No. 1, 1.96 lbs.; for No. 2, 1.98 lbs.; for No. 3, 1.89 lbs.; for No. 4, 1.89 lbs.; a rate of increase that may be considered as quite satisfactory on the score of profit, while the price they commanded in market showed that their good quality was appreciated by the butchers.

This high rate of increase could not in all probability be maintained during another year, as my experiments in feeding conclusively show that young animals give a greater rate of increase than those that are older, and the experience of feeders who have kept accurate accounts with their animals accords fully with the results of direct experiment.

The rate of increase of the premium animals at the recent "fat stock show" at Chicago shows the great advantage of early feeding.

In the class of steers "4 years and over," the average gain per day was 1.25 lbs.; in the class "3 years and under 4," the average gain per day was 1.45 lbs.; in the class "2 years and under 3," the average gain per day was 1.67 lbs.; while the class "1 year and under 2" made an average gain per day of 2.18 lbs.

As these steers are supposed to represent the choicest fat animals in the country that have been fed for the purposes of exhibition, the rate of increase made may perhaps be accepted as a maximum under very favorable conditions.

The close approximation to these results made by the steers of Messrs. Shearer & Baker under a quite moderate system of feeding must, under the circumstances, be considered as an evidence of successful management.

The rapid rate of increase in young animals is not the only advantage of early feeding. My experiments in feeding show that young animals give a better return for feed consumed than those that are older; in other words, costs less to produce a pound of increase of live weight in the young animal than it does in those that are older.

At the present low price of beef it is doubtful whether it will pay to feed animals that are four or five years old as the rate of increase is slow and a large amount of feed is required to produce it.

There is undoubtedly a good profit in feeding steers that can be turned at the age of two years or less weighing from 1,200 or 1,400 lbs., as the greatest rate of increase, can in such cases be obtained at the expense of the smallest amount of food.

VIRGINIA ENGLISH BLUEGRASS.—The farmers in Morgan County are introducing, with great success, a grass which they call the Virginia English bluegrass. It grows in bunches like orchard grass, but has much finer, longer and greener blades. It has a stem like oats and similar head, only much heavier. It is very hardy and strong, and peculiarly adapted to our mountains. It is said to be equal to bluegrass as a feed. It has not yet had a trial in Canada. If it answers expectations, it will be a welcome addition to our grasses.

American fruit to the value of over \$3,000,000 was exported last year. The great increase of this business is shown by the fact that in 1862 the entire proceeds of such exportations amounted to but \$269. Our Canadian apples excel any others grown in America, and when imported into England are classed A No. 1.

Russian Cheese.

An article of diet of almost universal consumption among the poorer classes in Russia is the variety of home-made cheese known as "Tworog," of which more than 7,000,000 pounds are sold annually in St. Petersburg alone. Its mode of preparation is very simple. Sour skim milk is placed over night in a warm oven, and poured the next day upon a sieve, where it is allowed to remain until all the whey has run off. The curd is then packed tightly in a wooden vessel, and covered with a lid made to fit exactly within it. On this heavy weights are placed, so as to keep up a constant pressure on the mass of curd; and the top of the vessel is filled with cold water, which is frequently renewed. Tworog cheese is, in fact, nothing more than hard pressed curd. In the Northwestern and Southern Governments of the Empire it is often made from sheep's milk, and in Bessarabia a superior quality, made from the whole milk, is prepared, which possesses far better keeping properties than the ordinary sort, and which is exported in considerable quantities to Wallachia, Moldavia, and even to Austria.—[American Dairyman.

CUTTING CORNSTALKS.—We observe in some of our exchanges a discussion of the subject of cutting cornstalks before feeding to cattle. One writer states that by cutting about an inch long the hard ends cause soreness in the mouth among his cattle. To avoid this another recommends lengths of three inches. It will be at once perceived that such coarsely chopped feed cannot be all eaten. The best success we ever witnessed was in the practice of an old farmer many years ago, who gauged his machine only a fourth of an inch long, and then putting on his six horses, the whole of the cornstalks were rapidly reduced to a condition of fine chaff. The hardest stubs were thus made eatable, and the cattle consumed the whole. He could thus cut in half a day enough to last a week. Meal or ground feed was thus easily mixed with it. It will be observed as an important advantage in cutting corn fodder, that it greatly improves the texture of the manure, by preventing the long fibrous masses which are almost impossible to pitch, draw, spread and plow under.

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