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FARMER'S ADVOCATE

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AND HOME MAGAZINE

VOL. XVII.

LONDON, ONT., DECEMBER, 1882.

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THE FARMER'S ADVOCATE —AND— HOME MAGAZINE.

WILLIAM WELD, Editor and Proprietor.

The Only Illustrated Agricultural Journal
Published in the Dominion.

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Our prize of \$5.00 for "The best suggestions for the improvement and the advantages to be derived from moneys granted by Government for agriculture and the dairy interest," has been awarded to P. E. Bucke, of Ottawa.

Our prize essay of \$5.00 "on the most economical feeding and best cooking for harvest hands," has been awarded to Mrs. J. L. Smith, of Whitby, Ont. All the essays published were considered so good that those parties who we called upon for their opinion had great difficulty in deciding, and the question was only decided by a very small majority.

"We wish you every success, and hope the ADVOCATE will be in the hands of every farmer in the Dominion, as it is worth double the price they have to pay for it. Yours sincerely, GEO. MORRISON, Bristol, P. Q."

Postmasters and school-masters will confer a favor on us by acting as our agents to receive subscriptions. Our Premium List affords them a most valuable remuneration for their trouble.

Be sure and send for our unrivalled Premium List. Commence your canvass at once, and secure the name of every good farmer in your neighborhood.

Every satisfied subscriber has a duty to perform to himself and to his own friends. That duty is to recommend to his neighbors the paper which he approves of himself; to contrive by some means to be instrumental in adding to the subscription list, and to have a hand in building it up higher. Will the thousands of admirers of the FARMER'S ADVOCATE think about this, and make our usefulness greater and wider.

Review.

The present issue closes the Seventeenth volume of the FARMER'S ADVOCATE and HOME MAGAZINE. The closing year has been one of rare prosperity—we are inclined to say, unprecedented. Both stock and fall wheat came through the winter in good condition. We had an early start of grass in the spring, but subsequent cold, dry weather, at that time, kept the fall wheat and other cereals back so much that we had a very late spring in regard to cereals. The cool, growing summer caused some alarm lest our crops would not ripen, but the unparalleled, long and beautiful autumn weather, ripened even the latest varieties of corn. Thus we have had one of the finest seasons for both stock and grain that we ever experienced. Our stock was never in a healthier condition, and our grain crops are generally uniform and good.

Prices for farm products generally have been very remunerative, and really good farmers were never in a better position, financially, than they are at the present time. Not only has prosperity touched the farm, but the lumberman, the manufacturer and the trader, have all participated in the general prosperity. Our manufacturers have been crowded with orders in advance of what they have ever before received—to such an extent that many have doubled their capacities; and our railways have been overtaxed with freight.

Our great Northwest is being rapidly developed, and a great boom of prosperity has prevailed throughout that immense country.

A general feeling of gratitude and thanks ought to prevail. There always will be some losses, or some callings that may not be quite as prosperous as others; for instance, many orchards have had a blast that has caused a great decrease in our apple crop. The price of long wool has not been very remunerative, and the Pink Eye has caused a great dearth of colts, and in some instances of horses, in some localities; but these are of minor consequence when we look on the general prosperity. The most deplorable picture on the agricultural horizon has been the full development and exposure of the purposes to which the money granted by the Government has been put.

A good fruit harvest, an enormous potato crop and good general farm crops bless Quebec and the Maritime Provinces. The lumbering interest has been very brisk. The shipping business has never been as large, and lumber never brought such high prices. The manufacturing interests of our country have been enormously expanded, numerous new factories have been erected, and a great many of the old ones have been doubled in size.

The Ontario farmers were never so well off. This may be evinced by their great tardiness in disposing of their wheat crop. The unprecedented development of our great Northwest is an astonishing

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ment to the world. The rapidity with which railroads are being constructed and towns and cities are springing up in that vast country is such that nothing like it has ever taken place in the world. The fine crops that have been raised there this year have given such confidence to the inhabitants that their jubilant spirits are almost unbounded. The reports of the prosperity prevalent there must draw the attention of the world to a greater extent to that vast country. The inhabitants of British Columbia are now more contented and more prosperous than they have been. Surely we as Canadians ought to feel thankful for these great blessings and this great state of prosperity, and each one of us should ask ourselves if we are doing our duty in the position in which we are placed. Are we not too apt to look with too contracted a view on our acts? Should we not be more unanimous in our desire to advance the general good of the country and rather discourage any attempt to thwart good intentions, and decry and discountenance all attempts to pervert truth and right.

There has been a great increase in the importation of superior stock to our Dominion during the past year, a very large proportion of which goes direct to the United States. We deem it a judicious step that the Government has established a quarantine for stock, as there exists great danger of importing diseases that might prove ruinous to our farmers. We gave you an account of the dangerous diseased animals we found in the quarantine at Point Edward, also of the inefficient state we found the quarantine in at Quebec. It is our opinion that the one at Point Edward is a very dangerous one, and we believe it would be much to the advantage of Canadian farmers if it was destroyed, and much greater precautions taken at the one in Quebec.

The attempt that has been made to destroy Township Agricultural Exhibitions is one which we look on as tending to the injury of the farmer, and should be discountenanced; also the attempts that have been made to substitute a demoralizing, stationary, mountebank exhibition in the place of the Provincial Exhibition, we look on as a most dangerous step. The attempt that has been made to take lands and properties belonging to the farmers of Ontario from them and place them in the hands of speculators, is a step that deserves the attention of those really interested in the welfare of agriculture. The collision of the Ontario and Quebec Provincial Exhibitions this year should be traced to its proper source, and the real perpetrators of that damaging step should have their names publicly made known, also the names of their colleagues. The perverting of the public funds granted for agricultural purposes and the establishment of the Model Farm are subjects that deserve the attention of our Legislators. There has been far too strong a partizan feeling pervading the literature and the lectures given at public expense, to make either of the undertakings as beneficial or as popular as they ought to be. The question has been asked whether more good or more harm has been done by the expenditures.

The Farmer's Advocate.

The past year has been another prosperous year for your journal. You have every year since its commencement increased the number of its subscribers. We return our thanks to all of you that have so kindly and ably aided us. You have enabled us to increase its size, to improve its illustrations, and to procure more and better assistance. Your journal is now pronounced by competent judges to be equal to any agricultural journal in the world published at such a cheap rate. By many it is pronounced the best. We do not fear compari-

son. This has been achieved without the first dollar of taxation being placed on you—merely your voluntary annual \$1 subscription, which has placed this journal in its present position. It will be our aim in the future, as in the past, to exert ourselves for your benefit. We have been enabled to take long and expensive journeys, reports of which, we have reason to believe, have been read with interest and profit by most of you. Our aim is to still improve the journal and its utility, to conduct it in an independent manner, to keep its pages open for free discussions on agricultural subjects, to condemn such steps as we deem of injury to you and to suggest improvements that we deem might be of advantage, and to keep your journal true to its name. The household and children will also receive increased attention in their departments during the coming year.

Agricultural Implements.

The closing year has been one of unprecedented activity among our implement manufacturers. Orders have been far in excess of the ability to supply, and several of our advertising patrons have this year increased the dimensions of their buildings, a number having doubled their capacity. In London alone three new manufactories have been erected. Where manufacturers formerly talked with satisfaction of turning out hundreds of plows, horse-rakes, seeders and harvesters, &c., they now talk of turning them out by the thousand. To show the great extent that self-binders are being constructed, one manufacturing firm has now ordered \$60,000 (sixty thousand dollars) worth of twine, or 250 tons for the use of their harvesters alone. The opening up of our Northwest has caused a greatly increased demand, but such is the name that Canadian implements have attained that some of our manufacturers are shipping largely to Europe, India, Australia, and South America. Recently when at Messrs. Waterous & Co.'s workshops, in Brantford, we saw five saw-mills and grist-mills, with engines and boilers complete. They were in the act of packing them to fill orders from Australia. Other orders were in for more to be constructed. The firm were also constructing some for Chili. Their saw-mill has gained such a name in that Republic, beating the English and American machines, that they could supply that country to a much greater extent than they do. In fact Mr. Waterous complains bitterly because he can get no rebate from the Government for material that he imports, then manufactures and ships to foreign countries. He says that a refund is made to others, but on account of his necessity of mixing iron, etc., he could not obtain a rebate unless he were to perjure himself. This he declines to do. Meanwhile the Government retains this money due to him. We think Mr. Waterous' case should receive attention.

Provincial Exhibitions.

We regret to read in one of the Government agricultural journals of this country that it is of opinion "that it is possible to have too much of a good thing; a very old, but very true saying, and never more closely brought home to our minds than this autumn. It is, we think, clear to every candid mind that we are overdoing our exhibitions. One in three years, or at most in two years, would be quite enough, for we maintain that with good management, and with petty jealousies put to one side, the Provincial Exhibitions can be made successful."

Co-operation among farmers is a good thing. They can help themselves and each other very much. Silos are costly, but let two farmers build one together. A hay-press can do duty for two, or a threshing machine or a reaper, and so with various other things until each is able to buy his own.

English Letter, No. 43.

Liverpool, Nov. 3rd, 1882.

The past month has been singularly uneventful in matters specially interesting to your readers, except in the items of storms and floods, of which we have had a surfeit. Fortunately the bulk of the corn had been got in; but in the highlands of Scotland and Wales there is still a large breadth of grain out, and, at present, very little chance of getting it in.

There has been a very heavy falling off of late in the import of American provisions, with the result of considerably advanced prices. My wife tells me that she cannot get a decent cut of breakfast bacon now for less than a shilling (24 cents) a pound. Surely it would pay your farmers to produce a good article at a rate which, after allowing the middlemen a fair profit, would put it on our tables at considerably less than that. Our home production falls so far short of the consumption that directly there is any marked falling off in the imports, we are almost at famine prices.

The Hon. J. H. Pope continues his investments in first-class stock on this side of the water, and is evidently doing his best, privately as well as officially, to promote the agricultural interests of the Dominion. I may be excused for quoting the following from a local journal, which, after reporting a recent valuable consignment by the Dominion Liner "Quebec," to Mr. Pope's farms, says:

"The hon. gentleman was the first to introduce polled Aberdeen cattle to the American continent some years ago, and it is mainly through his enterprise that the demand for these undoubtedly valuable cattle has received such an impetus on the other side of the Atlantic. So great has this demand become, that the value of these cattle has again doubled during the last few months, and, as fears were entertained that Scotland would be depleted of its best pedigree stock, several breeders have now positively refused to sell females at any price. The present shipment comprises no less than 15 females from the leading herds in Scotland, at the head of which may be mentioned 'Water-side Queen the Third,' a four-year-old cow, which is stated to be one of the highest priced as well as the best animal ever exported from Great Britain. There is now on Mr. Pope's estate at Cookshire, Province of Quebec, the finest breeding herd of Aberdeen pedigree cattle outside the British Isles, and probably there are few herds in Scotland superior to it in extent or value, there being upwards of one hundred female animals. To Mr. Pope is also due the credit of introducing Cheviot sheep into the Dominion, and the 'Quebec' takes out for him another valuable consignment of these, including a pen of ewes which took first prize at the leading shows in the north. In addition to the above there is a draft of Hereford cattle for Mr. Pope, including 'Landscape the Fifth,' and 'Stately the Seventh,' a pair of exceedingly handsome heifers, secured from Mr. E. Grasett, of Wetmore, Salop. It may be here mentioned that the Herefords shipped by Mr. Grasett last spring took first prizes at the leading shows in the Dominion in competition with a number of old-established herds in that country."

There can be no doubt as to the extent to which the Polled Aberdeens are going in the public favor, and they are making a decided head against their most formidable rivals, the Herefords. Mr. Fenn, of Downton Castle, one of the most prominent Hereford breeders of the day, has just introduced a herd of the Aberdeens into the very stronghold of the white faces. There is no doubt that next year the demand will be more intense still, and prices correspondingly inflated. Mr. Hiram Walker, of Windsor, Ont., has been visiting several of the largest and finest herds in the country, and it is understood that upon his return in the spring he will establish herds of Polled Aberdeens and Jerseys upon his farm at Walkerville, near Windsor.

Extraordinarily favorable reports are being received throughout Great Britain from settlers in

Manitoba, and there are already signs that next season the influx of intending settlers from this country will far exceed the large figures of last year.

The great shows of fat stock preliminary to our Christmas markets, are already being talked about, and a great struggle between the rival breeds for the premier places is certain to take place.

I hope your poultry farmers are ready with abundant supplies of turkeys and geese. There is a market here big enough, and to spare, for all they can send.

Farm Notes.

The past month has been unusually fine, and admirably adapted to the prosecution of farm work, such as plowing, taking up roots, husking corn and making general preparations for winter.

The roots, especially the turnips, are not what might be called a heavy crop. The season was altogether too dry and warm for a luxuriant growth of swedes. The best increase of this latter is made under a low temperature, or during the cold nights of September, and from that to the middle of November. It has been excellent weather for harvesting roots; the tops and the ground were dry, and the men could work comfortably. As a rule it can be relied upon that the 20th of November is when winter sets in in this country, and, if possible, all outside work pertaining to getting in roots and fixing up for winter should be done before this, but at the time of writing, 22nd Nov., a number of fields of turnips were out in the vicinity of London.

Carrots have not been extensively grown this year, but the crop is very good. We think why our farmers do not more generally grow this tuber is because, on clay lands especially, the labor is too much in digging them. In heavy land, and more so if it be hard, and they have to be dug with a spade, and then if they are the long red kind, the greater part of them breaks off and remains in the ground. Intermediate carrots and the White Belgian are the only kinds that can be grown on the majority of our clayey soils, and it may be suggested that the former can be raised as a profitable feeding crop by careful attention to thinning. It should be recollected that carrots are much more nutritive than turnips, and red carrots more valuable than white ones, and that all roots are not only valuable as feed, but also for their medicinal properties; for instance, look at the tonic and laxative properties of the turnip, and the diuretic and stimulating qualities of carrots, and it is not hard to see how beneficial they are to cattle, horses and sheep. Farmers, don't neglect your root crops if you want healthy stock. Growing parsnips as a field crop has been tried in these parts, as they are good croppers, and in advance of carrots in their nutritive properties; but on heavy soil the length of the root renders it almost impossible to get them out of the ground profitably. This year a common spade is no use whatever in digging them, and with a strong, narrow draining tool a man would have to work hard to get up ten bushels a day, and then half of them are left in the ground. As far as a general crop is concerned, parsnips, owing to the labor in digging, will prove a failure. Turnips and mangels are the most profitable root crops that can be raised in heavy soil, though a carrot and parsnip crop are surer owing to their not being liable to depredations from insects, and also to the hardness of the plant.

Plowing is progressing favorably, and it has been good weather for getting on with the work. At this date, 22nd November, the ground turns up nicely, and there is just enough moisture—and not enough frost—to make this work pleasant. It never pays to plow clayey soil when it is soggy and wet; the effect is to pack it so that it is impossible

to work or pulverize it afterwards. There is a diversity of opinion about deep and shallow planting, and the question is asked: "Shall we plow our land always deep?" No. The following short rules on this subject will be a guide: 1st, plow deep when there is a rich and impervious subsoil; 2nd, when the subsoil is sterile and impervious; 3rd, don't plow deep a sterile, impervious subsoil. The double object of deep plowing is to utilize fertile soil, and to loosen the under soil for the more ready reception or penetration of the roots of plants.

DRAINING.—There have been a great many tiles put in this fall all over, but getting the level has been tedious, owing to the want of rain, but a pail of water generally shows whether a drain will run right or not, in absence of proper levels. There is one thing certain, not over half enough tiles are made to supply the demand in this part of Ontario. So much for the teachings of good agricultural papers like the *ADVOCATE*. So quickly are the tiles sold that farmers have to go during the night, after the kilns are burned, in order to get their loads. In consequence of the short supply and the increased demand, coupled with the high price of labor, tiles have risen in price rapidly, and it costs fully 30 per cent. more to drain land now than a few years since. There is a great scarcity, too, of efficient and skilled ditchers, and good hands from England, who have been brought up to this work, might make handsome wages by putting down drains.

Farmers don't feel inclined to sell their wheat at 90 cents a bushel, and the majority are holding on; and, indeed, from their financial position they are able to do it. A succession of good harvests and good prices hitherto for all kinds of produce, have placed our farmers on a solid basis. Besides, other produce, at present, is selling well, and farmers are disposing of this in order to keep their wheat. Wheat never pays to raise in this part of Ontario short of \$1 a bushel, and if a farmer only realizes 90 cents, he loses 10 per cent. on his wheat crop. If our farmers can keep their wheat, certainly they stand as good a chance of a rise in price as the grain rings and speculators; and wheat can't be any lower than 90 cents. Indeed, at this price it is bringing the prices of the coarser grains, and it would pay to sell the latter and grind wheat for feed. In fact, a gentleman from Komoka, last Wednesday, expressed his intention to us of selling his corn—of which he had 400 bushels—and grinding his wheat for use instead.

Manitoba Letter.

FROM A CORRESPONDENT.

West Lynne, Nov. 7th, 1882.

During the past month the weather has been very changeable, with heavy falls of rain and snow, followed by mild Indian summer days; and present appearances indicate that it may remain open for some time to come. To-day (Nov. 7th) teams are busy plowing and cattle grazing on the prairie, not yet confined to their winter quarters. Farmers have been greatly delayed in threshing by wet weather and scarcity of hands. From \$2 to \$2.50 per day and board are being paid for men, and they are hard to obtain at those figures. The yield of grain is a fair average in this section, but a good deal of it is badly damaged in the stacks by the recent heavy rains, through bad stacking, for farmers as a rule have been quite careless in that respect, not expecting much rain at this time of year; but no doubt this season will be a lesson to many, and cause them in the future to put their stacks together in a workmanlike manner, thereby avoiding similar losses.

Most of the annual exhibitions of the different

Electoral Division Agricultural Societies throughout the Province have been very successful, showing a marked improvement over former years, both as regards the number of entries and superior excellence of live stock and other exhibits, although the weather was very unfavorable at the time a number of the exhibitions were held. As usual at this season of the year, prairie fires have been numerous, and in some sections considerable damage has been done by them. How they originate is hard to find out, but it would be well if some of the parties setting them could be caught and punished, for it might have a tendency to check such depredations in the future, and be the means of saving a good deal of valuable property. The markets have been scantily supplied with grain during the past fortnight. Roads are heavy and farmers still busy with their fall work, taking advantage of the present open weather. The hardest grades of wheat seem best up in quality, while softer kinds as a rule are a great deal lighter, and have suffered considerably from the dryness of the past season.

Prices for dark Fife have ranged from 75c upwards, and choice samples are bringing 80c. Lower grades are not much in demand, and have not in any case reached the lowest of those figures. Millers and dealers are anxious to secure any quantity of No. 1 wheat, but do not care about handling soft kinds. Farmers are beginning to see the advantage gained by raising and feeding stock. The high price of meat, and abundance of feed usually at their command to dispose of, are causing them to turn their attention more every year to those branches of industry. Mr. Arthur Walrond, a gentleman recently from England, and at present located at Pembina Crossing, returned a few weeks ago from Ontario with a lot of choice cattle in order that he may improve the stock in that locality. His importation comprises both Herefords and Shorthorns, and are a good lot in their respective classes. Your correspondent was pleased to hear that you enjoyed a recent visit to this Province, and had a jolly good time. A description of the journey in Minnie May's Department of the *ADVOCATE* has appeared in the columns of several of the local papers.

On the Wing.

THE CHICAGO FAT STOCK EXHIBITION.

Chicago has for several years held a Fat Stock Exhibition. It has gradually increased in popularity and in the extent of its utility and magnitude. It is now the largest and most important fat stock exhibition held on this continent. Some claim it to be the best in the world, but we are not prepared to endorse that sentiment; however, we have no doubt but that with judicious management, it will rival any exhibition, for the extent of country from which it can draw its resources is so vast, and many Americans are able and willing to procure and care for the best, and when they have the best they are willing to let the world know it.

The exhibition was held in their fine, large Exposition Building, some of the internal fittings having been removed, and stalls, show-ring and all other appliances erected on the most approved and convenient plans, the stalls for the cattle and the spaces between the show-ring being so well arranged that the animals could be seen at all times, and ample space given for visitors. Everything was kept in excellent order, and the stalls, walks and show-ring were kept scrupulously clean; a good, deep covering of clean saw-dust was kept on the show-ring. The cattle were bedded in small shavings brought from the planing mills; it made excellent bedding, and all filth was immediately removed. The building was lit up in the evening with both gas and electric light. The prize animals were brought in the ring in the evenings, and a description, the weight, the owner's name, feed, breed, &c., were announced by a speaker on a platform. So large is this building that not over one-third of the available space was occupied by the fat stock exhibited; thus they are prepared for any stock exhibit, both in regard to numbers and quality.

The visitors consisted of those who were interested in the progress of the great cattle interests. Perhaps it would be difficult to find a larger gathering of really practical, progressive agriculturists assembled, with less alloy of the speculative, office-seeking, or catch-penny class. The stock consisted principally of Durham cattle and grade Durhams, the Longhorns being almost unrepresented. No pure bred Longhorn was to be seen; in fact many valuable classes were not represented. For instance, there was not a single Devon, Ayrshire, Jersey, Galloway, Sussex, Kelso, or any of the other breeds except a few Herefords and a very few Polled Angus. There has been and still exists a great predominant feeling among many that the Shorthorn Durham is the only animal that should be countenanced. The rivalry of the different breeders of Shorthorns has been very great, and the strife been whether the Duchess, Bates or Booth stock should take the supremacy. The different families of these classes have their admirers, and the Duchess, the Kirklevington, the Wild Eyes, etc., etc., are families that have been prominently brought out, and vast sums have been expended in many ways to place one family over the other in the reputation of the world; consequently the prize list, officers and judges have been arranged and appointed to bring the noble animals to the front. Much good has been done by this strong competition; the value of the stock of this continent can not easily be estimated by the good that has been done.

While walking around the show-ring we heard one man remark: "The Shorthorns are good enough for all purposes; we might as well kill off all the other breeds, for the Shorthorns are the best cattle." We do not coincide with such an opinion, and the sooner it is abandoned the better; but the rivalry existing between the breeders is very great, not only in the families of each class, but against all other classes. For instance, the fight for a prize between the Durham breeders and Hereford breeders has gone to such an extent that the latter have united and altered a large lot of their bulls; one farmer has altered 25, each worth \$500. This is done on purpose to enable them to show as good animals as the Shorthorn men have been doing; and the next few years they intend, if possible, to show the world that the Hereford cattle are as good or better beef animals than the Shorthorns. The Herefords have not been as numerous as the Shorthorns, consequently they have not been able to sacrifice them for the fat stock exhibitions as the Shorthorn men have. The Hereford breeders claim that they can raise better and cheaper beef than the Shorthorn breeders, but that they have not had the same opportunities of showing what they can do. This fat stock show has a wonderful influence on the minds of breeders.

The Durhams and Durham grades have carried off nearly all the prizes, and this is not to be wondered at, as the prize lists are best adapted to that class, and very few of any other classes were to be seen. But a remarkable point was that in dressed meat, the Herefords carried off both first and second prizes.

The Polled Angus have but recently come into such demand, and there being so few of them as yet in the country, and the herds in Europe so limited, that it may be some time before they will be exhibited in car lots as fat cattle.

Fine as this exhibition was, the exhibit of animals was not, in our estimation, to be compared with the breeding animals we have seen in Canada. Particularly is this the case in Polled Angus and Herefords. In several herds we have seen we could select much finer animals than any we saw there; but it is injury enough for them to be fitted for our exhibitions, without taking them across

the lines and paying a duty of 20 per cent., or put them in quarantine for three months, which is next to prohibition. In fact it would be ruinous to exhibit and sacrifice our breeding stock. Some of the exhibitors were pretty extensive stockmen; for instance, Mr. Gillett, of Elkhart, Ill., owns 13,000 acres in one block and 3,000 in another. He exhibited a large number of cattle—several car loads. We admired the size, color and general appearance of his exhibit very much, but we noticed that some of the horns of his animals appeared a trifle long, and that some of them were set up and some down; this we only noticed in a few of them. We asked Mr. G. if he had not had a cross of the Longhorn in his herd; he said probably there was. When they were driving the car loads of 3-year-old cattle into the ring, we stood by the entrance and noticed each herd as it passed. Mr. Gillett's herd so much surprised us, as they were so uniform in color, in size, so large and so evenly and well fattened, that we thought they were the best we had ever seen on this continent, that for such a number and of that age, and we made this remark: "You are pretty sure of the herd prize, Mr. Gillett." His laconic reply was: "You cannot tell where lightning will strike." He got that prize, and it was well merited, but his remark will not soon be forgotten, it is so applicable to many awards made at exhibitions and in other spheres of life.

One remarkable feature of this exhibition that we cannot understand is this: This fat stock exhibit is claimed by some of our American cousins to be the best in the world. Kentucky has attained a world-renowned reputation for its superior blue grass region, its great, wealthy stockmen, its noted herds of Shorthorns, and yet not an animal from Kentucky was to be seen at this exhibition; while poor Canada—considered a frozen, barren wilderness, unfit for man to live in, by some American orators—stands to the front, carrying off more prizes and more honors, with an insignificant exhibit of a few animals brought in under a tariff of 20 per cent. duty, than ten times the number of cattle exhibited by Americans themselves. And what is still more remarkable is the fact that, notwithstanding the praise bestowed on the shrewd management of the Scotch, the lavish expenditure of the English, and the indomitable pluck and spirit of the American, yet the greatest honor that has been carried away from this exhibition has been gained by a Canadian. The honor is not yet half observed and not known by half of the people that have heard about this exhibition, but it will be heard of hereafter.

THE JUDGING.

The animals were at their stalls and at the show ring at all proper times and in a proper manner. The Canadian animals were incomparably superior to those that were exhibited against them. We will instance two steers exhibited by the Groff Brothers, of Elmira. They exhibited in the class of 3-year-old steers and under 4. Canadian Champion was the name of the largest, a very fine steer; his form, proportions, general appearance, sleekness of coat, and size, were remarkably fine and good as a whole. His weight was 450 pounds more than that of the animal that was awarded the Sweepstake Prize. Their second animal was a very handsome, even white steer, being a real model of an animal, weighing 400 lbs. more than the sweepstakes steer. The animal in the 3-year-old class that was awarded the sweepstakes, had a heavy, stogy appearance; he had a hollow back, a large pot belly, a heavy bone, and rough long hair, and a diminutive, mean appearance when compared with Mr. Groff's steers. Either of these two Canadian animals were so greatly superior to that which had been awarded

the champion stakes that a great feeling of dissatisfaction was evinced, not only by our Canadians, but even Americans offered to subscribe money and have the animals slaughtered and then judged, or to send them to England to be judged. The same steers were also brought out to compete in the grand Sweepstakes as the best animals of any age at the exhibition. In this two of the judges were in favor of the Canadian steer, but the prize was awarded to an American steer of much less merit, and what is more remarkable is that the steer to which the Sweepstakes prize was awarded in this ring, and not one out of the five judges gave a single vote for it; and yet some of the same judges acted.

No reasonable cause for such decisions has yet been given; neither can they attempt to justify such awards. Of course, the Board will try and lay the blame on the judges, as is too often the case. There is no individual responsibility in the acts of a body of men, and they can shift the responsibility. The name of every judge that acted should be given to the public; and men that will for any cause act contrary to justice, under any pretense whatever, are not the men that we should look upon to build up the honorable reputation of a country.

There are other important points that might be treated of; for instance, the Bow Park exhibit. Although gaining prizes, higher honors were considered to have been deserved. Space prevents a longer account at the present time. Notwithstanding the before-mentioned shortcomings, Canadians have carried off a very large number of handsome prizes.

Would not one judge be better than a number? Then there is a responsibility. Should there not be an opportunity for appeal when erroneous judgment is given?

It is to be regretted that the Canadian judge, Mr. G. F. Frankland, was most inefficient and unfit for the position. We hope on another occasion a gentleman with as much experience and knowledge may be chosen who will have a higher idea of the responsibility of his trust.

MEETINGS OF MANY BREEDERS' ASSOCIATIONS were held during the evenings of the Exhibition. Perhaps the most important business transacted was the purchase of several of the Shorthorn herds and the formation of one. Mr. Allen received \$18,000 for his herd-book, which was the most important one on the continent. Mr. Baily received \$7,000 for his. The two Canadian herd-books are not included in this purchase.

THERE WERE SEVERAL STOCK SALES held at Dexter Park during the exhibition. That of H. M. Cochrane, of Compton, Quebec, should be of the most interest to our readers: 31 Herefords, all females, brought an average price of \$357.25; 25 Polled-Aberdeen females averaged \$663.60, and 13 bulls averaged \$407.92; 31 Oxford Downs averaged \$34.20, and 7 rams of same breed averaged \$44.75; 186 Shropshire ewes averaged \$27.12, and 23 Shropshire rams averaged \$42.61. The Polled-Angus were good looking specimens of their class, but the Shropshire sheep were not to be compared with some of the breeding flocks we have seen in Canada; we have also seen better Oxfords. We attended the sale in the morning. Mr. Cochrane was dissatisfied with the prices the sheep were bringing. After one pen of five Oxford ewes had been sold, an elderly gentlemanly-looking American was walking around the pens, as we stood by, and asked who bought these sheep. Another gentlemanly-looking person answered, and said he was the purchaser. American No. 1 said, "I will give you \$100 for your bargain." No. 2 accepte

the offer. No. 1 pulled out of his pocket a large roll of bills and handed the seller a \$100 bill, telling him to take that; it was easily counted, and the transfer was then made. The sheep were good ewes and had been knocked down at \$30 each.

There was a little disappointment experienced by some of the Canadians, as a reduction of fare by railroads had been advertised, but they had to pay full fare both going and returning.

Among those present at the Fat Stock Show we noticed Hon. J. H. Pope, Hon. M. H. Cochrane, Col. Hope, of Bow Park; Henry Wade, Sec. Board of Agriculture; J. R. Hunter, of Alma; C. J. Alloway, of Aidgoun Farm, P. Q.; Dr. McEachren, of Montreal, and some others.

States Letter.

Washington, D. C., Nov. 16th, 1882.

One of the interesting features of the Garfield Memorial Fair to be held in this city from the 25th inst. until the 3rd of December, is the agricultural exhibit. The art exhibition, booths of the States, and the ceremonies, are to be held in the grand rotunda, spacious halls and corridors of the capital. The agricultural exhibition will be held in the exhibition building of the Department of Agriculture. Already entries of fruits, cereals, cotton, vegetables, roots, fibers and products of the soil, both novel and useful, have been made, and it is hoped the dairy, the poultry yard, the flaxbeater, silk cocoon, and sorghum patch will all be represented. The proceeds of the fair are to be devoted to the erection of the Garfield Memorial Hospital in this city.

The department of agriculture has received, this autumn, several thousand bushels of new Russian wheat from the Mediterranean. This wheat is intended for distribution among practical and experimental farmers in different sections of this country, who will report the result of its cultivation next season. *Apropos* of Russian wheat, a report has been recently received by the Commissioner of Agriculture, from the London agent of the department, in which he says: "According to latest statistical accounts, Russia produces, on an average, 1,888,426,000 imperial bushels of grain annually, 1,740,740,000 of which are produced by European Russia. Of the total quantity of grain produced by European Russia, 1,608,740,000 imperial bushels remain in the country, the remaining 132,000,000 imperial bushels are exported both by sea and land, to stock the different markets of western Europe. England, the largest grain importing country, is also the principal buyer and consumer of the cereals produced by Russia. The greatest part of the cereals exported from Russia, as well as from the Baltic ports, by way of the Black Sea and the Sea of Azof, and even by land, is intended for Great Britain.

"With respect to the quality of grain, the Russian winter wheats are mostly soft; it is only in certain localities, and under the influence of climatic causes and special properties of the soil, that varieties of wheat are found approaching to semi-hard and hard wheat. It is a fact well worthy of remark, that hard lands, not manured and recently put under cultivation, as still found in the region of the Steppes, produce, especially in a dry year, a sort of hard grain. The same lands mellowed by cultivation and abundantly manured, produce, especially during wet years, a soft grain."

While on the subject of wheat, I will give you a curious report received at the Department of Agriculture from its statistical agent in Michigan, which seems to antagonize the rule laid down by old seedsmen, to select the best and most perfect seed for planting. He says:—Of grown wheat, take the very worst samples you can pick out of a crop of wheat and thoroughly dry it, then sow it in your garden, and you will note, with perhaps some surprise, but far more pleasure, that the previous growth of the kernel will not interfere with a

second, third, or fourth germination. The theory upon which this depends is this: That a wheat kernel contains, instead of a germ, a nucleus of them. This we can see by watching the growth of a single kernel. First, we will notice a single blade or leaf, then we see another and another added, which soon produce a 'stool of wheat,' as it is familiarly called by the farmer. These facts being proved to the satisfaction of wheat growers, and there is no loss at all on the wheat used for seed." We may add to this, if any farmer tries and is satisfied with the experiment, he should then test the quality of such grain for producing flour and bread.

An effort will be made at the coming session of Congress to have a bill passed to prevent gambling in wheat, corn, beef and other necessities of life. The stock gamblers deal in these articles and their corners in them are ruinous to both the producer and consumer. The only gainer is the gambler in wheat and the other products of the soil. A careful statistician said to me that the number of mortgages on farms was surprising, and that if this curse of modern civilization was stamped out, so that the profit in products would go to the man whose labor made it, instead of the gambler, farm mortgages would rapidly decrease. LOTUS.

"Professional" Exhibitors.

[FROM OUR CHICAGO CORRESPONDENT.]

The idea that there are such things in existence as professional show herds may strike some as being merely the fanciful outgrowth of some discomfited exhibitor's imagination. But such is not the case; there is just as much science, if you will, in displaying to the best advantage a herd of cattle, a drove of swine, a flock of sheep or any other class of live stock or agricultural product, as there is in advertising, acting or any other calling or custom calculated to meet with success or failure as it attracts or fails to attract public attention. It is true there are not many professional, or to use a better expression, proficient exhibitors, the majority, by far, coming under the head of "amateur," though there are usually enough of the former class in every community to secure the sugar plums in the way of first prizes.

There has of late been considerable fault found with a class of so called professional premium takers, who have, through long and valuable experience, learned that the eye of the public is more quickly taken by a uniformity and order in sizes and colors than by a haphazard display of the animals or products to be shown. It is rather rough on every day agriculturists to see the cream of the premiums at the local fair, for instance, go to a sleek, well groomed, and, I was about to say, well trained show herd from a distant section of country, when they feel confident that were justice fairly done, some of their own surpassless, aristocratic but equally useful animals would carry away some of the honors.

So far as true merit and solid worth are concerned, the arrangement or non-arrangement of the individuals of two herds, according to color, size, etc., there can be no difference of course, and perhaps a thoroughly practical butcher would not be influenced in his judgment in any such way, but there are very few eyes that are blind to the beautiful, and who will say that a calf, a yearling, a two-year-old and a three-year-old steer, carefully arranged in regular order, with heads one way, will not make a more pleasing appearance than if the animals were scattered around promiscuously without the slightest regard for age or color.

It has been declared by practical cattle salesmen that 10 and 20 cents per 100 pounds more can be secured for 16 white steers than 16 red ones when sold separately than when sold together. This does not always so work, but it is a noteworthy fact that the most successful exhibitors invariably pay close attention to the general effect made by their products, as well as the solid worth of the same.

Of course when the premium is awarded to a so-called professional show herd over one equally

good, were the butcher's knife to decide, all hands praise and admire the successful herd; but does not the credit lie rather with the owner, who, though having no better beef animals than his neighbor, has outdone him by judicious preparation of his stock in order to secure the most pleasing effect to the uncritical eye. Above all things we do not advocate "pampering" and "merely coddling," but we do say that every breeder who breeds as well as he can, and feeds almost to perfection, falls short of his duty if he does not make his product look as pretty as he can.

The Grant to the Agricultural and Arts Association.

At the last meeting of the County Council of York, they recommended the co-operation with the County Council of Ontario in a petition to the Legislature, asking them to withdraw the grant from the Board of Agriculture and Arts of Ontario. Mr. E. Jackson, Reeve, said: "Take away Arabi and the cock-fighting, and what does the Toronto show amount to?"

Mr. Jones objected, as the Council had on several occasions made grants to the Association, and it would be inconsistent if they were now to petition for the Provincial grant to be withdrawn. Mr. Hambly thought the suggestion came from outside influence, and they had better leave the matter with the Government.

Mr. Jackson concurred in this view, as the matter was wholly in the hands of the Provincial Government, who would be able to decide in the case. He moved that the clause and petition be struck out of the report. Alluding to the late Provincial Fair at Kingston, he said it would ill become them to oppose their judgment to that of 400 farmers who voted unanimously in favor of the continuance of the Provincial Fair.

Mr. Porter defended the action of the Committee, and alluded to the success of local fairs without aid.

Mr. Speight thought the recommendation of the Committee a move in the right direction. The central fairs at London, Guelph, Hamilton, and other places were gradually eating up the Provincial Exhibition. It would, in his opinion, be better if the grant were made to several local institutions.

The report was adopted on motion by 12 to 6.

By the Way.

"The country is too full of quacks and 'hoss professors,'" remarks the *Breeders' Gazette*, and imaginary "spavin" is their profit.

By the way, it is nothing but want of combination that prevents farmers from having all their just complaints attended to.—Mark Lane Express.

A Welsh rarebit, in the shape of Black Queen, a four-year-old Welsh cow, the pick of a herd sold the other day in England, brought the extraordinary price of \$1,750.

A cream separator, worked by a single horse, was exhibited at the recent Dairy Show in London; another was an appliance for cleaning milk cans by machinery.

The Echo Farm Company, which bottles 3,000 quarts of milk per day for the New York and Brooklyn trade, buy largely of Litchfield, Conn., farmers, pay promptly, with nothing off for leakage, tare or sour. The cans in which collections or delivery are made must have a ventilator in the cover, which is described as "the bottom of a funnel inverted and soldered into the lid."

It used to be said by Mr. McCombie that Polled Angus cattle would become the dominant breed "of England, and therefore of the world." The *London Agricultural Gazette* remarks that "it seems in the face of recent sales to be taking its place accordingly." "Did anybody ever know," our contemporary continues, "such a wave or tide of good fortune as has lately overtaken this stock, and Welsh, and Berkshires, too."

The home growers of Dutch Bulbs are, by circulation of their catalogues and by auction sales in many towns, catering to direct trade with those who buy to plant, much to the mutual satisfaction and pecuniary advantage of all concerned—except the retail seedsmen. One English journal notes the difference between the prices of the latter and the former as "something startling," and comments on it as a result which promotes the extensive culture of beautiful plants by persons hitherto repelled by heavy charges.

The Farm

Cutting Drains by Machinery.

Numerous attempts have been made to supplant or assist manual labor by machinery in the cutting of drains. At the royal show in Derby, England, a machine for forming drains was exhibited. It was manufactured under the patent of Messrs. Robson and Hardman, and attracted a good deal of attention. The accompanying illustration will convey an idea of the construction of the machine.

The motive power is a wire rope from an ordinary ploughing engine fixed on the headland. The drain is excavated by a series of revolving buckets cutting to the required depth and fall. These buckets are sharp-edged and very strong, as they have to act as scoops to remove as well as carry the soil. They are driven from the hind travelling-wheel by a series of toothed wheels. Under the machine is a pipe-conductor, by means of which the pipes are laid in the drain in front of the shoots, which deliver the soil cut out of the drain and brought up by the elevators, so as to cover up the pipes and fill the drain. This is very ingenious, and, provided the proper fall can be ensured, which has always been a great difficulty with draining ploughs, this machine may prove of great value. The lower elevator, which takes out the bottom of the drain, deposits the material first, thus replacing the soil in the same relative position as it is removed. This is not always or usually desirable, and, if necessary, the process can be reversed. The frame is composed of strong iron plates, to which flange-pieces are riveted. The motion is necessarily very slow. This machine was not in a sufficiently perfect state to admit of a trial—a matter of regret, as nothing in the way of mechanical aid to agriculture at this juncture can be conceived as more valuable than a really efficient labor and money-saving drainage tool.

Draining.

(Continued.)

MECHANICAL DIFFERENCE BETWEEN A WET AND A DRY SOIL.

By C. J. ELLIOTT.

If we look at a piece of dry soil by means of a common magnifying glass we see that it is made up of small particles thrown together miscellaneously, having small cavities between them resembling those of a sponge. The particles also have minute pores and cells which hold liquids by the power of absorption. Let us dry a portion of soil and from it cut a small block. It is composed of irregularly shaped particles having channels and cavities between them similar to those existing in a pile of small stones. These particles in

turn have very minute cells, capable of absorbing and holding moisture. In the piece before us there is no moisture between the particles nor in them, both being filled with air alone. It is evident from the laws of vegetable growth that such soil is unfit for the growth of seed or plant. If we pour water on to this block of dry soil until it will hold no more, the cavities, pores, cells, in short, every space before occupied by air is now filled with water. Seeds and roots in such a soil cannot thrive, for all the air is excluded, except what little may pass through the water to the growing roots.

If we notice the soil as we put the water upon the block under the glass, we will see that a drop placed upon one side or the top, changes the color of the soil, showing that the soil is moist, but there is no change in the spaces represented. The minute spaces in the particles are filled with water and will hold a certain percentage, varying with the kind of soil, while the spaces between the particles are filled with air. We have here an example of a drained soil in which the plant roots have access to both air and moisture. It will be seen, then, that draining is simply removing the surplus water from the soil. This allows the atmosphere to take its place, thereby giving the plant needed oxygen at its roots, and producing a chemical change in the soil which gives the plants more nourishment.

The amount of water held by absorption varies greatly with the kind of soil. To show that a well drained soil is by no means a dry soil, we have experiments by Professor Schubler, who found that one hundred pounds of dry soil would retain

the following weight of water that would not flow off by drainage:—

Sand	25 pounds.
Loamy Soil	40 pounds.
Clay Loam	50 pounds.
Pure Clay	70 pounds.

KINDS OF DRAINAGE.

Many experiments have been made to find some inexpensive material for, and method of constructing, drains. None have stood the test of time but open ditches for surface drains, and tile pipes for under drains. If the western farmer wishes permanent and effective drainage, he must be at the expense of constructing suitable open ditches for large water-courses, and well laid lines of tile drains for general draining purposes. Drains constructed of boards, brush, gravel, etc., are less effectual and in the long run more expensive.

OPEN DRAINS.

However much open drains may be disliked, they are often a necessity. The farmer who has experienced the convenience and profit of under-drains conceives the idea of doing away with open ditches by using tiles and covering them, thus saving all inconvenience occasioned by the ditch, and also adding to his tillable land that occupied as a water-course. This operation will often retard the action of drains which discharge into the large channel, and if the slough is large will wholly prevent good drainage. As noticed before, sloughs on the prairies are the natural water-courses, give surface drainage to large tracts of land either side of them, and during seasons of heavy rain require large capacity in order to remove the water coming into them. In many cases

in the drainage of large districts, this is the first matter to be attended to. A suitable water course must be provided, into which all lesser drains may be discharged.

A ditch which is to be a watercourse in ordinary large sloughs, should be of greater dimensions than a cow-path, furrow or spade ditch. A narrow ditch, even if deep enough, will soon wash the sides, causing sods and earth to fall in. These, with the growth of grass, will soon obstruct the ditch to such a degree that it will be worthless, unless the water flows rapidly enough to wash out all matter, or it is cleaned by hand-work. Besides this it will hold so little water that in every little freshet the land on each side will be flooded and injury done.

The proper form for open ditch, which will stand at the sides and can be easily kept clean, should be twelve feet wide at the top and three feet deep. The sides slope 2 to 1, that is, one-half the width at the top is twice the depth. The earth should be taken 3 feet from the edge of the ditch, and should be smoothed and seeded to grass. A border of 10 feet should remain in grass. This will require two rods of land for the ditch, giving firm land for the banks. Such a ditch can be kept clear of weeds and long grass by mowing with a machine and burning the weeds in the bottom of the ditch. In making the ditch short turns should be avoided as much as possible, as these retard the flow, and occasion washing away on one side of the ditch at the turn. The grade may be, in almost all cases, uniform with the slope of the surface, as usually the inequalities are very slight in prairie sloughs.

The magnitude and expense of a ditch of this description at first induces the farmer to substitute some more easily constructed one, and thus cripple his whole system of drainage. After a few years of trial he will have reason to regret his half-way work, and will take measures to correct it. When taken at a dry season of the year, the ditch may be excavated quite rapidly with the help of a road-plow and scraper.

TILE DRAINS.

The good effects of drainage previously mentioned can be brought about by a system of open drains, only as such a system is constructed for the purpose of affording sufficient outlets for under-drains. In observing the process of natural drainage, we see that such drainage is very slow, since it depends upon the nature of the soil and the relation of the contour of the sub-soil to the surface. Open drains are simply an aid to natural drainage, acting principally upon the upper six or eight inches of soil. Deeper than this, the soil, during the spring-time, is tough and compact, scarcely allowing the plowshare to cut and turn it to the surface, because of its adhesive nature. At the

same time, a few inches of the surface soil, which has been surface-drained and acted upon by the sun and air, will be friable. Later in the summer, if the season is dry, the lower soil will be found partially dry, but generally it never becomes well drained except at the surface. We must have ditches, but they should be regarded only as necessary accessories to under-drains, if we wish to realize their full benefit. A tile-drain, in order to accomplish its purpose perfectly, should possess the following requisites:

It should consist of pipes of sufficient size, laid at proper depths, to carry away all water which may come to them.

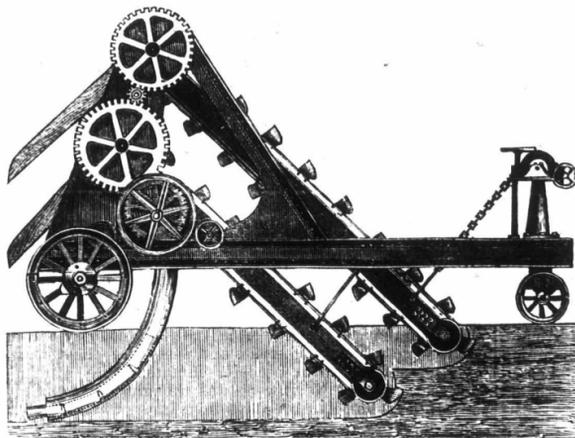
Each line should have a perfectly free outlet. The pipes should have sufficient space between them at the ends to permit water to enter.

Each separate line should be laid on an incline, or series of inclines, of regular grade.

The tiles should be of good material and well burned, in order to be a permanent improvement.

In preparing fertilizers for the strawberry bed many weed seeds are liable to get mixed in. To prevent this oil meal and wood ashes are recommended as fertilizers, to be worked into the soil. They can be applied any time of the year.

If you have choice potatoes to keep for seed put them in a box of sand in the cellar. They will not freeze nor sprout. There are numerous varieties now before the public, and the farmer should plant those that are generally conceded to be the best.



DRAIN CUTTING MACHINE.

Farmers' Clubs.

ELMIRA FARMERS' CLUB.

We are pleased to see the Elmira Farmers' Club have taken up the interesting subject of improving the appearance of the roads and highways, by grading the sides and planting trees; also the best kind of trees for planting. We herewith give a condensed report of their discussion:

W. A. Armstrong. The letter suggests a subject that we may well consider. What attention do we give to tree-planting? How many of our farmers plant orchards beyond the narrow limits of personal need? Drive along our highways and note the absence of trees set for shade, except those that testify to the wise forethought and good taste of farmers whose planting was done twenty years ago. In all my acquaintance there are few stretches of road with newly-planted trees along the borders, yet we all speak in terms of praise of farmers who beautify highways by planting trees for ornament or use, for in either case they give beauty to the landscape. In an adjoining country I have seen apple trees set along the road on each side, the rows extending apparently through several farms, the ground first plowed, then the trees carefully planted and subsequent care given as in private ownership. In a few years they will constitute an orchard in two long rows, perhaps in the fruit not profitable to the owners, but none the less a public benefit. It has been said aptly that the man who plants a fruit tree is a benefactor to his race. How much more does he earn this character when he multiplies the benefits by planting in every available place along the highway through his farm. Even if he gather none of the fruit he may contemplate with pleasure the beauty of his generous provision for public enjoyment. I do not say that for this use fruit trees are superior to the varieties usually employed, but they are certainly better than blank space. I think we are giving less attention to orchards than in past years, yet there is increasing demand for fruit. It seems to me that a productive apple orchard must give sure profit, greater than a like area of cultivated ground. There must be years of care and long waiting, it is true, but the reward comes at last.

G. W. Hoffman said all efforts to beautify our highways are commendable, but we must begin to work in another way; grade the borders to a smooth surface and keep the weeds down; after that tree-planting. I remarked to a gentleman in the city who wanted to establish a park—a commendable purpose—that with proper effort we could make the highways more beautiful, more desirable, as a park, than any pleasure ground fitted at a cost of \$50,000. As farmers we cannot engage in any more laudable undertaking. Let us make the roads pleasant for all who use them. That will increase the value of our farms. By all means plant trees, but do not regard that as all the work, for there is much more to be done. I am very glad to hear walnut—black walnut—spoken of as a tree for planting along highways. Young trees may be procured from the nurseries I think. Black walnut is very valuable timber, and without doubt it may be cultivated successfully along any of our country roads, although the tree is somewhat difficult to transplant with certainty that it will live. Black walnut grows rapidly, and when it has attained suitable size is good for fencing, especially for posts. I think it lasts quite as long as white cedar. I know posts that have set in the ground many years, and they are still sound. The difficulty in transplanting is due to the fact that the tree has a large tap-root, and few small fibrous roots to draw support. No doubt a good way to start the trees is to plant the nuts in garden soil. When they are two years old they may be set where they are wanted. Another useful tree for road-planting is the common locust. An objection in the past has been its liability to suffer by attacks of insects, but in the past eight or ten years it has not suffered much. In some portions of Pennsylvania where locust is used for fencing farms, say fence made with locust posts and chestnut rails, it is good for a lifetime. If I were to engage in timber planting for profit, I would give much attention to locust. The trees, if not damaged by insect depredations, would soon give profitable returns.

W. A. Armstrong. Elms are very hardy and they are also quick growers. I planted two about twenty-three years ago and their diameter now at the point where the axe would strike I think exceeds twelve inches. About that time I had a wild tangle of bushes on the margin of a little stream close by an office that I occupied, and by

way of diversion from office work I used odd spells to trim sprouts I wished to save, and useless growth I cleaned away. Among the sprouts saved were a few elms about large enough for ox whips. They drooped like raspberry canes. I doubt that one of them was bigger at the ground than my thumb. Last week I saw them and was surprised at their growth. It would not be safe to estimate diameter, for I took no pains to note size, my attention being directed more to height. I am quite sure that those trees are to-day fully thirty feet high, with straight trunks and drooping limbs, beautiful to behold.

G. W. Hoffman. My opinion is, that many of our side hills cleaned and cultivated, would give more profit if set to trees. The fact is, when we try to get profit out of our cheap hill side lands we begin wrong. We take the timber off and clear up at great cost lands that never ought to be cleared. Suppose now we start in another course—set trees on these lands and wait for profit in their growth. If we plant locusts I venture to say that fifteen years will bring good fence posts, and twenty years railway ties. One locust tie must be worth as much as several oak ties. I do not doubt that much of our steep hill-sides may in this way return quite as great profit as we get from like areas of our best lands cultivated in ordinary farm crops. Within sight of this hall there are five hundred acres of land not worth one cent an acre for cultivation, but capable of yielding liberal profit in trees. Let us change the course, for the need of timber supplies begin to appear.

G. S. McCann. I have red cedar posts that have been in the ground seventy-five years, and they are still sound.

MARKHAM FARMERS' CLUB.

Capt. Reesor had not expected to be present, but meeting Capt. Rolph on the street, he had invited him to come, and he willingly accepted the invitation. He would tell them as well as he could (not being prepared) about stock-feeding in Manitoba and the great Northwest. Stock could be fed cheaper in Manitoba than in Ontario. In the Bow River district cattle ran out all winter, and were fed without any cost for feed, living on the prairie grass. In Manitoba cattle were only fed four months in the year; from the early part of December to the latter part of March. They fed on the long prairie grass until it was covered with snow—generally in the early portion of December—and were turned out again during the latter part of March, when the snow went off, feeding on the old grass. Cattle raising in the Northwest was more profitable than in Texas, for in that hot country cattle were subject to diseases and pests that they were not subject to in a colder climate. Only a few years ago the Northwest was thought fit for only Indians and half breeds to live in; now emigrants were swarming in, and it was known to be one of the best agricultural countries on the face of the globe. A great many there—himself among the rest—were turning their attention to cattle raising, and the herds on the prairie now numbered no less than 200,000 head, 50,000 head in the Bow River district alone. In the Qu'Appelle and Saskatchewan districts large herds were now being raised with success. The Northwest was bound to be the greatest stock country in Canada, if not in America. At present beef, mutton and pork were twice the value there that they were here. He had never sold beef by the carcass for less than \$16 or \$17 per hundred. He wintered his cattle on prairie hay and roots. Roots were always a splendid crop there. It was an undisputed fact that grain could be raised there far cheaper than in Ontario; the land cost little and could immediately be put under cultivation. Oats this year averaged 80 to 90 bushels per acre, and sold for \$2, and better, per bushel. Of course these prices could not exist long, perhaps a year or two, until the supply exceeded the demand. He was satisfied it would pay better to ship young stock from Ontario to the Northwest and fatten there, and then ship back for the home or Liverpool market, than to fatten at home. Capt. Reesor wound up a very interesting speech by extending a very cordial invitation to the club to pay him a visit at his home in Manitoba next summer, promising to furnish teams and take them for a jaunt of 800 or 1,000 miles over the prairie.

Mr. Slater thought little of ensilage. It was merely a craze and would die out soon. More roots per acre could be raised than ensilage, and to a better profit. Quoting from the *Agriculturist*, Mr. Slater read that "20 tons per acre was considered a good yield, and 12 to 15 tons an average crop." 20 tons per acre was not above the average crop.

Roots and cut straw was a feed for cattle far ahead of ensilage or hay. His system was to feed roots and cut straw and a little grain at first, and increase the supply of grain towards the finishing time.

Mr. Wm. Armstrong grew roots every year, and favored turnips. His way of fattening was to feed cut straw, turnips and chopped stuff, adding a little hay towards the last. He thought fattening on grass paid better than winter feeding. He was in favor of feeding roots in preference to green corn. Lucerne was a splendid green feed.

Mr. Jennings had the best results from feeding roots and a little corn cut green. His plan was to cut the corn green, season it and tie in sheafs,—feed cut with cut straw mixed with pulped roots, all together. The care of stock during their first year was of the greatest importance. Feed well, take good care of them, and keep them growing and they would mature a year earlier. One important point in feeding was to feed regularly, and never feed more than the animal would eat clean, and it would thrive fast.

Capt. Rolph had not much experience in feeding fat stock. For dairy purposes he fed hay, cut straw, coarse shorts and green corn. Turnips, of course, would not answer for dairy cattle. He could not agree with Capt. Reesor as to shipping cattle to Manitoba to fatten and then ship back. The way railroads were charging for freights now would not only eat up the profit but the animal too.

Mr. Gibson: Farming was a business in which there was always something new to learn, and the more a man learned the better it payed. Had found that fattening young heifers was more profitable than fattening steers, besides yielding a finer grained meat. It did not pay to give the whole of the milk to calves. He believed if we did not crop our land so close we could let them run out longer, but was not sure that would be any advantage.

Rules for Farmers' Clubs.

1st.—That we, the farmers of the neighborhood of do form ourselves into a society to be called the Farmer's Club.

2nd.—That the object of the club is to be the more general spread of agricultural knowledge among our families by means of meetings at which essays, lectures, debates, etc., will be heard, agricultural periodicals taken, and a library formed.

3rd.—That there shall be elected from the members a President, Vice-President, Secretary and Treasurer. (The last two offices can be joined, if desirable.)

4th.—That the meetings of the club shall be held monthly, at o'clock in the evening, during the months of

5th.—That a small fee shall be paid by each member to defray any necessary expenses, the amount to be fixed by the members.

6th.—It will be the duty of the Secretary to keep minutes of the proceeds of the meetings.

7th.—That the subjects to be discussed shall have been selected at the previous meeting, and be such subjects as farmers are most interested in, and should be as seasonable as possible.

It would be desirable to hold an open annual meeting during the summer months, such as an excursion, pic-nic or harvest home, in which the families of members and others might participate.

Pruning Pine Trees.

Now is the time to trim pines. The frost will prevent the bark from starting off when the limbs are cut close to the bodies of the trees, as they always should be, so that the wound will heal up quicker. It will not injure the tree to trim any season of the year. The best time to commence to take off the limbs is when they are small enough to do it with a knife, and follow it up every year or two until the tree becomes large. In this way you get clear timber worth double the price of that untrimmed. I have a lot of timber I commenced to trim 24 years ago. The limbs grew close to the ground, and now the bodies run up 25 or 30 feet, and they are a fine lot.—T. C. R.

We cannot afford to do without it. The girls are as much interested in it as the boys, and the mother as much as either of them. Yours, &c., PETER FRANKS, Vellore, Ont.

Stock.**Shropshire Ram.**

The Shropshires are much like the Southdowns in general appearance, but of larger size. Some assert that they originally were a cross between the Leicester and Southdown, first by the latter to give them color and general appearance, then by the former to add to their size. But they are now a distinct breed. The Shropshires are a very popular breed in the midland counties of England, and are fast coming into favor in this country. They are thrifty and prolific, mature early, and have a heavy fleece of fair quality of wool; they make excellent mutton, and are a great acquisition to our flocks.

The ram shown in this engraving was purchased from Mr. Meredith, of Shrewsbury, England. Mr. Shore, the owner, is a practical farmer and breeder, and has a nice flock of this valuable class of sheep. Mr. Shore exhibits his stock only in London, which has long been renowned for the largest exhibit of sheep in Canada.

To Teach a Horse How to Back and to Lead.

Take him to the top of a rather steep piece of ground, stand his hind feet down the slope, throw the bridle reins over the neck, place yourself in front, and take hold of them on each side of the head close up to the bit. Now press the bit against the side of the mouth, and speak gently—"back, back"—and the horse will soon learn to do this. Next, take on to the top of ground not quite so steep, and pursue the same course. When the horse has learned to back readily down hill, he can be taken on to level ground to do it. As soon as this lesson is well taught, harness him to a light, empty wagon, and go through the same course. When completed, jump into the wagon, take the reins in hand, pull on them, at the same time speaking to him, "back, back," and thus

keep up the discipline till the animal is perfected in it. If he has a mate, after both are well instructed, they can be harnessed together and drilled till perfect in backing.

Three things, as above stated, must be strictly observed: First, to place the horse with his back down descending ground; second, when harnessed, let it be to a light, empty wagon, which requires the least possible effort to back it; third, be perfectly kind to the horse, speak gently, pat it on the neck, stroke down its face with the hand, and on no account strike it. As soon as the horse understands what is wanted of him, he will do it with alacrity. It is not from ill temper or stubbornness that a horse does not back at once when spoken to, it is from sheer ignorance—he does not know what is wanted, or how to do it till gently taught.

A second method is to harness the horse alongside of another well broken to back, and set the hind end of the wagon on a sloping piece of ground, and follow the directions above, or jump into the wagon and take the reins in hand; but it is better to discipline alone at first, as above.

To teach a horse to lead, let a man or boy take the end of the bridle in hand and gently pull on it, while another holds out a dish with grain or meal in it. The horse will then advance to it. Now let him nibble a small quantity, then move with the dish a little further in front, and so keep on till he is taught to lead well. He can also be

taught by putting him alongside of another horse which leads easily. He ought to be rather hungry when thus drilled, so he will come up eagerly to the dish of grain.—[Rural New Yorker.]

Sale of Thorough-bred Stock.

A large number of prominent cattle men were in attendance at the sale of thoroughbred Jerseys at the American Horse Exchange, New York city, on 1st Nov. A part of the stock offered consisted of yearlings and two-year-olds. Several prize cattle were also sold. The prices did not average as high as at former sales, although in a few instances very fair figures were obtained. "Hulda J," a handsome yearling heifer, brought \$875. "Smith's Princess May" was sold to F. Bronson for \$600. The most important sale of the day was "Rosa," a prize, light fawn-colored cow, which was purchased by Mr. Bronson for \$1,160. The sale of sixty-five head netted about \$14,350.

A GREAT STOCK FARM.—One of the many wonderful enterprises the great West is noted for, is the stock farm of M. W. Dunham, located at Wayne, Ill., near Chicago. On this farm is collected more than half a million dollars worth of

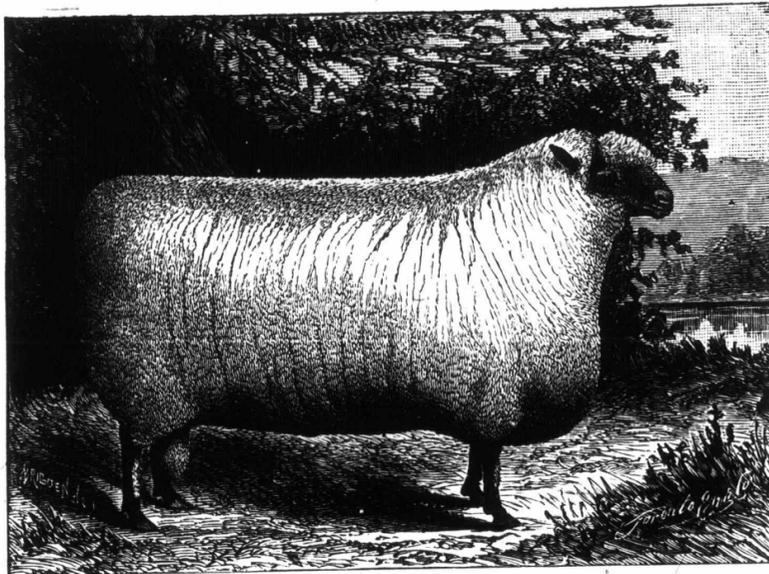
Shorthorns of good pedigree are always in demand, and it is not therefore surprising to find that at Mr. Thornton's recent sales choice lots have fetched good prices. The well-known Duchess, Wild Eyes, Waterloo, and Kirklevington families have numerous admirers in the Shorthorn world, and still command high prices in the market. Lord Feversham's Shorthorns were sold at Duncombe Park recently, when the Duke of Devonshire gave 255 gs. for a calf by 9th Baron Oxford. Another calf, of the Winsome tribe, made 210 gs. The nine representatives of the Wild Eyes family averaged 87 gs. The five Kirklevingtons which Mr. Thornton sold from The Rookery herd at York, averaged over £115. Four females from Lord Lonsdale's herd at Lowther also fetched high prices, the average being £157.

Harness should never be kept in stables which are not kept entirely free of manure. The ammonia thus produced is rapidly absorbed by the leather, and the result is said to be the same as if it was saturated with strong lye. It has the effect of rotting the leather and harness thus exposed, and will consequently remain sound a comparatively brief time.

Arthur Johnson, of Greenwood, Ont., purchased a fine Canadian bred sucking mare colt for \$142, at R. Miller's sale at Pickering, on 14th ult.

Old Grannie.

We present to our readers in this number an engraving of one of the most remarkable animals of which we have record. Certainly no other records of the domesticated cow give any instances of equal constitution, longevity or fecundity. Following her entry to the Polled Herd Book is the statement: "This animal, first named the Prima Cow, afterwards Old Grannie, died on the first of July, 1859, at the age of thirty-five years and six months. The object of Mr. Watson in keeping her till she died of old age, was to ascertain how long an animal of this breed, with a fine constitution, could be profitably kept, and to what age it would live in its natural state; so well authenticated record of these



The above cut was drawn and engraved by our own artists, especially for the FARMER'S ADVOCATE.

THE FIRST PRIZE SHROPSHIRE RAM, "REDWELL CHIEFTAIN," THE PROPERTY OF MR. FRANK R. SHORE, OF WHITE OAK, ONTARIO.

Percheron-Norman horses, all imported from France or bred from imported sires and dams. This establishment has been developed in a very few years by the energy and perseverance of the proprietor, who years ago saw the necessity of improving the horses of his country to a more suitable size required by the changed demand of the times.

On the 26th ult., Col. John D. Gillette, who was the largest exhibitor of the Chicago Fat-Stock Show since their commencement, shipped 167 of his mammoth Shorthorn steers to Europe. The consignment included 30 of the steers exhibited at the recent show, and among the number was the 2,600 pound steer McMullen, who won the sweepstakes prize as the best animal in the Exhibitions of 1881 and 1882.

The pure bred polled Aberdeen cow, Vine 2d of Skene, who was sold for \$1,300 at the Cochrane sale, is said to be one of the finest animals of that family ever brought to this country. Mr. Cochrane desires to keep her, and announced at the sale that he would reserve the privilege of bidding for her. He afterwards reconsidered his resolution, and she became the property of T. W. Harvey, who will send her to his farm near Syracuse, Nebraska. It is said by good judges that the cow could not be bought in Scotland for less than \$3,600.

facts have been previously preserved regarding the domesticated cow. Grannie was the dam of twenty-five calves, eleven of which are registered in this herd book. She gave up breeding in her twenty-ninth year, and yielded no milk after nursing the calf of the previous year. She was exhibited at the show at Aberdeen, in 1858, when her owner had the Society's medal awarded to him as the exhibitor of so remarkable an animal. The cattle man (James Thomson) who had attended her all her life-time, and been in the service of Mr. Watson for forty-two years, was presented with a medal and premium of one hundred francs by the 'Societe Protection des Animaux Justice et Compassion Hygiene de Paris,' through their Secretary, M. Dutroue. A photograph of the old cow, taken two days before she died, was, at the request of His Royal Highness the Prince Consort, placed in the Collection of Cattle Photographs, Balmoral, Oct. '59."

Old Grannie was the dam of many famous animals, including Her Majesty Queen Victoria's celebrated ox, kept at Windsor till his death, when his age was twenty-one years; of the bull Strathmore (5), purchased at the Concours Agricole, at Paris, in 1856, by the Emperor Napoleon III for fifty guineas; of the cows Young Favorite (61) and Edinburgh (64), both Highland Society's prize winners, and of many other cows and bulls well known to fame. The Old Grannie (1) and Favorite

(2) (from her are descended the Ballinalloch Jilts, the Tillyfour Ruths, the Postlethw Ma'jes and Kinnochtry Favorites) Mr. Watson is stated to have been chiefly indebted for his having for so many years been almost invincible in show yards with black polled cattle.

It may here be well to mention the fact that if any individual specimen of the present most widely-famed families of polled cattle has its pedigree extended in tabulated form, it will be found that the early Keillor bulls and cows Old Jock (1), Grey-Breasted Jock (2), Old Grannie (1) and Favorite (2) occur a surprising number of times

In the female line at the present time the best-known descendants of Grannie are the Kinnochtry Princesses, a very valuable and true breeding tribe, which number among its members such Highland Society's first-prize winners in late years as Princess 6th, first at Dumfries in 1878, in a large and good field; and Prince of the Realm, first at Kelso in 1880; also in 1878, Princess Royal was first, as a two-year-old, at the London International Exhibition, and is spoken of by the judges in their official report, as "one of the best animals at the show." And, as a matter perhaps of more immediate interest to Americans, it may be well to mention that a three-year-old heifer of this same tribe won the sweepstakes for polled cow or heifer of any age in 1881, both at the Illinois State Fair at Peoria and at the St. Louis Fair, over a strong field.

Before we can claim to have done full justice to Grannie and the valuable Princess tribe derived from her, we must refer to a remarkable instance of the perpetuation of wonderful longevity and fecundity in the tribe, as well as of the qualities which go to make up successful prize winners. Princess of Kinnochtry (914) in 1881—then in her twenty-first year, and the dam of nineteen calves—was exhibited at the Highland Society's Show at Sterling in the class for "Extra Stock," and was reported on by the *North British Agriculturist* as the "attraction of that part of the show," she being still deep in flesh and perfect in outline, giving but little indication of age save about her head. The cow is the dam of the noted bull Prince of the Realm (1695), and she was her sixteenth calf, produced in her eighteenth year.

Mr. Wm. Watson, son of Hugh Watson the breeder and lifetime owner of this famous cow, contributes the following additional information concerning her. It will be noticed that Mr. Watson places the number of calves produced by this remarkable cow at twenty-nine instead of twenty-five, as stated in the Herd Book:

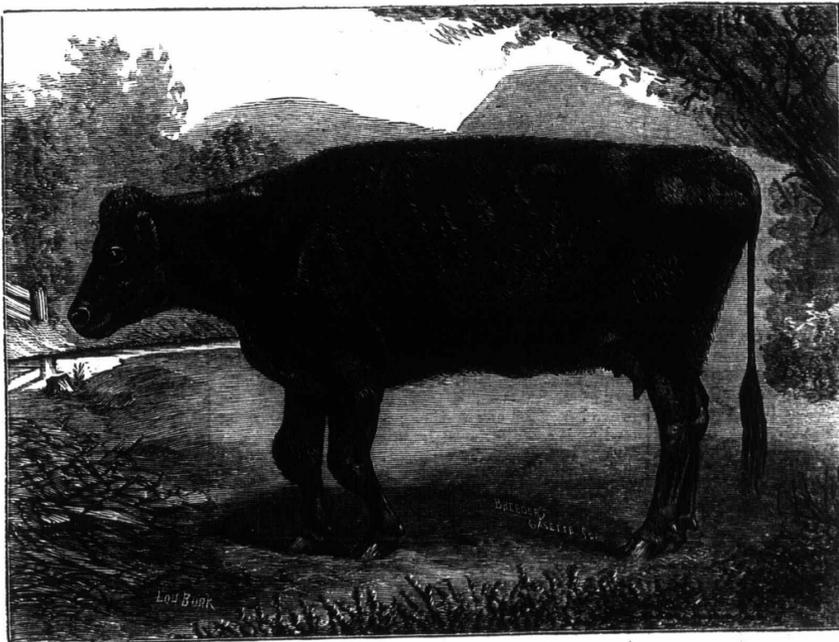
The portrait of Old Grannie was taken from a photograph in the collection of the late Prince Consort, drawn on stone by Clark Stanton. In the first volume of the Polled Herd Book she appears as the Prima Cow. Grannie died at the wonderful age of thirty-five years and six months, during a thunder storm on the 1st of July, 1859. I always supposed she was killed by lightning, as she was grazing in perfect health previous to the storm.

To my certain knowledge she presented my father with twenty-nine calves, viz., five males and

twenty-four heifers. She failed to produce a calf in her thirty-second year, but paid her annual rent in her thirty-third year by presenting my father with a lovely heifer calf by Old Jock; and a *buxom lass* was she, a grand specimen of the old Keillor doddies.

Poor old lady! age was now telling heavily on her, and she could not support her calf. Consequently it had to be put on another cow to nurse. Grannie did not seem to understand this, and she mourned over her lost child for many a day. No caresses from old Jamie Thomson could soothe her. She would follow him about the field, moan-

the pedigree of every animal as well as my father. From notes of my father's and recollections of my early tuition from old Jimie, Grannie's pedigree runs thus: Old Grannie, by Jock, 1st dam Auchtertyre Cow by Tarinty Jock; 2nd dam Auchtertyre Cow by Sandy; 3rd dam Bannatyne Cow by son of Bannatyne Bull; 4th dam Bannatyne Cow by Bannatyne Bull; 5th dam Bannatyne Cow by bull bred by Wm. Watson, Bannatyne; 6th and 7th dams and sire tracing from Wm. Watson's Bannatyne Angus cattle of 1768, and from there to his father's historical cattle at Coultie, parish of Bendouchy, near Coupar Angus, the most authentic record, showing a direct lineage, in the hands of the Watsons, for nearly two hundred years—[Breeder's Gazette.



POLLED-ANGUS COW, OLD GRANNIE, AT 35 YEARS OLD.

ing, talking to him, seemingly asking him what he had done with her baby; actually tears of sorrow rolled down her old sweet maternal face. Lord bless our *doddie* Grannie!

Her bull calves were Wellington (sold to go to Dumfries, to improve the Galloways, in 1845), Strathmore (5), Windsor (115) and Hugh (130), so



TWO-FURROWED SULKY PLOW.

famous in Thomas Ferguson, of Kinnochteries, herd; and lastly, came her most gracious majesty's Keillor ox, that won honors at Smithfield and died at Windsor at twenty-one years of age. All the bulls were extensive prize winners; her daughters were like herself in formation—long, low and smooth, with nobly-arched fore ribs. Grannie never was beaten in any show yard.

During her life she was under the care of old Jimie Thomson, who was forty-seven years herdsman at Keillor. Jimie was perfectly illiterate, but had a wonderfully retentive memory. He knew

the pedigree of every animal as well as my father. From notes of my father's and recollections of my early tuition from old Jimie, Grannie's pedigree runs thus: Old Grannie, by Jock, 1st dam Auchtertyre Cow by Tarinty Jock; 2nd dam Auchtertyre Cow by Sandy; 3rd dam Bannatyne Cow by son of Bannatyne Bull; 4th dam Bannatyne Cow by Bannatyne Bull; 5th dam Bannatyne Cow by bull bred by Wm. Watson, Bannatyne; 6th and 7th dams and sire tracing from Wm. Watson's Bannatyne Angus cattle of 1768, and from there to his father's historical cattle at Coultie, parish of Bendouchy, near Coupar Angus, the most authentic record, showing a direct lineage, in the hands of the Watsons, for nearly two hundred years—[Breeder's Gazette.

Two - Furrowed Sulky Plows.

We have received several communications from subscribers in Manitoba enquiring about sulky plows. One large land proprietor says he wishes to take twenty with him in the spring, and wants to know whether they are made in or near this city. We have made enquiries, and find that none of our manufacturers are as yet prepared to supply them, although they are preparing to manufacture. Our illustration is of one made by the Furst & Bradley

Manufacturing Co., of Chicago, Ill., U. S. A. We hope to announce that Canadian manufacturers are prepared to supply them ere long.

By the Way.

Referring to the case with which many farmers are taken in by any plausible traveller who happens along with an agency to offer, or something to sell, an American rural journal suggests that "the next Congress pass a law providing for the locking up of agriculturists during the months when they are liable to have money."

Some hog-pens in the outskirts of a little town were long complained of as, in their reeking condition, dangerous to health as well as destructive of comfort, and the whole neighborhood was puzzled how to abate the nuisance without serious loss to the poor owners, until one of them happily conceived the idea of putting some old boxes on a stoneboat, filling them from the dusty highway and leaving one at each pen. A mere

sprinkle of the dust sufficed to stop the whole fume instantly; and a little now and then entirely suppressed it, to everybody's great relief.

No better Christmas present can be given to relative, friend or neighbor than the *FARMER'S ADVOCATE AND HOME MAGAZINE* for 1883; and besides your present so useful and entertaining to the recipient, the giver is the winner of one of our valuable premiums.

"Always something new and good in the *ADVOCATE*."
JOHN ROZ, Milverton, Ont.

Economical Tactics in Feeding Stock.

Some people, says an English writer, always manage to make both fodder and roots go a great deal farther than others in stock feeding; and another fact, equally remarkable, is that the farm animals, of a skillful intelligent owner, appear always to thrive faster and keep healthier than those of their neighbors, although the food itself given be pretty nearly the same. There is a great deal in that ancient proverb, "the eye of the owner fattened the ox," the fact being that the art of feeding animals successfully has quite as much to do in knowing when to feed, and how best to concoct the dietary to be partaken of, as in being able to have at command those nutritives which, in the opinion of scientific men, ought to produce the greatest results. Cattle like to have their food nicely prepared just the same as human beings, and if it can be made tempting and more enjoyable by either skillful preparation or the addition of some condiment or flavoring mixture, much will be gained; for animals, no doubt, do better on food they enjoy, and they may be made to put on flesh faster by these means, when the organic functions of the system are brought into active play.

The thoughtless and unthrifty seldom take much pains to feed stock in either a scientific or intelligent way. The very best of the hay is reserved for the fattening beasts; the second best to the dairy cows; and third, fourth, and regularly spoiled fodder are given to the young stock. This is the only art observed in feeding, and when a large proportion of the crop has been taken indifferently, as was the case last summer, so much the worse for the cows and the young beasts. The milk falls off, and of course the pecuniary returns from the dairy likewise; the young heifers and steers get into an unhealthy, thriftless condition; while large quantities of the spoiled hay, being rejected, are wasted for food purposes and trodden into dung. This is a very time-honored way of doing things, still by far too generally followed; but for all that, it is one which cannot be too thoroughly condemned.

But this misfortune of having spoiled fodder, like many another, if manfully struggled with, may be overcome, there being inexpensive means of making it perfectly sweet and wholesome. On large farms where a steam engine is at work the entire winter on the premises, there should be always a chamber provided to receive the waste steam, which would purify a great deal of bad hay cut into chaff for the purpose. And when no indifferent hay-chaff is required to be acted on, the chamber might be profitably utilized by being always filled with cut straw, which is rendered twice as valuable for stock feeding by being steamed. Even the smallest farmers might with very slight pains steam and purify their bad hay by cutting it into chaff, and then placing it in a large chest with a perforated bottom fixed over the boiler of an out-house furnace. Such a chest might be made profitable, so as to be lifted down when the copper was required for another purpose.

There is still another way of effecting the business, which ought not to be neglected. This is, after chaffing the spoiled hay, to pulp some roots, and mix root-pulp and chaff in a heap together; fermentation will then ensue and remove the objectionable must, just as steaming does, and the whole of the food will be readily devoured. On farmsteads well furnished with machinery, a large amount of chaff-cutting and pulping as well can be performed very readily and inexpensively. On smaller farms either process would involve more manual labour; still, in any case, it would be well worth doing, and no owner of stock can well afford, in an economical point of view, or indeed in any other, to place musty hay before his farm animals.

Some excuse themselves for taking no pains to mend the stuff from the false idea that it cannot be rendered valuable for nutrition by being restored to sweetness. The fact is, this was never lost—at least, not to the same extent they believe. If you take from a badly harvested stack a sample of hay absolutely white with must, the chemist on analysing it would discover a large proportion of the nutritive elements it originally contained. Farm animals reject it because it is nauseous both to smell and taste; but I once selected for experiment the worst bit of hay I ever saw in my life, which almost stifled us with dust while we were cutting it into chaff. The latter was then placed in an apparatus and steamed for twenty minutes, at the end of which time it was not only perfectly wholesome, but had a most agreeable smell. Horses, cattle and sheep were then tried with it in turn, and all alike devoured the product with the

greatest avidity, although no animals whatever would touch a bit of the spoiled hay before being thus treated.

There are other modes of feeding stock just as inexcusable. There has been a great danger of frozen roots being given to sheep and cattle much too abundantly. I believe nothing to be as productive of internal ailment as allowing stock to have their fill of roots in a frozen condition. Cattle, after being thus fed, are not only afflicted with shiverings, but dangerous colics. I have seen the attendants of fattening beasts compelled to take them out of their houses and drive them about on the hard road, thinking that by making them exercise themselves the affection would be got rid of. With sheep it is often much worse, and you cannot always discover it as soon as an injury has been received. I have not the slightest doubt that a large proportion of the numerous abortives of in-lamb ewes which take place are entirely attributable to this kind of injudicious feeding. Sheep also take colds and fevers from the same cause, and when they scour a great deal after being fed on frosty roots, the owner may be tolerable certain that he has committed a great mistake in allowing them to have had too many.

What ought to be done to prevent this kind of injuries? In reply to this question I would ask another. Is it absolutely necessary at any time that either cattle or sheep should have roots given to them in a frosted condition? Surely the roots might be pulped a day before they are wanted, and allowed to ferment in heaps, and this pulp could have a little straw chaff mixed with it, which would be a great improver. In fact, the admixture of one-third chaff to two-thirds pulp would prove beneficial at any time; and if this mode of feeding is a little more laborious than what the farmer has previously adopted, he would no doubt find adequate compensation in having increased health in his flock and fewer losses.

Flocks in general ought always to have hay or dry, trough food in conjunction with turnips; but if the owner choose to go to the expense of pulping and chaffing on an extensive scale, hay might be usually dispensed with. Cut straw would be inter-mixed with the heaps of root pulp in sufficient quantity to give the food a more healthy solidity, and the fermentation engendered would greatly improve both substances. The straw would become partially cooked and more soluble, and the root pulp lose a portion of its water.

A paper on injudicious feeding of cattle in winter would be incomplete without referring to the professedly economical, but really extravagant, method of making in-calf cows when not in profit, live entirely in straw-yards. The animals always lose flesh very much when subjected to such niggardly treatment, and even when this is not apparent to the eye before they calve, it will be tolerably sure to prove so afterwards. The result is a much less quantity of milk yielded for several weeks after calving, as an affluent lacteal supply cannot possibly be kept up while demands are being made at the same time on the system of flesh production. If four or five pounds of barley, cornmeal or linseed cake per day for each beast were allowed, the outlay would be nothing very great, while a considerable portion of the return might be expected to be realised from the superior value of the farm yard manure made while the feeding is going on. But, under present circumstances, farmers have such large quantities of roots on hand, for which they are not likely to have a very remunerative mode of utilisation, that it would be ill policy just now to purchase cotton-cake for such a purpose.

Indoor Care of High-Bred Cattle.

During warm weather there is not likely to be confined air in the stable; but, as cold weather sets in, especial provision should be made against re-breathing the stable atmosphere. Animals have a wonderful inherent power to resist damaging influences; and, while breathing an atmosphere that has already been once or more in and out of the lungs of such cattle as may be in the stalls, will not, necessarily, induce disease, still, it is depressing to all the powers; and, in proportion as animals are forced to depend upon previously used atmosphere, in that proportion will the blood and tissues become poisoned. If the influence referred to be long continued, such animals as are delicate, or have a latent constitutional defect, or tendency to any especial ailment, will, sooner or later, droop, and show bad condition. Some feeders have been so foolish as to advocate close confinement in tight stables, arguing that the stupor and

sleepiness observed to come upon cattle so confined, was beneficial, and promoted the fattening process. This stupor comes from one of the most baneful influences that can effect a person or a cattle beast, and cannot, by any possibility, be otherwise than harmful.

Air once breathed should be viewed as an excrement, for from the lungs it is such; and, to a degree, it would be as proper to expect cattle to take in other forms of excrement and thrive, as to force them to take air into the lungs which is equally noxious. So, indoor care is far from being what it should be, when fresh air is not furnished in the stable, equal to all the demands of the system. To keep cattle indoors, giving them all the advantages of excellent quarters, grooming and select food, neglecting the requisite we have named, shows a want of understanding of how far cattle, like men, are sustained by the air they breathe.

When we consider that a full-grown cattle beast consumes probably not less than four thousand gallons of air during each twenty-four hours, it will be seen that a stable, containing a herd of twenty to thirty cows, must have a provision for fresh air of no small limit. The importance of observing strict rules, in this regard, has been recently quite clearly brought out in France, by observing the effects of increase of space allotted to each animal employed in the cavalry service. Previous to the change, the space allowed to each horse was 700 to 900 feet of air each. Under this regulation the deaths from glanders were 51 in each one thousand head during ten years. The deaths from all diseases reached ninety-four in one thousand during the same period. The mortality from glanders during the ten following years, the space having been increased to eighteen hundred feet, was brought down to ten in each one thousand head; and, from all diseases, to twenty-seven in each thousand, against ninety-four, as above stated. Observations have proved that similar results follow in the case of cattle, and it is of course, entirely natural that it should be so.

There is, perhaps, no part of the winter management of housed-up cattle so difficult to exactly control as temperature. Not difficult if the stable is properly constructed, so that the ventilation can be regulated to suit a large or small number of occupants, as the exigencies require, the heat generated by their bodies giving warmth sufficient for healthy stock, if the stable is properly constructed. Cold air should, on no account, be permitted to enter beneath a stable, especially if the floor be otherwise than close. Even though it may be as tight as plank can well make it, no complete comfort can be secured. Openings above can be tolerated better than the merest cracks beneath, if they communicate with the outer air.

Before an animal can lay on fat, the claim made by the body to be kept warm must be met. In proportion to the degree of warmth afforded to the body, in that proportion will there be a surplus of the food given which can go to increase the fat deposit. An eminent authority, Dr. Playfair, said: "The food is fuel, the excrements are the ashes, and the gases expired from the mouth are of the same composition as those which fly up the chimney of a furnace."

Young, growing cattle require more nitrogenous, or flesh-forming food, than older cattle. Young cattle, even calves, in cold weather, require an abundance of heat-forming food; but this alone is not suited for their case, fully, in any weather. But few make such careful provision for the growing calf, or yearling, in the matter of food selection, as these young things require. Even the unlearned gardener shows stricter regard for the requirements of the growing vegetable than the average cattle-grower does for the calves that are annually dropped upon his farm. Extra specimens of vegetables cannot be grown, except the right kind and quantity of nutriment be placed within reach of the roots, to be taken up according to the requirements and capacity of the plant. The young, growing animal occupies precisely the same position; and if the conditions we throw around it, while in the stable, are in every way conducive to health and vigorous digestion, it will occupy the same position as the plant, in that it will be able, safely, to take all the food, entirely suitable for the demands of its growth, that can be digested and assimilated.—[National Live Stock Journal.

"Always something new and good in the ADVOCATE."
JOHN ROE, Milverton, Ont.

The Dairy.

X. A. Willard.

It is with great regret that we have to announce the death of Mr. X. A. Willard, one of our most valued contributors, which took place at Little Falls, N. Y., on the 26th of October. The last article which he wrote for this journal, "Making Gilt-edged Butter," appeared in last September's number. His death has removed from the list of American agricultural writers the one most extensively known in this country and Europe in connection with literature of the dairy. He has been one of the most voluminous of writers and was also a most popular lecturer on dairy subjects. About 1864 he visited Europe, familiarizing himself with dairy processes there. At that time much less was known of dairying on this continent than there now is; and Mr. Willard did incalculable good in spreading information. His books are widely circulated at home and abroad, and his essay in the Journal of the Royal Society added to his English reputation. Mr. Willard took great pains to keep himself posted on the commercial phases of the dairy business, and was a leading authority on the dairy markets, &c., of the world. He was a good farmer, and it is said that his farm was kept in a cleaner and more cultivated style than generally attributed to agricultural writers, — a gentleman of marked personality, and of genial nature and courtesy that won for him a wide circle of friends who lament his departure, which occurred with a startling suddenness that speaks most impressively of the uncertainty of life, and of the importance of watchful readiness to leave it.

Rennet.

BY L. B. ARNOLD.

In the manufacture of cheese some agent must be used to separate the cheesy matter from the whey or serum of milk, as the first step in the process. There is a great variety of substances which will effect this end, many of them cheaper and quite as clean and inviting as rennet, which might be used in its stead, if coagulation of the casein was all that was required of such an agent. But simple coagulation is not all that is necessary. When the fresh curd is formed it is comparatively insoluble, making it so difficult of digestion as to be unfit for human food in that condition. Many people, however, seem to think that freeing the curd from a certain amount of moisture is all that is needed, hence they speak of their curing rooms as "dry-rooms," as if the end aimed at was to reduce the moisture in the curd down to some certain per cent., when it would become cheese. A very intelligent firm in Boston seriously proposed, lately, to introduce an improved method of curing green cheese by a cheap and rapid process of drying, taking it as an unquestioned fact that cheese was desiccated curd. But the curd must develop a new flavor and become soluble before it becomes cheese and good for human food, and nothing has yet been found which was so satisfactory and effectual for these purposes as rennet. The digestive power of rennet retained in the curd when it forms, softens and disintegrates its otherwise ten-

acious structure, and renders it soluble in water and weak acids, such as occur in the human stomach, making the new product palatable and inviting, according to the skill with which the change is effected. But as in coagulation, so in curing, there are other agents than rennet that will effect the same end. The extracts of various vegetable substances promote the same end and appear to act in precisely the same manner. Different organic ferments bring about analogous results, though not exactly identical with digestion, while putrefactive ferments act almost precisely in the same manner as rennet, and are even more effectual in rendering curd soluble. Putrefaction, however, is a dangerous element to introduce into cheese. It cannot, like rennet, be controlled when once a curd becomes infected with it. Nothing, except desiccation, can prevent it from doing its legitimate work of decomposition and developing the flavors and odors due to putrefaction. Taint

serious depression in the general character and durability of the cheese in that section, especially in the vicinity of Brockville. Further west and in the States, more whey is used in the preparation of rennet, which occasions defects hardly less to be regretted. In north-western Pennsylvania, where I travelled after leaving Canada, I found so much sour and stale whey used in soaking rennet as to distinctly mold the flavor and keeping of the cheese in all that part of the State, and lower its market value. Sour and stinking whey, whether it gets into milk through imperfectly cleansed milk cans, or through the rennet jar, will make its own invariable, distinct, and easily recognized modification upon the flavor and durability of the cheese made from the milk so infected. There is no difficulty in detecting it in the cheese, especially when it has had a little time to develop.

The detriment which cheese suffers from unskillfully prepared rennet is the most crying evil which now militates against the cheese interest both of Canada and the States. The injury done by acidity, which has been regarded as such an important factor in factory cheese making, is bad

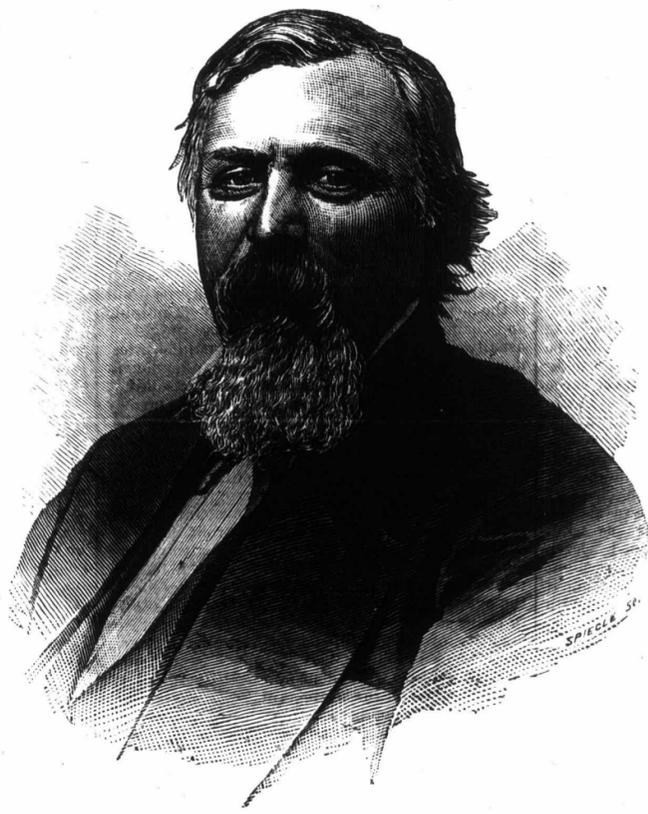
enough, but that error has reached its maximum and is now rapidly declining, and is in a fair way to disappear, or dwindle into insignificance. So small a quantity of acid is now employed in comparison with what was formerly used, as to greatly reduce the mischief wrought by it. Badly prepared rennet is doing more mischief by far. But few factories are exempt from it. Those which have clean and sweet rennet, which will in no way warp the flavor of the cheese made with it, are the exceptions. Badly prepared rennet is the rule. It is either tainted with putrefactive decay, or sour with whey which is stale or stinking or both. Whatever the direction in which it is off, the cheese suffers, and the instances in which it is off are so frequent as to constitute the greatest obstacle in the way of advancement and better profits.

There is not the least need of any of the losses and damage done to cheese in this direction. It is just as easy to prepare rennet so it will be sweet and clean and effectual in coagulating milk and curing and preserving cheese, as it is to defile and destroy it in the way it is now done. The readers of the ADVOCATE will find in the September number for 1879 a safe method of preparing rennet in hot weather, written out in detail, but it is better to prepare rennet in the winter in quantities sufficient to last through the following summer, than to prepare it by piecemeals when wanted. The strength of rennets is most readily and effectively separated from the skins by soaking and rubbing, or pounding them in a pickle made by putting a pint of salt

into a twelve quart pail of water, soaking and pounding till the strength is all out. To preserve the pickle for summer, after the soaking is done, salt with a little more salt than it will dissolve, and keep the brine in a cool place, stirring it occasionally, or what is better, put it up in jugs or bottles, and if the rennets used are not tainted to begin with, it will keep safely and always be ready for use.

Bringing the Butter.

This is the season of the year, or at least it is approximating the season, when our grandmothers used to declare that the churn was sometimes bewitched; that the butter would not come, and if it did it would be white, tasteless, crumbling and full of white specks. In fact, it now seems possessed with all the many evils that constantly beset the dairymaid in her arduous and complicated duties. We are also afraid that these mishaps have not confined themselves entirely to our grandmothers, but prevail even to this day in some districts, and among some dairymen in all districts. Perhaps a word or two upon the right way to do it



THE LATE MR. X. A. WILLARD.

is a powerful coagulator as well as solvent. The vigor with which it acts in these respects, and the readiness with which it develops in the rennet jar, if not skillfully guarded against, has led to its extensive use in the manufacture of cheese. I have visited in the neighborhood of 100 factories during the past summer, and my diary shows that I found only about ten per cent. of them depending on sweet rennet, or rennet extract, to curdle their milk with. About five-sixths were using tainted rennet, and the balance, about ten per cent., were using organic ferments in the form of stale and sour whey for soaking their rennets in.

These practices are not peculiar to Canadian factories. They exist to a greater or less extent wherever the factory system extends, but localities differ in respect to the errors they commit in this direction. There is more taint allowed in the rennet jars in Eastern than there is in Western Ontario, or the United States. It is the cause of a

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may be of service to some of our numerous readers, and with this purpose in view we will probably be pardoned for telling again an oft-repeated story of how to make the butter come in proper condition to make up into the best article for the market. We never could believe in the wonderful effect of the cow on the result of the churn, as claimed by many writers. It is our belief, after many years of hard experience, that milk is milk, so far as getting the butter is concerned. We want it to stand not less than 24 hours before skimming. Not that the cream may not be forced out of it sooner, but the cream, for some occult reason not yet determined by the scientists, needs some kind of ripening before it will yield all the butter. This can in a measure and, possibly entirely, be compassed by ripening the cream by delay in churning after skimming. The rule may be stated as this: Churn the cream within 48 and not less than 36 hours from the time it comes from the cow.

Before putting in the churn stir it thoroughly, and, if necessary, add a little water to dissolve the lumps or clots of cream. Then raise it to the temperature of sixty-four on a cold day, or sixty if the day is warm. See that it is put in the churn at exactly this temperature. It is far wiser to spend time and patience at this point to get the exact temperature than to go pounding away at the churn with the temperature all out of fix.

It is far easier to raise the temperature by fire than by hard work at the churn-handle, and at this season of the year that is generally the trouble. It is again far better not to let the cream get too warm than to have it sit by the churn for an hour or so to let it cool off. Learn to use the thermometer with nicety and precision, and you will be amazed to see how the witches will all disappear. This is the vital point in churning. If it is properly guarded there is no need for further instruction, for the butter will then come quickly and in perfect condition, provided always the cream has been kept free from bad air or other injurious influences. The best way is to close it up in a tight can and put it in the coolest place attainable.

If the butter comes white it will be soft, and with little of the desirable rich aroma about it. This is caused by the cream being too warm in the churn. A heat over 65 degrees is sure to destroy the color and delay the butter's coming. If the cream is too cold, below 58 degrees, it is apt to become "whipped" or frothy, and great difficulty is experienced in getting it to come at all. When it does make its appearance it is likely to be crumbly and impossible to gather, though the color and taste are as desired.

White specks that form in butter come from a cheesy curd that forms in the cream, and is caused by the presence of too much heat that causes a certain amount of acid to form and curdle the milk that was skimmed off with the cream. To avoid this keep the cream too cool for such acid to form, and do not delay the churning over 48 hours. Age and acid play the mischief with both milk and cream. Unlike the small boy, it can never be "too fresh."—[Dairyman.]

Dairy Farming and the Exhaustion of the Soil.

Does dairy farming exhaust the soil? The only answer to this query meets a direct affirmative. It is estimated that a cow yielding 4,000 pounds of milk during the season of pasture, takes from the soil not far from twenty-four pounds of mineral constituents; and of other important matters in the milk which are a loss to the fertility of the soil, the nitrogenous portion in 4,000 pounds will amount to 256 pounds.

The exhaustion of the soil is greatest in dairy farms from all which the milk is sold; if the butter only is removed and the milk fed to animals on the farm the exhaustion is less. Butter as a product takes no valuable element from the soil; its constituents are largely derived from the atmosphere, the chief of which is pure carbon and no mineral matter is found in it.

Herein is found no little of the profit of keeping pigs to be fed on milk, in connection with the dairy farm. In bearing on this subject we take from the New England Farmer the following extract:

In connection with the butter dairy, and the feeding of skimmed milk and buttermilk to pigs, the mineral elements are replaced upon the land in a concentrated form and add directly to its fertility; so that by this system the productive capacity of the soil may be kept without deterioration—it may be actually increased. The pig, of all

farm animals, has the least weight of bone in proportion to weight of carcass, and on this account it is better for the land to feed the refuse milk to pigs; for, by this course, the least phosphate of lime is taken. It has been regarded fair to say that sixteen pounds of skimmed milk will make one pound of dressed pork on pigs from four weeks to six months old, and from this source an income of \$20 per cow, for the season, may be obtained. Pig manure made from refuse milk is very rich in all the valuable elements of a fertilizer, and, if abundant absorbents are used, it will, when applied to the land, cause little real waste of soil fertility. Hence every fact shows that the best system of dairying, to preserve the fertility of the soil, is a well-conducted system of butter making.

Well, what of cheese making? The farmer who makes a specialty of keeping cows for a cheese factory, carries his milk to the factory and brings back only the whey. This contains no mineral matters, except in the very small amount of casein and albumen which may have floated off in the whey. Whey, as is well understood, possesses very little manurial value; its chief office is to yield animal heat and produce fat. The casein of the curd contains nearly all the mineral matter, and this is sold in the cheese; so that by this system the fertility of the soil is being drawn upon constantly. True, an intelligent feeder can make a profitable use of whey, as a food, by mixing it with feeding stuffs rich in albuminoids, as oil-cake, oat and barley meal; or he may largely feed these last-named substances to his cows, and thereby obtain a better manure; but, unless he does this, cheese-dairying, as a profitable branch of farming, is but little, if any, better than selling milk, so far as regards the loss to the fertility of the soil is concerned. Better feed and the use of bone fertilizers upon the land will supply the waste. Concerning the last, Prof. Voelcker, of England, says: "In the reclamation of wastes, and in the restoration of fertility to the worn-out pasture lands, which have been exhausted by the constant removal of milk, cheese, etc., from their surface, bone manure has been very beneficial."

From what has been said about the loss to the soil occasioned by the making and selling of butter and cheese, it will be readily understood that where milk is sold, all the mineral and nitrogenous constituents which it contains are lost to the soil. These elements have been estimated at fully two-thirds of all the cow consumes; and although this looks to be large loss, it is without doubt correct.

Essay.

ON THE BEST SUGGESTIONS FOR THE IMPROVEMENT, AND THE ADVANTAGES TO BE DERIVED FROM MONEY GRANTED BY GOVERNMENT FOR AGRICULTURAL AND DAIRY INTERESTS.

BY P. E. BUCKE, OTTAWA, ONT.

It has long been known that there are two ways of improving plants and animals. One by crossing, or hybridizing, the other by selection. The more these matters are studied and practiced, the more successful are the results which follow in certain cases. The methods of hybridizing as at present carried on are to a certain extent practiced in a haphazard sort of way, but it is thought by some that with more experience it might be reduced to some definite system. The time required for this important study is not as a rule at the disposal of men competent to undertake the work, and there are no patent laws that will or can be framed, that will enable the inventor of a new grain, grape, or flower, to secure the profits arising from it to himself; so that besides having to grope to some extent in the dark, he is by no means sure of making anything to reimburse him for the time he has spent over his operations, or that which has to pass before his plant arrives at maturity, and in any case a large number of them will be failures; these plants all require ground, care and attention equally with those that prove to be a success.

It is not impossible that crosses in thoroughbred stock might result in developing a newer and higher type than has yet been reached, but as before stated with regard to plants, time, feed and attention, involving a continuous and heavy outlay, would be required, and probably the ex-

periment in the end might result in failure. The ordinary husbandman has not the time or capital at command to bestow on these experiments.

The hybridizing of grains and fruits is at the best a slow process, as the young in plants in many instances, as in the grape and apple, require time to develop, and where annuals are experimented with, the seeds require to be carefully selected and replanted for several seasons, so as to fix the reproduction from the seeds sown to a certainty, as all hybrids are apt to "sport" in the first few generations; a "sport" in reality being the tendency of the well known law of reversion, or an attempt to return to the original parentage.

The law of selection, without any other attempt at improvement, has been tried and carried out with wonderful success by various cultivators; in fact it is one that is usually practiced by most, or at least the best, of our Canadian farmers, to a greater or less extent. The handsomest cattle of their kind are always employed to breed from; the largest potatoes, the best grown ears of corn are usually saved for seed. But this is scarcely sufficient; the best eyes should be selected from the finest shaped potatoes, and only the plumpest formed, and the well shaped grains should be used from the finest cobs of corn. This is true selection, and if there were room to do so, extraordinary results could be quoted from experiments made. Hybridizing and selection are sister modes of improvement and should be carried on in unison. Selection in cattle, including horses, pigs, and poultry, has of course been carried to its furthest legitimate results, but the cultivators of the soil have not yet done their part in this direction. The offering of prizes has to a certain extent stimulated selections in fruits, vegetables and flowers; but the art of the hybridist, the basis of all improvement, is in no way assisted by any such means; as named varieties only are allowed to compete for prizes at our Provincial Agricultural shows, and it would appear reasonable that the inception, as well as the result, should to some extent be rewarded by the expenditure of a portion of the Government appropriation.

It has always been a serious question with the writer whether the \$20,000 grant to the Provincial would not be better expended in breeding or importing thorough-bred animals, so that they could be more widely and more plentifully distributed over Ontario. Thorough-bred stock could be procured from the experimental farm in Guelph, or from such private individuals in Canada whose stock is duly recorded in the Herd-book.

It is suggested that any town or county council willing to purchase and maintain pedigree male stock should have the money they advance for the same supplemented by an equal amount taken from the county grant or from the \$20,000 Provincial Exhibition vote, in such years as these shows are not held. The service of these animals ought to be sufficient to pay handsomely for their keep and attendance, and at the same time the fees need not be unreasonably high. A scheme of this nature would materially advance the grade of our Canadian cattle as regards beef, giving a fine appearance for export, and materially improve the milking qualities of the cows. The sale of all classes of stock and their products is growing so vastly in importance, it is difficult to see how money could be better expended than in encouraging this industry.

[To be continued.]

When a farmer comes in with a grist of wheat, or is waiting to pay for a load, back him up into a corner, hold a club over his head and read this paragraph to him: "A prominent farmer informs us that his wheat crop went on an average ten bushels of wheat more to the acre than the crops of his neighbors did. His land was in no better condition than theirs was, and the cultivation of the grain was no more thorough and efficient. The only difference was, they sowed seed they raised, or used that which was grown in the neighborhood, while he purchased his in the Red River valley. This tells the whole story. Here is a lesson that should be remembered by those who are engaged in raising wheat. Sure enough, a change of seed works wonders." And we will wager that his wheat was of better quality if it was of the same variety as that planted by his neighbors.—[Miller.]

Garden and Orchard.

Apple Culture.

BY DAVID NICOL, CATARAUGI.

Of all fruits, the apple is unquestionably the most valuable, and by far the most useful.

In our climate no other fruit can be brought to so great perfection, with so little trouble; its varieties are innumerable, and the flavor of each variety differs from the other, so that it affords a choice for all the various tastes of mankind.

It is an agreeable part of man's food, and it makes a wholesome, pleasant and exhilarating beverage. All classes of people are interested in its culture, yet there is no branch of husbandry in which we in this part of Canada are so far behind.

Permit me, then, as one who has been brought up as a cultivator of fruits from my infancy, to offer a few hints and to suggest a few rules which may tend to aid as well as stimulate to some energy those who can with advantage to themselves and to the public generally, engage in the cultivation of the apple.

THE CAUSES OF FAILURE.

The reason why so little fruit is raised here seems to be, because so many have failed in the effort to raise it, and to the principal causes of failure I would wish particularly to direct attention. There have been millions of trees brought into and planted in Canada, of which there are now hardly any alive, and what is the reason? It is altogether owing to mismanagement.

In the first place, the trees brought over from the States by tree peddlars (who as a general thing, know very little about trees, and who care very little whether they succeed or not) are often of tender varieties which are unsuitable to our climate; they are often carelessly taken up without any regard to saving the fibrous roots, they are scarcely ever packed in such a way as would save the life of them if they were well taken up, and are often exposed to the severe droughts of spring for weeks before they are delivered. Then the purchasers, who have been induced to give orders for trees, before they have places prepared for them, plant them out in a very indifferent manner, in totally unprepared ground, and then they are generally left to take care of themselves among weeds and grass, without any encouragement in the way of cultivation; then if any outlive this treatment the first year, they make but very little root, and if the first winter is severe the greater part of them will be dead next spring; at all events they will be so sickly and stunted that it will be considered hardly worth while to keep the cattle from them.

Failure therefore can always be attributed to one or other of the following causes:

- 1st. Purchasing trees in bad condition.
2nd. Planting tender varieties.
3rd. Planting tall instead of low standards.
4th. Too deep planting.
5th. Planting in unprepared ground.
6th. The total want of cultivation after the trees are planted.
7th. Allowing the apple tree borer to work its will.
8th. Allowing cattle, sheep and horses to destroy the trees.

THE SUITABILITY OF CENTRAL CANADA FOR APPLE CULTURE.

The frontier of Ontario is uncommonly well suited for apple culture, because the climate is just such as the apple requires to be grown to perfection.

The apple is a northern fruit, and the farther north it can be cultivated the richer do we find it in flavor, and the farther south it is more insipid. Flavor being one of the most important qualities of fruit, it is most desirable to cultivate it where the richest flavor can be obtained, and in Canada the apple attains a richer flavor than it does in any other country, in proof of which we find that Canadian apples bring the highest price in British markets; and that our fruit is superior in flavor to that grown farther south, any one who will take the trouble can easily satisfy himself. Take, for instance, some of our best dessert apples, such as the Fameuse, St. Lawrence, and Pomme Grise, which when grown in Canada are acknowledged by all to be unsurpassed. The same apples grown fifty miles south of Lake Ontario are very much deficient in flavor, and farther south are utterly worthless. Again, the best American dessert

apples, such as the Northern Spy, Golden Russet, and Rhode Island Greening, when grown in the State of New York are considered to be very good apples, but when grown in Central Canada are much superior in flavor, and sell for 25cts. per bushel higher in any market than those grown in western New York. This is a fact which is now well known and is proved by the large exportations of apples from Canada to the New York market, while we here can purchase the American apples at a lower figure than that paid by traders for the same varieties raised in Canada, so that Canada as an apple growing country is now becoming celebrated on account of the richness of the flavor of the apples it produces.

Apples.

BY LAHRAX, GODERICH, ONT.

The smallness of the season's crop in sections where the largest results have hitherto been obtained has made the demand for the best samples very active with prices ranging high. It is well known that the finest quality of fruit going to the British markets comes from our own fair Province, and even here experts can detect a difference in flavor between apples grown in the southern sections of the Province and the more northerly points. When we want the highest excellence in quality we find it along the middle belt of the Province, and along Lakes Erie and Huron. Some varieties are found to succeed admirably in one section, while in others they prove a failure. Our snow-apple that for many years held our local market as par excellence the favorite of its season, is fast losing its favor. This year it is almost impossible to find clean specimens in any western section, while in Quebec the Fameuse or Snow and its many fine seedlings are simply magnificent. Doubtless our climate has ameliorated greatly within the past twenty years, and possibly this may account for the failure, as we know apples from an extreme climate are often found to be a failure when tried in a moderate climate.

Although the apple crop was at first said to be only about a quarter the usual yield in the Huron section, the shipments have been considerable and the specimens very fine. The shipments of winter apples from Goderich alone foot up about 11,000 barrels, and at almost all the stations along the railway lines north and south shipments were made. Buyers for the British markets have been careful in making selections. They prefer the following varieties: Baldwin, Spy, Russett (the American Golden and Roxbury) Wagner, King of Tompkins, Mann. R. I. Greening is losing in popularity, and from present indications bids fair to be entirely discarded from the list of varieties suitable for export. Canada Red is also required for by almost all buyers, and many also like the Winter Strawberry. I believe within five years the list suitable for export at profitable prices will be reduced considerably, and it is important that growers should look carefully into this matter, and plant only such kinds as are sure to be of profit. From experience with the British market for several seasons I would confine a new orchard to Baldwin, Russet (American Golden and Roxbury only), Spy, Wagner, Canada Red and Mann. The King stands high at present, but I can see no good reason why the demand should stand permanently, as it is not possessed of sufficient excellence to stand the test for flavor when kept long. The old Twenty-ounce ships well and is not objected to yet, but it is only useful for cooking and the flavor is so decidedly woolly that I cannot imagine its market in Britain will be permanent. It will pay our farmers to study the tastes of the markets in this matter; indeed every farmer should pay more attention to fruit-growing than has been their wont heretofore. We find this season that where an orchard has had proper pruning, and care in manuring, winter mulching and salting, the fruit is clean, free from worms, and decidedly better for shipping. Salt seems to give better color to the apple and toughen the skin. It is a pity to see many buying apples for foreign shipping who know absolutely nothing either of the various kinds and quality or the proper method of handling. They appear to think there is no secret in the business further than to barrel them, put some name on the barrel and ship. This season many have been the losers for want of proper knowledge upon these points. If we wish to hold our good reputation for the finest apples in the world we must be careful in every point. First of all see that all are care-

fully hand-picked and laid on the ground to sweat; they should be left on the ground for ten days or two weeks, then sorted over, culling out all wormy or spotted fruit and dividing according to size and color. This work should be performed by packers who have had experience. When packing they should be laid first row with hand, stems down, and then the barrel filled, shaking at every basketful, until it is brim-full. If it is a good hard apple one row above the edge of the barrel will press down fit for carriage solid to Britain, but if the apple is medium two rows may be placed and pressed down. The label of kind and brand of excellence should be put upon the bottom of the barrel, which thenceforth becomes the head. The largest shippers here (Messrs. Allan & McNair) follow strict rules in packing, and hence they can now ship their brand of XXX and XXXX apples at the highest prices without inspection. An old firm of fruit dealers who supply a large yearly line of orders in Liverpool and Glasgow, say that the finest apples they have ever handled was a 3,000 lot from the above firm this season. Generally buyers allow farmers to fill the barrels and thus make the cost of packing about four or five cents per barrel. But where we find a buyer who understands his business, he will never allow any one to cull the apples or fill or pack the barrels excepting his own men specially instructed for the purpose. In this way the cost of packing is about twenty cents per barrel. The difference is large, but from actual results I can assure you it pays better to pack carefully at twenty cents per barrel than to exercise less care and leave the filling to the farmers. And on the other hand, farmers are standing in their own way and working against their own interests when they fill in spotted or wormy and deformed fruit. It should be and is in the interest of every grower to see that nothing but good, clean, sound fruit goes to market. And when growers take enough interest in fruit growing to expend upon their orchards as much care and attention as they do upon their grain and root lands, they will have a much smaller proportion of cull fruit and find that fruit growing pays handsome profits.

Instead of expecting an orchard to yield an abundant crop of good apples every year without working the soil and manuring and trimming the trees, every grower should fork over the soil about his trees and give a heavy manure mulch every fall, turn it under in the spring and apply another for summer, and by this and other judicious attentions he will find that the most profitable piece of property upon the farm is the apple orchard.

I believe the results of the present season will have the effect of spurring growers up to a proper appreciation of the requirements and value of the orchard, and instead of the old, old story of neglect, our orchards will henceforth bear evidence of thrift, health and bountiful crops of best quality.

An almost universal fault on farms and in gardens is a want of care as to keeping tools in working order. Pruning knives are laid aside with the gum or the wet sap upon them, and without oiling; and when next wanted they work stiff, cut badly, and the effort to use them strains the joints so that they are soon almost useless; while, with slight timely care they would do perfect work for a lifetime. Keep plows, hoes, etc., bright, or they cannot be used a second time at all. A pot of lard or oil with a little rosin dissolved in it affords these an ever-ready varnish which applied to the surface polished by use, keeps it bright for any length of time by excluding air and moisture. In heavier soils it suffices to wipe the surfaces till clean and dry, and two or three strips of old rug should hang at every tool-house door ready for that important use.—[Blairco.]

A right-thinking father encouraged his young son by giving him the use of a quarter acre of land. This he planted to strawberries, and now, three years after, he owns five acres, bought with pleasant fruits of his own successful labor, and his clear profit the past season was, according to The Ohio Farmer, "\$500 on strawberries alone."

That fine berry-bearer of moderate growth, the mountain ash, is very highly praised by a correspondent of The London Garden. He "almost thinks" he would place it at the head of a list of half a dozen ornamental trees suitable for town grounds or others of moderate dimensions.

Seasonable Hints.**EVERGREEN HEDGE.**

The subject of growing evergreen hedges under the shade of deciduous trees, has been referred to of late in our magazine. Some observers record that they have seen them do very well. We have ourselves seen cases where the evergreens forming the hedge did not seem to mind the trees in the least, and yet it is clear that in a large number of cases the hedges do suffer from large trees over them. But it is not the shade which injures, for evergreens rather like shade; but the trouble is from the drying out of the moisture by the strong roots of the deciduous trees, and to some extent by the poverty of the soil, caused by the numerous fibrous roots of the large trees eating up all the food. The evergreens in the hedge often do not die at once, but their vital powers are injured during summer, and then cold winds or even moderate frost make easy victims of them. Now it sometimes happens that the large trees do not always take all the moisture, or all the food, and then the evergreens will not suffer. Where we feel sure these conditions will be permanent, we may plant evergreen hedges under large forest trees; but as a rule it is not to be commended. Some deciduous plant had better be employed. But there are times when it may be very desirable to have an evergreen hedge under trees. In this case dig a deep trench—a trench say two feet deep, between the hedge and the trees, cutting off the roots of the trees. Do this about every third year, filling in the earth, of course, after the roots of the strong tree have been cut off, and add a little very well rotted manure once in a while. With this extra trouble an evergreen hedge can be made to do well under large deciduous trees. Of evergreens for hedges, there are few better than the old arborvitae, hemlock spruce and Norway spruce. Scotch pine, white pine and others are sometimes used, and indeed any pine or coniferous tree makes a fair hedge, as they all bear pruning well. The holly makes a remarkably good hedge; but in our country the difficulty of raising the plant is against its cheapness, and, consequently, extensive use. Many die after transplanting in our country, but if all the leaves are taken off when transplanted, and they are treated as ordinary deciduous trees, they seldom die on removal. It may be said of all trees and shrubs, as of evergreens under trees, that they love cool, rich soil, where water comes to them often and easily drains away. This is the great success of Rhododendron and hardy Azalea culture. They will do well in almost any soil, or in any aspect, if the soil be made deep so that the water will go down easily below the roots, and then easily drain away. To this end, if the soil be thrown out two feet deep, and a foot deep of brush wood placed at the bottom of the trench before the soil is thrown in again, it will make a cheap underdrain, which will encourage the water to go down through the upper surface easily.

The winter time is a good one to look after the destruction of the eggs and chrysalids of insects. In cities, especially the walls, fences and rough bark of trees afford shelter to them, and they can be easily hunted out. As before noted the bag-worm or drop-worm has been particularly destructive the past season, and especially to arborvitae and coniferous trees generally. The oval "bags," more than an inch in length, are readily seen and easily collected and destroyed. On opening some of these bags with a sharp pointed scissors, only some of them will be found with eggs. Those without the eggs produce the male moth, which leaves its bag-like house in the spring. The female moth never leaves its house from the time it makes it to the time it dies and leaves its eggs behind. It is an anomaly amongst insects, and originated the saying about it, that "its cradle is its grave."

GREENHOUSE AND HOUSE GARDENING.

Much of the failure in growing plants in windows comes from choosing plants of too tender a character. Plants which are usually grown in the moist atmosphere of very warm houses are unfit for window culture. Those which are very nearly hardy, but which bloom naturally in winter time, are much more suited to window gardening. It is with greenhouses as with rooms. There are numerous plants which do very well in a temperature ranging between 45° to 60° during sunshine, which are much better than many of the plants usually selected. We might give a list of such, but it is now almost impossible to get full orders for desirable plants anywhere, and one has rather to use what he can get, than to select what he desires. The only plan is to look around among the neighboring florists, and choose those which seem the

best in accord with these views. Another advantage in selecting rather hardy plants for winter blooming is that we need not then fear so much the effect of cold nights. When small conservatories are attached to dwelling rooms, and those are protected by double glass windows, so as to guard against the entry of cold from without, and all crevices carefully closed, it is surprising how little artificial heat is sufficient to keep up the necessary temperature. Very often the mere keeping open of a communicating door, so that the warmth of the parlor will get to the conservatory, is all that is needed.

Plants stored away for the winter in cold pits, require more care for the first month or so than at any other time through the winter season. Many of them have unripened shoots, or shed many of their leaves, and unless these be cut off and removed, gangrene and decay commit distressing havoc. Air should be given at every opportunity, and nothing omitted that will, in any way, tend to harden the plants, and send vegetation to rest. No more water should be given than just sufficient to prevent withering, and the temperature should be kept as near 40° as possible, and every chance taken to render the air about the plants dry. When frost actually does come, no further care than protection from its embraces will then be required. Plants so hardened, may stay covered up for weeks, without any light or air, and secure from the slightest injury. Mice constitute the most troublesome enemy in a pit closed for any length of time; but we have, as yet, found nothing better than the recommendation given in back volumes, namely, to take peas and soak them twenty-four hours in water, then roll in arsenic and sow in a pot, as if in the regular way of seed-sowing. A few pots so prepared should be placed in the pit before permanently closing up. The mice usually make for these pots at their first entrance to the pits. If placed on the soil they seem to guess your secret, and will not "bite."

Plants in cellars need much the same care as those in pits. Avoid heat and dampness; frequently, however, plants suffer in cellars through getting too dry. They should be looked over, at any rate, once a month, and a little water given if likely to become entirely dry.

PRUNING.

The winter season is a very important one in the management of fruit trees. Pruning is especially important. Some believe that if the foundation of a tree be properly laid in youth, there will be no necessity to prune an adult tree. This does not accord with the writer's experience. An intelligent examination, both with the saw and good knife in hand, should be made every winter. Real good, large, healthy leaves in every part of a tree is of vast importance, and these cannot be had when branches are close together, smothering one another.

It should always be remembered in pruning that we want sound, healthy wood to make sound growth, and yet nothing is more common than to see in dwarf pears, especially, the healthy, vigorous shoots shortened back, and loads of weak fruit-spurs left to make the next season's growth! Thinning out, not shortening back, is what such trees require.

Pruning is very important, but above all, for both apple and pear orchards, we bespeak a liberal dressing—a top dressing of something or another. If no manure is to be had, even common road sand will be found to have a beneficial influence. Poverty of the surface soil is oftener a cause of fruit failure than "grass," "change of climate," or many imaginable ills brought up from some ghostly cavern of thought to cover up the poverty of pocket or of industrial inclinations.

The treatment of the bark of fruit trees is growing in importance with practical fruit growers. There is no doubt that a tree perfectly healthy will throw off its useless bark in its own way, in its own proper time, without any aid but nature. Unfortunately our methods of culture are too often against nature, and it is rare to find trees so thoroughly vigorous and healthy that they can dispense with the fostering hand of man. We have, therefore, great faith in bark treatment as an aid in successful orchard culture. An unusual burst of hot sun in summer, poor soil, attacks of scale or other insects, will often harden the smooth bark of trees, so that the new growth of wood and bark the following season cannot expand properly. The branch is practically enclosed in an iron band. In this case slitting up the bark is a speedy and positive remedy. So with the rough bark, if it do not scale off easily and rapidly; help it to scale by rub-

bing or washing it off. The practical old fellows, both in the old world and the new, have found this to be good practice by hard-headed experience, and without having the advantage of reading an article like this. In every collection of good orchard tools and implements are found contrivances for rubbing off useless bark.—*Gardener's Monthly*.

Protection from Storms.

BY HORTUS.

The severe gale which passed over the country during October, causing such wholesale destruction to the apple crop, breaking off branches and flooring thousands of barrels of the finest fruit to the ground, calls for some method of prevention, not for the gale, but prevention from destroying the fruit. To orchards already planted, the best protection is to plant evergreens and deciduous trees for shelter belts. For this we recommend the Lombardy Poplar, Silver Maple, and Norway Spruce. Also to plant one row of evergreens between the outside rows of trees. It is not necessary to surround the orchard like a wall, but merely to plant so as to present a front of shelter against the prevailing course of storms. This is, here, generally north-west and south-east. The storm in question came from the north-west, and was exceedingly severe in its effects. On observation it was found that orchards suffered in a greater or less degree, according as they were protected. Of course, such storms are fortunately not of frequent occurrence, but, of late years, we have been treated to more than is desirable, and there is a seeming increase in their occurrence. There can only be a general explanation of their cause, such as atmospheric and electrical changes; but this cause is aggravated from the gradual clearing of the forests and the want of replanting. This question of late has been pretty well discussed, and we will not enter into it now, but only in reference to direct protection. For the protection of old orchards, to go about the work in a systematic way, we would first attend to the pruning, and for old trees with long branches, hard cutting back is required, making stumps of them if necessary. This would cause a new growth to start, which could also be kept back by cutting, causing short-jointed, stout branches not easily shaken by the wind when extremities were loaded with fruit. All semi-decayed wood, remove. Encourage healthy sprouts in the proper direction, and thus lessen the danger of old branches being broken by the wind. Strong, malleable bands of iron may be placed around branches that are long, thus holding them firm, and they can be forced back by hammering whenever the iron commences to enter the wood. Also the system of grafting branches into each other, or by training a branch to completely envelop the other branches, and in arching it with the others as it passes them; it will, in time, grow into one compact mass, which would prevent any momentum of branches, no matter how severely shaken by the wind. The work of pruning trees should be done in March, or early before the sap rises. A careful consideration of the location before planting an orchard will, in the future, often have the effect of saving a large part of the crop from being blown off. Select a warm portion of the farm the least exposed to strong winds. After planting, keep the trees low-headed, causing them to branch out and shelter themselves. Thousands of bushels of fruit were sacrificed this fall after the storm, by the general practice of picking all up together and bagging off to market. The wiser plan would have been to have carefully assorted the best and long keeping kinds, saving these for future sale, and selling only those that were bruised and poor keeping sorts.

Orchardists often complain about not having durable labels for their fruit trees; they are easily lost or destroyed. Try zinc labels in narrow strips wrapped about the body or branch and write upon them with a common lead pencil.

Mr. John Nesbitt, Trout River, Helena, P. Q., raised 21 pumpkins from one seed, a total weight of 529 lbs. The largest one weighed 50 lbs. Can any one beat this in Huntingdon or any other county in the Province?

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. We do not hold ourselves responsible for the views of correspondents.

Provincial Exhibitions.

SIR,—I am very glad to see the stand you have taken in regard to Agricultural Fairs, especially the Agricultural and Arts Association of Ontario. It appears to me, Mr. Editor, that the great Central Fairs which are held throughout this Province are doing what they can to monopolize the thing and have it located in one place where it will be convenient to a few, and where a company can make gain out of it. Why, sir, this Province, as a whole, pay into the public treasury. A part is given to Universities and High Schools, and who reap the benefits from them? The towns and cities do. And why should not a small proportion of the public money be given to the agricultural class to be distributed throughout the Province, locating the fair first in one part of the Province and then in another, so that all may reap the benefits which are derived from it, either directly or indirectly. I have been a regular attendant of the Provincial Fair for a number of years, as well as other Central Fairs, and, sir, I do not find that marked improvement in agriculture in those located fairs as I found when the Agricultural and Arts Association was held at Ottawa in 1879. Four years previous to this, when the Association Exhibition was held there, there were scarcely any exhibitors from that section, for the simple reason they had not the same privileges as their western brothers had, in former years, but it put new life in them, for we find in 1879 they competed in nearly every class, and were very successful in carrying away the honors. The improvement in live stock was very marked indeed. I don't see, Mr. Editor, how any sensible man can have the presumption to say one word against continuing it. It should not be looked upon as an institution to make gain out of, but every dollar should be spent judiciously. It is the agricultural class which feeds the whole; they pay their just share of the public money, and why not have it distributed in a way which makes the most marked improvement?

Thanking you, Mr. Editor, for the space you have given me in your valuable paper, and hoping the few hints I have given may be of some benefit,
H. C., Paris, Ont.

SIR,—Now that the season (I may say prosperous season) of farming is drawing to a close, I may say a few words to your friend W. A., who exclaims so much against a country that he has seen little of, and yet has the audacity to try to tell people of summer frost and a thousand and one other difficulties that have in reality no existence. And in respect to summer frosts I can truthfully say, that in this part of the country and for many miles around it in the months of June, July and August not the slightest frost has ever made its appearance. The morning of the 8th of September was the first, and very slight at that. So much so that most of my tomatoes remained unharmed until the morning of the 29th, as also most of the cucumbers. I must say that I don't think tomatoes can be depended upon to ripen in the open air; neither can I say that Indian corn can be depended upon to always get thoroughly ripe at all times. Yet mine is about ripe and a good crop; but it cannot be said to be a corn country, but I can say with confidence that wheat, barley, oats and peas are in their glory here. I had a good fair crop of turnips and carrots. I have seen larger turnips in some cases, but upon the whole they were a good crop, and of which I am proud. Now if you want to see potatoes that are potatoes just come here—it will repay a visit. I regret to say much has been said against Battleford and vicinity in consequence of the sandhills that exist a short distance around it, but go a little distance off and it is all right. I have explored the Eagle Hills to some extent, and I find it a fine

country—fine rolling fields as I may call them, and plenty of wood and water, and capable of supporting its thousands upon thousands. I have to-day been looking through the country south from Battle River. I find it hilly, beautifully diversified with hills, lakes, stretches of fine farming land, a very desirable country. Perhaps I have said enough for the present.
T. C., Battleford, N. W. Terr.

SIR,—Your exquisite satire, "Essay on the Most Economical Food, &c., for Harvest Hands," in the November number of your magazine, causes considerable amusement to the practical farmers to whom I have spoken of it, one of your subscribers making the remark that the writer had forgotten to say that there should be a footman in livery to wait upon the harvest hands; but I, myself, think there is a most decided omission, and that is, that the writer should have allotted on Sundays a wine-glass full of castor oil to each hand, to enable him to consume the innumerable pies, &c., during the ensuing week. But laying all joking aside, as there are many young men with more or less of capital who start farming in this country as an altogether new occupation, and who might think it their duty to ration their hands as per the dietary mentioned in said article—to such I would say, don't attempt it, as to induce a man to gormandise himself just means so much less work, and if it would retard a horse in his work to feed him five times a day, which most practical men admit, why should it not have a similar effect upon a man?

I do not know that you will consider my experience of much value, but will nevertheless submit it to you for the sake of the aforesaid young men:

In the first place punctuality is half the success in the dietary.

For the six working days of the week:
Breakfast at half past 6 o'clock. A large plate of porridge with a bowl of skim milk, fried bacon with lots of gravy, bread and tea.

Dinner at half past 11 o'clock. Fried bacon, potatoes, bread, pudding, cold water.

Supper at 5 o'clock. Tea, bread and buns, butter and some sort of boiled fruit.

On Sundays have fresh meat or fowl to dinner instead of bacon. When the men are starting for the fields give them oatmeal or buttermilk, according to their taste, to mix in their can of water.

I think that you will find that most practical farmers will admit that this is a liberal bill of fare and as much as is good for the men.

"A PRACTICAL FARMER," Owen Sound, Ont.

SIR,—In your October issue you have an article relative to the making of "Vegetable Marrow Jam." I can fully endorse your remarks, both as to growing them in small gardens and to making jam and marmalade from them. I came to Brampton in June, from England, and planted marrow seed I brought from England, from which I reaped a magnificent crop, many of the marrows weighing 28 lbs, my wife making the preserve from some of them. I have a fine collection laid up for winter use. I do not think a finer number of marrows were ever produced from any garden, and such is the opinion of those who have seen them. The marmalade produced from them has been pronounced excellent by one of our leading farmers, who intends raising them in the future, and to whom I have promised some of my seed.
H. R., Brampton, Ont.

SIR,—By answering the following questions regarding onions you would very much oblige me. I am thinking of going into this scheme to the extent of sowing ten acres, as from what I can see and hear there must be a good profit in it if properly managed: 1. How much seed is required to the acre? 2. Which is the best kind of seed to sow? 3. How much does it cost per bushel? 4. How and when should the soil be prepared? if not virgin soil, I suppose land would have to be manured and plowed this fall. 5. Is it better to sow with a drill or broad cast? 6. How many men would ten acres require to have it well looked after? 7. What is average yield per acre? 8. Do you think it a good scheme to go into, supposing I get a good man to superintend?
C. H. K., Listowel.

[1. From three to four pounds per acre. 2. There are so many good varieties that we cannot recommend any particular one. It would be as well to grow a few sorts. 3. About \$2 per pound. 4. The autumn is the best time to prepare the land,

but it can be done in the early spring. The land must be well pulverised. 5. Sowing in drills is best, the onions can be kept clean easier. 6. Will depend upon the weedy state of the soil—a good man and three or four boys ought to be sufficient. 7. Five hundred bushels to the acre. 8. Onion growing, if well attended to, is very profitable and the same ground can be used year after year without exhausting the soil. The book "Onion Raising," price 30c., will give you a deal of information. Will mail it on receipt of that amount.]

Oil Cake.

SIR,—Perhaps my experience of feeding oil cake will be interesting to your readers. To the heaviest cattle I give almost eight pounds of cake to three quarts of corn-meal, with one peck of chopped corn sheaves, each day, and they are doing better than any cattle I have ever fed. I prefer the cake much better than the meal. I use a breaker I got from England; it is a pity none are manufactured here, as there will be a great demand for them soon.
T. P. P.

SIR,—I acknowledge the receipt of the package of maple seeds you sent me, and I am thankful to you for the same. I have planted them in my best cultivated land, as I mean to give them a fair trial. I have quite a little wood lot planted now which my neighbors envy. I have honey locusts eighteen inches high from seed I planted last May, and I have thousands of Norway spruce, Scotch pine, sugar pine, balsam, fir, black spruce and mountain ash, all from seed I planted last May, so I mean to have a good shelter around my buildings, beside hundreds of poplars I shall plant out next spring, all doing well. I have also the native ash and elms being well from seeds I planted last fall.
Yours respectfully, C. C.,
Rounthwaite P. O., Man.

SIR,—I wish to raise a little rye, but am ignorant of what kind of soil, etc., is most suitable. Will you kindly give me some information in your next issue as to the following, and any other hints you think useful: What kind is most profitable, winter or spring? What kind of soil is most suitable? What quantity of seed per acre? The number of bushels per acre on a fair crop? How it turns out in grinding? Whether seed or stubble is best to sow on? Yours truly, R. G.,
Upper Caverhill, N. B.

[Winter rye is considered most profitable. Rye can be grown upon almost any kind of land. Soil that has become exhausted through continuous cropping of wheat will frequently give a fair yield of rye. About twenty bushels per acre is an average crop and turns out well in grinding. Stubble would answer well to sow it upon.]

SIR,—I have a piece of ground that had roots on this year; will it do to sow it down to hay without sowing grains on it? If so, what time is the best to sow clover and timothy seed? I plowed and harrowed it this fall. How much hay will it give to the acre the first year?
G. W. C., Brookside, N. S.

[The land can be laid down to grass without sowing grain with it. The seed should be sown as soon as the frost is well out of the ground. After sowing the land should be well rolled. You will probably get 1½ tons of hay to the acre. As you do not intend to sow grain along with the seeds, the grass seeds should be sown thickly to keep down the weeds. A little cocksfoot mixed with the timothy and clover would give you a better yield the first year than timothy and clover. Read an answer to B. A. in Oct., page 264.]

SIR,—We like the *ADVOCATE* very much, and get hints worth a good deal more than its price. The essays from housekeepers are very good, especially more with recipes, but I think they are beyond the means of the majority of farmers; almost all the people are obliged to use pork in summer; there is nothing else for them. Will you tell me what it is that causes a pile of little egg-shaped balls of dirt in the saucer of my fuchsia crocks? I never notice it in any other plant; if you could give me a remedy some time in your columns it would very much oblige me.
S. A. S., Meeker County, Minnesota, U. S.

[The balls of dirt are probably produced by worms or insects; a little lime put in the water will expel them. Soot will answer the same purpose.]

Chess—Willard's Bromus.

SIR,—Will you oblige a reader of your paper by stating what you know about chess and wheat. We want proof that wheat does not produce chess. H. H., Winterbourne, Ont.

[The notion that wheat which has been injured by frost or otherwise injured in its growth is liable to turn to chess is not yet exploded. Some hold to the erroneous opinion that chess is wheat deteriorated. But it is of an entirely distinct genus, known by the names Bromus, or Brome grass, sometimes called Willard's Bromus, from its having been introduced by him into the country. It is a very injurious weed, very difficult to free the ground from when it once obtains entrance. The seed is possessed of great vitality. It has several thicknesses of hull and may remain dormant in the soil for several years, and germinate at the first favorable opportunity, as, for instance, if the grain crop that has been sown has been killed, or partially killed by frost or stagnant water. The seeds should never be allowed to ripen. If they appear in any crop, whether in wheat, barley or any other, it is better to cut down the crop prematurely, though at a considerable loss, than permit the chess to mature and shed its seed. Do not let a single stalk of the noxious weed ripen on your land, but exterminate it as soon as possible, and the only way to do this is to prevent the seed ripening.]

SIR,—In the ADVOCATE for October you have asked a few great questions, which by your leave I will attempt to answer. Should township exhibitions be maintained or abandoned? Answer—maintained undoubtedly. Many farmers with their wives and daughters attend these exhibitions who would not care to attend county exhibitions, to which they act as feeders. Many will not compete at county exhibitions, partly because they meet with imported stock; and secondly, because they cannot fully rely on meeting strict justice from the judges, who have to decide between stock or other articles from different townships. Should the Provincial Exhibition be maintained or abandoned? Answer—abandoned altogether. Managed as it has been for some years past, public confidence in its usefulness is lost, and the annual Legislative grant in its favor would do more real good if it was divided between the different township exhibitions, which appear to be increasing in number every year. Should horse racing be encouraged at agricultural exhibitions? Answer—By no means, they are merely excuses for betting; and when prizes are offered for lady riders or drivers it tends to destroy those feelings of delicacy and refinement which are a lady's greatest charms, and turns them into bold-faced amazons. What class or kind of amusement should we encourage to attract the farmers' wives, sons and daughters to agricultural exhibitions? Answer—None, whatever; leave those amusements for picnics or pleasure excursions. They tend to divert the attention from the purpose for which these exhibitions were originally established, and turn them into mere pleasure fairs. What class should we elect to manage agricultural exhibitions? Answer—Farmers or stock-breeders, principally; a few business men might be admitted to keep up the local interest in those exhibitions. What should entitle a person to an office in connection with agricultural societies? Answer—Capacity to discharge the duties efficiently combined with honesty of purpose to act independently of party influences. Should officers or judges who have wilfully acted improperly be exposed? Certainly, nothing but a fear of public exposure will prevent a repetition of such improper conduct. Should any regulations, by-laws or acts of Parliament be passed to prevent improper men being placed on the Board of Directors? Answer—Yes, by all means; but the great difficulty will be to enforce them. What should be considered proper or improper acts for a candidate for office? Answer—Improper acts would be manifesting partiality for any particular exhibitor or class of exhibits, to the detriment of others. Proper acts would, of course, be the reverse of these. Should character be considered when electing a person to any office connected with agriculture? Certainly; if two or more candidates offer themselves for any particular office, the other things, such as ability, being equal, character ought to decide the choice. Should we endeavor to elevate the morals of the agricultural class? Answer—Undoubtedly, but to point out how this should be done would take up too much space in an article of this kind, and I rather doubt whether an elaborate article on this

subject would be considered suitable for admission in the columns of the ADVOCATE. The remaining questions can only be fully answered by the parties concerned, but who are not likely to do anything of the sort. SARAWAK.

[We deem such subjects suitable for discussion; those differing from Sarawak have an opportunity to express their views, as it is from descriptions and knowledge that right opinions may be formed and improvement looked for.]

SIR,—I see in your November number that "A. McG." wishes some information about Alsike clover, and you invite any person who has had any experience in growing it, to give it through the ADVOCATE. Now, as I have grown this clover for the last fifteen years, I think I can venture to assure your correspondent that he need not plough up his clover, as the midge has never troubled the Alsike clover yet. I had about eight acres that I saved for seed last year; off it I threshed over fifty bushels of nice seed, for which I received about \$400. This year I have seeded about sixteen acres pure, to cut for seed. I have also seeded thirty acres for meadow and pasture with timothy and red clover, in which I have mixed about two lbs. of Alsike to the acre. I think it improves it very much in both cases, and I think if every farmer would practice this plan he would find a great benefit from it. If McG. wishes any further information, I will be happy to give it to him. J. W., Holbrook, Ont.

SIR,—On page 298 of November ADVOCATE is an article on cane sugar in Ontario. Will you please say if it will grow well on high, dry, sandy soil; if so, say the best kind to get, when and how to plant, where to buy seed and any particulars you can give as to its cultivation. H. C., Norway, Ont.

[If the soil is in good condition it will grow sorghum. Early amber is the favorite in Canada; plant about the same time and in like manner as corn. The seeds can be obtained from any of the seedsmen who advertise in our columns. See page 90 of this journal, April, 1881.]

SIR,—Be good enough in next issue of FARMER'S ADVOCATE to give some idea of relative feeding values to milk cows of sugar beets, turnips and mangles, and is it your opinion that sugar beets will keep same as turnips under same conditions, and be as good to feed next spring; or perhaps some of the many farmer readers of your useful paper will give their experience and confer a great favor on

E. S. P., Russell Township, Carleton, Ont.

[To get good butter or cheese we must increase the fatty material of milk. You will find on page 62 of the ADVOCATE for March, 1881, a comparative table of the carbonaceous or fat producing properties of roots. If properly stored, sugar beets will keep as long as turnips.]

SIR,—A member of our agricultural society wishes to know where to apply for the registration of thoroughbred cattle; if you will kindly inform me you will oblige

WILLIAM AYRES, Sec., Wallaceburg.

[Henry Wade, Secretary of the Board of Agriculture, is Secretary for the Ontario S. H. Herd Book, and R. L. Denison is Secretary for the British American S. H. Book. Both Secretaries have their office in Toronto, Ont.]

SIR,—In the October number of the ADVOCATE, in noticing the Central Fair at Hamilton, you observe that in the western district of Ontario the exhibitions were so plentiful that three exhibitions, Hamilton, London and Brantford, were held at the same dates. Now this is just as it should be. If agricultural exhibitions are to be held mainly for the benefit of the agricultural classes, I should like to see an Act of Parliament passed to oblige all agricultural exhibitions within the Province to be held at the same time. This would prevent the wealthy stock-breeders and importers from travelling about, with a selection of their best stock, from place to place, and sweeping off the majority of the best prizes to the exclusion of the average farmer, who, knowing he has no chance against such superior specimens of stock, is deterred from competition altogether, except at his township exhibition, and therefore is likely to absent himself altogether; or else special prizes should be set apart for imported stock, which should not be allowed to

compete in other classes. As it is these exhibitions appear to be got up mainly for the sake of the citizens in the places where they are held, and it is mainly for their benefit that so many extraneous attractions are devised, just to put money into the pockets of store keepers, tavern keepers and cab men. SARAWAK.

SIR,—I suppose you are thinking by this time that I have sent my subscription again without getting it registered. The reason I did not send it sooner is, I was waiting until I would thrash so as to tell you how the two pounds of Democrat wheat yielded that you sent me. I had just two bushels; I think that is a splendid yield; what do you think of that, Mr. Editor? I am very much obliged to you for your kindness in sending my paper on so long after the time expired, and for sending the wheat, and I have sowed it all and it looks well. If nothing happens I will write to you next year and tell you what success I have with it. I enclose one dollar for your valuable paper. I remain, yours truly, J. C., Cavan P. O., Ont.

SIR,—I would like to know how much duty is charged on fruit trees taken from the United States. By answering the above you will oblige A. J. T., Glencoe.

[The duty is 20 per cent. on fruit trees.]

SIR,—Which do you consider the most desirable class of horse for farmers to breed for general purposes? I want to breed horses that will be useful on the farm, and which, when offered for sale, will find a ready market and command good prices. H. M., Pickering.

[There are so many really good classes of animals, each of which have their admirers and advocates, and as this journal is for the benefit of all parties, and not of any particular one, we prefer having the opinion of some of our readers who are experienced and well posted in the matter. As we consider the subject of such great importance to the farming community, we now offer our prize of \$5.00 for an essay on *The best class of horse to breed for farm and general purposes*, the essay to be in this office before the 26th Dec., 1882.]

Veterinary.**Intestinal Disorder in Horses.**

Most horsemen have, at some time or other, experienced the annoyance incidental to the possession of a horse which was afflicted with what is commonly termed looseness of the bowels. The derangement does not amount to an attack of diarrhoea, which might be met by appropriate remedies and cured; but, at all sorts of irregular and particularly inconvenient periods, the animal voids a large quantity of dung which is mixed with a good deal of fluid, and generally has an extremely fetid odour. It is commonly remarked of horses which are subject to attacks of looseness of the bowels without any tangible cause, that what they eat seems to go through them without doing them any good; and such animals are seldom in very good condition, but are tucked up and miserable in appearance, and after any active exertion assume a forlorn aspect, which disgusts the owner, and perhaps causes him to use strong language to his groom.

Occasional attacks of looseness of the bowels under special circumstances indicate a high degree of nervous irritability; but, although rather annoying to the rider, they do not injure the animal, and there is some satisfaction in knowing that nothing can be done in the way of medical or dietetic treatment to mitigate the disorder, so long as the animal is exposed to the excitement on which it depends. It is best, therefore, in such cases, to put up with the inconvenience and let the animal take its chance.

"Looseness" arising from chronic irritability of the lining membrane of the digestive canal is in fact a form of indigestion; and the greater portion of the food consumed is, in the peculiar state of the animal, so much indigestible substance, which the stomach and intestines reject as quickly as possible.

By the term "indigestible matter" it is not intended to suggest that the food is necessarily of bad quality, as the oats, hay and bran may be quite up to the average, and constitute digestible food for horses whose digestive organs are in good order; but it is clear, from the results of a meal,

that such diet in the case of the "washy" horse acts as an irritant, and is not retained long enough for the digestive process to be completed, or even carried to an advanced stage.

Medicine cannot be expected to effect much good in the form of indigestion to which we have referred. All that can be done in the way of a cure must be effected by strict attention to diet.

At the commencement of the treatment, a dose of linseed oil will clear out the intestinal canal and get rid of any irritating matters which keep the membrane in an excitable state; and after the laxative has produced its effect, a perfectly bland, non-irritating diet may be tried and continued for some time, in the hope that the mucous membrane may recover its normal tone. Milk and eggs are most easily obtained, and form, together or separately, a perfectly digestible and highly nutritious kind of food, of which a horse will soon become fond, and which he will take without hesitation. The quantity of food to be given daily will depend on the horse's condition and appetite. Two quarts of milk, with three or four eggs, three times in the day, will be ample for the support of the system; and if it be intended to attempt a radical cure of the disease, it will be best to keep away all solid food for a time.

Instead of milk and eggs, soup made of coarse pieces of meat may be used, and experience has shown that emaciated animals have improved in condition rapidly on such fare. A total change in the system of dieting will generally be too serious an innovation to be attempted in the owner's stable; and, unless he is an enthusiast on the subject, and determined to carry out the experiment at all hazards, it is not likely to be put in practice at all; but there is no question of the curative value of a dietic system which consists in the substitution of a non-irritating diet for the food which is in ordinary use.

When the expedient of a total change of diet for the cure of looseness of the bowels cannot be tried, there is little to be done beyond regulating the ordinary diet, avoiding any green food, and trusting to good old hay, with occasionally linseed mashes, and take especial care not to allow the horse to take a large draught of water immediately before eating. To prevent this, it is better to keep water always before the animal. Medicine, we have said, cannot be expected to do much; but, when the ordinary kind of diet is continued, it may be worth while to try the effect of small doses of aloes with gentian and salts of iron. A dose of half a drachm of Barbadoes aloes, with a drachm of powdered gentian and twenty grains of sulphate of iron, may be made into a ball and given once a day for some time, unless a too energetic action on the bowels results, in which case the medicine would be discontinued for a few days. At the best, it must be allowed that horses which are liable to the disease in question are objectionable animals to deal with, and the experience of the most carefully conducted treatment is not encouraging.—*Exchange.*

New Cattle Disease.

A disease among cattle, the nature of which is said to be unknown, is doing mischief near Quebec. A similar outbreak has occurred in England. We read in the London Times that Mr. G. Fleming, Army Vet. Ins., at a late meeting of the Southern Counties Medical Association, delivered a lecture on a new disease which he had discovered to prevail extensively, chiefly among cattle in England, and the nature of which until now has been hidden in obscurity. It manifests itself by great enlargement and induration, as well as ulceration of the tongue. It also attacks the bones of the face and jaws, appears inside and outside the throat, in the form of tumours, and is very destructive, especially among young stock. Mr. Fleming, by means of morbid specimens from the tongues and heads of calves, as well as by microscopical preparations, clearly demonstrated the affection to be due to the presence of a minute fungus, which probably obtains an entrance to the tissues either through the mucous follicles or an abrasion in the mouth. From the peculiar manner in which the fungus grows, and the radiating arrangement of its branches, it has received the name of *Actinomyces*, and it is consequently proposed to designate the disease *Actinomykosis*. It has hitherto only been noticed in Germany and Italy, and no fewer than 16 cases are reported in the German medical journals as having been observed in man. Mr. Fleming produced some evidence to show that the fungus could be successfully implanted from a diseased to a healthy animal; and one of the Ger-

man cases, in which a man was affected, would lead to the suspicion that it may be communicated from the lower animals to our own species. Instances were given in which the microphyte had also been found in pigs, goats, a horse, and a dog.

SIR,—A neighbor of mine has twelve calves. On Saturday last one of them was taken with a dry cough, panting, breathing very hard, and groaning; eats very little since, dry in nostrils and rather inclined to bleed. The whole twelve are now ill and failing in flesh. They have been housed, fed good and never exposed to late storms. Do you think it is Pleuro-pneumonia, or what do you think it is? T. B., Glencoe.

[Your calves are most likely affected with worms in the air passages. If well grown calves, give to each one pint of raw linseed oil and one ounce of turpentine. Also give them salt; if they will not eat the salt dissolve it in water and pour down their throats, taking care not to choke the animals. Repeat the doses four or five days till well.]

SIR,—My horse had Pink Eye last spring; ever since he has had a cough; it troubles him only in eating his morning oats, and no more all day. What can I do for it? 2nd.—How much salt should a horse get in his bran-mash every night? LEARNER, Arkona.

[1st.—You will give a powder, night and morning, made as follows: Saltpeter, one half dram; sulphur, one dram; powdered digitalis, half a dram, in bran-mash. You might dress the throat with a good, strong liniment, or you might apply tincture of iodine with small brush to the throat, every second day. 2nd.—You might give a tablespoonful of salt in his feed every night.]

SIR,—I have a horse seven years old, about nine cwt.; he is troubled with something I can't make out; he is continually biting his sides about the barrel; worst at night. I can't get him in good condition in spite of good feed, and he is well groomed. He is dry in the hair, eyelids are pale, and has a ravenous appetite. Some tell me it is worms. I once saw him pass a white worm about four inches long. By telling me how to treat him you will greatly oblige. D. S., Pictou, N. S.

[Your beast is troubled with indigestion. Give him about a pint and a half of raw linseed oil and one ounce of turpentine once a week in a drink. Give him alternately the following powders: 1st, saltpetre one drachm, sulphur two drachms, carbonate soda one drachm. 2nd, sulphate iron one drachm, gentian one drachm, ginger one drachm. Give in scalded bran, boiled oats, or boiled barley.]

Hog Cholera.

Hog cholera prevails in various parts of the country. Jacob Seeller, living north of Iowa City, an extensive raiser, lost 100 hogs within a few days past.

Reports like this ought to be sufficient to put every farmer and hog raiser on his guard against this insidious and terrible disease;—when it takes firm hold in a hog raising district it appears to be both epidemic and contagious, doing its work with fearful rapidity.

We have held the opinion that bad sanitary conditions have much to do with the origin of the disease in any given locality; in one case we have it reported that this disease broke out badly among a large lot of hogs on a farm where they were well enough kept in all respects except that they were allowed to sleep in a pile of old rotting and heated straw. Such bedding was warm and very comfortable in that respect, but was unhealthy and brought on a general attack of disease, as stated. We have no doubt but what impure, bad water has often had the same effect. Keeping hogs night and day in filthy pens is the worst kind of treatment for such stock, though we have seen hogs treated in this way where the owners seemed to think that it was a natural enough way to treat this kind of stock.

Every farmer and hog-raiser should take especial care to prevent the introduction and spread of hog cholera, as its general prevalence would in a very short time do an incalculable amount of damage to the commercial interests of the whole country.

Post-masters and school masters will confer a favor by allowing us to consider them our duly authorized agents to receive subscriptions and to grant receipts for the same.

Poultry.

Getting into Winter Quarters.

BY R. A. BROWN.

This is a very critical period for the poultry on the average, on farms where such stock is given but a passing care. Such care is generally to gather what eggs there are to be found. Sometimes they are given scraps from the table refuse or a few handfuls of oats, thrown hastily under foot, and the rest of the day they may go foraging for an uncertainty, as the same grounds are scratched over day after day, and at night roosting wherever they may. We are pleased to know that all do not do so, but there are too many that do such; instances come under our observation from time to time. Eggs have been above the average price this year, and it has given a stimulus to a great many to go into this line of farm industry, which, to our own knowledge, pays better than anything that can be raised on the farm with the exception of bees, in comparison for capital invested; then the labor is light and the risk small. Not but what poultry are subject to disease or danger, but no more than any other stock that are raised on the farm. If one or two should droop and die the loss is small and they can easily be replaced with others.

Poultry to be profitable throughout the winter require to be cared for now. See that their dwellings are warm and free from draughts of wind. Their apartments require to be kept clean; it is not too late in the season yet to whitewash their rooms, if not already done, for winter quarters. Put a few inches deep of chaff on their floor; it keeps them warm and it is valuable exercise for them to scratch in it. Many breeders tie up an oat sheaf by the butts with a cord, suspended from the ceiling, one in each apartment. The heads of grain are left just high enough for the fowl to pick at, and they cannot get on it with their feet. This is a good plan, and is well worth the trial for those who have sheaves to give them; also a cabbage tied up in the same way is good; it supplies the amount of green food that is required to keep the system in regular order. A feed of whole corn once a day is sufficient, and oats once a day; also wheat screenings or a mixture of chopped feed, mixed with bran or shorts, added a little soft, to sweeten, and some red pepper. This is given once a day, with plenty of fresh water.

A young man has been keeping account of feed and comparing results with eggs sold for four months during the present season. He says he has made \$1.35 per head profit during that time, and is so jubilant over the result of the experiment that he intends keeping 1,000 head annually. I have not the least doubt but he will make a fair profit on them, but I do not expect that he will make so much comparatively, as there will be so much more labor required to keep them in neat and clean order than when he kept 30. Besides, when large flocks of poultry are gathered together they require more labor accordingly than small numbers, as do sheep, and are more liable to disease. But now that the price of grain is down so low and eggs are scarce at this time of year, I presume that the profits of poultry raising will be more for the coming winter than during the summer just past. Some may doubt the advisability of feeding wheat to fowls, but I can assure your readers that upon experiment I have found it to pay the highest percentage of any kind of grain given them as food. When wheat was \$1.08 per bushel, corn 56 cents, buckwheat 50 cents, and peas 80, I fed in separate yards at the same time, and changed the feeding around to all within seven yards, and found that whole wheat paid better than any of the other grains tested. Now when wheat is only 90 cents and corn \$1, I am positive that every one who tries the feeding of whole wheat to hens this winter, for laying purposes, will be amply repaid with an excellent profit.

The way I find feeding wheat to realize best profits is, to give about what oats will be required to make half a meal, given the first thing in the morning, and, as quickly as that is eaten, to replenish their empty troughs with the clear golden grain (wheat) for morning meal; at noon with scraps from the table, with bits of liver or any rough meat; boiled potatoes, mixed with bran, shorts or chopped grain of any kind, with plenty of fresh, pure water at all times. About an hour before going to roost, repeat as in the morning, with oats, then wheat. My hens never fail to lay an egg each day all winter long.

To Make Poultry Pay in Winter.

It is a much easier matter to make poultry pay in summer and mild weather when they can run at large, than in mid-winter when the temperature is very low. All through the cold season they must be supplied with all the requirements of food, cleanliness and care, to keep them in health and condition. Nature requires only good feeding, and a moderate temperature with good health, for egg production. These requirements are better supplied by giving them sound, sweet food in variety, liberally, than by any artificially prepared condiments sold for the purpose, and also giving them clean, dry and comfortable quarters protected from cold winds, and having a sunny exposure.

If necessary to doctor any ailing ones, a trifle invested in cayenne pepper, sulphur, copperas, and sulphuric acid, kept and administered as required, is all that will be required for keeping them in health. Any ailing fowl should be at once removed from the flock to comfortable, quiet quarters, and be specially treated with medicines and food. A fowl is worth saving, but it is often neglected and left to get well or die. Iron is an excellent tonic for ailing fowls, and a mixture prepared as follows is useful in such cases: "Sulphate of iron, eight ounces; sulphuric acid, half a fluid ounce; put these in a bottle, and add one gallon of soft or rain water." This is ready to use as soon as the iron is dissolved. It is well to feed all the fowls once or twice a week, in their soft food, half a teaspoonful of cayenne to each eight or ten fowls, and once or twice a month add a teaspoonful of sulphur for the same food.

I prefer that the grain feed should consist more of other varieties of grain than corn, although I would give a small portion of corn. Wheat, buckwheat and oats I find are better egg producers than corn. In addition to the grain they need meat in some form, ground bone, or oyster shells, some lime or old plaster, mortar, gravel, sand and an ash bath to dust in. There is an advantage in making up a boiled dish, occasionally, consisting of mashed potatoes and other vegetables, mashing them and adding a little meal, bran or shorts, and wetting with the water they were boiled in, while hot. A little pepper added is an improvement; feed while warm. The early morning is the best time to feed this warm food could it be prepared in season, but generally this takes too long, so I feed some light grain early, and the warm mess later, by or before noon, and all the grain they will eat at night. Keep good clean water by them at all times, giving it warm two or three times a day in very cold weather. I find that hens lay better if kept from the cold, wet ground in winter, than if allowed free access to wet and cold. Let them have a cabbage or something green to pick at, hung in their house at all times.—[Country Gentleman.

Diseases of Poultry.

Canker in fowls should not be neglected, for it is often a forerunner of roup in its worst form. We have found chlorate of potash an effectual remedy for all except the very worst cases. Put a pinch of the dry powder on the canker spots, and keep the fowl from water for an hour or so. Two or three applications will generally effect a cure. In bad cases touch the canker spots with a stick of lunar caustic and give a weak solution of alum, or of chlorate of potash, to drink. Chlorate of potash is a cheap drug and can be obtained in powdered form at any drug store. Keep fowls that have canker apart from the rest of the flock, and thoroughly cleanse all drinking vessels, feed boxes, etc., before they are again used for other fowls.

BUMBLE-FOOT is a wart corn, a lump on the bottom of the foot, and is usually caused by jumping from a high perch on to a hard ground. When the lump appears to contain matter, cut it open, press the matter out, wash the foot with warm Castile soap suds, and keep the fowl in a separate coop on a bed of straw until the foot is well. To prevent this disease, put the roosting perches nearer the floor, or cover the floor with four or five inches of dry earth, or else make a ladder for the use of the fowls.

CROP-BOUND.—When you see one of your fowls going around with a crop that looks twice as big as it ought to, catch her, and if the crop is hard and swollen, you may conclude that there is some obstruction in the passage from the crop to the stomach. Pour some water down the throat and then knead the crop gently until the contents get soft; then hold the head down and the bill open and work at the crop a few minutes longer. Next give a tablespoonful of castor oil and shut

the fowl up without food for twelve hours or more. If this course of treatment does not benefit the fowl, cut open the crop, and remove the contents with a teaspoon handle. Make the cut, which should be about an inch long, near the top of the crop. After the crop has been emptied, oil the finger, and pass it carefully as far as possible down the passage to the stomach. Lastly sew up the cuts, but don't sew up all the edges together; take two or three stitches in the cut in the crop, and then sew up the outer skin separately. Once upon a time your correspondent sewed the edges of both cuts all up together, but somehow that hen didn't get along very well—in fact, she up and died. Keep the fowl on soft cooked food, and but little of that, and away from the other fowls for a week or so. Give no drink for two or three days after the operation. In making the cut, take care not to injure any large blood-vessel.

EGG-BOUND.—When a hen mopes around with hanging wings, appears in distress, and goes often to the nest, but does not lay, she is egg-bound, and the first treatment should be a large dose, say two table-spoonfuls, of castor oil; if this does not give relief within a reasonable time, inject sweet oil into the oviduct.

Chicago Fat Stock Show of 1882.

[From our Chicago Correspondent.]

The fifth annual fat stock show, held at Chicago, November 16th to 23rd inclusive, has been pronounced pre-eminently the finest display of the feeder's skill ever witnessed on this continent. The entries were more complete than ever before; the attendance was double as large as last year, and save an unhappy management of judges, the show was a marked success in every particular.

There was a small display of Polled-Angus breeding cattle, but the Shorthorn and Hereford beef cattle had no competitors, the Devons and all other breeds being conspicuous by their absence.

Entries of cattle were: Shorthorn, 124—54 thoroughbred and 70 grade; Hereford, 94—of which 45 were thoroughbred and 49 grades; Polled-Angus (breeding stock), 9. Total, 227.

Entries of sheep included 14 Shropshire Downs, 15 Merinos, 10 Oxford Downs, 8 Cotswolds, 13 Southdowns, 4 Lincolnshires and 5 Leicesters. Total, 69.

Of swine, the entries numbered 12 Berkshires, 9 Chester Whites, 26 Poland-China, 19 Jersey Red, 15 Essex and 10 Victoria. Total, 91.

There was a good display of poultry, and there were 11 shire bred or English draft horses on exhibition.

Canada was ably represented by Hon. M. H. Cochrane with 5 Polled-Angus bulls and heifers and one thoroughbred Hereford steer. H. & I. Groff, Elmira, Canada, exhibited one thoroughbred and two grade Shorthorns. The Canada West Farm Stock Association, of Brantford, exhibited two thoroughbred Shorthorns. M. N. Hood, Guelph, had 23 sheep entered, including Oxford, Merino, Southdown, Leicester and Shropshire blood.

Cattle premiums were awarded as follows: Shorthorn steers, 3 years and under 4, first premium, H. & I. Groff; steer, King of the West; age, in days, 1,305; weight Nov. 15, 2,335 lbs.; average daily gain since birth, 1.94 lbs. Second, J. H. Potts & Son; steer, Dwight; 1,299 days old; weight, 2,060 lbs.; average gain per day, 1.58 lbs. Third, C. Dodge; steer, Ohio I; 1,316 days old; weight, 1,840 lbs.; gain, 1.40 lbs. In the Shorthorn ring, steers 1 year and under 2, first premium went to the Canada West Farm Stock Association; steer, Clarence Kirklevington; 645 days old; weight, 1,620 lbs.; gain, 2.51. For Shorthorn cows, 3 years old or over, first premium went to J. H. Potts & Son; cow, Acorn VI.; 1,404 days; weight, 1,865 lbs.; gain, 1.32 lbs. Third, Canada West Farm Stock Association; cow, Royal Chaner VI.; 2,056 days old; weight, 2,055 lbs.; average gain per day, 1 lb. In the ring for Hereford steers, 3 and under 4 years, there was but one entry, by M. H. Cochrane, of Compton; steer, Sir Richard; 1,120 days old; weight, 1,765 lbs.; average gain, 1.57. When slaughtered, this steer took the sweepstakes for the best carcass of beef on exhibition.

In the ring for grades and crosses, 3 years and under 4, there were 40 entries. First premium went to D. M. Moninger, of Iowa; Shorthorn steer Loring; age, 1,404 days; weight, 2,065 lbs.; gain 1.47 lbs. Second premium went to H. & I. Groff, of Canada; steer, Canadian Champion; age, 1,265 days; weight, 2,400 lbs.; gain, 1.89. Loud

as he was unquestionably superior to the first premium steer.

In the sweepstakes for steers 1 and under 2 years, the grade Shorthorn steer Red Major, exhibited by J. H. Potts & Son, age 215 days, weight 1,600 lbs., gain 2.24, took first premium, and was the cause of much dissatisfaction, as a 475-day-old, 1,025-lb. Hereford grade, which had made an average gain of 2.26 lbs., and in fact one or two other animals, were certainly better than the animals which carried off the laurels. The two steers mentioned were dressed, and the prize winner had as much useless blubber on his back as one would expect to see upon a four-year-old cow; while the carcass of the grade Hereford was pronounced by practical and wholly disinterested judges as the best in the show. The former, however, received the premium, which shows plainly that the same judges should not pass upon the animals alive and dead; or at least it shows the danger of the awards being made to the owner and not the animal, when the former is known, as was the case in this instance.

The blue ribbons and the three premiums of \$50 each for the best dressed carcass in the cattle class were awarded as follows: To Sir Richard, Hereford, age 1,121 days, live weight 1,690 pounds, average gain per day since birth 1.57 pounds, owned by M. H. Cochrane, Compton, Can.; to Jay, grade Hereford, age 972 days, live weight 1,735 pounds, average gain per day 1.78 pounds, owned by H. Norris & Sons, Aurora, Ill.; to Red Major, grade Shorthorn, age 715 days, live weight 1,540 pounds, average gain per day 2.23 pounds. In the swine class the two prizes of \$10 each for the best dressed carcass of a barrow 1 and under 2 years, and under 1 year, were awarded to Bouncer, 539 days old, live weight 588 pounds, average gain per day since birth 1.09 pounds, and to Dick, 322 days old, live weight 380 pounds, average gain per day since birth 1.18 pounds, both Victorias, owned by Scheidt & Davis, Dyer, Lake County, Ind.

Wednesday, Nov. 22, M. H. Cochrane, of Compton, Quebec, sold at Chicago, 29 Hereford cows, ranging from \$200 to \$600, and averaging \$361; 7 Hereford bulls, \$230 to \$540, averaging \$338. Also 25 Polled-Angus cows, \$400 to \$1,300, averaging \$648, and 13 Polled-Angus bulls, \$240 to \$500, averaging \$407. He also sold 66 imported Down ewes at \$24 to \$55 per head, and 26 bucks at \$17 to \$136, mostly at \$30 to \$58 per head. The prices were deemed too low for the sheep, and all were not sold.

On the last day of the Chicago Fat Stock Show, J. H. Potts & Son, Jacksonville, Ill., sold 30 of their finely-bred Shorthorns: 20 cows sold at \$135 to \$425 per head, making an average of \$267.25; 10 bulls, \$150 to \$710, averaging \$393. Fifteen Southdown sheep sold at a range of \$18 to \$35 per head. Mr. John Hope, of Canada, bought a red cow, calved April, 1881, at \$250.

Quite a commotion was raised one morning recently by the telegraph flashing to the world the announcement that the Clydesdale stud of Col. Robert Holloway, at Alexis, Delaware, had been unsuccessfully raided the night previous by a company of more than 100 men, who invaded the premises for the purpose of seizing the large number of imported Clydes which the Colonel held. It seems that Colonel Holloway is the American agent of the Glasgow Clydesdale Breeding and Exporting Co., and that the raid was made by authorized agents of the Company, who claiming that as Holloway owed them considerable money and had recently deeded his stock farm to his wife, they feared he was arranging to swindle them on a gigantic scale. Well, the gist of the thing is, the raiders succeeded in placing upon their special train about \$225,000 worth of horses, but their plans were frustrated, and the whole party was jailed. Col. Holloway still holds the horses, and the bungling raiders will be given an opportunity to rise and explain before the courts.

The Hereford Cattle Breeders' Association have raised a fund of \$2,000 to be offered in special premiums to Hereford cattle at the next fat stock show. It was decided that agricultural societies in the future should offer highest premiums for steers two years old and under, instead of three years and over, as heretofore. The Hereford men are sure of having fine displays of young cattle next year and the year following, but it will be some time before they can make a good show of aged cattle. The Association negotiated with Mr. T. R. Miller for the purchase of the American Hereford Record, but concluded to let him continue that publication and have all entries

subject to the approval of an executive committee of the Association.

The Shorthorn Breeders' Association increased its capital stock from \$5,000 to \$25,000, and steps will be taken looking to the purchase and consolidation of the various herd-books.

The American Norman Horse Breeders' Association has been formed. John Virgur, Fairbury, Ill., president; T. Butterworth, Quincy, Ill., secretary.

The Polled-Angus breeders held a meeting and discussed the advisability of establishing an American Polled-Angus herd-book. The next meeting of the Association will be held at Chicago during the Fat Stock Show of 1883.

The North American Galloway Breeders' Association held an interesting meeting. The herd-book question was discussed.

At the Chicago Fat Stock Show of 1882 the Shorthorns captured the best premiums for live cattle, but the Herefords made almost a clean sweep of the premiums for dressed animals. The butcher's knife is about the most impartial judge.

The awards of the premiums for the best-dressed carcasses show the relative merits of the Herefords and Shorthorns as beef-makers as shown by the test of the slaughter. The fact that Sir Richard's carcass, when dressed, excited the admiration of all good judges of beef was very flattering to his owner, Hon. H. M. Cochrane, Compton, Canada, who imported him from England, where he was bred especially for this show. This steer won in his class for best-dressed carcass, 3 and under 4 years old, the prize of \$50, and the sweepstakes prize of \$75 for the best-dressed of any age. In so doing he proved himself the best animal in the show, according to the best test known to butchers and stockmen, the test of slaughter. The awarding of the two prizes named to Sir Richard, in addition to being justly regarded by the Hereford men as a triumph for that family, is also as justly claimed by Englishmen as a victory for their native land.

A Book on Drainage.

J. & J. W. Bellingsly, of Indianapolis, Ind., have forwarded us a copy of a new book just published by them upon practical farm drainage. It is full of valuable information and is well illustrated. Part one treats on Why, When, and How to Drain. The second part treats upon Manufacturing of Drain Tile, Selection of Clay, Machinery, &c. The two parts are substantially bound in one volume. As the farmers in this country are now recognizing the advantages to be derived from underdraining, this book will commend itself to those desirous of improving their farms. The price is only \$1.

General Notices.

The London Commercial College is a good institution to send your son to, to gain the greatest amount of business powers in so short a time. A special staff is engaged to teach telegraphy. The school is well conducted, and such has been the success of the institution that the Principal has taken the Mechanics Hall in this city, a very large and healthy building, capable of accommodating 400 pupils.

The attention of our readers is drawn to an advertisement in this issue regarding the three prizes offered by the Dairymen's Association of Western Ontario. We hope the Association will have a good contest for their liberal offering.

The prize awarded D. Nicol, of Cataragui, for the best essay was not, as stated in November issue, for the "Household," but for "Homestead and its surroundings."

The Sherbrook Plowmen's Association held their annual meeting on the 18th October. Mr. Tyler, the secretary, was presented with a handsome silver water pitcher in recognition of his zeal in the society's behalf.

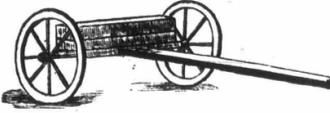
More and more fault is found by our correspondents with the horse racing and attendant evils at "agricultural" fairs. There is a growing and wholesome sentiment abroad that farmers cannot afford to introduce their daughters and sons to such temptations and contaminating company and influences.

Our receipts for November, both for new subscribers and for renewals, were more than double any previous November since the ADVOCATE was first issued.

Transplanting Trees in Winter.

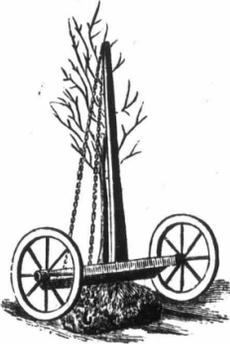
Mr. E. W. Cornell, in the *Prairie Farmer*, gives these suggestions about transplanting trees in winter, a useful method when time is a matter of importance, or where the immediate securing of large specimens for the lawn is desired.

When properly done, the holes should, of course, be dug when the ground is not frozen, and the soil placed in a compact heap, and covered on the south of the hillock with some coarse litter from the horse stable, to keep a portion of the soil from freezing, which will give the planter access at any time during the winter. Sufficient loose soil to pack about the ball of earth will be taken up with the tree, which will be nearly sufficient of itself to

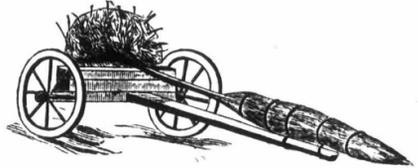


fill the receptacle, and the dressing will be just where wanted to spread about the tree for winter protection, and for immediate nourishment in the spring. Experience has taught me that it is highly needful to furnish some fertilizer for all transplanted trees at the time of removal. In balling out trees, it is not advisable to wait until the ground is frozen hard, as is often done, which greatly increases the labor and expense.

It is only necessary to dig a narrow trench about the tree, which may be quite near the trunk; the soil being damp will be held by the many fibrous roots from falling into the trench, which should be deep



enough for cutting down through the horizontal roots, which, with most trees, will require a depth of from fifteen to twenty inches, laying bare the tap roots. Having dug about all the trees in like manner, all you have to do is to wait until the ball of earth is frozen, when you have only to chop off the main perpendicular root, and, with the trunk for a lever, two men can readily load upon a stone-boat or sleigh, a tree, with a ball of earth attached as heavy as a team can haul. When arrived at the place of setting, drive the boat or sleigh upon the heap of soil in such a manner that it will incline toward the pit, and in a moment you may slide the tree to its appointed place.



Tramp some of the soil from under the dressing around the ball of earth; put the litter about it, and the work is done much better than it could be at any other season of the year; for the multitude of fibrous roots in the ball of earth preserve the tree from any check until the larger roots can throw out a colony from the points where they were cut off. There is no necessity of losing one tree in a hundred by this method, while a large tree can be removed with as much safety as a small one, providing the ball of earth attached be correspondingly enlarged. This method is exceedingly favorable for the resetting of large evergreen trees, which otherwise is attended with much danger of loss from the least drying of the roots. It is a work well adapted to the winter, as it can readily be discontinued at an inclement season, to be resumed at any favorable moment.

If the trees are large the following is a good plan for transplanting, cutting the trench, &c., as before described: Take the hind wheels and pole or reach of a wagon and to the end of the pole attach two chains somewhat longer than the pole, with hooks at the end; the wheels are now backed up to the tree, the pole elevated and carried to the tree and the end fastened securely to the trunk, taking care against rubbing by the use of old carpet or canvas; the saddle or cross-piece now rests against the base of the trunk, the chains are then attached by the hooks to some of the larger roots, and after the branches have been tied close together the tree is ready for removal. The three engravings which we place before our readers will give a thorough idea of the process.

Farming for Boys.

BY THE AUTHOR OF TEN ACRES ENOUGH.

CHAPTER IX.

A Boy's Work-shop.—A Crowd of Poultry.—Making the Hens lay.—A Boy's Library.

Uncle Benny and his boys were surprised at the variety of new things they met on this farm. As long as they tarried and they strolled, the novelties appeared to increase in number. Drawing nearer to the house, they passed extensive beds of strawberries, and long rows of raspberries. When they came to the outbuildings, Mr. Allen took them into quite a large room attached to the carriage-shed, which he called the boys' tool-house. The visitors had never imagined anything like what they saw here. There was a work-bench and a complete assortment of carpenters' and turning tools. Most of them were hung up in places especially provided for them, or arranged in racks against the side of the room, convenient to whoever might be at the bench.

Nothing elated the boys so much as this exhibition of mechanical fixtures. There were little boxes, rabbit-traps, and other contrivances, in the room, which the Allen boys had made for themselves, showing that, young as they were, they had already learned the art of using tools. The Spanglers looked round the room with admiration, perhaps with envy.

"Better than our barn on a rainy day," said Uncle Benny, addressing Tony.

"Now, Uncle Benny," said Mr. Allen, "I have some where read that there is in all men a making or manufacturing instinct. Our houses, ships, machinery, in fact, everything we use, are the practical results of this instinct. Boys possess it strongly. A pocket-knife is more desirable to them than marbles or a humming-top. They can whittle with it,—make boats, kites, and twenty other things which all boys want. Tools are a great incentive to industry and ingenuity. Give a smart boy the use of such a place as this, or a little tool-chest of his own, and he will cease to associate with the rude crowd in the street among whom he had found amusement. He will stay more at home, where he will learn to do many little useful jobs about the house. He will be kept out of mischief. Let him make water-wheels, little wagons, toy-boats, sleds and houses. The possession of a tool-chest will develop his mechanical ability. I don't know who it is that writes thus, but they are exactly my ideas. This is a busy place on a rainy day."

This work-room served a double purpose, as one side was devoted exclusively to hoes, and rakes, and spades, and other farming tools. The inflexible rule of the farm was, that, when a tool was taken out for work, it must be returned to its proper place as soon as the work was done. Placards were posted up behind the lathe and bench, bearing these words in large letters:—

"A PLACE FOR EVERYTHING, AND EVERYTHING IN ITS PLACE."

A little patient drilling of the boys in this rule made them obedient and thoughtful. There were no tools lying in odd corners about the farm, hoes hung up in trees where none would think of looking for them, or spades left in the ground where the last digging had been done; but as each went regularly into its place, so it could always be found when wanted. There was consequently no loss of tools, nor of time in looking for them.

The Spangler boys were also struck with the small size of some of the farming tools. There were hoes and rakes and spades scarcely half as large, and not nearly so heavy, as those usually wielded by men. On taking hold of these, they could feel the difference between them and the clumsy tools

with which they worked at home. The handles were thinner, the iron-work was lighter, and they felt sure they could do more work with these convenient implements than with the heavy ones they had always used. It was as much by the unnecessary weight of the tools that their young muscles were fatigued, as by the labor itself. Uncle Benny noticed the same thing in these, and admired the wisdom of Mr. Allen in thus consulting the comfort of his boys by providing them with implements adapted to their strength.

"If," said the latter, "we are ever to make labor attractive to our sons, we must be careful not to disgust them with it, by requiring them to work with tools so heavy that strong men only can handle them without breaking down their weight. How absurd it would be to harness a man to a horse-rake, and expect him to rake up a hay-field with it. Yet half our farmers never take this matter into consideration, but act as if they thought a young boy could handle a clumsy hoe as comfortably as they do. I find it has paid me well to invest a few dollars in these light tools for the boys. They don't overtask their strength, and hence they can stand up to a full day's work without coming home so fatigued as to wish that no such thing as work had ever been invented."

The Spanglers followed their leaders out of the tool-house with evident reluctance. It seemed to have obtained a stronger hold on their affections than anything they had so far seen. The ownership of a jack-knife had at one time been all their modest ambition desired; then the possession of a tool-chest like Uncle Benny's would have gratified their utmost wishes; but having witnessed this profusely furnished establishment, their longings, like those of children of a larger growth, seemed to acquire intensity as the difficulty of gratification increased. That night they talked of tools until sleep overtook them in bed, and dreamed of them after it had closed their eyelids.

By this time it was so nearly sunset that Mr. Allen's great stock of poultry had congregated just in front of the company, knowing by instinct that, if bedtime were approaching, supper-time also must be close at hand. They knew well the young hands that fed them, and held up their heads in hungry expectation of the gorgeous meal they were to receive. But the feathered crowd was so much larger than it had been a few hours before, that the visitors paused to inspect it.

There were chickens of the best domestic breeds, with here and there an uncouth colossal Shanghai, standing up on great clumsy legs, like a gallinaceous giant, overtopping the squat figures of the common fowls. An irate hen, impatient of the expected corn, would now and then, with sudden peck at some quiet but equally hungry neighbor, seize a feather in the wing or neck of the unsuspecting waiter, and wring from her not only the feather, but a piercing cry. As this barbarous sport was constantly indulged in throughout the crowd, a loud clamor of pain and spite and impatience rose up from among the hungry assemblage. The turkeys stalked at random through its dense ranks, holding up their heads and looking round with a native gravity, although equally keen for supper, and once in a while plunging suddenly forward to escape the pinching lunge of an exasperated hen. Overhead, the pigeons sailed in a large flock, while many of them clustered on the roofs and eaves of the buildings which overhung the feeding-ground, too timid to battle with the turbulent and squalling crowd which now had it in possession, but ready to settle down whenever the gastronomic foray should begin. Altogether it was the busiest and noisiest scene of the kind the Spanglers had ever witnessed; nor did they know it was possible for Mr. Allen's farm to present it, so limited had been their opportunities of seeing even what their nearest neighbors were doing.

"How is it about eggs in winter?" inquired Uncle Benny, addressing himself to Mr. Allen. "Do you get any? Spangler has a brood of hens that appear to do nothing in cold weather but eat. They didn't lay an egg last winter."

"Ah, Uncle Benny," replied Mr. Allen, "he don't manage his hens the right way. Indeed, I don't know any operation of his that's carried on as it should be, though his farm is naturally as good as mine. It is management altogether that makes a farmer, and mismanagement that breaks him. Why, I sent eggs to market twice a week all through the winter, and eggs are high now, you know. I think they have more than paid for all the fowls have consumed—the boys have it down in their account-book, and could tell to a cent both how much feed has been eaten and how much money the eggs have brought. I don't allow

them to receive or lay out a cent without setting it down. If they buy a fishing pole or a Jewsharp it must go down in the book, for at the year's end, when they find they have spent so much money, they must be able to tell me and their mother how it was spent. You may think it a great deal of trouble to be so particular, and it was so to get them into it, but it is a kind of trouble that pays in the end. My boys thus learn early what they must learn some time, and what too many are never taught at all.

"Now," he continued, "others no doubt do better with their poultry in cold weather than myself. But my plan is to confine them in quarters that are roomy, airy, and kept as clean as a thorough cleaning once or twice a week can make them, with warm shelter from cold winds and rain. I am particular about letting them have only clean water to drink, and that always within reach. Then there is a full supply of broken oyster-shells, lime, and bone-dust, with ashes and gravel. All these are necessary to continue good health, and to keep off vermin.

Then, as to feeding, they get every green thing from the kitchen that most persons throw to the pigs, such as cabbage-leaves, celery parings and tops, with turnip and potato parings. They also have boiled potatoes and Indian meal, and every scrap of cold meat from the kitchen. It is not always there is meat enough, in which case I supply them with what is called chandlers' greaves, or cracklings, softened by soaking in water. Of this I give them as much as they want, never allowing them to be without meat of some description. I have often brought home a sheep's pluck, and after chopping it up fine, given it to them raw. They devour these things so greedily as to satisfy me that meat, or animal food of some kind, such as worms, grasshoppers, flies, and other insects, is necessary to the healthy life of poultry. At all events they never laid eggs regularly for me in cold weather until I began to give them plenty of meat."

"I regard your success as evidence of the soundness of your system of feeding," replied Uncle Benny.

"There is really a great deal of reason in it, when one looks into the subject," he resumed. "You see, Uncle Benny, that, when fowls range over the ground in summer, they pick up an almost endless variety of animal food, such as worms, crickets, grasshoppers, and flies. But as cold weather comes on, all this supply of food disappears, and it is very remarkable that as soon as the supply diminishes they begin to quit laying. When these rations are entirely cut off by severe winter weather, the supply of eggs ceases. The two results occur with so much uniformity as to satisfy me that the production of eggs is dependent on the supply of animal food.

"Every farmer," he added, "knows that hens do not lay in cold weather, but few understand the cause, or if they do, they are too careless to apply the remedy. I have learned to look upon a hen as a mere machine for manufacturing eggs. She may be likened to a sausage-stuffer. If you introduce into it no nicely seasoned compound of the proper materials, I wonder how it can be expected to turn out sausages? It is precisely so with a hen—if you expect her to turn out eggs, you must introduce into the wonderful machine which grinds up worms and sheep's pluck into eggs some assortment of the materials that will enable her to project them regularly every day.

"Now the machine will certainly work, if you keep up its energies by giving it such food as it needs. Our stoves require twice as much feeding in cold weather as they do in summer, and I never yet saw a grist mill that would turn out flour unless you put grain into the hopper. There is another curious fact which long practice in poultry raising has brought under my notice; that is, that eggs laid by a hen well supplied with animal food are not only larger in size, but richer in quality. My city storekeeper often tells me that my eggs are larger than any other winter-laid ones that he sees, and that they generally sell for a few cents more per dozen. All these odds and ends of pluck and giblets that my fowls get during the winter cost very little money. But in return for that outlay, look at the results—I really double the length of the laying season, adding the increase at the very time when eggs are scarce and bringing the highest prices. If it were not for this plan of feeding, I don't believe my poultry-keeping would pay much profit. To make poultry profitable you must exercise care. But can you make anything pay without careful management? If there be such things, I should like to know what they are."

"I think you have hit it this time also," observed Uncle Benny. "Whatever your hand touches seems to prosper."

"But most of these little variations from the practice of other farmers are not of my own originating," replied Mr. Allen. "I learned them principally from books and periodicals. From them I obtained the whole formula of how to proceed. But a hint, Uncle Benny, is sufficient for an observing mind. Some which struck me as pointing to valuable results, I followed up and improved upon to the greatest advantage. Now I have a treasury of these things, which I will show you."

He led the whole company forward into the house, and ushered them into a room which he called the library. There were shelves covering two sides of a very capacious room, filled with books, periodicals, and newspapers. The old man glanced hastily at the titles, and found that there were works of history, biography, and travels, with at least thirty volumes of different agricultural publications, showing that Mr. Allen was a close student of whatever was passing in the agricultural world, keeping up from week to week with the wonderful progress which is everywhere witnessed in the art of tilling and improving the soil, and with the multitude of valuable suggestions and experiences which crowd the agricultural publications of our country. There were also pen and ink, paper, and an account book, always convenient for making an entry when in a hurry. On another table, especially provided for the boys, were similar conveniences. In short, the whole arrangements and appliances of the room were such as would make them attractive to boys who had the least fondness for reading, while they would be potent helpers to such as were ambitious of acquiring knowledge. They gave unmistakable indications of Mr. Allen's mind and taste, showing that within doors, as well as without, his ambition was to be progressive.

Uncle Benny looked round the comfortable room in silent admiration, and determined in his own mind that he would make renewed efforts to put within reach of the Spanglers some additional portion of the great volume of current knowledge adapted to their condition. Even they were struck with the cosiness of the quiet room, the two older ones contrasting it with the comfortable kitchen which was their only refuge at home.

"This is a popular place for a stormy day, Uncle Benny," observed Mr. Allen. "This and the work shop are great institutions on my farm. I am sometimes at a loss to know which the boys like best. But the variety, the change from one to the other, is a valuable incident of both. The work shop is excellent by daylight, but here they can spend their evenings, and here the whole family can gather together. It becomes, in fact, the family fireside; and there is no school so important as that. My children learn much at school, but here they learn infinitely more.

(To be continued.)

Special Notice.

In answer to many inquirers—the FARMER'S ADVOCATE will be bound in good, useful covers for 35 cents and 40 cents per volume by bookbinderies in any of our towns or cities.

Christmas Presents.

A. S. Murray & Co., of this city, are the heaviest importers and dealers in gold and silver-ware, and are offering special attractions for the holiday season. What can be more pleasing and useful for a Christmas present than a good watch. They are offering choice Teaspoons for \$2.50 per doz., and Desert spoons, only \$5.00 per doz., and engraved free of charge.

All goods purchased for one month will be delivered free of charge either by mail or express. Give them a trial.

The Sixth Annual Convention of the New York State Dairymen's Association will be held at Cortland, N. Y., on the 19th, 20th, and 21st of December. Addresses will be delivered by Prof. L. B. Arnold, Law, Dr. Sturtevant, and many others of note.

Any subscriber desiring an extra copy for an intending subscriber, should not hesitate to send the name and address on a postal card, and at the same time procure a copy of our Premium List.

Stock Notes.

Green Bros. of Oakville, Ont., offer for sale a grand roan Shorthorn bull calf. See advt.

The first volume of the B. A. Shorthorn Herd Book is now in print, and pedigrees will now be received for second volume.

The sheep mentioned in Nov. number as sold by Mr. Sorbey, of Gourrock, Ont., should have been quoted at prices up to \$150.00, and not \$15.00 each.

Mr. Wm. Armstrong, of Mosside, county of Lambton, has purchased from W. J. Biggins, of Elmhurst Farm, Clinton, the bull calf, Duke of Elmhurst 3rd, for \$200.00.

The Guelph Christmas Fat Cattle Show will be held on the 13th and 14th inst. We hope for a good display. James Millar, the efficient secretary, will give intending exhibitors every information.

H. & I. Groff, of Elmira, Ont., were offered \$100.00 more by an American butcher for one of their steers than was offered to Mr. J. D. Gillett for the steer which won the sweepstakes. Hurrah for Canada stock!

The rates for cards in the Breeders' Directory for 1883 will be \$2 per line, with a discount of 25 per cent. if paid in advance. All cards, without exception, will be \$2 per line if not paid within 30 days after account is rendered.

The fall combination sale of registered Jersey cattle on 2nd Nov., at New York, was well attended, and the prices obtained for the stock were good. The Princess of Bloomfield brought \$490. A bull sired by the Duke of Darlington was sold for \$355.

Mr. Russell Swanwick's Berkshire pigs, sold recently at Bingley Hall, Birmingham, averaged £8 1s. 8d. on 36 animals. Mr. H. C. Brassey gave £31 10s. for a boar, and three others made over £10 each; eight sows made over £10 each, the highest price, £16 16s. being paid by Mr. Walker for a sow which had farrowed.

On the 18th October there were dispatched from Aberdeen two lots of pure-bred Aberdeen cattle consigned to Messrs. Cochrane and Pope, Canada. Most of the cattle were bought by commission by Mr. George Wilkin, Waterside of Forbes, Alford, Aberdeenshire. They were purchased chiefly at the sales of pure stock at Fintray, Montbleton, Advie, and Cortachy. The most valuable consignment goes to Hon. M. H. Cochrane, Hillhurst, for whom Mr. Wilkin secured ten animals at a cost of over 2,000 gs. For the Hon. J. H. Pope, Minister of Agriculture in Canada, Mr. Wilkin has purchased fifteen animals, costing in the aggregate 1,700 gs. At the same time Mr. Pope will receive six Hereford cattle, several prize Cheviots from Messrs. Mundell, Gollanfield, and prize shearing tups from Herefordshire.

J. G. Snell & Bro., of Edmonton, Ont., write that there is good demand for Berkshire pigs this year, and we feel sure that advertising in the ADVOCATE pays; they have sold to N. H. Gentry, Sedalia, Missouri, 1 imported boar and 2 imported sows; Wm. Irwin, London, Ont., 1 boar; G. W. Cavan, Salmonville, Ont., 1 imported sow; Wm. Douglas, Caledonia, Ont., 1 boar; W. Wilson, Ashgrove, Ont., 1 sow; R. Campbell, Edmonton, Ont., 1 sow; S. Dolson, Alloa, Ont., 1 sow; J. V. Snell, Edmonton, Ont., 1 sow; A. Campbell, Brampton, Ont., 1 sow; Robert Manning, Teston, Ont., 1 sow; E. J. Jones, Essex Centre, Ont., 1 Cotswold ram; S. Mason, Hornby, Ont., 1 Southdown ram; T. Thompson & Bro., Brampton, Ont., 1 Southdown ram; W. Wilson, Ashgrove, Ont., 1 Southdown ram.

In consequence of our great increase of circulation and a change in the width of some of our advertising columns, the rate for ordinary advertisements on the white paper (3 columns to the page) will be 25c. per line, and on the cover (4 columns to the page) the rate will remain as at present, 20c. per line. Contracts will be made for definite time and space on liberal terms on application. The above rates go into effect from the 1st of January, 1883.

The FARMER'S ADVOCATE is a paper that should be on every farmer's table, and in my journeys I find great satisfaction in seeing it taken and read by cultured agriculturists, and I feel certain that its influence will have a great tendency to educate lower orders of farmers, whilst instilling new life into the higher.

J. R. ADAMSON,
Manager Canada West Land and Agency Co.



"Home, Sweet Home."

A parcel of country children were sitting by the fire the other day thinking and talking about Christmas, when their mother suggested that they each compose a rhyme on the subject, so a slate and pencil were passed round to the laughing group, and Pick wrote first:

Christmas is coming with cakes and plums,
Doll babies, too, and guns and drums.
A merry old elf he is, I know,
And his sleigh runs swiftly over the snow.
Soon at the door you'll hear him knocking,
In he'll come and fill every stocking.
Back to his sleigh he'll rush in a minute,
Speak to his team, and then jump in it.
Good-by, Christmas, don't be so quick!
Hope you've left something for poor old Pick.

FLORENCE'S RHYMES.

To bed! to bed! you sleepy heads,
For soon the day'll be dawning,
And Christmas comes so suddenly
He never gives you warning.

And those that look, you know must mourn,
For all their hopes he nips;
Instead of getting cakes and toys,
He brings them only chips.

Now, cover up! you funny things,
Three little birdies under wing,
And may you wake to see the morn,
And bless the day that Ohrist was born.

The snow fell softly all that night,
'Twas cold and pure, and dazzling white,
Fit emblem of the birth-robe given
(To cover sin), when fresh from Heaven.

But, ere the golden rim of dawn,
Forth from the East did peep,
From downy nest my little birds
Had awakened out of sleep.

And "Christmas gift!" from all three burst,
But I said, "Mine's the first;
Not all the sweets are sweet as this,
I want my Christmas kiss."

Pink dimpled cheeks to mine lay close,
And that, too, in a trice,
One whispered shyly in my ear,
"Now, mother, is it nice?"

"Be off, you rogue! I see your mocking;
Go hunt for nice things in your stocking."

How to Have Company.

It is not so very hard to have a little company to tea or to spend the evening if one only knows how to plan her work, and does not attempt to crowd too much into one day. If the cake is made the day before it will be fresh enough, and if you are so unfortunate as not to be entirely successful in making or baking, you will have time to remedy this trouble by trying again. If salad is to be part of the supper, the chicken may be prepared in the morning, and then late in the afternoon the dressing may be prepared and the salad mixed. When it is in the dish and ready for the table, wet a clean cloth in vinegar and lay over the top; this will keep it moist, and it will not lose its flavor by standing. If you are to have sandwiches, they may be buttered early, and a damp cloth laid over them. Have the dishes and silver ready and put in a convenient place where you can get them with no delay and trouble of counting. Silver may be rubbed and table cloth and napkins laid aside days before. Above all, after having done these things, do not worry; think over all the times you have been out to tea, and you will hardly be able to recall a single time where anything went very badly. Avoid confusion; if any one is to help you, be she servant or friend, let her distinctly understand what her duty is to be, so that you will not interfere with each other. A few experiments will convince you of the good sense of these directions.

The Family Circle.

Somehow or Other we get Along.

I.
The good wife bustled about the house,
Her face still bright with a pleasant smile,
As broken snatches of happy song
Strengthened her heart and hand the while.
The good man sat in the chimney nook,
His little clay pipe within his lips,
And all he'd made, and all he had lost,
Ready and clear on his finger-tips.

II.
"Good wife, I've just been thinking a bit,
Nothing has done very well this year,
Money is bound to be hard to get,
Everything's sure to be very dear.
How the cattle are going to be fed,
How we're to keep the boys at school,
Is a kind of debit and credit sum
I can't make balance by my rule."

III.
She turned her around from the baking board,
And she faced him with a cheerful laugh;
"Why, husband dear, one would really think
That the good rich wheat was only chaff.
And what if wheat is only chaff,
As long as we both are well and strong;
I'm not a woman to worry a bit,
Somehow or other we get along."

IV.
"Into all lives rain must fall,
Over all lands the storm must beat,
But when the pain and the storm are o'er
The after-sunshine is twice as sweet.
Through every straight we have found a road,
In every grief we have found a song,
We have had to bear, and had to wait,
But somehow or other we have got along."

V.
"For thirty years we have loved each other,
Stood by each other whatever befell;
Six boys have called us 'father' and 'mother,'
And all of them living and doing well.
We owe no man a penny, my dear,
We both of us loving, and well, and strong.
Goodman, I wish you would smoke again,
And think how well we have got along."

VI.
He filled his pipe with a pleasant laugh,
He kissed his wife with a tender pride,
He said, "I'll do as you tell me, love,
I'll just count up on the other side."
She left him then with his better thought,
And lifted her work with a low, sweet song,
A song that followed me many a year—
"Somehow or other we get along!"

Her One Chance; and His.

"There she is," said Dot, as a tall, slight figure with a trailing black dress and a scarlet shawl came around the corner, and walked slowly towards them. "That's Miss Maverick—and, oh, Reginald! she's lovely."

"Is she?" said Reginald, a little dubiously. "I shouldn't"—but the near approach of the stranger kept back the remainder of his sentence, and with his lowest bow he expressed himself "delighted" at meeting Miss Maverick when Dora introduced him.

"My cousin, Mr. Lanster, Katherine."
Miss Maverick bowed in answer, took a calmly critical survey of the young gentleman, and after saying a few words to him and his companion, walked towards the house.

"So that is Reginald Lanster," said she to her; self. "Dot's fate!—lucky little goose!"
"You think she is 'lovely,' do you? debated Reginald, when the tall figure had passed by.

"Not very good taste on your part, I think, Miss Dora;" but, oddly enough he turned his handsome head and looked after her for all that.

"What did you say she was, Dot? A music mistress?"

"Yes," answered Dot; "Our music teacher at school. When papa was calling the other day to see me she was in the room giving me my lesson. He heard her name and spoke to her, and it came out that he and her father were great friends in early life, and he invited her to come home with me for these holidays. Mr. Maverick was a Colonial merchant, or something of that kind, and affairs got bad with him and he died."

"And so the daughter has to teach music!"

"Yes; such a pity! Such toil it is! And she is so nice!" ran on Dot. "I am sorry you do not like her!"

"I did not say I disliked her," contended Reginald, who liked to have everything his own way, conversation included. "How can I like to dislike her, Dot, when I never before set eyes upon her? She is a grand young woman; I concede that, and perhaps will improve upon acquaintance."

"There! Improve!"

Reginald laughed; he was fond of teasing little Dot. She would be eighteen this month, and had come home for good; he was twenty-one. Both of them were wealthy, and according to family plans and projects, in two years more they were to become man and wife.

"Never mind," said Reginald, loftily. "I say she may improve on acquaintance; meanwhile let us talk of something else." But still when a turn in the path brought the graceful figure, with its scarlet and black draperies, into view again, he turned his head and looked at her once more. "She walks well," said he, "like a Spaniard, and they are the most graceful race of women I know."

"How was it you only got here this morning, Reginald?—and are you come to make a long stay?"

"That's as may be," answered Reginald, passing the first query over. "Depends, perhaps, upon how you treat me."

"Oh!" exclaimed Dora. "Why we always treat you well. Papa and mamma are always glad to see you."

"What a dear, simple child it is!" thought the young man, superior in his three years' older wisdom.

He made better acquaintance with Miss Maverick in the evening. Her dark, oval face looked well by gas-light; her eyes were large and lustrous; her heavy black hair, braided in a coronet and destitute of ribbon or ornament of any kind, was a wonder in itself; and although her dress was so plain that, on another woman, it might have seemed "dowdy"—her tall, graceful figure made it seem a garb fit for a princess.

Her manner pleased Reginald. She was lady-like, quiet and dignified; brilliant, too, he found in conversation when he found her talking with his uncle. Mr. Lanster, a pleasant, well-informed man, seemed much struck with her.

"A fine woman," commented Reginald to himself. "I rather admire her." But the "fine woman," apparently ignorant of his kindly feelings, was unapproachable and distant all the evening.

The next day it was the same, and the next, and so on, until at last Reginald Lanster—handsome, petted, conceited fellow that he was—became fairly piqued by the singularly chilly manner of the "poor teacher," toward whom he would have been unusually suave and amiable.

Katherine Maverick, never thinking to offend or slight him, looked upon him as a boy. He had left college before his time, had come into his property, and felt very much disposed to have a "regular good time" of it. He was vain; he had been made much of all his life, and he had been falling in and out of love continuously since the remote period when he had first donned a pair of boots.

He had been deeply in love with three young ladies since coming down from college, but when he started on this visit to his uncle's he made up his mind to devote himself to Dot only during his stay. But he found Dot rather much of a baby, or a schoolgirl, yet. And several days went on.

"Dot is a darling," he said, meditatively, as he strolled down to the beach alone one afternoon, Dot having been borne off to make some stately "calls," in which Regy flatly refused to participate. "Such a dear, little, kittenish thing, so different from that Miss Maverick. Still she's hardly—Halloo!" for a sudden turn, around a jutting rock, caused him almost to fall over a dark-robed lady, who sat there gazing out to sea.

"I am sure I beg your pardon," he said, lifting his hat. "I didn't know you were here."

The soft dark eyes were turned slowly upon him. "Ah, it is you," she said, with a smile, which made Regy wonder how he had ever thought her plain. "I often come here—I like to watch the sea."

The slender hand drew her dress away slightly from the other end of the rock on which she sat, and Reginald, emboldened by the smile, gallantly asked permission to seat himself beside her.

It was astonishing how quickly they became acquainted. Miss Maverick, on the sands alone, and

all to himself, was very different to Miss Maverick in company; and Reginald soon found himself talking and laughing with her freely, as though they were quite old friends.

Not until the slanting beams of the sun warned them of the flight of time did they think of returning homeward, and then, as Miss Maverick, drawing her shawl around her, rose to go, he said, with a boyish directness, which once in a while came to the surface through all his affections: "I like you a great deal better than I thought I did. I hope I shall have a chance to talk with you again."

"Thanks for the wish," she answered, laughing softly, and then they separated, she going slowly towards the house and he waiting behind on the beach to indulge in a cigar, and, for a wonder, thinking.

"By Jove, she's a splendid girl! That little stupid Dot's nothing beside her. I must cultivate my friendship with Miss Maverick. What a shame that she should be a teacher in Dot's school. She's a true lady, if ever there was one."

After that they met often; by accident, as it seemed to Katherine. Sometimes on the beach, or in the shady garden, or in one or other of the quiet rooms of the pretty little house—for this was only Mr. Lanster's sea-side residence.

"Regy seems to be very studious all on a sudden," observed Mr. Lanster one day. "He doesn't care to go out with us at all; he is always strolling out in solitude with a book."

Alas for Regy's "solitary studies!" The book which accompanied him was generally used as a hassock for Miss Maverick's trimly booted feet, and Regy himself was studying quite another volume. Mrs. Lanster did not often invite the teacher to accompany herself and daughter on these visits; the little open carriage held but two besides the coachman, and Regy was sure to find her on the beach or among the rocks. Then perhaps they had a little study together, that of some seductive book of poetry.

This was all very nice and pleasant; still it was dangerous. Regy knew it; perhaps Miss Maverick knew it. Regy knew perfectly well that if the real state of affairs was discovered he would be sent home to his mother in disgrace, and that there would be, as he expressed it, "a devil of a row all round," and Miss Maverick suspected that her stay with Mrs. Lanster might be of extremely short duration, should the full extent of her intimacy with the young heir become known.

Both knew this, and yet perhaps this knowledge was partly that which made the situation so pleasant—a spice of danger is always fascinating; and so, as the days passed, Regy found himself doing precisely the thing which he ought not to have done—falling tremendously in love with this fine girl, fathoms deeper than he had ever gone before.

And Katherine Maverick? She laughed at him, petted him, scolded him, and called him a "foolish boy," unconscious that she daily made the net stronger and stronger. She was not a scheming woman, nor a hard-hearted woman, but she was poor and sick to death of her hard life, and perhaps this rendered her less scrupulous than she would have been. Besides, why did they think her not good enough to pay visits with them?—that stung her; why did they leave her alone to Regy's society? If Reginald Lanster some fine day asked her to marry him—ah! what a prospect it would be! Should she say "yes?" It seemed to be her only chance of lifting herself out of her undesirable life. One consideration would be a drawback to it, and that was Dot.

The child was so honestly fond of her, she confided all the secrets of her innocent heart to her, and the chiefest of these was about her cousin Regy. Katherine felt a little conscience-stricken as the girl talked to her on the subject. "I love him so dearly," Dot said one day; "I wouldn't tell anyone else but you, you seem like a sister now, and I know you can be trusted." And thus, with her curly head on her friend's shoulder, she would talk of Regy and herself and of the "some day" which was coming in the future.

One Saturday afternoon, when Mr. Lanster returned from town, he brought with him a friend, Mr. Sarmiento. Dora observed that she supposed it must be a Greek name, as Mr. Sarmiento was a Greek merchant; very rich and powerful. He lived in a beautiful house near town, and had one little girl, but no wife, for she was dead. A tall, fine man of some six and thirty years, sensible, well informed, with a pleasant voice and manner.

He sat next to Katherine at dinner, and seemed

greatly pleased with her, and was with her afterward during a good part of the evening.

"That's a very nice woman you have staying with you, Lanster," he remarked to his host when they went out together with their cigars for a short stroll, the last thing.

"Ay, so I think," warmly replied Mr. Lanster. "You remember Maverick, who was in the Colonial trade seven or eight years ago?"

"And made that fiasco in it before he died? Yes."

"Not his fault, though. John Maverick was honest as the day."

"His misfortune, then. I dare say it was so. Well, what of him?"

"This is his daughter."

"No!" exclaimed Mr. Sarmiento, in surprise. "His daughter—and teaching in a school!"

"What would you?" quietly returned the host; "Maverick's means died with him, and his wife died with grief soon afterward. The poor girl had nothing left to live upon, so she remained in the school where she was being educated as music mistress, and I fancy—as general drudge."

"Poor girl, indeed! She seems to me to deserve a happier fate," concluded Mr. Sarmiento.

[To be continued.]

To the Bride of To-day,

BY MRS. M. A. KIDDER.

Pray don't forget to be faithful,
Don't forget to be true,
To do your best at the outset
When so much depends on you
For the proud and happy bridegroom,
Oh, sweet and joyful bride,
Now the fragrant orange-blossoms
Have been worn, and laid aside.

Your sweet blue eyes are lifted,
Young wife, to your husband's face,
You wonder if love will always
With fleeting time keep pace,
You wonder if he, your chosen,
Will always his part fulfil.
Remember this much, fair novice,
You can make him what you will.

You may hedge his way with thistles;
You may strew his path with flowers;
You may bring him pain and sorrow,
Or a host of happy hours.
And whichever you do, remember
As you still your way pursue,
Though the years be few or many
That thus will it be with you.

The man is a king forever
In the royal household bower,
But his wife is a sovereign also,
With a sceptre of great power;
She may make his home a palace
With her tact and dainty ways,
Or worse than the poorest hovel
Unblest by the sun's bright rays.

Then make him, youthful matron,
Oh, make him all your own;
For the Great Book says "it is not good
For man to be alone."
He needs a true companion
To brighten his health and home,
That from that blessed heaven he
May nevermore wish to roam.

Fret not at the merest trifles
When life may be so sweet,
Nor treasure them up to greet him
Whenever you chance to meet.
He will oft come home world-wearied.
And care will leave it's trace—
Then let him find at his threshold, dear,
A pleasant, happy face.

Then fret not about the future,
If he is but good and true;
And you do your best at the outset
When so much depends on you
Remember if, through each trial,
Or joyous household scene,
The man is a king forever,
The woman must be queen!

I like the *ADVOCATE* much. It is the best magazine of its class on the continent. No farmer should be without it. W. DODGE, Bridgetown, U.S.

Minnie May's Department.

MY DEAR NIECES.—We are fast approaching the festive season in which the children gather from far and near around the dear old hearth where were spent those happy, happy days of childhood. One of the sweetest thoughts in connection with Christmas Day is this—that as He, the master of the feast, came on earth to insure the eternal happiness of all His believing ones by the gift of Himself, we, for His sake, should make a point of sacrificing something in order to render a poor home, a single individual, or even one little child, the happier on Christmas Day. Join together, dear girls, if your means are small, and spread some cottage table with plenty. Buy a warm garment for some old body who shivers and shivers for want of a shawl. Buy a toy or two for a child who never knows the luxury of purchasing one for itself. Send out a pile of those Christmas cards which have been showered upon you in such abundance during past seasons and gladden the hearts of those who cannot enjoy such luxuries, except as they stop to look at them with longing eyes as they brighten the stationer's window.

About Christmas shopping—take advice from one who has had experience, and don't leave it all until the last thing, for the stores are crammed and the helpers overworked. Purchasers can hardly obtain attention, and gifts chosen in a hurry are often unsuitable. People who drive their shopping, decorations and other Christmas preparations to the last minute are generally too weary to enjoy the day when it comes. Merry hearts, cheerful countenances, loving words, finding expression in loving deeds, a spirit of peace, forbearance and forgiveness all tend to make our own Christmas a happy one.

Now, dear girls, perhaps a few hints about making presents will not come amiss, to some at least. Many persons complain that it is very hard to decide what to make for gentlemen. I own that has been a great query sometimes with Minnie May. To begin with, slippers are a good standby; dressing gown, slipper case, a silk handkerchief with the initials embroidered in the corner, smoking cap, tobacco pouch, cigar case, braces made of kid, fine silk canvas or silk strengthened with heavy cotton cloth and embroidered with some pretty, simple pattern, and lined with a good thick piece of ribbon, a shaving paper case and watch pocket to match made of any colored velvet, plush or silk with embroidered flowers or initials and trimmed with bows of ribbons or bead fringe, are all suitable presents for gentlemen.

Articles as gifts for ladies and children are inexhaustible. Crocheted clouds or scarfs, hoods, sofa cushions, tea cosies, tidies of all kinds, one style being silk and lace, the silk being either hand-painted or embroidered with silks or crewels, toilet sets either worked on canvas with worsted, hand painted on silk or satin, or dotted muslin over a color and edged with lace. Tablecloths made of squares of cretonne joined by narrow black velvet worked with gold silk in feather-stitch and edged with a pretty worsted fringe or some of the cretonne unravelled out. Others are very pretty made of plain cloth, having a border worked in crewel-stitch. Table, mantel and bracket drapes in all styles. Hand painted panels and palettes; small easels, covered with plush, for photographs and panels. An easy and pretty remembrance for a lady friend is made by getting some satin ribbon of some delicate tint two or three inches wide, fringe the ends about half an inch and then paint some pretty, simple flowers on the ends and make into a bow for the neck. For children, crocheted or knit mittens, hoods, jackets, scarfs, boots, etc., are all pretty and useful gifts.

Among the Christmas preparations one of the most important is decorating the home. It may seem a little trouble, but what of that? surely we can do nothing without a certain amount of trouble, and my dear young friends will be doubly repaid when everything is complete. If you have brothers make them useful by sending them to fetch the green and hanging the beautiful devices which

have been so admirably carried out under your deft fingers. There are many ways of using the green. You can make a heavy festoon of it and fasten at each corner of the room, crossing them in the centre where they are caught up to the ceiling. Another exceedingly pretty way is to take a light cord the length of each picture cord and tie small pieces of the green to it, make a light festoon, then hang them over the nails of each picture and let them lay over the cord, then make another long one and festoon tastefully over the lace curtains. This is particularly effective if you have a bow window. Then cut letters out of cardboard and cover by sewing little pieces of the evergreen all over them and pin them to the curtains, forming the words "merry Christmas to all," or any sentiment you may desire. Wreaths of green with red and white berries hung in the windows or on the wall, are very pretty. If you have no berries you can easily make some by tying small peas into turkey-red and white cotton, and bring the rough edges among the green. Dip some of the leaves and sprays of evergreen in a solution of alum and water, allowing a pound of the former to a quart of the latter. These are very pretty for decorating the chandelier, the effect being doubly beautiful from having the light so near them. Bare branches dipped in the same solution and placed here and there among the green secures variety and looks very quaint. All of these preparations afford a great deal of amusement to the young people, and certainly the pleasure manifested by all who see them is worth all the trouble.

A few words before closing about New Year's Day. Many if not all my readers receive callers on that day, and a few hints may be acceptable. It is fast becoming the fashion for two or three young ladies who have much the same circle of acquaintances to join together and receive at the house of one of them, they each to do their share towards providing the refreshments, and take pains to let their young friends know where they are receiving. The advantages of this plan are that some gentlemen have a number of places to call, and if they can see two or three of their lady friends at one house they are saved a great deal of time and travel. Then, on the other hand, many young ladies find it rather hard to entertain gentlemen, especially where two or three happen in at the same time, whereas in the above arrangement they can assist one another at entertaining. When preparing refreshments we advise as little spread as possible. If you have a convenient little nook in your parlor to lay a small table there is nothing out of the way in doing so. First of all make some nice thin sandwiches; chop the meat up very fine and season it is the best way. You will find that most gentlemen prefer a good sandwich to sweet cake; then one or two kinds of cake and fruit if desired; tea, coffee and chocolate. Many use wines; of course that is a matter of choice; my advice is to omit all such beverages. It is becoming quite a common thing to offer milk, and very many gentlemen prefer it to anything else. You must not expect your guests to eat a great deal, and do not be offended if some should refuse to take anything. If a gentleman has many calls to make during the day it would be impossible for him to eat and drink everywhere, or he might be laid up the next day, all because of not liking to refuse his fair hostess. I should like to talk with you longer, but time and space will not allow, so I wish you, one and all, every pleasure and happiness this Christmas can afford, and trust the new year will have a bright and happy dawning for all my dear nieces.

MINNIE MAY.

Answers to Enquirers.

DEWDROP.—1. The constant use of good lip salve will heal the lips. Cold cream and glycerine are also good. 2. A few drops of ammonia added to a gallon of water, and applied once a week to the potted plants, is said to perform wonders.

A SUBSCRIBER.—1. It is altogether a matter of taste whether the bride dresses in white or not; any quiet color is quite as suitable, unless for a grand wedding. She should not change her dress until after the dinner or breakfast is over. 2. If the bride wears white, the bridesmaid may wear white, cream or any delicate tint, but if the bride dresses in a dark, either evening or travelling dress, the bridesmaid can wear any medium shade; she should not change her dress. 3. If white dresses are worn, white slippers would certainly be most suitable; otherwise black are preferred.

NANETTO.—Wash flannels in a tepid lather, ring well and dry quickly. Hot water and imper-

fect wringing will be sure to make them shrink. We believe it is considered best to sleep with a little of the window open at night, and we know many old people who have always done so, and thought it one of the causes of their healthy and long life; no draught, however, is good.

Recipes.

BEAN SOUP.—Soak a quart of navy beans over night. In the morning put them over the fire in three quarts of water, with three onions fried in a little butter, one small carrot, two partly cooked potatoes, a small piece of salt pork and salt. Boil slowly five or six hours. Then pass through a colander and return to the fire. Season with salt and pepper. Bits of bread fried brown in butter make a pleasant addition; celery and clover are sometimes added; a cupful of cream mixed with the soup makes a pleasant change.

CHRISTMAS CAKES AND DISHES.

A good plum cake is made as follows: Beat up one pound of butter and one pound of sugar, the whites of eight eggs and the yolks beat separately; half a grated nutmeg, two teaspoonfuls of ground cinnamon and two ounces of candied orange and lemon peel are added and beaten up to a light batter for a whole hour to make the cake light. This cake is baked for three hours and makes a good New Year's or a Twelfth Day cake. Icing can be added if desired.

DOUGHNUTS OR FRIED CAKES.—Make a batter of flour, eggs well beaten and sugar, and add a few caraway seeds. Have ready a pan full of hot lard and drop into it large spoonfuls of the batter, or the batter may be made stiff enough to stamp out into rings, or made into flat cakes, which are cooked in the hot lard until browned. When taken out, a little white sugar is sifted over them.

MINCE PIES.—A pound of lean, tender beef and two pounds of suet are chopped fine; three pounds of currants, three pounds of pared apples and half pound of candied lemon are chopped fine and added to the former. To these are added the juice and grated rind of a lemon, two pounds of white sugar and half a grated nutmeg and a quarter of an ounce each of mace and cinnamon pounded fine. A pint of good cider and a glass of brandy are also added, and the whole is well mixed. Pack into a stone jar to keep.

COLD CREAM.—A. T. sends the following: One half ounce spermaceti, twenty grains white wax, two ounces oil sweet almonds, one ounce pure glycerine, six drops oil of rose; melt the first three ingredients together, and when cooling add the glycerine and oil of rose, stirring until cold.

MACCAROONS made as follows: Remove by scraping the skins of half a pound of the best almonds, and pound them to a paste in a mortar or bowl, with two tablespoonfuls of water flavoured with vanilla essence; beat up the whites of 8 eggs to a froth; add a pound of fine sugar and mix evenly with the almond paste. Drop it on tissue paper in small rounds and bake 20 minutes.

RICE CAKES.—Beat up 8 ounces of butter to a cream, add the whites of 7 eggs, well beaten, then a pound of sugar, then the beaten yolks of the eggs; lastly beaten in a pound of ground rice very thoroughly; drop on a baking tin, sift sugar over the small cakes and bake 20 minutes.

GINGER CAKES.—Beat up 4 ounces of butter with four ounces of sugar, an ounce of ground ginger, and the yolks of 4 eggs, well beaten. Add flour to make a fine paste, roll out very thin and bake 20 minutes.

Cinders in the Eyes.

Persons travelling by railway are subject to continued annoyance from the flying cinders. On getting into the eyes they are not only painful for the moment, but are often the cause of long suffering that ends in a total loss of sight. A very simple and effective cure is within the reach of every one, and would prevent much suffering and expense were it generally known. It is simply one or two grains of flaxseed. These may be placed in the eye without injury or pain to that delicate organ, and shortly they begin to swell and dissolve a glutinous substance that covers the ball of the eye, enveloping any foreign substance that may be in it. The irritation of cutting the membrane is thus prevented and the annoyance may soon be washed out. A dozen of these grains stowed away in the vest-pocket may prove in an emergency worth their number in gold.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—I am sure that most of you will agree with me that there is nothing in the whole year quite so delightful as taking down the Christmas stocking. Of course it is charming to hang it up, but one never feels the least bit sleepy on Christmas Eve, and it seems so long to wait until morning shall come. The air is astir with excitement and mystery, and Santa Claus is known to be hovering about waiting for eyes to be closed, and children to go comfortably away to dreamland. By and by everybody does manage to fall asleep, and then by some strange magic, the long, limp stockings are crammed with toys, books, tools, dolls and skates, or ribbons, laces and candies. How beautifully they bulge out, every inch of room packed. Now look at these dear little children in the picture, who hung up their stockings on Christmas Eve. How delighted they each appear, as they come down in their night-dresses, to find their stockings full of beautiful gifts from loving hands. Even the little baby turns out so early in the morning at the sound of its elder brothers' and sisters' merry voices, and joins with them in crowing over the pretty presents. And then the rattle and din commence. Uncle Tom remembers well when he was a little boy what a great racket he used to make with all sorts of whistles, mouth organs, tin horses, etc., most of which would be broken before bedtime. But you must remember, my dears, that a large part of your Christmas happiness comes from the gifts you bestow as well as from those you receive. It is not a selfish festival in homes where brothers and sisters exchange love-tokens, and the weeks you spend in making presents with your own hands, in saving your pocket-money, and planning to surprise your dear relations or friends are very happy weeks indeed. You will all be on the look-out in January number to see who were the successful prize-winners for the best new puzzles and the most correct answers to puzzles for the year 1882. I have kept an accurate account of the names and numbers of correct answers sent in by all. So it will be easy to ascertain the names of the winners, a complete list of which will be published in our next. I have no doubt but some will be disappointed out of the great number I hear from month after month. To those I would say "try again." And I hope my large circle of nephews and nieces will increase after Xmas. There is room for hundreds to join, and Uncle Tom is always glad to receive new members. I would call your attention to the many valuable and beautiful presents Mr. Weld has offered to any one sending in one or more new subscribers. I hope my nephews and nieces will try and win some of them. They are all very nice prizes and just as represented. Now let me have your answers as soon as possible, so that I can award the prizes and finish our work for 1882. Wishing each one of you a very merry Christmas and a happy New Year,



An Austin teacher was calling the roll. Just as he called out "Bob Smith," Bob pushed open the door, out of breath, and answered: "Here, sir." "Robert, next time you must not answer to your name unless you are here." "Yes, sir; I'll try not to."—[Texas Sitings.]

PUZZLES.

1.—CHARADE.

If you met a person who was my first you would be glad to get my second of him, and you might even wish he were in my whole. ELIZ. E. RYAN.

2.—ANAGRAM.

Msihact semoc ubt ceon a ryae,
Dna nhew ti eocsm ti gsinrb odog erche.
—ELLA McNAUGHTON.

3.—Whole, I mean to clip;
Behead, I mean to listen to;
Behead again and I am part of the body;
Transpose, and I am a verb.

4.—First in scarlet, not in black;
Second in drake, not in quack;
Third in grey, not in white;
Fourth in quarrel, not in fight;
Fifth in Turkey, not in hen;
Sixth in woman, not in men;
Seventh in Punch, not in Judy;
Eighth in stone, not in ruby;
Ninth in verb, not in noun;
Whole a poet of great renown.
—A. J. TAYLOR.

5.—HIDDEN AUTHORS.

I.—When Phillip opened the door Roger came in quickly.

Names of those who sent Correct Answers to November Puzzles.

Addie V. Morse, A. J. Taylor, Willie Bowman, Gib Arnold, C. Gertie Heck, Minnie G. Gibson, Charles J. French, Charlie S. Husband, Richard Kingston, Esther Louise Ryan, Eveline Smith, Jas. Lindsay Wright, Elizabeth E. Ryan, Clara Cowan, George Cousins, Harold Ellis, Frank Lester, Annie Smith, Jessie Millman, Willie Montgomery, Charlie Mitchell, Maud Harkness, J. A. Key, W. H. Bateman, Fred Mills, C. G. Keyes, A. Phillips, Arthur H. Mabec.

The Little Ones' Column.

Who Will Wink First?

Upon the wide arms of grandpapa's chair
Little Sir Trotty and Polly the fair,
Like two little rabbits, sit perched on each side,
And stare at each other with eyes open wide,
Don't whisper, don't laugh, don't disturb them, I pray,
For "Who will wink first?" is the game that they play.

Little pug noses, tip near touching tip;
A frown on the brow, no smile on the lip.
They're as sober as owls, which they surely should be;

For this is a trial of great skill—
don't you see.
And grandpa is judge, and he will tell true
Which one will wink first—the
brown eyes or the blue.

The Wise Old Mouse.

A wise old mouse went on tip-toe into the kitchen to see if Jane had swept up all the crumbs. There to his surprise he met Buzz, the cat. "Oho," cried the cat, "this is lucky! Now I shall have a fine dinner." The mouse saw that he was caught. So he said, "Thank you, Mr. Buzz; but if I am to dine with you, I should like first to put on my red Sunday coat; my old gray jacket is not nice enough." This amused the cat. He had never seen the mouse with his red Sunday coat. "Perhaps he will taste better," thought he. "Very well, Mr. Mouse," he said; "do not be long, for I am hungry. I will wait for you here." The mouse lost no time, but at once popped into his hole. The cat waited all day, softly singing to himself;

but the wise old mouse did not come back. Since then there is a new proverb in cat-land. It is this: "A mouse in a gray jacket is sweeter than a mouse in a red Sunday coat."

"I Beg Your Pardon."

A civil word is the cheapest thing in the world, and yet it is a thing which the young and happy rarely give to their inferiors. See the effect of civility on a rough little street boy. The other evening, a young lady abruptly turned the corner, and very rudely ran against a boy who was small and ragged and freckled. Stopping as soon as she could, she turned to him and said: "I beg your pardon; indeed, I am very sorry." The small, ragged and freckled boy looked up in blank amazement for an instant; then, taking off about three-fourths of a cap, he bowed very low, smiled until his face became lost in the smile, and answered: "You can hev my parding, and welcome, miss; and yer may run agin me and knock me clean down, an' I won't say a word." After the young lady passed on, he turned to a comrade and said, half apologetically: "I never had any one ask my parding, and it kind o' took me off my feet."

LOCUM TENENS.—Choleric Old Gent: Christmas box? Why, you aren't the regular sweeper! Arab: No, sir; but I mind the getleman's broom, sir, while he's gone for his 'alf-pint! [Exit Old Gent, storming, with symptoms of apoplexy!]—[Punch.]

II.—That man, son-in-law of mine, joined his cot to mine last week.

III.—He stood beholding rays from the noonday sun.
CALVIN W. FINCH.

6.—Why is Athens like the wick of a candle?
On which side of the pitcher is the handle?
ELLA McNAUGHTON.

7.—I. A consonant; II. a Spanish title; III. A girl's name; IV. A precious stone; V. To submerge; VI. A girl's name; VII. A river of England.
H. W. MCKENZIE.

Answers to November Puzzles.

- 1.—Post.
- 2.—Drink, rink, ink, kin.
- 3.—
C H A R L E S
D O N E G A L
J A M A I C A
W I N D S O R
M I N E R V A
CHARLES READE.
- 4.—Tel-el-Kebir.
5. REBTS.—A clear conscience fears no accusation.
- 6.—(2) Admiral Seymour.
2, 14, 6, 3, 1—drama
10, 12, 13, 5—your
8, 7, 4, 11—slim
2, 14, 9, 6, 11—dream.
- 7.—(3) Fright, right, rig.
- 8.—Cur-rent.

Direct Ans-
les.

ie Bowman,
G. Gibson,
nd, Richard
line Smith,
Ryan, Clara
llis, Frank
Willie Mont-
kness, J. A.
G. Keyes,

mm.

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and he will
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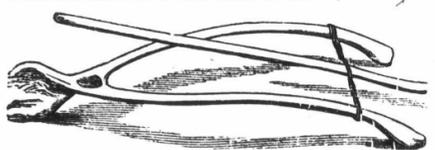
Mouse.

rent on tip-
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the crumbs.
met Buzz,
ied the cat,
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The mouse
ght. So he
r. Buzz; but
ou, I should
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Sunday coat.
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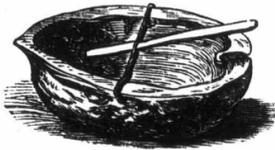
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The other
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lank amaze-
about three-
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answered:
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e and said,
one ask my
feet."

: Christmas
ar sweeper!
man's broom,
! [Exit Old
popplexy!]-

DEAR UNCLE TOM: I send you the pictures of two "jump-frogs," as we call them. One is made of the wish-bone of a chicken, by tying a stout string double across between the ends of those parts of the bone that stand up like the tops of a Y. A piece of stick is then put between the two lines of twine and twisted round and round, away from the flat side of the shaft of the Y, on which



a little bit of cobbler's wax is stuck to hold the end of the stick, while you lay the "frog," wax down, on the table for a moment. The twisted cord pulls so on the stick that the stuck end soon comes off the wax, the stick springs against the table, and up goes Mr. Frog with a jump. My baby brother thinks this is great fun.



The other jump-frog is made from a half-shell of a large English walnut, the double twine being strung through holes carefully bored near the edges of the shell, one at each side where it is broadest across. He is made to jump by the same method used for the other frog. I hope you will have the pictures drawn very plain, so that other boys can make jump frogs as we do at home. Yours truly,
H. T., Delaware Ont.

Commercial.

THE FARMER'S ADVOCATE OFFICE,
London, Ont., Dec. 1, 1882.

Another month of fine mild open weather, and free of storms, no doubt has enabled every farmer in the Dominion to be well prepared for winter. We have not had sufficient rain to raise the streams and rivers to their usual height at this time of year, and the result is that the mills are either running half-time or else by steam power.

WHEAT

Has ruled very quiet and with very little change for the past month. The movement has been very light and there seems to be no disposition to influence prices either way. A leading New York house writes:—"It now appears evident that we shall have a large supply at the close of the season. Unfortunately for the business of this port no supplies of moment of new spring have come to hand, and many orders have remained unfilled or have been cancelled. It seems very evident that the millers will not be able to grind up more than half the surplus of the Northwest. They may attempt more, but will have some trouble to market their flour, as it is now relatively lower than wheat, with the exception of fancy patents. It is very evident the milling capacity of the Northwest has increased very rapidly, and the increased production must tell on the markets of Europe. It is now evident that the production of wheat in Europe is in excess of any year since 1868. Thus far only a small portion of the surplus wheat of the country has been exported, and with a crop so much larger than that of 1880, we are sorry that farmers have been unwilling to market their wheat largely as they should have done in September and October. We suppose that after the close of navigation, when freights are twenty-five per cent. higher, that farmers will be anxious to sell, and they will find English millers will be slow to pay any advance."

The Monetary Times, in an article on the crop of 1882, estimates the excess in value of this year's product of the different kinds of grain over last year at \$50,000,000. This will be a large addition to the actual wealth of the country, and which in reality may be classed as capital. However, we hope farmers will not forget that they cannot always expect such crops, and should invest this large surplus in something permanent—something that would be a lasting improvement on the farm. And we know of nothing that will tell better, especially in a season of poor crops, than under-draining.

PEAS
Are high in Liverpool at the moment, but this is caused by temporary scarcity. There has not been many moved as yet.

CORN
Keeps very firm, but will no doubt decline as soon as the new crop begins to move in the west, which will be about the New Year.

CLOVER SEED.
There has been very little threshing done as yet, and it is hard to say how the yield will be. This is one thing certain, there will not be the crop of seed to move there was last year.

The shipments of clover seed from Ontario during the twelve months ending with September are estimated at 142,800 bushels, which, at \$5.25 per bushel, means the nice sum of \$750,000. The plan now adopted of bulking and re-cleaning after being put into storehouses is being the means of bringing Canadian seed to the front for both quality and color. Our farmers will keep this in mind, and try and assist the exporters of their seed by making it as clean as possible and free from all foul seeds.

PORK.
The weather is now quite favorable for killing and marketing pork, and we think farmers who have their hogs ready for the butcher will do well to dispose of them.

CHEESE

Has been very quiet, but steady, and is now well bought up. We think that notwithstanding all that has been said about the heavy stocks and large English make, we shall see higher prices later on, and a bare market before next spring. Advices from New York state that stocks are well cleared out, and that all now left in that country will be wanted for the home trade before spring. The shipments from New York to Europe have been very much short of former years, while those from Montreal, up to the close of navigation have been the heaviest on record, being 714,000 boxes against 547,000 for last year. Those figures must be very gratifying to the Canadian dairymen. Still, they must remember that had the make in the United States been up to the average they would have seen very much lower prices. The falling off in the shipments from New York are said to be caused by short make and heavy local trade. The latter cause is a good feature in the trade, and our Canadian dairymen will do well to cultivate this home trade as much as possible.

BUTTER

Keeps well up, and there seems to be a good demand for all that is coming forward. Fine creamery is held at 30 cents, and good dairy at 20 to 22 cents. Another new feature in the butter trade is the introduction of "Olive Butter." This article is a wholesome substitute for lard and butter for cooking purposes, and as one pound of it goes as far as two pounds of lard, costs much less, and is in many respects superior, the economy of the new preparation commends itself most forcibly to public attention and use. This is another blow at poor butter, and we hope the day is not far distant when all butter for market will be made on the factory system.

FARMERS' MARKET.
LONDON, ONT., Dec. 2nd, 1882.

Table with 2 columns: Item and Price. Includes Red wheat, Deihl, Treadwell, Clawson, Corn, Oats, Barley, Poultry (Dressed), Chickens, Ducks, Geese, Turkeys, Poultry (Undressed), Live Stock, and Milch cows.

Table with 2 columns: Item and Price. Includes Wheat, fall No. 1, Wheat, spring, Barley, Oats, Peas, Flour, Rye, Beef, hind qrs., Beef, fore qrs., Mutton, Lamb, Veal, Hogs, per 100 lb., Potatoes, bag., Apples, brl., Tomatoes, bu., Beans, bu., Onions, bu., Chickens, pair., Fowls, pair., Ducks, brace., Geese., Turkeys., Butter, dairy., Eggs, fresh., Wool, per lb., Hay, per ton, and Straw.

LIVE-STOCK MARKETS
BRITISH MARKETS, PER CABLE.

Liverpool, Nov. 27.—With light supplies and a good demand the cattle market has been active, and values are about 10 cents dearer than last week.

Table with 2 columns: Item and Price. Includes Choice steers, Good steers, Medium steers, Inferior and bulls.

In the sheep market there has been a good active movement at firmer prices for desirable grades. The supplies from America and Canada are insignificant.

Table with 2 columns: Item and Price. Includes Best long woolled, Seconds, Merinos, Inferior and rams.

GLASGOW—PER CABLE.

Our foreign arrivals consisted this week of 225 cattle from the States and 285 from Canada. We quote trade for cattle at slightly higher prices and the same for sheep. We could have done with more cattle than arrived here this week. The outlook for future markets is encouraging.

Table with 2 columns: Item and Price. Includes Good American steers, Medium American steers, Good American Sheep, Good Canadian steers, Medium Canadian steers, Good Canadian sheep.

NEW ADVERTISEMENTS.

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FAIR for the SALE of STOCK will be held on

THURSDAY, DECEMBER 14.

See bills.
WILLIAM BROWN, JAMES MILLAR,
204 President. Secretary.

NOTICE.

THE BOARD OF DIRECTORS OF THE Dairymen's Association of Western Ontario have resolved to offer

THREE PRIZES!

of \$40, \$25 and \$15, for the three best essays on the three following subjects:—

The Theory and Practice of Cheese Making, together with the proper curing of the same for the English markets. The same prizes will be offered for the three best essays on Butter Making for exportation. And three prizes of a like amount for the three best essays on Dairy Farming.

Said essays not to occupy more than twenty minutes in the delivery, and to be addressed to the Secretary of the Association, at Ingersoll, not later than the 15th of January next.

Competent judges will be appointed in each class to examine and report upon the same. Each essay to be distinguished by a number, and not signed by the author.

By order, C. E. CHADWICK, Sec'y.
Ingersoll, Nov. 23, 1882. 204

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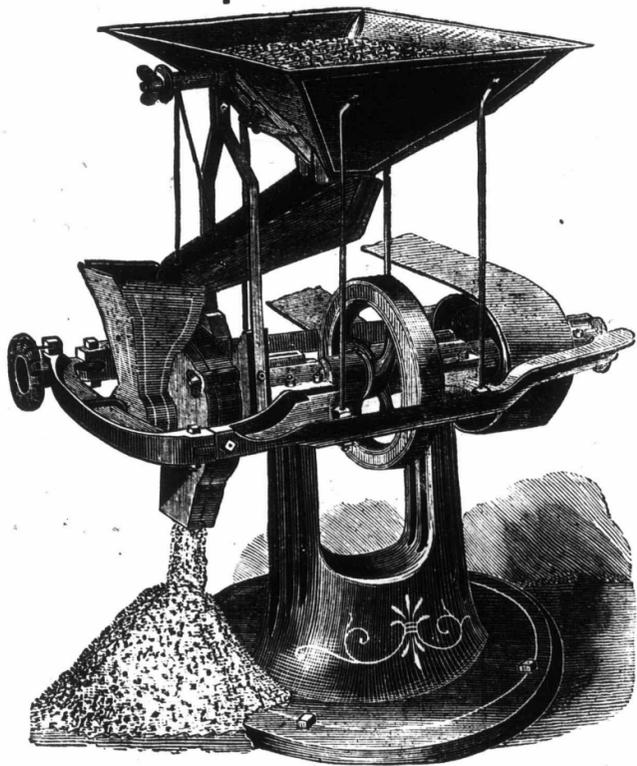
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