

FARMER'S ADVOCATE

PERSEVERE
SUCCEED

AND HOME MAGAZINE.

VOL. XVI.

LONDON, ONT., JANUARY, 1881.

NO. 1.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

THE FARMER'S ADVOCATE

Home Magazine.

WILLIAM WELD, Editor and Proprietor

The Only Illustrated Agricultural Journal
Published in the Dominion.

SUBSCRIPTION:

\$1.00 in advance; \$1.25 in arrears, postpaid. Single copies 10 cents each.

Subscriptions can commence with any month. Subscriptions forwarded by Registered Letter or Post Office Order are at our risk.

The *ADVOCATE* is discontinued on notice and all arrears must first be paid.

Subscribers who desire to change their P. O. address will send both old and new address.

ADVERTISING RATES:

Twenty cents per line of nonpareil, and fifty cents per line for special notices in reading column.

Special contracts made for definite time and space.

CONDENSED ADVERTISEMENTS.

Farms wanted, for sale or to rent, under twenty words and not exceeding four lines, 50c. each insertion.

Live stock wanted or for sale, under twenty words and not exceeding four lines, 50c. each insertion.

Stock Breeders' Cards at \$1 per line per annum, in advance. For Commission to Agents on new subscribers, &c., address THE FARMER'S ADVOCATE, LONDON, ONT., CANADA.

Exhibitions.

We have attended exhibitions of one kind or another every year for the past half century. We have seen some of the largest that have been held, both in Europe and America; and we have heard some great orators, preachers and scholars. Grand, imposing and instructive as they all may be, we look on the properly conducted township agricultural exhibition of Canada as equal in power to any preacher, orator or great exhibition as a teacher. They have improved the farmers of Canada to a greater extent than it is possible to improve them in any other manner by so small an expenditure of time or money. If a township exhibition is properly conducted, nearly all the farmer's family attend it. The day is made a grand, social, instructive holiday for all. Of course the exhibitors have work to do, but that work is done with pleasure. Recreation and amusement are necessary to the proper development of the mind. The assembling together of the finest products of nature, aided by the best practical skill of man—to see this assemblage—to notice the admiration of the child in its mother's arms, or the tiny toddler by her side calling its mother's attention to some fruit or flower that it had never seen at home—what preacher or schoolmaster can equal such a lesson? When we consider that these great instructors and elevators are now placed within the easy reach of every child in the land, do you not think we should be taking a backward step to try to suppress them? It is our opinion that more

real good is done by the small Government expenditure for the maintenance of these township exhibitions than by any other public money expended in this Dominion.

Every township exhibition may not be a success. Some townships may be sparsely settled; the exhibitions in others may have been improperly managed. Those that are most successful are those that are conducted most honorably. We have known officers who have appointed judges to suit their own purposes. Sometimes a political party or some private sect desires to show favors either by the election of officers, appointment of judges or awarding of prizes. Such steps have invariably resulted to the injury, and sometimes to the destruction of an exhibition. To have a successful exhibition you must begin at the election of your officers. In the first place select a good, active Secretary. If you have a good one and one that has given satisfaction, by all means retain him; but strive to elect at least one-quarter of the directors from those that have not yet held office and to choose them from that party or sect that is not as fully represented as it should be. By all means avoid having your exhibition directors in the form of a "ring." If your population is divided by sect or party, try to unite it by acting fairly and justly to all; rather concede a point than endeavor to gain one, except it is for the sole benefit of your society in an agricultural point of view.

When attending the Delaware Township Exhibition spoken of in our last issue, one of the oldest men in the township told us his advice to his sons was this:

"NEVER SHOW HOG at an exhibition." Well, this remark might well be considered by every exhibitor and every officeholder. We have known officers of very inferior quality crave, ask and use the influence of their friends to keep them there, even when their actions were averse to the interests of the association to which they belonged. They seem to think that it would be a disgrace to be beaten, and they lack the discernment to see that they would gain honor, benefit themselves and the society by tendering their resignation. They might retire for a year or two, and then accept office again.

The appointment of judges is one of the most important duties that directors are called on to perform. Judges in general deserve more thanks for their patience and time than we are apt to accord to them. Their work is often arduous and difficult; sometimes an erroneous decision will be made; some defect will be unobserved at the time, and grumblers and complainers will exist as long as the sun shines, so you cannot expect to please all. In your selection of judges be sure and avoid any man against whom the slightest insinuation has ever been thrown out about his having favored some friend in awards given by him. We have known judges who have given awards against their

own knowledge of right and wrong. Such men you must not select if you wish the permanent success of your exhibition, or even your own reputation. If any person in your township is not favorable to your agricultural exhibition, and does not come forward actively to aid it, we would strongly advise you to reject such a person for any other office in your township or out of it.

We write this article to prevent, if possible, the contemplated destruction of township exhibitions. We regret that there are some large land holders and small-minded men in each township who do not aid these most useful agricultural schools as much as they should, as these exhibitions tend to increase the value of these large holdings. We would even suggest that township councils might have the power of aiding the exhibitions from the township moneys.

Those who are opposed to township exhibitions have an opportunity of expressing their views in our columns. We wish to encourage open and free discussion on all subjects of agricultural interest.

Sheep in Winter.

Two extremes should be avoided in the matter of shelters. One may be insufficient, while the other may be so close as to be unhealthy. The majority of mistakes are with those who shelter insufficiently. In such instances, more food is consumed than would otherwise be required, and no corresponding benefits accrue. The shelters on the sheep farm should be made to increase in size as rapidly as the flock multiplies its numbers.

The water supply should be carefully looked to. A flock of given number will drink more water in winter than will be needed when on pasture. If such an arrangement can be economically secured, access to water twice a day is better than but once. This for two reasons—first, the more timid animals, which are likely to be held back in the morning by their stronger fellows, have a chance when the latter are not so eager; and secondly, all danger from over-drinking of cold water is obviated. Use of snow in lieu of water should be forced upon the flock only under the extremest necessity. Stock will live under such circumstances, but satisfactory thrift will not be secured.

Ewes in lamb should, as far as practicable, be fed and sheltered separately from the non-breeding animals, as the crowding and more rapid movements of the latter are apt to result injuriously, while such separation makes more convenient certain little attentions to which breeding ewes are entitled as the yearning season approaches, and which may be profitably accorded to them.—[Ex.

We return our thanks to the hundreds of subscribers who have kindly shown their papers to others, and have sent in one or more new subscribers. Those who have not exerted themselves and have not sent in a new subscriber, we would particularly request to try to send one during this month. If we have, as you admit, boldly and fearlessly advocated your interests, you might at least try to strengthen our elbow to do more. There are thousands of readers of this journal who might with but little exertion aid the agricultural paper that has aided them. Let us see that you are a real friend to agriculture by sending in one or more new names during the coming month. We are addressing this to each one personally.

English Letter, No. 21.

[FROM OUR OWN CORRESPONDENT.]

Liverpool, December 6th.

Canada has proved her capabilities in yet another way; not only can she produce the best of bone and muscle feeders, but she can produce that bone and muscle itself in a decidedly convincing form. Canada, in the person of her hero, Hanlan, is now the rowing champion of the world. His great contest with Trickett, the Australian Champion, about three weeks ago, on the Thames, which has witnessed so many memorable contests, was quite a hollow affair, Hanlan doing just as he liked, and playing with his opponent much as a cat plays with a mouse. Laycock, another Australian oarsman of high reputation, has thrown down the glove to Hanlan, and a match, for £1,000, I think, is arranged to come off early in January. Many people are inclined to think much better of Laycock's chance than of Trickett's, but Hanlan had so much to spare last month that I shall be indeed surprised if he is not found capable of holding his own with Laycock also. Anyway his last month's feat was a memorable one. There is no reason, however, why Canada, the land of great lakes and broad rivers, *par excellence*, and the land of a fine athletic race, should not maintain the highest rank in the athletic, and especially in the rowing world.

We are having quite an Indian Summer here. This morning, as I write, the weather might have been picked out of the middle of June or September, and nobody know the difference, save from the altitude of the sun. The weather has been so wet, however, as to make but an indifferent sowing time.

Arrivals of Canadian cattle, I regret to say, have of late been of very indifferent quality. A number of Canadian "store" cattle have been disposed of in Scotland and Ireland at a good profit to the shippers, the farmers buying more boldly because of the abundance of feeding stuffs, especially root crops. The prospects for the ensuing season, I am informed by the leading salesmen here, are exceedingly good. Canadian shippers appear to have been even more eager than last year to secure freight in advance, and this on terms fully 25 per cent. more than are charged by vessels sailing from the United States ports. The rates of insurance are at present very high; but owing to the regulations which have been enforced by the Canadian Government on all vessels sailing with cattle from the Dominion, the scale of mortality has been wonderfully low during the past season, compared with that on ships from the States; and as a consequence, I am informed it is in contemplation to grant special rates from the St. Lawrence. This, if effected, will be a great, but deserved boon. It is anticipated that the export from the St. Lawrence next season will reach 50,000 head of cattle, and to meet this, special steamers will be fitted up and devoted to the trade exclusively. It is calculated that the privilege of taking your cattle alive into the interior of this country, increases their value £4 per head, which, on 50,000 head, will mean something like a million dollars.

Messrs. Hendrie & Douglas, the well known horse exporters from Toronto, have returned to Canada by the steamer "Spain." They appear to be well satisfied with their business during the past season, and will probably engage more extensively in this branch of trade during the ensuing one. It may be of interest to your readers to know that, for some cause or other, the States dealers have left this market, and that Messrs. Douglas & Hendrie are now probably the only dealers who are now shipping horses from the American continent to Europe. With the return

of prosperity an increased demand for animals of superior quality for carriage and hunting purposes may reasonably be looked for.

Several of the agricultural delegates who visited the Dominion this last fall have returned, and have made their reports, and they are, one and all, as last year, of a very favorable character. Mr. Cubitt, of Norfolk, an intimate friend of Mr. Clare Sewell Read, appears to be very favorably disposed towards the province of Ontario, but points out that a better system of farming should be adopted, for, if British farmers farmed their land as many of the Ontario farmers do, they would all be in the bankruptcy court very speedily.

I have to notice a very fine exhibition of roots, vegetables and fruits grown in Manitoba and Ontario which has been on view for the past few days at the establishment of Mr. Cuthbert, seedsman, of this city, prior to its appearance at the great Smithfield show, this week, where it will have a place on the stand of Messrs. Sutton, the Queen's seedsmen. Some of the roots and vegetables of the squash and marrow class are perfect mammoths. Specially noticeable was a splendid display of apples sent from the London, Ont., exhibition. The exhibition has been visited by many of the leading local agriculturists, including Mr. Scotson, secretary of the Lancashire Agricultural Society, Mr. Rigby and others, and during the whole time the specimens were on view the place was like a fair. Some of the roots opened the natives' eyes a little. The champion mangel of England this year is a specimen of 48 lbs., whilst one exhibited by Mr. Dyke, which occupies the centre of Messrs. Sutton's stand, weighs 73 lbs, and measures 8 feet 4 inches round, and 3 feet 9 inches in length.

The Midland Railway of Canada is an extraordinary instance of sudden and rapid recuperation. For many years past it has been in a most unsatisfactory condition; but quite recently has taken a great turn for the better, and the English shareholders, who are the principal proprietors of the line, have now some assurance of receiving the advantages which they naturally looked for when they made their investment. The company's stock has for the last three years been unsaleable, and preference bonds offered on the London market were not taken up. Now, however, a small instalment of back interest has been paid; and the directors of the line are in a position to give confident assurances that in future they will be able to retire their coupons as they mature, thus giving their first mortgage debenture bond holders their full 5 per cent. At a meeting of the company held last week in London, Mr. George T. Case, the President of the line, to whose ability and exertions the improved condition of the line is mainly attributable, delivered a statement of the affairs of the company, and spoke very hopefully of its prospect. Since that meeting the shares have gone up daily, and in the aggregate nearly 20 per cent. It is worthy of note that at the period of its lowest ebb, when English speculators would not look at its securities, the company could always secure accommodation in Canada at 6 per cent. with the ordinary rates of interest ruling with you; this was a remarkable indication either of the character of the property, or the plenteousness of money amongst you.

In June next an International Exhibition of wool, woollen manufactures and allied industries, will be opened in the Crystal Palace, Sydenham, London, continuing for three months. American wool-growers and manufacturers are invited to attend the exhibit, and Mr. Cecil H. Cook has been sent to this country as the special agent of the exhibition, to endeavor to arouse interest in the project.

Agricultural Exhibitions.

Every intelligent, enterprising farmer must admit that every properly conducted agricultural exhibition is of great value to the farmers. These exhibitions resemble so many grand school rooms, where the plainest lessons are taught to every one. There is not a single farmer in our country with common observing power that cannot learn some valuable lesson from attending the smallest agricultural exhibition in this Dominion; the poorest child, blessed with sight, that attends, must learn something. The sight of good farm and garden products stimulates a desire to imitate. Thus the value of the farm products are increased; the exchange of thoughts, imparted merely by sight alone, are highly beneficial to old and young. No one having the use of his tongue and senses is entirely satisfied with sight alone; enquiries are made and thoughts are exchanged. Each can impart information that will be of benefit to his neighbor. We look on the visit to the agricultural exhibition as the best spent holiday the farmer and his family take during the entire year. An occasional holiday is of great advantage. You will find that the farmer who takes an occasional holiday, and gives his family a holiday to attend an agricultural exhibition, is better off, more intelligent and more prosperous than the drudge that stays at home.

Our opinion is that we should endeavor to maintain and keep up all the exhibitions we now have. The attempt made by some to destroy the township exhibitions we regard as similar or worse than closing the schools in rural districts. We deem it proper to make these remarks at the present time as we have heard from several influential parties that great attempts are to be made to strengthen a few large exhibitions at the sacrifice of smaller and perhaps more deserving ones. We fear from the present state of affairs that the desire of those in power is to centralize that power as much as possible. This may be right in political affairs, but in agriculture those that cultivate the acres in the back townships should have quite as much influence as a lawyer or a shoemaker or tailor; but the fact is, the farmer has not half the power or influence over the public management of his own agricultural affairs that a contractor may have. It is discernment that our farmers require to enable them to compete with others. If you look into your past history you will find that at every election where your money is expended and a heavy mortgage placed in the form of a debt on your farm and family for all time to come, it has been done by your lack of discernment. You have been led to vote for those who have had no real interest in agriculture. Their objects have been gain and political power, and that power has been too often sold to some contractor, jobber or manipulator, and the results are higher duties, higher taxes, heavier debts and heavier incumbrances for your farm to pay. This is all caused by your regarding the hue and cry of party, and electing far too many tricksters, who have not looked after the interest of the farmer as much as they have for the interest of some money-making scheme for themselves or their friends. Now it just happens thus that every position you give a man the greater power that person will have, and then he has the power of manipulating your money for or against your interests. This we allude to for the purpose of drawing your attention to the importance of attending to the

ELECTION OF OFFICERS.

You should attend at the annual meeting which takes place. When at the meeting let your voice be heard, and that invariably for the electing of the most truthful and the most honorable farmer

you know of. Never mind if he cannot talk half as well as a lawyer—even though some of the lawyer's friends may poke fun at him and utter all manner of derogatory, cunning, underhand insinuations. You make up your mind to vote for a farmer, we mean one that is and has and will depend on his farm for his support; and it is far better to elect a progressive farmer. Avoid as much as possible the injurious cliques that are too apt to injure your society; we mean a party of one-sided politicians. We have seen much injury done to agricultural societies by adopting this means of electing officers. Others will try to elect a man to office because he may belong to some private or secret society. As the sun shines on all the earth, so ought every officer of an agricultural society be able to distribute unbiassed justice to every member of the society.

We well know there is a difficulty in some localities in selecting really honorable men who will devote their abilities to agricultural interests in preference to sect or party. In your officer select the most independent and most honorable; avoid as much as possible a rabid party man. It is on the high, honorable, independent standing that the officers of your society maintain that the success or failure of the society principally depends. Should any officer at any time show the least favoritism to one of his party or society, reject that man at all hazards as an unfit person to build up a good agricultural society.

Encourage all open and free discussions on all agricultural topics. If these annual meetings were supplemented by a social dinner, and then addresses delivered, much good might often be done and a friendly feeling inculcated.

At your election you may be called on to vote for a delegate to represent you at the Dominion Board of Agriculture. If you are in favor of the maintenance of township exhibitions, you should put the following question to your candidate:—Will you pledge yourself to use your powers to maintain or abolish township exhibitions? Another very important question might be asked, viz., Will you endeavor to furnish us with full particulars about the introduction or spread of Pleuro-Pneumonia, Hog Cholera, Foot and Mouth Disease or Trichina in Canada or among Canadian stock; and use your power to prevent the repeated introduction or spread of contagious diseases in Canada?

Danger Ahead—The Hog Cholera.

The danger that has threatened Canada from the contagious stock diseases in our immediate neighborhood, with but a few hours between, still exists. The pleuro-pneumonia maintains its foothold among the cattle in many of the States, and the measures so far taken are powerless to prevent its spreading through the entire country, and now it is stated, on the highest authority, that hog cholera not only exists in some localities, but that it is spreading east and north. Dr. B. Baker, acting under instructions from the Michigan Board of Health, has visited several localities to investigate the hog cholera in the State, and to discover, if possible, if there was any relation between that disease and any sickness in the human family.

The conclusions he has arrived at, after the fullest enquiry, are that the disease prevails in the localities visited, that the general impression is that it is spreading, that it appears to be capable of being carried as dust by the wind, that the disease is communicable, and that it could be communicated to mice, sheep and chickens, and from each of these back again to swine, and also that it may be communicated to rats, dogs, lambs, colts and cats.

The disease, in its insidious introduction into the system, and in the greater susceptibility of young animals to its ravages, is exactly analogous to the communicability of diseases which affect the human beings, such as scarlet fever, measles, diphtheria, &c.

Any attempt to keep alive the animal attacked only tends to increase the cause of the disease. Intelligent men say if they had killed all the first animals attacked, and placed them four feet under ground, it would have been money in their pockets by preventing the spread of the disease, but the question of its restriction is very complex, because of its existence among all classes of animals, and perhaps of human beings. The disease is probably spread very largely by mice, rats and cats, which die and lie around unobserved, and to which chickens and hogs have access.

Is this disease communicable to man? This is a question of the greatest importance. It is one on which conclusive evidence cannot yet be obtained, though circumstantial evidence, collected and brought forward by Dr. Baker, leads to the conclusion that eating meat from animals that have died of this disease, or contact with them, is a means of conveying the disease to human beings.

This disease was, as our readers well know, introduced into this country. Through our prompt exertions the spread of it here was prevented and the disease stamped out. The same promptness of action is still needed. Let us insist on those who are placed in power using the strictest measures to prevent the introduction of such terrible diseases into Canada. It is now the more necessary to be fully informed of the diseases in American cattle on account of the renewed efforts to modify the regulations of the international cattle traffic.

Salt for Wheat.

Your attention has already been called to the advantages of salt for the wheat crop the past year. The results of the past year have impressed its value for such a purpose more firmly on our mind than it ever had been before. It is now our desire to awaken an interest to the benefits to be derived from it in the minds of those who are not yet convinced of its value. As yet it is only used to any large extent in very few localities. At one time we were discouraged by the reports from practical farmers in the County of York, but now we have so many successful reports from its use in Brant, in Middlesex, and in Huron, that we strongly recommend a trial of it in any locality where the wheat crop is not up to the standard, either in color, weight, or quantity. We do not recommend any individual farmer to go to any ruinous expense to cover his farm, or even a field, in any locality where it has not been tried; but we would like every one of our readers to try the result on their own farms on a small scale. For instance, you could take a half bushel and scatter it on a small piece of land a few feet square; mark the spot, and examine it closely at harvest time. Compare the wheat with that grown on the adjoining land; if you notice an improvement in the grain, next year you would be justified in extending your trial. Those who have already profited by its use, would do well to procure their supplies in sleighing time, if they live at long distances from a station.

The most astonishing improvement in any sample that we have yet seen has been forwarded to us by C. C., one of our subscribers at Goderich, Ont. Last year he forwarded to us a sample of Scott wheat that he had raised by the application of a heavy dressing of salt to the land; he said it was Scott wheat, but it was so much improved, being so much plumper and some of the

grains so much whiter, that we did not know it. It looked like a mixed wheat. This year he has sent us a sample of the wheat grown from that improved sample. This wheat is now so white that we could not credit its being Scott wheat; but as Mr. C. is an old subscriber to the ADVOCATE, we believe his statements more readily than we would believe the reports of paid officials, who too often write for money or place. We give you his own statement, as he first published it in the Huron Signal. He says:—

"I originally purchased the seed in Goderich; it was an ordinary good sample of red Scott, pretty dark in color, with the usual characteristics of the thick outside covering. The ground it was sown on was prepared as follows:—It was a summer fallow, broke up from meadow. Before plowing in the fall it was treated to a coat of salt—over two tons to the acre. Once plowed in the spring; afterwards a coat of manure and two more plowings. The result was a remarkably fine crop of wheat, and a great improvement in color. Seed taken from the above crop was that fall sown on another ten acre lot, that went through the same process, with this difference: through a mistake of my own in giving orders to the hands in my employ, there was deposited on the meadow intended to be broken up for a summer fallow over 30 heavy loads of rough salt. When I saw the ground after it was salted it had the appearance of a heavy fall of snow. It was a question whether I would order it to be shovelled off or plowed under. I concluded on the latter. The result was one of the finest crops of wheat I ever saw; the straw very strong, and on an average over six feet high; yielding over 40 bushels to the acre when cleaned and fit for market, and a most remarkable change in the color of the wheat, it being almost as bright as our bright samples of white wheat last fall. I again sowed the seed from that raised in another field, said field receiving a liberal dose of salt before plowing, perhaps 1,000 lbs. to the acre, and plowed in, afterward a coat of manure. Result this fall—a remarkable fine crop, very strong in the straw, and for red wheat a remarkable color and very thin, transparent skin. I may add that the ten acres I seeded down after the rather extraordinary crop of salt has since produced a very heavy crop of hay. I think I have received more than the expense of the salt used in the increase of crop. I may add that my faith in salt is such that I have salted about 20 acres this fall with over 20 tons of salt."

We have also seen spring wheat that has been so much improved in appearance that judges would not credit that it was spring wheat. In this locality we have not heard of a single piece of spring wheat that has been raised without a loss for the past 12 years, except on land that has had a liberal dressing of salt. We shall be glad to hear from others on this subject. The quantity of salt is greater than we have known to be used or recommended. Experiments such as this furnish the best testimony.

The amount of hay required per head per day for cattle, while in transit from Boston to Liverpool, is about fifteen pounds, or 210 pounds for 14 days. A cargo of 600 head would require about 63 tons of hay for the voyage.

Those who have the means of knowing, are positive that Pennsylvania has suffered a loss of fully \$500,000 from pleuro-pneumonia. This loss, it is averred, has fallen mainly on the farmers and dairymen in Philadelphia, Bucks, Chester, Delaware and Montgomery counties.

There are several methods of destroying lice on cattle. A very simple and harmless one is to apply an infusion made with quassia. Procure from a druggist a portion, say ½ lb. of quassia chips; place them in a vessel and pour either cold or tepid water on them; the infusion is ready to use as soon as it becomes decidedly bitter, and is to be applied by washing the parts of the animals most affected by the parasites. The infusion is not poisonous, and the cattle may lick themselves as usual without danger.

Politics.

We have had so many letters touching on the National Policy and the Pacific Railroad that we are almost compelled to make a few brief remarks, although we reject the numerous letters *pro* and *con*. You are in a state worse than total darkness if you read and depend on either one of the strong party papers. You must read both sides of a question, or you cannot understand anything about it; and when you have read both carefully, and you desire to arrive at truth and facts, you will be wiser than the average of mortals if you can tell which party is attempting to deceive you most. Whether it will ever be possible to select men that will legislate for the good of the country in preference to their personal interests is a doubtful question. The "outs" want to get in, and the "ins" want to stay there, and both want to make money out of their capital. Farmers should see to it that they are not sold or bought by these talkers just as easily as galley slaves are sold in a slave market.

We have heard the leading politicians in Canada; you have read their speeches. Both political parties have expended millions of your money in the North-West, and either of them will spend millions more. They have drawn men, capital and emigrants from Ontario and the Maritime Provinces, and you are told that the Pacific road is not to cost you one cent. The money we have already expended for emigration, for public buildings, for Parliamentary representation, for railroads on the prairies, has reduced the value of property in Ontario, it is estimated, at from 15 to 25 per cent. And yet we are still to pay for everything for the opening of that country, and neither of our legislative bodies have ever hinted at any return to be made to Ontario for this expenditure. The land was perfectly able to pay for all its own improvements from the rise in its value caused by our hard-earned cash; and in a business point of view that rise in value should be expended in the liquidation of the debt placed on our shoulders, and in payment of the interest on the money we have paid for their benefit. But no! All the increase in value of the land caused by our expenditures is to go into the pockets of land-grabbers and speculators. This should not be. The lands could pay every cent if only properly managed, and the eastern farmers would be relieved, as they should be, from any expenditures in that part of the Dominion beyond what there is necessity for. That the money would in due time be paid back to us, that which we expend should be in the form of a loan, as the opening of that country will in no way enhance the value of farm produce or farmers' properties in Ontario. Neither Macdonald, Blake, Mackenzie, Mowat nor Meredith have ever looked after the interests of the farmers as much as we think they ought to have done. For instance, we have for years, by personal interview with legislators, by frequent telegraph dispatches, and occasionally an article in this journal, shown the danger that existed in allowing diseased animals to be brought into Canada. We have personally examined many animals in Canada that were badly affected with foot and mouth disease; also many suffering with hog cholera. The interviews held, the journeys taken, and the telegrams sent have had their effect, and we are informed that our writings have also had effect in England, and our legislators were compelled to enact a law, which, at the present time, enables us to get \$20 per head more for our cattle in British markets than Americans can get. Yet this act is not as strong as it ought to be. Strong as it is, it is not carried into effect, and there are too many cattle and too many hogs from the other side of the lines allowed to mingle with our stock, which

are brought into our country and sold as Canadian or English hogs when killed and cured. This improper practice has a tendency to reduce the value of Canadian farmers' wholesome meat, despite what little profit the pork-packer or the railroads may have at the present time, and must be a loss of ten thousand times as much to our farmers if it is not stopped. Let our Government officials make a thorough enquiry from their servants, those who receive one cent of Government money, or hold an office of any kind. It should be the duty of every one to know and watch for the protection and interest of the farmer, from whose labor they are paid; and if they do not regard the farmer and his interest, they should at once be removed from their positions, no matter what that position may be. We have tried to conduct this journal for the interest of the farmer; we have discarded politics; we have refrained from voting or using our interest for either political party for 15 years, although we had a vote both in the city and in the county. The last political vote we gave was a Reform vote, and now, after a 15 years' retirement and observation, we do not at the present know which side we would vote on; but you may depend that it will be for the party that we believe will do most good for the farmers.

The first and greatest question of the present time is, shall Canadian stock be kept free from disease or not? Shall the American hogs be killed and sold as Canadian meat in the foreign market?

We are in danger of losing the good name we now have for wholesome meat, and we have the power of raising the value of every acre of land in the Dominion by rigorously and vigorously checking the danger that now threatens us. If we keep our animals free from contagious diseases we shall have a name and a quality of meat that will command a higher price than any other in the market. The thinking men and men of capital will not buy meat that may endanger their lives.

The subject is of far greater importance to the farmers and to the country than all the talk or all the money that is or will be expended on the Pacific Railroad.

Every person and every paper has its price, and our influence and the influence of this Journal, if shown to either party, will be to those that attempt to do most good for the farmer. Nothing can be of more importance, in our opinion, at the present time than a rigid, careful and public investigation into the dangers that visit us from contagious diseases among our farm stock.

PROFITABLE FARMING.—Harriet Martineau published a book entitled, "Four Acres Enough," intended to show that that quantity of land was sufficient for any one to make a good living off. The experience of Mr. W. B. Vanleit, of Laclolle, Que., tends to show that Miss Martineau was not so visionary as some people thought her. Off eight acres of land he harvested, this fall, 86 bushels of barley, 96 of oats, 30 bushels of potatoes, and about 70 of corn, several bushels of beans, and a quantity of peas, pumpkins, etc. The value of the produce thus obtained is placed at \$500, or, say \$62 per acre.

It was resolved at the last annual meeting of the "American Shorthorn Breeders Association," "That, inasmuch as the Shorthorn race of cattle was brought to its present matchless perfection by the judicious selection of the best animals in blood and useful qualities for breeding purposes, and the vigorous weeding out of inferior individuals regardless of pedigree, it is the judgment of the Convention that the high standard of excellence can only be maintained by a steadfast adherence to this practice." This course is sadly neglected by the great majority of Canadian breeders of all kinds of stock. A rage for pedigree to a greater or lesser degree is found almost everywhere. All animals, especially a male, must have individual merit to be of value in the breeding yards. A good animal with a good pedigree is what we want—others are an evil.

American Pork at a Discount by Consumers.

Since our last issue we extract the following from American papers; the *Boston Cultivator* says:

The local consumers of this city are just now very much worked up over the sale of diseased hog meat, and some have declared total abstinence from eating pork in any way. The recent cases of trichina that have each proved fatal, have greatly prejudiced local meat eaters against pork, and it is the height of folly for pork producers to think they will make anything by selling diseased hogs. They may, perhaps, get more at the time for such stock, but the effect upon the general trade is very damaging, and if unscrupulous parties will persist in marketing such stock rather than take the chances of personal loss, they are liable to bring a loss upon the country at large that will not be easily regained. Foreign countries, depending largely upon us for their meat supplies, have raised several complaints at having detected impurities in our hog products, and if American pork is excluded from any of these markets that now draw largely and regularly on our supplies, she will have none to thank for it but a few of these impecunious farmers who do nothing to prevent disease among their swine, and send them to market in a sick and dying condition.

When the leading citizens of what Americans call their modern Athens, or the city claiming the highest attainments in literature, learning and arts, on this continent, begin to discard their own production, is it not high time that we should check the traffic in American pork in our Dominion, and use every effort to prevent the spread of this disease among our farm stock. We say, fearlessly, that our leading legislators, both in the Dominion and Provincial Legislatures, have not attended to this most important question as they ought to have done. Let there be a strict and searching enquiry made of every member of the Board of Agriculture and every office-bearer in the School of Agriculture or the Model Farm, and let this information be published, then more good will be done to the farmers than all that has been done. Let the farmers elect one independent, honest, sound, practical farmer on the Board of Agriculture Commission with the power that is granted to them; then we might expect that the real interest of the farmer might take precedence over the many places advanced to extract money from him.

Another American paper has the following item:

"Poison absorbed while slaughtering a diseased cow caused the death of John C. Allen, of North Reading, Mass. The surgeons first amputated his fingers, then his right hand, and finally the whole arm, without staying the disease."

Another paper states that the loss to farmers from pleuro-pneumonia in one State alone amounts to \$500,000. Read the last letter from our English Correspondent in this issue; if his deductions are correct in giving us \$20 per head more, or one million dollars more annually from the proceeds of our stock than we should have if we exported from the United States, how much greater must be our profits if we maintain the name of having wholesome pork, butter, cheese, lard, &c. We cannot maintain the high reputation our produce deserves if we allow the Americans to pack their dangerous or diseased hogs in our country; neither shall we hold the advantage we now have of \$20 per head on our horned cattle, if we do not watch closely our interest. We are in danger, or we would not call attention to it. If we are instrumental in checking the danger, we shall consider we have done you a greater service than we ever contemplated when commencing the publication of this journal.

Canada now holds the greatest honor that could be attained for her agriculturists; that is, that her farm stock and her inhabitants are freer from contagious diseases than any country in the world. Let us keep it so. This is what we must do, if we wish to draw the best settlers to our country and the best buyers to our market. The Americans have now pleuro-pneumonia, trichina, hog cholera, foot and mouth disease, &c., &c. Yes, they have the leprosy now on the Pacific coast, brought in by the Chinese. Perhaps we should attempt to check these low, degraded, filthy beings from infesting our Dominion.

Trichinosis.

LIFE OR DEATH—WEALTH OR POVERTY.

It is with much regret that we feel it our painful duty to again and again call the attention of those that should devote their attention to the prosperity of the farmers. We extract the following from an exchange:—

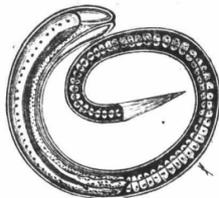
A PAINFUL DEATH—ANOTHER WARNING TO PORK EATERS.

New York, December 8.—A young butcher named Franz Axler, 15 years old, came to the dispensary attached to Bellevue Hospital on November 21st, and asked for medical treatment for rheumatic pains and fever from which he said he was suffering. Dr. Hemmingway, the dispensary physician, sent Axler to the ward of Dr. George H. Muller, jr., where a day or two afterward Dr. Muller discovered that Axler was not suffering from rheumatic pains but from trichinosis. The faculty of the Hospital became interested in the case, and Professor Janeway cut a piece of muscular tissue the size of an old-fashioned three-cent piece from the patient's arm. It was found to contain, when subjected to microscopic scrutiny, no less than thirteen trichinae. On Saturday Axler died, and yesterday an autopsy was made of his body. His entire system was found to be impregnated with trichinae; the muscles and tissues of the body were filled with them, and in his intestines were found parent trichinae in various stages of reproduction. There were millions of parasites in his body, which were subjected to the microscope, when it was found to be fairly alive with them.

TRICHINA SPIRALIS.

We extract the following description from Prof. Law's Veterinary Adviser. This work we consider the best veterinary publication on this continent, and the best authority. We had these accompanying engravings made and copied from his work, and give Prof. Law due credit, and recommend his work to all. We do not think he will object to our copying that; but we will here add, that we trust in future political editors will act more honorably than some have done in the past, and give the ADVOCATE and its editor credit for ideas, plans and suggestions that have been given in this journal, particularly when parties attempt to make capital from them.

This worm, which is capable of being reared in all the domestic animals, is especially common in man, the hog and the rat. Trichinae are almost

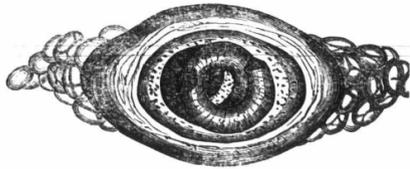


Adult Intestinal Trichina Spiralis, magnified.

microscopic, varying from one-eighteenth to one-sixth inch in length, yet they are among the most deadly worms known. The mature and fertile worm lives in the intestines of animals, the immature in minute cysts in the muscle. The latter can only reach maturity and reproduce their kind when the animal which they infest is devoured by another and they are set free by the digestion of their cysts. When thus introduced into the bowels they grow and propagate their kind, giving rise to much irritation for the first fortnight, diarrhoea, enteritis or peritonitis. The symptoms caused by their boring through the bowels and into the muscles last from the eighth to the fiftieth day. There are violent muscular pains like rheumatism but not affecting the joints, a stiff, semi-flexed condition of the limbs and sometimes swellings on the skin. In man the affection is often mistaken for rheumatism or typhoid fever, in the lower animals the symptoms are usually less marked but are the same kind. There are loss of appetite, indisposition to move, pain when handled and stiffness behind. If the patient survives six

weeks recovery may be expected because the worms no longer irritate after becoming encysted in the muscle.

Treatment. In the first six weeks, but especially for the first fortnight, use laxatives and vermifuges. Glycerine, benzine, Dippel's animal oil, chloroform, alcohol and picric acid are fatal to them in about the order named.



Muscle Trichina encysted, magnified.

Prevention. Never eat undone meat. Trichina survive 140° F. Hams thoroughly smoked are safe. Slightly smoked hams and those steeped in creosote or carbolic acid are most dangerous. Pigs should not be kept near slaughter-houses and especially should the waste of these places be forbidden them. Such hog-pens, indeed all piggeries, should be kept scrupulously clean and clear of rats and mice. The carcasses of swine fed near slaughter-houses or where rats abound should be subjected to a thorough microscopic examination before passing into consumption. Whenever a case of trichinosis occurs in a human subject the pork should be traced to its source if possible, and the pigs reared in the same place killed and subjected to prolonged boiling. The rats and mice should be eradicated and the hog-pens and manure burned.

Farmers, we have in several previous issues called your attention to the following facts:—

1st, That foot and mouth disease has been introduced into Canada on more than one occasion by importing stock from the United States. 2nd, That Canadian cattle have suffered from pleuropneumonia from coming in contact with American cattle.

We have also shown that American pork is allowed to be imported and packed to Canada, and sold as Canadian, English or Irish bacon and ham. We further state that cattle and hogs, both alive and dead, have recently been imported into Canada. This we maintain should have long since been stopped. Our whole country is liable to become infested with the above dangerous diseases. The British consumers are being deceived, and the real value of Canadian produce is being reduced in value by this dangerous plan. In fact, Canadians now cannot be sure they are not eating pork that has trichinae in it, as American pork we know was recently sold in Canada, and we believe it to be at the present time. Who can tell the extent of damage that may arise from animals imported within the past few months? We deem it the duty of every farmer to at once call the attention of their representatives in both the Legislatures to the danger that enshrouds your business. Do not allow any one to attempt to deceive you by saying that there is no danger, that the law is perfect now. The fact is, the law protects the dealers, the packer and the shipper, but the door is left open that it may cause death to you, your family or your stock. In whatever capacity you may be use your utmost endeavors to immediately prevent the possibility of it, should it not be already rooted in our country. It is our impression that we are more exempt from diseases of our stock than any other country. Let us keep it so. We would suggest that any farmers' club, and, in fact, any farmer, ought to know when any of the above diseases have been in existence in Canada. What was done to prevent their spread? This meat question is, or should be, one of the greatest sources of wealth to Canada—perhaps the greatest—and every farmer that understands his business should enquire into this question of these mortal and ruinous diseases pervading the U. S. at the present time. Prevention is better than cure. Let us by every means attempt to maintain the health of our farm stock we have at the present time in the country.

The American Clydesdale Association.

This Association held its second annual meeting at Chicago on the 17th of November last. The meeting was well attended by American and Canadian breeders, and a deep interest was taken by those present in the work of the Association. The Treasurer's report shows the Association to be well supported by breeders, and in a good financial condition. The demand for admission to membership is very rapidly increasing. The Association state the entries for registration in the 1st volume will be closed April 1st, 1881, in order that the book may be published without further delay. The necessity of a better understanding as to the points of the Clydesdale by committeemen judging at fairs, as well as the general public, was discussed at some length, and a Committee consisting of Simon Beattie, of Scotland; James J. Davidson, of Canada, and E. A. Powell, of the U. S., was appointed to prepare a scale of points and make a report at the next annual meeting. After further routine business, a full list of officers and executive directors, were elected. W. A. Powell, Springboro, Pa., U. S. A., was elected President, with Charles F. Mills, Springfield, Ill., as Secretary. We find some Canadian breeders and importers among the executives and directors, viz., James J. Davidson, of Balsam, Ontario; A. E. Johnston, of Greenwood, Ont., and Simon Beattie, formerly a resident of Ontario, who still imports stock into the Province, and has business connections with Wm. Miller, of Clarmont, Ont. We are glad to notice a scale of points is to be adopted by this Association, and, in fact, we are quite certain it would be a great improvement on our present system if all our domestic animals were judged by a scale of points. It would have the effect of making the breeders of the various farm animals more watchful in breeding, and more careful to bring up each point of the animal to the desired standard, thus having a very beneficial effect on the general quality of our animals. At the same time it would bring about a more uniform likeness in each of the respective breeds of horses, cattle, sheep and swine. Without a scale of points as at present, animals of the same family, bred by different breeders, present quite a different appearance; in fact, you can rarely find two flocks or herds of any one breed which are just alike in all respects. This lack of uniformity is an evil which should be remedied, the sooner the better. While a scale of points would thus benefit the quality of our domestic animals, it would have quite as beneficial influence on the breeder and general farmer, especially on young men, or those just entering the business, few having a clear conception of what constitutes a good animal in every respect; but this system would bring to view each point of the animal, showing clearly its faults as well as its merits, and would be an index to all, increasing the general knowledge concerning our domestic animals. At Canadian shows no stock, with the exception of poultry, is judged by a scale of points, and they only at some of the leading shows. The Americans judge by a scale among most of their animals, and why should not the Canadians introduce this same system. In order to adopt this plan we must either fall in with the American Associations and accept their scale of points, or else we will have to form Associations of our own and make our own rules. The first of these propositions our breeders seem inclined to follow, as they have fallen in with the Berkshire record, Cotswold record, Clydesdale Association, &c. Certainly this is better than attending no Associations, but it would be of much more benefit to Canada if we had our own conventions, from the fact that none but our large breeders can or will attend meetings of Associations so far away, and hundreds of Canadians who raise really good stock never hear of, much less attend, these meetings; but Associations and discussions the Canadian farmers must have if they mean to compete with the Americans. The fruit growers and dairymen have already earned this. That our breeders should go hundreds of miles to attend Associations, to the utter neglect of our own interests, has always seemed strange and unpatriotic to us. If they would but exert themselves and form Canadian Associations, many of the Canadian farmers who breed nothing but scrubs at present would become interested and take a more lively interest in the improvement of their stock, and the influence on the rising generation would be still greater.

PRIZE ESSAY.

What are we to Learn from Agricultural Exhibitions of 1880 and Previous Years.

In discussing a subject of so much importance to the agricultural community in general, care must be exercised to lay before the reader an impartial account of Agricultural Exhibitions with their "uses" and "abuses." All should understand for what purpose Agricultural Exhibitions were first established. Some think it is a place to make money, others say that they are to show the great resources of the country, while very few act up to, or endeavor to develop the great object which all such gatherings should have in view.

Agricultural Exhibitions were first established to encourage agriculture, to make those engaged in it to think more of their profession, to encourage farmers to raise better articles, and, if possible, to open a market for articles so produced. But how often has this "use" been abused? How often have worthy farmers been compelled to give way before speculators, "men about town," who think of nothing but the prize, how they can impose on the judges; having clearly before their view, money—money which should have gone to encourage others more useful to the country. Agricultural Exhibitions, at which this is practiced, have degenerated from their true use. They seek to aid the country, but their proceedings have quite the opposite effect.

Exhibitions of this class may pay, they may be made to draw a crowd, by the "sights" which are advertised, but the Exhibition does not pay in the true sense of the word. We call the attention of directors to this fact, that they are working to a disadvantage, they are exerting themselves on a large scale to benefit agriculture, but the benefit thus done to farmers is entirely eaten up by men who make Exhibitions their business, and we must ask, have the great Agricultural Exhibitions of 1880 and past years been any better than this description? Will farmers begin the ensuing year with better farm-knowledge and better prospects of making farming a success? If not, our great Exhibitions have failed in their primary object. We do not say that they have failed, but we must say that all have not come up to the standard which is to be expected of Exhibitions at so much time and expense. Any person who has attended past Exhibitions, may have noticed a decided improvement in the articles on exhibition at those of the past season. Provincial Exhibitions, with only one exception, have done well. They have made a great show, and have all been a financial success.

In agricultural exhibits we notice a slow but steady rise, and although what is on exhibition is no sample of what is in the country, we are glad that such can be produced. In agricultural implements all the Exhibitions have shown a rapid improvement. New articles have been exhibited, and some of the old ones greatly improved. From this we have to learn that the intelligent farmer, with a little capital, can make farming a pleasure; can do three times the work with half the labor.

Again, another subject worthy of attention is the tendency of the larger Exhibitions to become more numerous, and less attention to be paid to the smaller Agricultural Fairs which farmers endeavor to establish among themselves, without any outside aid. Those of the latter class have already been the means of much good in the neighborhood in which they are held. Farmers, at these, feel more on an equality, and discuss each other's products and stock with advantage to one another, thus enabling themselves to acquire a large amount

of useful information. One of the finest Exhibitions of this kind was held for the county of Picton, in Picton, on the 6th and 7th of October. It did not make a great deal of money, as some men think exhibitions should do, but it created quite a spirit among the farmers in the vicinity. It only lasted for two days, quite long enough, but not too long for a county Exhibition.

At these Agricultural Shows we have been taught that a great variety of prizes, even though they be small, is better than few prizes although they may be larger. Exhibitors, thus, are not so apt to withdraw disappointed, and as the great object of everything is to please, it is a great end in view to have everyone leave the Exhibition Grounds well pleased with the time and money spent. One way of accomplishing this is that all should have an opportunity of seeing the prize articles. All who have attended the closing days of the Dominion Exhibition may have seen the advantage of this. Visitors there might be heard enquiring which of these articles has taken the first prize, but could receive no definite answer, consequently many were forced to leave disappointed. Judges at all exhibitions should begin their work immediately, so as to have it finished and the prizes all awarded, at county or township exhibitions, at least two days before the exhibition closes. Directors should always keep this in view, and to accomplish it they will have to appoint a sufficient number of intelligent, energetic men to act as awarders of prizes.

Why have several of the Agricultural Exhibitions of 1880 been a failure, especially the Provincial Exhibition of Ontario, and the Exhibition held at Halifax, N. S.? In the former case the evil lies in the board of management having lost the confidence of the country; in the latter, want of a proper agricultural locality has contributed greatly to the result. Unless the people are enthusiastic about such exhibitions, they must ultimately fail. Another thing we notice from past exhibitions throughout the world, is the advantage of an International Exhibition being held for the whole Dominion and such countries as choose to compete. It should be held at a central place, and Government should infuse vigor to its proceedings. It cannot be doubted but an exhibition such as this would give a great impetus to the country, especially the agricultural interests. From the results of previous exhibitions of this kind, we know that such a one in Canada would be productive of much good.

To summarize, we hope that the number of those large exhibitions, which draw such a crowd to the city and give the hotels such a harvest, may be diminished, and that the local Agricultural Fairs, conducted on a small scale, with multiplicity of prizes, giving all farmers competing a chance of success and time to attend, may become more popular.

M. S. MACKAY, Cariboo River,
Pictou Co., Nova Scotia.

Exporting Store Cattle.

An exchange in an article on this subject, says:—

As long as our farmers go on exporting store cattle, they are simply transporting the fertility of Ontario farms across the sea and conferring it upon the farms of England. English and Scotch farmers know vastly better than to grow store cattle where they can buy them. They prefer to buy Canadian, Irish, Danish and Spanish cattle, and feed them with American corn. The extent to which this is becoming a business may be realized when it is learned that the exports of American corn have grown in a few years from almost nothing to 98,000,000 bushels, and most of the corn goes to Britain. Canada should export fat cattle. She ought to feed her own cattle, and then every animal exported would represent an addition to the fertility of the country. As it is, every lean animal sent abroad hastens the impoverishment of the soil.

Covering the Soil.

A CHEAP AND EFFECTIVE WAY TO IMPROVE THE SOIL.

BY H. L. BATAVIA, N. Y.

Many times in the course of the year I think that single numbers of your valuable journal are well worth the year's subscription; and particularly so of the last number and of a single article in it, which, I think, would prove of great benefit to farmers if they would practice from its teachings. I have been feeling my way by experimenting from year to year to attain the results stated so fully by C. Harlan, M. D., on "Covering the Soil." Now, the great economy and advantage derived from the agricultural press of the country, is that by it we are enabled at once to take advantage of the experience of others, which, though it may have cost them years of work and close observation, and would be of great value to their brother farmers, they are quite willing they should profit as well as themselves by such experience. Without the agricultural press, each man left to learn by his own experience, agriculture never could make the progress for which it is so noted in this nineteenth century. And just here let me urge each farmer to do his part in adding to the general interchange of farm experience, by sending to agricultural editors statements showing the advantages or disadvantages derived from such or such practice, especially the practice of new ways and experiments. We would all be benefited by it and the editors would be thankful, I have no doubt, to receive such contributions. This would add greatly to what I consider the most interesting part of the farm journal; and it seems to me that it is a part that the working farmers must supply themselves, for though the editor may have been the most thorough and practical farmer of any of us, he could not now, while carrying on his editorial work, have the advantage we possess in working out these problems in the field.

As to the article referred to above on "Covering the Soil," I have practiced that plan more and more of late years, and am so well pleased with its results that now on any part of the farm, or even any part of the garden, as soon as the ground is at liberty after removing any crop that has occupied it, I till the ground with wheel drag, cultivator or harrow, and sow it immediately again, usually to buckwheat, oats or rye—to the latter if it can be left to grow up in the spring before having to plow it, for rye will grow two or three feet high in the spring in time to be plowed under for corn or potatoes, and proves to be a good green manuring for that purpose. But if designed to plow in the fall, I used buckwheat for first plowing and oats for the latest; they thrive better in the moist, cool weather of the fall, than when growing for a summer crop, making a denser covering over the ground than other grains, keeping green if left standing until near the middle of winter, and covering it as with a blanket until spring.

This last plan I am following with the oat-sowed, wheat stubble field, on the strength of your correspondent's assertions in favor of keeping the soil covered, and because that in my experience so far I had about come to the same conclusion. And now, Mr. Editor, you cannot too strongly recommend to farmers this practice of covering the soil, whenever they have the opportunity, with such clean healthy growth for renovating the soil.

[We would refer you to page 279, in the 14th volume of the FARMER'S ADVOCATE. You will be well repaid by reading it. Some of you will profit by it and set a pattern for others to follow.]

Stock.

Chicago Fat Stock Show.

This, the greatest fat stock show in America, closed on the 20th November. The number of animals was not as great as in previous years. The different breeds represented were Shorthorns, Herefords and Devons, also grades from these breeds. The Shorthorns were not well represented, none of the principal breeders showing any in the pure-bred classes. In fact, most of the Shorthorns that were exhibited were animals which had not been high fed, but were fed and bred much in the ordinary manner. The breeder of the principal herd keeps after a rough fashion, caring only to secure hardy cattle and good feeders.

But the case with the Herefords was very different. The principal breeders of this class had made long and special preparations for the Show, exercising the highest art known to the breeder and feeder.

The Devons shown were of inferior quality and few in number.

The most notable animals at the Show were the Grade Shorthorn steers, "Nell Morris," age, 7 years and 7 months; weight, 3,125; and "Nicholas," said to be four years old; weight, 2,462 lbs. "Sebley," another grade Shorthorn steer, attracted much attention; he showed an average gain per day of 2.54 lbs. since the day of his birth. But, probably, the most notable animal on exhibition was "Conqueror," a grade Hereford, two years old, weighing 1,845 lbs.

First and second prizes were given the various ages of each breed of animals shown. These we will not give, but give a summary of the sweepstakes prizes when all breeds met, and also in the Grade class when crosses from the various breeds were shown.

In grades and crosses there were three classes, viz., a class for 3 and under 4 years, 2 and under 3 years, and 1 and under 2 years. Two prizes were given in each class. The entries in each class numbered from 19 to 22 head. In the first class, 3 and under 4 years, a Shorthorn Grade took first, a Hereford Grade 2nd, and in the class 2 and under 3 years, Shorthorn Grades took both prizes; in the class 1 and under 2 years, a Grade Shorthorn took 1st and a Hereford 2nd.

In the Sweepstakes, where beasts of any blood could compete, there were three classes, divided according to age, as the above classes for grades and crosses were; one prize being given to each class. The entries in each of these classes varied from 14 to 23. All the prizes were won by grade Herefords. The sweepstakes for best cow, in which there were 5 entries, was won by a pure Shorthorn.

The grand sweepstakes and challenge cup for the best beast on the ground, was won by a grade Shorthorn. This cup now belongs to J. H. Graves, having been won two years in succession by him. For this prize there were 58 competitors. Very grave doubts are entertained as to the justice of the last award. From proof, which seems to be substantial, it is believed this honor should have been given to the two-year-old grade Hereford steer "Conqueror."

There were also prizes offered for car-load lots. The classes were divided according to age, as above. All these prizes were won by grade Shorthorns.

For the "heaviest fat steer" there were two prizes offered, both of which were won by grade Shorthorns.

Prizes were given for early maturity; the classes were also divided according to age as above.

In the classes 3 and under 4 years, and 1 and under 2, grade Shorthorn steers won, but for 2 and under 3 years, a grade Hereford won.

Prizes were also given for dressed carcasses, being for the most valuable carcass in proportion to the gross weight. The judges' report on this class is as follows:—

"The three-year-old carcasses were too fat to furnish the most profitable proportion of lean to fat meat in proportion to the weight of the carcass for the consumer, and there would be too much fat to cut to the greatest profit for the butcher. The steers had been fattened too long to get the best results in the way of lean meat, and the forcing process in feeding has had the effect of developing fat too rapidly for the natural growth and development of muscle and lean meat. The undue forcing process in feeding at too early an age, with highly concentrated food, is at the expense of muscle and quantity of the lean meat.

"The Hereford steer awarded the premium had the best-formed and proportioned quarters, and presented the smoothest carcass, with fat more evenly distributed throughout than in the other carcasses. The fat was of a light creamy color, and the lean a bright red, well mixed with fat, and nicely marbled. The grain of meat was not too fine, but of the most desirable texture to insure juicy and highly-flavored meat. This steer would give the greatest proportion of eatable food to the weight of dressed carcass, on account of the thickness and length of loin, with less loss from trimming of fat. He had a larger, better-filled round, and broader and longer back. The hind-quarter was heavier in proportion to the fore-quarter than in the other steers. The steer had the greatest proportion of loin and porterhouse steak, which returns the butcher the greatest profit and the consumer the most desirable meat. The lean and fat meats were better mixed in the plate and brisket. The brisket was smallest in proportion to the weight of carcass.

"The grade Shorthorn steer awarded the premium in the two-year-old class, presented a carcass that would return the butcher the greatest profit and the consumer the most desirable meat of any of the dressed carcasses on exhibition. There was a smaller proportion of fat to lean, and the amount of high-priced meat of the best quality was unusually large, and seldom, if ever, excelled. The steer was in prime condition for the block, the meat nicely marbled, and the loin and tenderloin, in proportion to age, was very large. The grain of meat was finer than in the other carcasses, and the flesh was thicker and more highly-flavored. The round was large and well filled down to gambrel joint, with well-proportioned quarters.

"The best proportioned carcass throughout of any on exhibition, with exceptionally heavy hind-quarters, was the yearling steer (Monroe), a cross-bred Short-horn and Hereford. Considering the age of the animal, the meat was very ripe and of excellent quality. The color was rather too light, owing to the want of age. There was considerable fat in proportion to lean meat, the result of high feeding and want of exercise necessary to develop muscle and lean meat."

THE SHEEP

at this show, though good and in some important points in advance of previous years, was not what it should be, when we consider the magnitude of the interest. A very noteworthy feature was the absence of Merinos and Merino grades, though there are more of these sheep in the United States than all other kinds put together.

The majority of the animals were Cotswolds or Southdowns (the latter being most numerous), and crosses from these two breeds. Both of these classes presented some fine specimens—some of the long-wools being passed by the judges as being too fat for profit to the butcher. Among the grades were some interesting animals. Grades of all classes of animals are those in which the general farmer will find most profit. The higher the grades the better. These grades can be most profitably procured by using pure bred males on our native stock flocks, and herds of great excellence can be obtained by this means, combined with constant and careful weeding, breeding only from the best, discarding all poor specimens. The great interest in the show of sheep at this Fair centered in the slaughter test. None but wethers were slaughtered. This test showed the heaviest percentage of dressed carcass to gross weight was from the Cotswolds, but when the experts came to pass upon "the sheep whose dressed carcass was of the highest market value in proportion to its live weight," the decision was in favor of the Southdowns. In both yearling and two-year olds, as might be expected, the decision was not satisfactory to the long-wool breeders; and while they may have had some reason to find fault with the decision, a large proportion of the visitors seemed to accept the decision of the Committee as correct. The proportionate value of the dressed carcass is not all that should be considered in a profitable slaughtering of sheep. The value of the hide and tallow, though secondary, is by no means an unimportant factor in the final estimate. In these items the showing was against the Southdown, from which the merchantable offal was but little more than one-half the value of that from the Cotswolds. We are pleased to see one of our well-known Canadian breeders, Mr. George Hood, of Guelph, Ont., was the winner of several very important premiums.

THE DISPLAY OF HOGS

was very small, the Berkshires being only noticeable by their absence. The principal prize, viz., the challenge cup, was won by a Poland-China, and now becomes the property of Mr. J. A. Countryman, of Illinois, having won it two years in succession—each year with a Poland-China.

A very commendable feature of this show was the introduction and use of catalogue, which was printed at the opening of the show, and circulated gratuitously each day among the visitors. This catalogue contained the name, age, weight, breed of each animal entered for the show; also name and residence of each owner. Each stall was numbered to correspond with the number of the occupant in the catalogue, and when the animals were brought into the ring each had his number upon him, thus making it much more pleasant and instructive to all than it otherwise could have been.

Care of Cattle in Winter.

The different improved breeds of cattle, however judicious the crosses, would never have been produced had they not been well fed and the recipients of more than ordinary care. And if any of them, whether Short Horn, Hereford, Holstein, Jersey, Guernsey or Ayrshire, were to fall into the hands of some of our farmers, they would soon so deteriorate as to be no better than, even if as good as, our native stock. They could not stand the scant feed of our poor pastures, the cold barns in winter, and the poor hay and fodder which is generally forced upon our native stock while dry in winter, or while they are growing heifers. Much of our native stock might be wonderfully improved if they had the same care and feed which the improved breeds have. These cost high and are owned by the best farmers, who have comfortable stables and give the best feed, whose pastures, if poor, are supplemented with the best of forage, which renders their summer feed even better than the best pastures can produce.

In this connection it might be well to call attention to the winter care of stock. The first thing absolutely necessary is a warm barn. The temperature of the animal has to be kept up to ninety degrees. In a cold barn the heat is rapidly removed, and if butter is to be produced during the winter, it will be found that a rapid removal of heat from the body of the cow will as rapidly remove the butter from the milk; but do not let the temperature of the barn be elevated at the sacrifice of ventilation, for without pure air we cannot have healthy animals. When both comfortably warm and well ventilated barns are given, then we want pure water, and in order to obtain this the cows should not be subjected long to cold and chilly blasts. Still we are decidedly in favor of cold water. It is true it has to be brought up to the temperature of the cow's body, and it requires food to do it, but the cold water has a healthy action on the stomach and digestive organs, and therefore upon the whole is preferable if the barn is warm, but if the barn is below the freezing point, warm water would be much better than cold. The farmer, however, who did not take sufficient care to keep his cattle warm, would not be likely to warm the water given.

We should endeavor to have the feed as near like summer feed as possible; those who have roots for feed come near to this, and if they have mixed other kinds of forage besides corn, such as clover, Hungarian, and rowen; but even with these a little Indian meal, shorts or linseed meal will not only increase the quantity of butter but also its quality. A few mangels or sugar beets, with two quarts of shorts, one quart of Indian meal, and one quart of ground oats per day, will make a good feed for winter butter, and if some well cured corn stalks are occasionally fed the butter will not suffer. Linseed meal might be substituted for Indian meal; it would give a higher color to the butter; but if too much was fed the flavor of the butter would be injured.

The amount of grain proposed to be fed to cows is small compared with the quantity that may be fed, yet the health and endurance of the cows should be considered in feeding. Some cows are soon rendered feverish by the feeding of meal, and it would be well to give attention to this; and it may be found that some cows might be safely fed with double the quantity that others can digest, and will give return in butter sufficient to pay for such feed.

Percheron Horses.

Harper's Monthly for February has a lengthy and exhaustive article on this subject, from which we give the following selections :

The Percheron horse is undoubtedly the most symmetrical and powerful for his size, and possesses the finest action and greatest endurance of all the large breeds in Europe. His general type is also the most ancient of any of which we have record or tradition, and this is the principal reason why he is more *prepotent* than others in transmitting his superior qualities to his offspring.

Tradition asserts that the first great improvement in refining the large horses of France was made by Barb stallions captured from the Moors. In 731 they crossed the Pyrenees from Spain to

together with other well-made crosses from time to time since that period, gives us the improved Percherons of the present day.

A model Percheron horse is described as follows:

"Head clean, bony and small for the size of the animal; ears short, mobile, erect and fine-pointed; eyes bright, clear, large and prominent; forehead broad; nostrils large, open, and bright red within; jaws rather wide; chin fine; lips thin; teeth sound and even.

Neck a trifle short, yet harmoniously rounding to the body; throttle clean; crest rigid, rather high and gracefully curved; mane abundant, with silky hair.

Breast broad and deep, with great muscular development; shoulders smooth and sufficiently sloping for the collar to set snug to them; withers

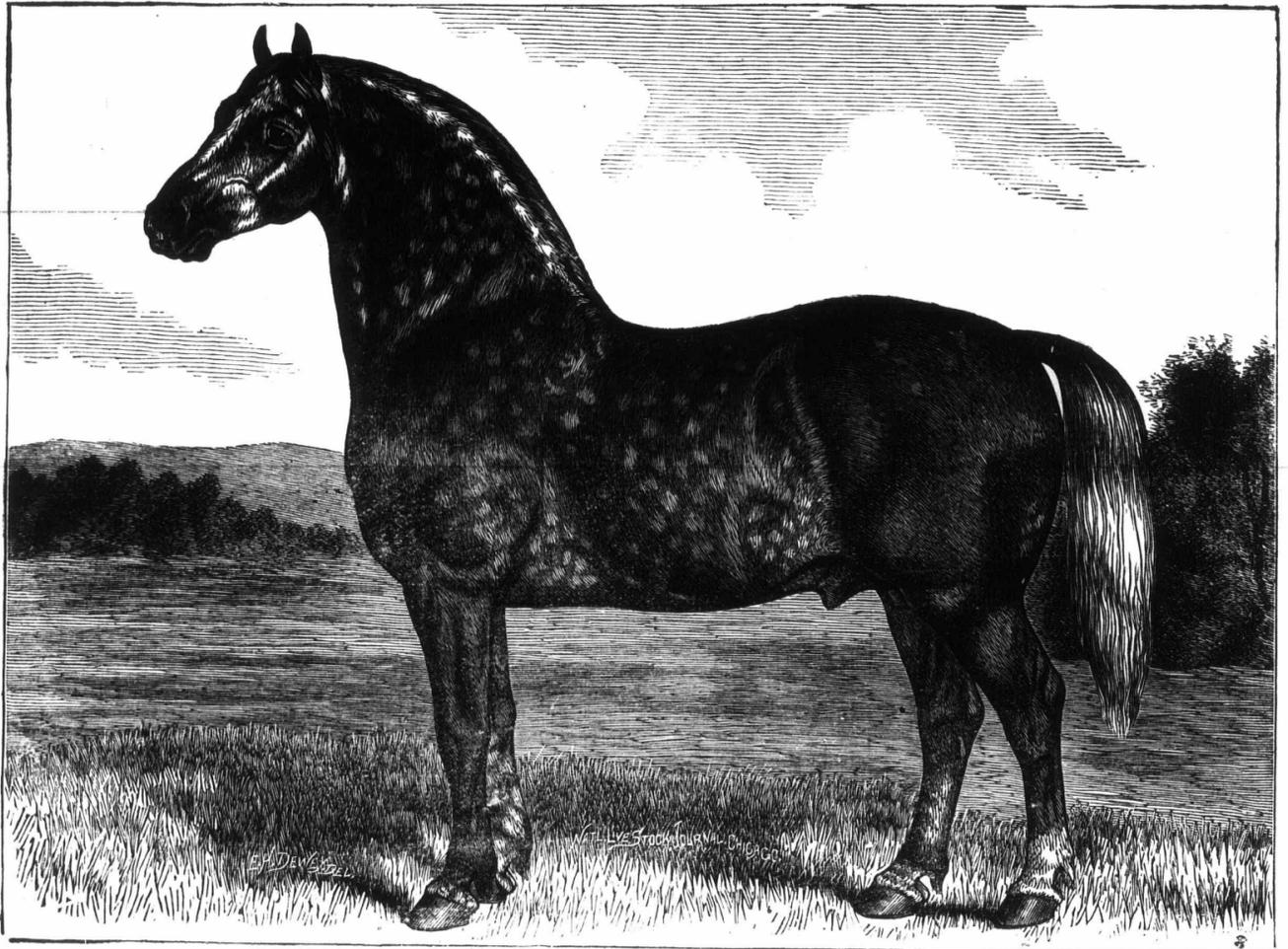
Color various as with other horses, but a clear dapple-grey is preferred, as the best of the original breed were thus marked.

Action bold, square, free and easy, neither fore-reaching nor interfering, they walk four to five miles per hour, they trot from six to eight on a dry and moderately level road, but are capable of being pushed much faster on the latter gait when required.

Temper kind; disposition docile but energetic and vigorous; hardy, enduring and long-lived; precocious; able to be put to light work at eighteen to twenty months old, possessing immense power for his size; never balking or refusing to draw at a dead pull; stylish, elegant and attractive in appearance; easy, elastic and graceful in motion.

No tendency to disease of any sort, and especially free from diseases of the legs and feet, such as spavin, splint, ring-bone, grease and founder.

An easy keeper and quick feeder.



PERCHERON STALLION "CHERE,"

Winner of first prize and Gold Medal at the great Universal Exposition, Paris, 1878, and one of the 170 head imported during the past fifteen months by M. W. Dunham, Wayne, Du Page Co., Illinois U. S. A.

France with a countless cavalry host, led by the fiery Abd-er-Rahman. The following year they advanced to the broad plains between Tours and Poitiers. Here they were met by the sturdy Charles Martel, well surnamed the "Hammer," at the head of the French horse, which being of so much heavier weight than those of the Moors, he was able to ride down the latter in repeated charges, and thus completely overwhelmed them. Thousands of these fine Barb stallions were then captured (for the Moors ride such only, and never mares), and distributed among the French soldiers, who, on returning to their farms, bred them to their own large native mares. The best and most uniform of this produce were then selected and coupled among themselves, the result of which,

high; back short and strongly coupled; body well ribbed up, round, full and straight on the belly, which is much longer than the back; rump broad, long and moderately sloping to the tail, which is attached high; hips round and smooth at top, and flat on the sides; quarters wide, well let down, and swelling with powerful muscles.

Dock strong; tail long and heavy, and gracefully hanging out from the croup when the animal is in full motion.

Legs flat and wide, standing square and firm, and well under the body, with hard, clean bones, and extra large, strong joints, cords and tendons; short from the hocks and knees down; pasterns upright; fetlocks thin; hoofs full size, solid, open-tough and well set up at the heels.

Height fifteen to sixteen and a half hands; weight 1,300 to 1,700 pounds.

HOW TO FEED BRAN.—Bran or ground feed is best fed to cows upon moistened hay; it being mixed with the hay, all will be eaten together and raised and masticated. But if it is not fed with cut hay it should be fed dry and in a small quantity each time, for if fed alone it is not raised and re-masticated, but goes on to the third and fourth stomachs. If fed in slop it is swallowed without any mastication, and mixed with little or no saliva, but if fed dry it cannot be swallowed until it is mixed with saliva, and the saliva assists in digestion. When food is masticated the act of rumination causes the saliva to flow and mix with food. We have experimented and find that when fed alone dry ground feed is better digested than when fed wet.

Agriculture.

The Maritime Provinces—No. 6.

In no way can any person form so correct an idea of any part of our Dominion as by seeing it and enquiring about it. Sight fixes a more correct and lasting impression than words. We would often like our readers to see sights that we have enjoyed, and for that reason we expend most of the one dollar received from each of you in presenting representations of objects and places that we deem would be of interest or importance to you. We in Ontario do not know as much about our brethren in the Maritime Provinces or their country as we ought. It would do the Ontario farmers good to see these provinces, and to observe the care

never seen any part of the world that has pleased us better or charmed us more. We only took a rapid flight through the many beautiful sights, and would pity the creature who could not enjoy them. We have also enjoyed the pleasurable sights of Philadelphia, New York, Boston, Arkansas, Paris, London, &c., &c., and have seen the gaudy dazzle of some high life, and have wandered over the trackless prairie of Kansas, Dakota, Manitoba, &c., but my mind turns back with pleasant thoughts of the Maritime Provinces. We feel as if we would like to again revisit some of these grand sights, and learn more about the inhabitants. We now give you a poor, faint idea of one of the many beautiful views to be seen in these Provinces.

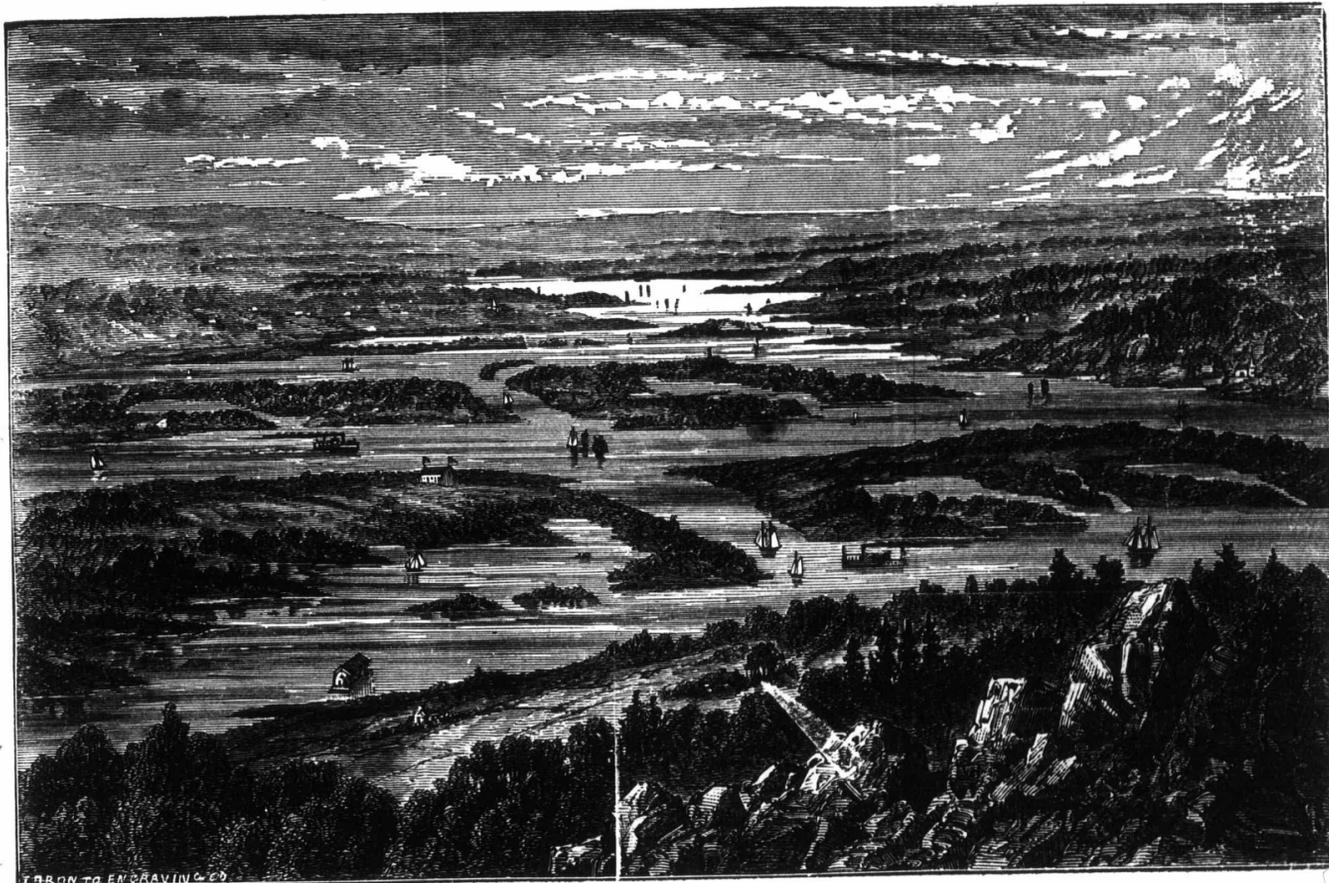
Otnabog is the name of a small village, situated on the St. John River, about half way between

three times with verdant vegetation; then compare it with this view of seven expansive, grand divisions. A spacious agricultural exhibition building may be seen in the distance.

Mr. S. L. Peters, one of the most energetic agriculturists in N. B., resides on the brow of the hill overlooking this grand panorama.

There are many interesting and remarkable sights to be met with on this river; for instance, near St. John they have what they call a reversible waterfall. When the tide is low the river has quite a handsome fall, but when the high tide is up the water appears to fall the other way. The waters are effected by the tide to near Fredericton.

Fredericton is remarkable for its beautiful elms and gigantic willows. Here the soil and climate seem to have brought these two trees to greater



SCENE NEAR OTNABOG, ON THE RIVER ST. JOHN, NEW BRUNSWICK.

economy and comfort of their brethren, while many valuable lessons might be learned. It would also do the Maritime farmer good to visit Ontario, as the systems of management are very different, even in agricultural pursuits. Ontario is blessed with a larger extent of fertile land than these Provinces can boast of, but can claim some farming lands that far exceed, in value and fertility, any in Ontario. But these fertile spots, although numerous, are sometimes many miles in length and breadth. By far the greater portion of the land is very light and entirely useless for any purpose yet known to man, being covered with rocks and boulders. For pleasant, social and hospitable inhabitants, grand and beautiful scenery, clear crystal waters, a cool, pleasant and healthy climate in the summer with fishing and boating, we have

St. John and Fredericton. The scene from the high land near this place is indescribably grand, surpassing anything of the kind we have ever seen, or by any person we have spoken to. The great beauty consists in seven distinct views of land and water lying before one. The islands, lakes, promontories and rivers are so distinct and yet so beautifully interspersed that the grandeur can neither be properly drawn nor described for the mind to at all comprehend the beauty without seeing it. The low lands are covered with luxuriant vegetation, grass, trees and cattle; the hills in the distance are divided into farms, and the cleared land and woods interspersed with boats, rafts, etc., tend to increase the beauty of the spot. Just call to your memory the beauty of any place where you can see navigable water divided clearly

perfection than at any other place we have seen. The elms here are drooping and wave like weeping willows, and many have green foliage growing close to the trunks of the trees, giving a very pretty and grand effect to the streets. You are all aware that this is the capital of N. B., but Fredericton has still a far greater object of interest and importance to this continent than most people are aware of, namely, the Metropolitan Bishopric, the present occupant of which is now approaching 100 years of age, and filling his mission in such a manner that every intelligent Protestant minister on this continent must in time direct his attention to this—perhaps the greatest rock of the whole of the Protestant denominations on the continent. We know many may feel inclined to ridicule these remarks or consider they

are exaggerated; but look over this whole continent and compare before you decide too hastily.

Another most remarkable point of interest on this river is the village or town of Grand Falls. The falls are in no way to be compared to the grandeur of Niagara Falls; still there are some features here that require a separate article to describe. The wonders of the place but very few have as yet seen, and no one can imagine them until they are seen. The river rises forty feet higher at one time than another on account of it having to pass through a narrow opening in the rocks. Here are to be seen many wells in the solid rock from twenty to thirty feet deep, made by the action of the water, and yet no water is to be seen in them. The cold, foggy lakes of Michigan and Superior and the Sault St. Marie and Duluth do not appear so attractive to our imagination as the scenery of the St. John's river; and yet how few Canadians' names are to be seen registered in this beautiful summer resort. Americans appreciate and patronize our fine Maritime air and scenery more than we do ourselves. We would say to Canadians that travel in the summer for pleasure or health, and many do, just take a trip through the Maritime Provinces.

Thin Sowing and Selected Seed.

We extract the following from a letter sent to the English Agr'l Gazette by the late J. J. Mechi, an excellent authority on agriculture. The writer says he had a wonderful harvest of wheat, and from strong evidence concludes it was obtained by thorough draining, deep tillage, and that great essential, carefully selected and thoroughly cleaned seed. He sowed at the rate of one bushel per acre, and his yield was 56 bushels, weighing 62 lbs. to the bushel. He says "the above result has confirmed his long-continued practice of thus seeding on land properly drained and manured."—Those—and they are many—who have witnessed my wheat crops during the last thirty years must be convinced that on our poorest soils, such as mine, great wheat crops can be profitably grown, under the needful conditions, one of them being selected seed; and this I obtained in all my corn crops by a powerful blower, which leaves only the heaviest and most perfect. After doing this, one is surprised by the large number of imperfect corns that have been blown out. I have grown my largest crops of wheat (over 56 bush. per acre) on several occasions on those portions of the field sown, or rather dibbled, with one peck per acre, one kernel in each dibble hole. Wheat crops require a very highly fertilized soil, for, owing to its root formation, Liebig tells us, and I quite believe it, that in order to produce one full wheat crop, there must be within reach of the roots the manure elements of 100 wheat crops; a reference to Prof. Liebig's work will show, that although the land is not sufficiently rich to produce a full wheat crop, many rye crops can be grown, and when these fail, oats, which possess a greater number of roots and more exhaustive power, can still succeed after the rye fails. If, then, we are to grow large crops of wheat, it must be by enriching our poor lands, by means of a more abundant supply of manure. Land can never be too rich for wheat, provided we do not over seed, and provided we consolidate the land, where of a too friable or loose a nature. In 1868 I grew on the field 64 bush. per acre of fine white wheat which realized £25 4s. per acre, besides the straw, £4. The freehold only cost £25 per acre, so that the land was not of a naturally rich quality. My average of wheat that year was 56 bush. per acre—but it was a fine wheat season. When I diminished my number of live stock, my wheat crop also diminished."

Then seeding, besides rich and well drained lands, requires the best of seed, well cleaned, so that nothing but the most perfect kernels remain. This is a most important step, and as many of the farmers are now cleaning their grain for market, they should be careful to keep the best for seed. Like begets like in grains as in live stock.

Surface Manuring.

BY C. HARLAN, M. D.

Not many years ago it was the universal custom to plow in manure the very day or hour that it was spread upon the field. Farmers became irritable and had but little to say if anything prevented immediate plowing after the precious contents of the barn yard were spread broadcast before their eyes. It was a prevalent opinion that nearly all the richness would dry out, in a few days, if exposed to the weather.

They had often noticed that manure under cover was about twice as good as that which lay out of doors all summer, but they did not discover that the great injury which it had received was owing to the leaching rains, which dissolved and carried off its richest elements, and not to the sunlight which occasionally fell upon it.

When manure is spread it soon becomes dry, and then chemical changes cease, fermentation is arrested, it will decay no more in that condition. And when the dews settle and the rains descend upon it, it will dissolve, day after day, and a peculiar dark rich coffee will saturate the soil beneath it so effectually that Alderman Mechi could hardly do it better, with his steam-engine and his pipes and hose in every field.

John Johnston writes and says to Joseph Harris: "I am not surprised at your correspondent, Buckeye, being opposed to surface manuring. I would have been so myself had not experience taught me better. I have used manure, only as a top dressing, for the last twenty-six years, and I do think one load used that way is worth far more than two plowed under on our stiff land."

Nearly ten years after this was written, he speaks, if possible, with even a stronger faith than ever in defence of his favorite practice.

Harris writes that "John Johnston, who has a heavy clay loam, says he has found by actual trial that one load of rotted manure applied as a top-dressing to grass land in the autumn, and the land plowed up and planted to corn in the Spring, is worth as much as three loads of fresh manure plowed under."

Major Dickinson, another able and extensive farmer, declares: "I hold that one load of manure on the surface is worth two loads plowed in."

Charles B. Calvert, a distinguished farmer of Maryland: "Is a strong advocate of the application of stable manures upon the surface, instead of plowing them in."

Mr. Bright writes in the Gardeners' Monthly: "The practice of top-dressing, or of surface manuring, has long been the favorite method employed by all intelligent gardeners within the circle of my acquaintance. A piece of soil heavily shaded by surface manuring, actually decomposes like a manure heap—that is, it undergoes a sort of putrefaction or chemical change which sets free its chemical constituents, unlocks as it were, its locked up manurial treasures, and fits its natural elements to become the food of plants. Manure then, I say, chiefly upon the surface. Do not waste your manures by mixing them deeply with the soil. Surface manuring and mulching are the true doctrines. I am sure of it."

In Todd's Young Farmer's Manual I find the following statement: "James M. Garnet, a farmer and an excellent writer on agriculture, says: 'I began penning my cattle late in the Spring, and continued it until frost, in pens of the same size, moved at regular intervals of time, and containing the same number of cattle during the whole period. These pens were alternately plowed and left unplowed until the following Spring, when all were planted in corn, immediately followed by wheat. The superiority of both crops on all the pens which had remained unplowed for so many months after the cattle had manured them, was just as distinctly marked as if the dividing fences had continued standing; it was too plain even to admit of the slightest doubt.'

A near neighbor had made the same experiment on somewhat different soil the year before, but with results precisely the same. Similar trials I have made and seen made by others with dry straw alternately plowed in as soon as spread, and left on the surface until the next Spring. In every case the last method proved best, as far as the following crop would prove it.

The same experiment has been made by myself and others of my acquaintance, with manure from the horse stables and winter farm pens, consisting of much unrotted corn offal, and without a solitary exception, either seen by me or heard of, the surface application produced most manifestly the best crop.

An able writer, in the Cultivator, in 1843, says: "I have seen spots where cattle had been penned at night for a month or two; for six years afterwards the vegetation was double on that spot to any part of the field, although all the manure had been carefully removed and scattered about; now nothing but the liquid could have gone into the earth, and yet the rains of six years never washed away the beneficial effects."

Now, if the valuable material of the barnyard will not suffer waste when spread upon the open fields, and is better there than anywhere else, then the green crop, whatever it may be, that is raised to improve the land, should be mown down, in Summer, and in Autumn, and should be left upon the surface, as long as possible—to prevent evaporation—to disintegrate the soil, to retain moisture, to be leached by rains and dews, and finally to enrich the ground by its total decomposition.

Experiments with Superphosphates on Barley.

Reported by a member to the Elmira (N. Y.) Farmers' Club: Last spring we applied some superphosphates upon barley with a view to carefully testing its merits. Our trials with commercial fertilizers heretofore had not been successful in results, and we undertook this experiment without expectation of receiving benefit.

The land selected was a piece of corn stubble on our creek flats. It is a deep loam, inclining to clay, on a gravel subsoil. The piece is naturally good soil and has borne heavy crops, but the corn crop of '79 was a very poor one. A clover sod was turned under for corn, but, before plowing, we covered the field with a thick coating of old straw, thinking that, with the growth of clover to be turned under, would enrich the ground materially; but the season was dry and the coarse material plowed in evidently did damage rather than good in leaving the soil rather too loose to withstand the dry weather. The soil of the field is very uniform in character and fertility. We drilled in the barley at the rate of seven pecks to the acre. On one side of the field we drilled six widths of the drill, about half an acre, without fertilizer. Then we applied on thirteen drill widths, or about one acre, 300 pounds of grain fertilizer. Then we left a strip three drill widths without fertilizer. At this point rain drove us from the work. This work was done April 23rd. April 29th, when the soil was again in good order, we drilled in thirteen drill widths, about an acre, applying 250 lbs. of the superphosphates and 250 lbs. of plaster. We intended to put 300 of each on this strip, but our man made a mistake in setting the drill. Another strip was sown without fertilizer. As soon as the grain came up there was a marked difference in favor of the fertilized strips. They started quicker, grew faster and ripened fully one week ahead of the strips on which no fertilizer was applied.

When the time came for harvesting, we measured off strips, of exactly equal size, in the three plots. No. 1, with grain phosphate alone. No. 2, phosphate and plaster mixed. No. 3, no fertilizer. We used a tape-line in the measurement and put 20,330 square feet in each strip, or about seventy-one square rods, and strips 1 and 2 were then cut with a cradle and carefully bound. Strip No. 3, unfertilized, was not ripe and stood uncut another week. The lots were drawn and stored separate, and when threshed we carefully cleaned up the floor and machines after each lot. Lot No. 1 weighed, as it came from the threshing machine, 680 lbs.; after it was cleaned, the good barley weighed 628 lbs. Lot No. 2 varied but little from lot No. 1. (We lost the figures.) Lot No. 3, no fertilizer, weighed, as threshed, 344 lbs., after it was cleaned the good barley weighed 286 lbs. It will be observed that even the fertilized strips gave light yield, and the grain was light, only forty-three and one-half pounds to the bushel, but the fertilized yielded nearly twice as much as the unfertilized. The soil is not well suited to barley. We seldom get good crops of barley on our flat lands, which seldom fail to give good yields of corn, grass or roots. The cost of the 300 lbs. of fertilizer applied to an acre, at market rates, would be six dollars, or three dollars for the experimental strip which gave a gain of 284 lbs., or nearly six bushels. This would show a profit from the use of the fertilizer. We also tried some superphosphates on our beets with satisfactory results. They started quicker and yielded more than where barnyard manure was applied. The soil was very rich. I think we have nearly fifty tons of beets on an acre and a-half.

Poultry.

Profit Derived from Poultry.

BY R. A. BROWN.

The question as to profit in poultry-rearing is, we hope, better understood than to doubt its veracity. The interest, though long neglected, is second to none under the head of Agriculture.

Now, it is not deemed necessary to have a large estate in order to rear poultry to make it pay; although large runs are an acquisition to the profit account. Nor is it true that the term "fancy poultry" is an insatiable monster that will consume a small income; for they pay you just returns for care received. It is the fancy poulterer, with his care and judgment, that keeps the fountain pure from which is to flow the stream that shall enrich every barn-yard flock with an infusion of fresh, pure blood, in order that such flock may not deteriorate.

The day is past when the fancier can be ridiculed as having the chicken fever; nor can he be reproached as being effeminate in his choosing. I know that in the past it was considered well enough for the housewife or children to feed chickens and gather eggs, but beneath the consideration of a man. But when statistics show that the production of poultry and eggs adds more to the commerce of our country than any other branch of farm industry, it is then apparent to the man of coin which way he must move in order to lay hold of the "almighty dollar."

In our wanderings our fancy for poultry has afforded us many pleasant hours. The appearance of a hen-coop on the lawn, surrounded by a flock of chicks, that looked beautiful in the distance, and the united crowing of different strains of fowl, such as the Brahma, Spanish, and the spirited Game, have emboldened us to ask to see the poultry, and we have enjoyed the interview, which we tried to make profitable to our interlocutor.

Sometimes we have seen some pretty nice birds, but oftener they have been but very poor specimens. We had hoped the days had come that every farmer would take an interest in his poultry; but such is not the case. Some will keep a deplorable set of scrubs and dwarfs, that eat more than a pure-blood that is four times the size, and will lay only about two dozen eggs in a season, and poor, watery ones at that. When asked "Why do you keep such stock?" the answer is always the same: "We are getting tired of them; they pay badly; they eat more than they are worth." The reason is obvious. They have been bred in and in until they are good for nothing.

The fact is, poultry-keeping is like every department of husbandry, it must be well attended to, and a liberal economy practised towards them, or they will not pay.

Few in our country have any intelligent idea of the amount of poultry and eggs produced in it, except, possibly, some of the individuals who are engaged in handling the products as dealers. To the producers themselves it is certainly an unknown quantity. The amount of eggs exported from Ontario alone for the year 1879 brought the handsome sum of \$575,000, which is over half a million of dollars per annum for Ontario, at current market prices, not saying anything of fancy trade.

The trade percentage of this, of course, stuck to the dealers' pockets; which would be, at 31 per cent., \$75,000, leaving \$500,000 in the hands of the farmers of Ontario for the year 1879.

Now, what was the amount of eggs consumed in Ontario by our towns and cities, and also farmers? Well, we would conjecture that it would be as much as what was shipped out of it. That would come up to the round million of dollars left in the farmers' hands per year, which, I mean to say, is more than any other one branch of farm industry run by the farmers of Ontario. Herein we then add that poultry-raising does pay and that well, too.

To show the increase in the egg export trade we quote, that, in 1870, from the entire Dominion, there was exported 2,460,687 dozen eggs, valued at \$314,812; and four years later, 1874, there was

4,407,534 dozen, valued at \$587,284, or nearly double in four years. Now, we find in five years later, in 1879, that Ontario has exported nearly as much as had the Dominion in 1874. And this present year there has been a large increase; merchants are shipping eggs in large quantities to Britain, as heretofore our trade was chiefly with the United States, for which the city of New York consumes annually 12,000,000 dozen eggs, valued at \$3,000,000. It is estimated that the enormous sum of \$500,000,000 worth of eggs and poultry are consumed annually in the United States. The corn crop is estimated at \$304,400,000; the wheat crop at \$288,000,000; the cotton crop at \$155,900,000; the meat of cattle, sheep and swine slaughtered or sold to be slaughtered, \$398,956,476. Hence, we see that the poultry product of the States forms no small part of life-sustaining nourishment to its people, and having no rival save in the entire meat and dairy products combined.

Poultry Manure.

From experience it has been ascertained that each fowl will make daily one oz. of dried excrement. The aggregate for 50 fowls per annum will be half a ton, and worth ten dollars, and just as good a fertilizer as the best guano. The best way to save it is to have a board with three-inch strips nailed at the sides. The bottom requires to be about one foot broad and placed just under the roostings, and a good supply of road-dust, mixed with gypsum and sand, and sprinkled well in the box when placed under the roost. As it requires to have twice its amount of other substance mixed with it before using, the dry earth just acts here, and helps the gypsum to bottle all escaping ammonia, which, if left in the poultry house without some deodorizer, is a grievous nuisance and very unhealthy to the occupants of the house. When it is utilized with dry earth and gypsum it then can be more easily taken up as plant food, and readily unites with the humic acid of the ground, and is richer in ammonia and fertilizing salts than guano. This requires to be gathered twice a week. First, the health of the birds requires it; second, that no waste takes place on account of escaping ammonia, and that it is kept dry that it may be handled without unpleasantness. If kept dry until seeding time, a handful of this compost put in a hill of corn is all that is required, and will increase the product 30 per cent. It is not disagreeable to handle, being without smell and adhesion. And in addition to this we have a great increase in accommodation of house room by using a deodorizer, from the fact that from 400 to 500 fowl can be kept together or within one enclosure with less smell or taint than is to be found in an ordinary fowl house, capable of accommodating a dozen chicks. Where so many fowl are kept they are separated into rooms with lath or wire partitions. Each room is about three or four feet broad and ten or twelve long, holding from eight to twelve birds. Each flock has its own quarters, and the whole interior is regularly allotted so that order and system can be carried out without loss of time.

Keep a supply of water in your poultry house. You will find your fowls benefited if you supply them their water in an iron vessel, or if such is not convenient, keep a supply of old iron in the drinking troughs. The vessel must be kept clean, and fresh water supplied daily.

After an experience of several seasons, we have adopted the system of warming food for our fowls all through the cold weather, both morning and evening, and we attribute the excellent laying qualities of our hens, in a great measure, to this custom. The food, whether whole or broken, dry or moistened, should be warmed before feeding. Some farmers make a practice of parching their grain, and are assured of its beneficial results.—
Ex.

The London Live Stock Journal of Dec. 19, says:—The Beaver Line steamer Manitoba, from Montreal and Quebec, which arrived on November 11 in the Mersey, took on board at Quebec 411 head of cattle and 1,320 head of sheep. She landed all the cattle alive, and only lost 4 of the sheep during the passage. The Dominion Line steamer Brook, in from Quebec, land all her cattle well. This is very encouraging to Canadian shippers. There has been some great losses of live stock on the passages previously.

Division of Line Fences.

Line fences have been a source of trouble for many years; nevertheless no steps have as yet been taken by our Government to mitigate this evil. As the law now stands, occupiers of adjoining lands are each required to keep up a just proportion of the fence, that is, each shall build and keep in repair one-half of the boundary, each being accountable for any damage occurring from a defective state of his fence. This law seems simple and very effective. So it would be if the two properties were always to remain undivided, but such is not the case, and just here the trouble commences. For instance, A and B have properties adjoining, with a division fence of half a mile. They divide the fence; A builds his fence of a permanent and costly nature; B his of a cheap and of a temporary character. This may go on for some years, when B sells half his lot to C, whereupon C calls on A to build and keep in repair his portion of the new division, viz., one-eighth of a mile, which, by law, he is compelled to do. He must either pull up one-half of the costly fence he first built or lose it, and build a lawful fence on his portion of the line between himself and C. This division may go on any number of times, instances of which are very common. Under such a law we cannot hope to see permanent and costly fences maintained. When timber was plentiful and cheap the grievance was not so great, the cost then being little more than the labor involved, but now that timber is costly and scarce, and becoming more so every year, it behooves those who have to build fences to put up permanent ones, but under the above circumstances it is rendered difficult and discouraging. What then is the remedy? Simply this, that the Legislative Assembly amend the present Act by requiring that when a division of line fences takes place it shall be registered in the Registry Office of the division to which the land belongs, and shall be permanent for all time to come. Some find fault with this arrangement, from the fact, on a division of property one portion would have to maintain all the line fence, but this is not an evil, as the fences are registered and a buyer will be able to know what fences he will have to build or keep up. The portion which has no fence to keep in repair will be more valuable than that which has. In case of a dispute concerning the division the "Fence Viewers" should be given the power to make the division, and their decision should be registered and become permanent. This question is of great interest to land owners in all sections of the country, but particularly in the older vicinities, farmers, clubs will find it a very profitable question to discuss. The Oshawa Club has already fully debated the question and drawn up a petition to be presented to the Legislative Assembly when they next meet, praying that the present law be amended, making said divisions permanent. The subject deserves the co-operation of all.

A Swiss Company has bought 5,000 acres of wild land in the eastern townships, P. Q., at \$3 an acre. They propose to establish thereon a colony of Swiss dairy farmers, and erect an immense cheese house. This is the second lot of ground purchased by the same Company for a like purpose, and these are said to be but the forerunners of a large number of cheese factories to be established throughout the Province.

Oleomargarine and other imitations of butter in the Chicago market are now so numerous that trade in the genuine article is being enormously damaged. With a view of bringing the matter favorably before the authorities and the public, a general meeting of butter dealers will be called, when the facts in the matter will be presented and a definite course of policy will be resolved upon.

Garden and Orchard.

Orchard Notes.

It is commonly the case that the orchard is cropped year after year until the diminished yield shows that something must be done. The proper way is to give a moderate manuring annually; stable manure put on in the fall and ploughed in, or in small orchards forked in, may be alternated with ashes or lime on other years. Clover to be pastured by hogs and after ploughed under, is one of the best fertilizers.

Trees of forced growth are more tender than others and so suffer more from sudden changes of climate. For this reason too high cultivation is as bad as not enough. Heading back and root pruning are the best methods of restoring barren trees. Wood ashes are the best fertilizers for trees, vines and bushes. Prune apple trees so as to give them a low, well-balanced top. One such tree is worth several tall irregular trees. Peach orchards should have a dry, fertile soil of a northern or western slope.—Ex.

Growing Plants in Living Rooms, etc.

Dr. J. M. Anders, of Philadelphia, Pa., read, recently, a paper before the Alumni of the Auxiliary Department of Medicine, University of Pennsylvania, on "The Hygienic and Therapeutic Relations of House Plants," in which he gives good proof that house plants are conducive to health, but also that a sufficiency of healthy, well-watered and cared-for plants, both in the sitting and sleeping rooms of invalids suffering from any form of lingering diseases, except some forms of rheumatism, are very beneficial, and that soft-leaved plants, or such plants as throw a large volume of water—"water purified and medicated by their vital chemistry"—into the air in the form of vapor, is of the greatest benefit in that dread terror, consumption, or phthisis, not only in ameliorating the disease, but preventing it in those who are predisposed to its attack. Then don't pack your "pot plants" away in the cellar, but fill your east and south windows full of them, and keep them healthy and vigorous by the best of care. We should say that the old homely—*homely* is a good word here—the most pleasant home we ever saw, was filled "chuck" full of these same old things during the winters. Geraniums would be among the best for this purpose, and particularly the semi-aquatic foliage plants, such as require a large amount of water; and also last, but not least, shelter your homes to the north and west with a close plantation of hardy evergreens.

Forest Culture at the West.

The following article from an exchange will afford a lesson for the improvement of our Prairie Province; the great want there, that of a sufficiency of timber, is one that can be supplied in a few years, but the sooner united efforts are put forth for the purpose, the better. A delay of even a year cannot be remedied. It is only a question of time when a thorough system of forest culture will be adopted in all the treeless portions of the country. People will be forced to give it their attention, since the cutting away of trees has had the effect of diminishing the annual rainfall and the amount of agricultural productions. It is a matter of congratulation, then, that in the prairie or treeless States, an unusual interest has lately been awakened on this subject. The Fort Scott and Gulf railroad company has begun the planting of hundreds of acres of trees upon its lands. A Boston capitalist has engaged a company of raisers of forest seedlings in Illinois to break and plow a large area in Kansas, and plant no less than 2720 trees to the acre, and cultivate these until they shade the ground. At the end of that time—say 40 years—the plantation will be delivered over to the owner; no trees less than six feet high are to be counted. The Fort Scott railroad has adopted this plan, one advantage of which is that the tree enterprise will be attended to by experienced men, whose interest it will be to make as much of a success of it as possible. The terrible cyclones that have occurred in the West have had the effect of calling people's attention to the necessity of having their villages and scattered dwellings protected by trees.—Ex.

Rainfalls and Forests.

The following are the laws of meteorology as affected by forests: 1. It rains more abundantly under identical circumstances, over forests than non-wooded ground, and most abundantly over forests with trees in a green condition. 2. The degree of saturation of the air by moisture is greater above forests than over non-wooded ground, and much greater over evergreens than over masses of leaved species. 3. The leafage and branches of leaved trees intercept one-third, and those of resinous trees the half, of the rainwater which afterward returns to the atmosphere by evaporation. On the other hand, the same leaves and branches restrain the evaporation of the water which reaches the ground; and that evaporation is nearly four times less under a mass of leaved forest than in the open, and two and one-third times only under a mass of pines. 4. The laws of the change of temperature out of and under wood are similar to those which result from the observations of M. Mathieu. The general conclusion seems to be that forests regulate the function of water, and exercise on the temperature, as on the atmosphere, an effect of "ponderation" and equilibrium.

Gypsum as a Top-Dressing.

An English farmer writing to the *Agricultural Gazette*, gives his experience of the value of gypsum as follows:

Gypsum is a top-dressing which I have employed myself and seen used by others with the most favorable results. This remark applies to mixed seeds, newly-formed pastures and some of the leguminous crops. The extravagant tales of increased produce resulting from the use of gypsum in America, and the repeated failures which attended its improper application in this country, combined to bring the article into disrepute. But there are upon record sufficient well-authenticated facts of highly satisfactory results obtained by the application of gypsum in proper quantities and in suitable weather at the right season of the year. At the commencement of the present year I obtained a few tons of very finely powdered gypsum. This was used mainly to fix the ammonia in the liquid manure which is carted out regularly upon comfrey, lucerne, meadow land, &c.; to sprinkle over the clumps of manure in the field, to throw about the stables and piggeries, and, lastly, to top-dress clovers, mixed seeds, peas and tares. Wherever the powder was carefully sown early in the morning, while a heavy dew was on the leaf, and no rain followed for some days, or where it was scattered during a slight drizzling rain which soon cleared off, the results were highly satisfactory. The dressed portions of a large clover field (broad clover, Alsike, trefoil, and a little white Dutch) yielded fully one-third more fodder per acre than the undressed parts, the leaf being much broader, and altogether of a deeper color. The mixed grasses were much more luxuriant; a very slack part of a large field of peas was stimulated into rapid growth, and yielded at harvest as good a crop as the remainder of the field; and a piece of tares, which previously appeared to languish and fall away, grew rapidly, and afforded a heavy cut early in June. In one instance the gypsum was sown over a few acres of early seeds when a rather keen east wind was blowing. No good result followed. The same remark may be made respecting three or four acres, which were sown while the dew was upon the leaf, but very soon washed clean by a heavy rain. In no case was more than three cwt. per acre applied. One patch of clover had its dressing at two different times; but the gain here was scarcely perceptible. All the gypsum was applied at the end of April, when clovers, mixed seeds, tares and peas fairly covered the ground. The field of clover ley (25 acres) has now been lightly steam plowed and drilled with wheat; and from the extra weight of clover roots which was plainly perceptible in the gypsumed portions, I fully expect here a heavier crop of wheat. My experience of gypsum is, that it is of little use upon heavy clay lands, or even upon a chalky soil; but upon sandy loams and rather light soils of good quality, its effects are the greatest. When used in combination with other substances, or even alone, for dusting over young turnips to keep off the destructive beetle, I have noticed that it appeared to hasten the development of the rough leaf, and thus insure the safety of the plant.

Mossing the Surface of Pots.

Covering the surface of pots with moss is very beneficial, as well as enhancing to the appearance of the plants. A good many kinds of succulent growing plants during their season of rapid growth require when growing in pots a great quantity of moisture at the roots. This is the case with such kinds as carnations, bouvardias, heliotropes, geraniums and roses, especially if grown in a house heated by artificial means, and a minimum of 50° maintained. A good many failures with roses during winter are caused by not supplying sufficient water to the roots when growing. For years I made this mistake myself, but as we are daily learning the nature and requirements of plants better, I find that too much water cannot be given roses growing in a high temperature, having plenty of healthy foliage, so long as there is sufficient porosity in the soil to prevent saturation. Dryness at the roots is often the cause of mildew on plants, and is also the cause of the plants producing imperfect buds. I have seen a house of roses in strong, succulent healthy growth, allowed to get dry at the roots (not sufficient to cause the shoots to wilt, but enough to check the rapid circulation of the sap in the shoots,) to be covered with mildew a short time after, and the cause laid to injudicious airing or to extremes of temperature when insufficient moisture was the real cause. I do not say but that mildew arises often from injudicious airing and firing, but I do assert from observation that it also often arises from injudicious watering.

Now, for the purpose of helping avoid this evil, and maintaining a better degree of moisture at the roots, during a period of severe weather when strong fires have to be kept up to maintain the required temperature, it is a good plan to cover the surface of the pots with moss, which may either be the green moss found growing on stumps and stones in moist parts of woods, or sphagnum moss found in swamps; this latter is the kind I generally use, but the other is the prettiest for house plants. Peter Henderson recommends mixing bone dust with the moss as a fertilizer to the plants. For plants somewhat exhausted from being a good while in pots, this is very desirable, and for the last year which I have adopted this plan, I find it very beneficial for recuperating plants which make feeble growths from being long in the pots. The moss, from its moistness, brings the roots to the surface, and if food is supplied them, a fresh and vigorous growth is the consequence.

Instead of mixing the bone dust with the moss, I often mix it with a little soil and sprinkle it on the surface of the pots before putting on the moss. This is the better way with house plants, as it keeps the bone covered, and therefore prevents any disagreeable smell from arising. Fertilizing house plants has generally been a difficult matter with window gardeners, but the above method overcomes most every objection formerly met with, and will be found as beneficial as any method generally recommended.

All my bouvardias, heliotropes, roses, and other plants growing in pots for winter flowering, I had covered shortly after placing them in their winter quarters—the result being more flowers, larger trusses and buds, and I think better colored, than when grown without any covering on the surface.—[Country Gentleman.

A uniform use of water is essential to the healthy growth of plants.

It is a great waste to feed whole corn-stalks to cows; only a small portion is consumed, and the rest is a nuisance in the manure. By cutting the stalks, wetting them, and sprinkling a little meal or middlings on them, all is eaten but the butts, and these can be thrown out in the manure or into the litter, and will make the manure fine. Corn-ears may be ground into meal and given to cows with corn-stalks to advantage.

A writer says the fatal disease of the peach tree, known as the yellows, has been recently discovered to be due to the presence of a fungoid parasite plant which grows among the cells of the wood and leaf tissue, and which lives upon the sap. As sulphur is destructive to the fungoid growths it may be found that a liberal dressing of gypsum or other sulphates or diluted sulphuric acid applied to the soil may be a remedy. It is always help in discovering remedies to know the nature of the disease. It is most probable that pear blight will be found to originate from a similar cause.

Early Amber Sugar Cane Culture.

BY JNO. BARTLET, OSHAWA, ONT.

In accordance with my promise to give you the results of my experiments with the Amber Cane for publication in the *ADVOCATE*, I have written you what is given below:

The first subject to consider is the

SOIL.

Amber Cane will thrive on any soil that will produce and ripen a fair crop of Indian Corn. As with corn, however, the best results will be obtained from soils which are especially adapted to the growth of cane. I am of opinion that a good, rich, sandy loam will be found the best (or a soil which becomes warm and dry early in the spring). A week gained in pushing forward the growth of the cane in the spring is worth two in the fall. New land yields a large quantity of syrup of good quality; land freshly manured gives a poor quality of syrup, especially if manured with hog manure. Clay land, which grows good corn, gives good syrup, but not so large a yield. The soil, unless rich, should be manured in the fall with vegetable or rotten stable manure. Clover plowed under in the fall makes one of the best of manures for cane. Give the clover a good dressing of lime before plowing under. In general, a guide whether the land will require manure for cane will be—if it will not produce a good crop of corn-stalks for fodder, then it needs manure and *vice versa*. A good plan is to throw clay land into ridges, so that it may become warm and dry earlier in the spring. I think it will be found very beneficial to give the land in spring a good dressing of quick-lime, harrowed in before planting the seed, for the purpose of neutralizing any acids which may be present in the soil, so that the acids may not be taken up by the cane to the injury of the sap. After the cane is three or four inches high, give a small handful of land plaster, scattered to each hill. I am of the opinion that this treatment of the soil will have a very beneficial effect on the produce of the cane. This is the plan I adopted this season. I have found that cane does well after turnips, which were manured as is usual for turnips. On turnip land the cane ripened earlier than after wheat; cane also does well on land which has been exhausted by wheat.

PLANTING.

I plant in check rows three feet apart each way. I plant with a planter of my own construction, planting only one inch deep if the land be dry, or less if wet and cold. A great many fail on account of planting too deep. In our section the seed should be planted from the 10th to the 20th of May, or any time in May when the soil becomes warm enough to germinate the seed. Plant about ten seeds to each hill, and thin out to about six or seven stalks.

CULTIVATION.

It is very essential to give the plant every assistance in the early stages of its growth. It is a very slow grower at first, and can hardly be distinguished from fox-tail grass, which sometimes grows with it. From the time the plant emerges from the ground till it is six inches high is the time to make the crop; any neglect now can hardly ever be recovered. The crop now begins to grow very fast and is soon ready to take care of itself. Keep all suckers pulled off.

HARVESTING.

The cane should be cut when the seed is in the dough state. If wanted for immediate use strip the leaves and cut the seed off. If not convenient to grind at once, and heavy frost is feared, the cane may be cut with the leaves on and laid on the ground in this way, viz.:—Cut four hills and lay them together on the ground, with the butts pointing to the north. Now, cut four hills more and

lay them across the butts of the others, and continue alternately until the butts reach two or three feet high. Piled in this way they will shed rain and keep out frost for weeks. I had some cane which laid on the ground for four weeks in this way, which was not injured in the least. A frost which nips the leaves of the cane does not injure it; but a frost which freezes the cane through does injury in this way, viz.:—After thawing fermentation is apt to set in.

MANUFACTURE.

The juice is extracted by pressing the cane between two heavy iron rollers. The juice is then run into a pan 3 x 4 feet and 8 inches deep, called the heater, where the juice is treated with lime when it reaches a temperature of 100 degrees Far. The contents of the heater are now brought to a boil, and the thick scum which rises to the surface is skimmed off, leaving the clear liquid underneath. The lime is for the purpose of neutralizing the acids and coagulating the green feculencies and bringing them to the surface. The operator is guided in the use of the lime by litmas or test paper. The fire is now drawn and the liquid run into settling tubs, where it is treated with a sulphurous solution of water to neutralize the lime. The juice is now run into the evaporator, where it is quickly reduced to syrup. I used the "Cook Patent" pan evaporator, in which the juice is run in at one end and comes out at the other thick syrup with once passing through. The best results are obtained with this pan. For sugar making boil the syrup to a density of 13 lbs. to the gallon. I send you herewith samples of syrup and sugar of my own manufacture. I will send a small sample of syrup and sugar to any person who sends stamps to prepay postage on the same, and will be happy to answer any questions concerning anything in reference to "Early Amber Sugar Cane" free of charge.

[As Mr. Bartlet is a practical and enterprising farmer, we consider the above should have great weight with you. It should tend to show you that we need not expend our hard-earned cash to enrich some foreign country. We can raise our own sugar with great profit to ourselves. You have had an account in the *ADVOCATE* of the successful trials of Mr. Andrews at Clinton; and Mr. LeDuc, the Commissioner of Agriculture at Washington, has clearly shown to the farmers of the United States that millions of dollars may be saved by their raising their own sugar. They are now successfully doing so in many parts as far north as we are; it is only a matter of time and instruction to our farmers to show them the profits. The time is coming when nearly every locality will raise sugar for the farmers in its vicinity. Farmers' Clubs would do well to discuss the subject at their meetings this winter.]

A committee appointed by the Elgin (Ill.) board of trade, and of which Charles Baltz, a Chicago dealer in butter and cheese, is chairman, has been investigating the manufacture of "lard butter" in Chicago. They find that there are six or seven factories in that city making this stuff, the smallest of which turns out 2,000 pounds a day, while there is one that makes 300 tubs a day, averaging from 50 to 60 pounds each. There are three grades which sell at 14, 23 and 27c., according to the quality of the butter used in the mixture. The committee did not learn the proportion of lard to butter, but as lard is worth only 8c. per pound it is evident that there must be a large profit on the product. An effort is to be made to pass a law in the Illinois legislature, compelling the manufacturers of this "lard butter" to brand it plainly and sell it for just what it is. Butter-makers in the west claim that it is seriously injuring the reputation of western butter.

Diseases of Cattle.

DR. LYMAN'S REPORT ON INVESTIGATIONS IN ENGLAND AND AMERICA.

We extract the following from the *Massachusetts Ploughman*, dated Boston, December 13th:—

Washington, D. C., December 13, 1880.—The President transmitted to the Senate to-day a communication from Commissioner Le Duc, of the agricultural department, containing the information called for by the Senate resolution of the 7th instant, relating to the contagious diseases of cattle in the United States. Commissioner Le Duc submits the report of Dr. Charles P. Lyman, who was sent to England last summer to continue his investigations into cattle diseases, more especially pleuro-pneumonia, as affecting the exportation of American cattle to England. Dr. Lyman, in that portion of his report which refers to the extent of the territory in the United States in which cattle were affected with pleuro-pneumonia, defines it as extending at the time the investigations were made (in February, 1880) from Fairfield County, Ct., over New York city and portions of New York State lying just north of it; Brooklyn and parts of Long Island lying just east of it; Jersey City and over a considerable part of the State of New Jersey, Philadelphia and some of the more south-easterly counties of Pennsylvania to Baltimore, and portions of the northeasterly counties of Maryland. After these contaminated districts were located reports were received from England stating that cattle affected with pleuro-pneumonia were frequently landed there. Investigations subsequently made on this side proved clearly that these diseased animals came directly from the West, from sections far removed from the contaminated districts. Dr. Lyman then went to Liverpool, where he discovered and traced back a number of cases of pleuro-pneumonia to this country, and, upon investigation, ascertained that the animals undoubtedly came from western States over lines of rail north of any locality known to be contaminated. This, he holds, means that we have this dreaded cattle scourge established among our western herds; that Chicago, Buffalo, Albany, Boston and Portland are diseased centres, or else the disease is not pleuro-pneumonia at all. This report closes by recommending Congress to enact such measures as to restrict the movement of cattle out from and within infected districts, so that in due time every case of the lung plague may be eradicated.

Every farmer should demand of the M. P. or any other office-bearer for whom he has voted or who asks for his suffrage, whether they will use their influence to prevent the introduction or spread of contagious diseases among our stock. We have sent six telegrams to the highest and what should be the most proper authorities in the Dominion, for the purpose of preventing the spread of these diseases in our country. Demand from your representative what these telegrams were and when sent, and why not properly attended to.

We have stated that despite the pretended Act to prevent the introduction of this disease in our midst, that stock from the United States has been allowed to mingle with ours, and that American pork is palmed off as Canadian meat. We say there is great danger, and that speculators and railroad interests are placed before the interests of the farmers in Canada. This question is of far more importance to our Dominion than the Pacific Railroad question, prohibition question or any other question. Prevention is better than cure.

SALT FOR LAND.—There is now overwhelming testimony in favor of a judicious application of salt on fall wheat and all kinds of spring crops, and as there is a fear that this year the various works will be taxed to the utmost, being last year inadequate, we recommend our friends as far as possible to buy in the winter. The firm having the largest production and best facilities for freight to all points of advantage to-day, and being personally known to us, we confidently give Gray, Young & Sparling, of Seaforth & Blyth, the full benefit of our recommendation.



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.

Sheep vs. Cattle.

SIR.—The writer of the Prize Essay in the November number, "Sheep vs. Cattle," makes the most extraordinary statement with regard to sheep raising I have ever seen, that is, his having sold \$51 worth of wool and sheep, the yearly product of 2 ewes and 5 lambs, valued at \$21, and still left \$35 of sheep. Now I have raised sheep for a number of years and winter about 30 every year, more or less, and am always satisfied if they double their value, that is, counting 30 sheep worth \$150. If I sell \$150 worth of wool and sheep and have as good a flock left, I think they do pretty well. This spring I had 30, of which 1 buck and 7 ewe lambs did not count in the increase, as I do not allow any to have lambs until the second year. I raised 33 lambs from the 22 sheep, had 180 lbs. of wool, only lost 1 sheep, sold all the lambs I had to spare at \$3 apiece, besides several old sheep at good prices; sold the wool at 30c. a lb. I have 31 sheep left, 8 of them are ewe lambs, and I find they did not average a great deal over \$5 a head profit.

Now the writer of the essay says he has frequently realized \$20 a head profit on a flock of sheep, many of them rams and ewe lambs. Will he kindly give us the details, how many lambs each sheep had, and also his system of management. I agree with him that sheep raising is more profitable than cattle, but if the profit can be as large as that, I would like to take a few lessons, as I must be a long way behind the age.

INQUIRER, Niagara Ont.

SIR.—The article on cut worms in your paper must be of great service, as they are increasing in numbers very fast in many parts of this country. A great deal of injury is done by them, not only to potatoes and other root crops, but also to grass and grain plants. Few farmers have any idea of the loss caused by them every year. I have seen the loss to crops from them estimated at from \$10 to \$15 per acre. I have no doubt that it is even greater than this estimate in some instances. When other remedies are insufficient to destroy it might be well to go back to the old system of a summer-fallow. The saving in a crop from their ravages would, I have no doubt, go a good way to pay for the fallowing. Though the fallowing itself might not rid the ground of them by killing them, it would starve them out by destroying everything on which they subsist. I have found it an effectual remedy.

PLOUGHSHARE, Georgetown, P. E. I.

SIR.—Permit me, through your valuable paper, to direct the attention of Canadian fruit growers to select, when about to plant an orchard, those varieties that are especially adapted to our northern climate. There is no apple, as far as I can learn, more popular than the Swazie Pomme Grise. This is a Canadian apple, it and the Fameuse having originated in the Lower Province; the Fameuse in the Isle of Montreal. The Swazie Pomme Grise commands the exceptionally high price of \$25 per barrel for dessert fruit in England. Being a northern apple, it is extremely hard, and, in view of the foreign demand, may be planted with every prospect of success. Canadian fruit has a better reputation in England than that of our more southern neighbors, who are so well aware of this fact that they endeavor to have our apples labeled as American. American buyers have for some years been purchasing our apples in large quantities, and bringing them across the line and shipping them as American.

S., Simcoe P. O.

Agriculture in Quebec.

SIR.—In your last issue appeared an article signed "Sappho," and headed "Agriculture in the Province of Quebec," which I shall briefly notice. I shall not take up your space in discussing the principal point brought up by your correspondent, viz., the establishment of one Agricultural College instead of three for the Province, further than remind him of the difficulties to be overcome owing to our mixed nationality before such an arrangement could be successfully carried out. I shall also leave the matter of Government aid to the different Agricultural Societies, the St. Anns and L'Assomption Colleges to those directly interested, and proceed to put certain matters referred to regarding the St. Francis Agricultural College correctly before the public. We do not pretend to adopt that system of high feeding so often resorted to by stock-breeders to make a show, and as often condemned by the more practical and successful farmer, but apply ourselves to teaching mixed husbandry. We have introduced two breeds of cattle, Ayrshire and Durham, have ten cows instead of seven, as stated, and all pure bred, with one bull of each class which carried off the 1st prize in their respective classes at our county exhibition. The rest of our stock consists in young cattle, fating cattle, sheep, Berkshire and Suffolk pigs, with one boar of each; work horses, brood mare and a Percheron stallion. The Government grant is stated too high by over one-half. And the number of students attending are four more than provided for by the Council of Agriculture, while, for want of accommodation, we have over one-third applications on our books awaiting a vacancy. This difficulty we hope to be able to remedy by enlarging our boarding department next year. Our buildings are not constructed on that magnificent scale characterizing older and wealthier institutions, but are arranged with a view to neatness, comfort and economy. Our students, which, as a class, I am proud of, are placed under such a regimen as will develop their various faculties, and are instructed in practical agriculture, Chemistry, Natural Philosophy, Botany, Rural Law, Veterinary Surgery, English, French, Arithmetic, Algebra, Geometry and Military Movements. Comparing the support given the Ontario Agricultural College with the number of students and adopting the same basis in a comparison of our grant and students, I am inclined to think the Province of Quebec is educating a class of farmers quite as cheaply as Ontario. But "distance lends enchantment to the view," and many are inclined to question the comparative efficiency of the two institutions. I admit in many respects the superior advantages given to Ontario, and for that reason would like to see some course adopted that would more nearly connect our colleges. Would it not be well to ask the Dominion Government to give an annual prize to be competed for by all the students of the different Agricultural Colleges in the Dominion, which would develop a more uniform course of instruction and awaken a healthy rivalry. Our class have just completed their examinations for His Excellency the Governor-General's medal, which has been awarded by a very close competition to Arthur W. Armatage, and I assure you His Excellency's gift has not been missappropriated so far as our students are concerned. Inviting "Sappho" to visit us at his earliest convenience, I assure him he has our hearty co-operation in any movement tending to develop the agricultural interests of this Province. JNO. EWING, Principal.

St. Francis Agricultural College, Richmond, Quebec, Dec. 20.

SIR.—Can you inform me where a bone crusher or mill is made? There is no mill in this part of the country, and the bones gathered are exported for want of a mill. D. E. B., Cobourg, Ont.

[There are no mills for crushing bones manufactured in the Province, but in some sections an implement similar to a "spile driver" is used, crushing the bones by letting the weights fall on them.]

WATERPROOF BLACK FOR STRONG BOOTS.—Take one pint of linseed oil, ½ oz. beeswax, ¼ oz. resin; a little lamp-black to color. Mix with mutton fat melted sufficient to make it a proper thickness. Add a ¼ pint of neatfoot oil, if you like.—[ONE WHO HAS TRIED IT.]

Weighing Grains.

SIR.—I want to know if I sell my grain to a merchant, if he brings along a vessel or car and a pair of scales and weighs it himself, or turns it into a store, is it right? J. M., Amherst Island, Ont.

[A purchaser must use stamped scales and weights. A generally correct weighing is done, but there are some buyers that would take advantage when an opportunity occurs. To detect a suspicious buyer, have a load of grain weighed before witnesses by some disinterested party on recently stamped scales. Be sure the bags are all secure, and take the witnesses with you to be sure that the bags are not opened. Let the buyer weigh and give you your ticket, and if there is a discrepancy demand your proper pay, and expose the buyer. To bring a clear case, it would be well to try two or three loads by different parties. City buyers have not as good an opportunity to defraud as local buyers; in fact we have heard of farmers preparing to sell outside of the cities, because higher prices per bushel are sometimes offered; such farmers do not always keep scales. Many good farmers weigh their grain before going to market, and it generally pays to have scales in your barn, whether you use them or not.]

The North-West.

SIR.—Since last writing to you we have crossed over the mountains of British Columbia on horseback—myself and six children on horses and four men walking all the distance. Our train would form quite a picture for your paper. We may perhaps send you the picture of it some time. I cannot tell you much about the farming in this part, but from the appearance of things I can't think they know much about farming. All the agricultural implements are just left out in the sun and storm, if there is any, which looks very careless, and still they seem to be prospering.

I want you to send me a variety of seeds by mail, as soon after getting this as you can, as it takes a long time for the mail to come here.

The Transcendent crab and Russian apple you sent me to British Columbia lived; the rest were dried so much that they never sprouted. T. H.

Fort Edmonton, N. W. T., Nov. 9th, 1880.

[We should be pleased to have an account of British Columbia from you; also an account of your trip over the mountains, with an account of any incidents which may have happened during your journey. We would be pleased with a sketch of some favorable part of the mountains which you passed over. Also a description of Fort Edmonton and the Northwest Territory. We want to supply our readers with unvarnished facts; accounts of real life is what we wish to furnish them. There are now too many papers which make statements only to suit their particular purpose.]

SIR.—The selections of judges at most of our shows deserves more attention from the directors than they have heretofore received; particularly is this the case at the Provincial. Breeders of all kinds of stock have been loud in their complaints for some years. Among the sheep in the Down classes, I consider the Southdowns have been badly judged for two years, (in some cases it might be said shamefully) which is very discouraging to parties who have been laboring for a number of years, importing and breeding this class in its purity, and endeavoring to give them the standing they deserve in this country. I have no doubt that the men appointed as judges were honest in their intentions, but they had not the necessary knowledge, never having had any Downs. They gave very wrong decisions, therefore more care should be taken by the board in selecting judges, so as to get competent men. There are plenty of good judges that could be found, all over the Province, without bringing breeders of Longwools to judge this valuable class. I also believe that one set of judges should not judge all classes of Downs. My plan of selecting committeemen would be to require each exhibitor to send to the board a list of names, embracing such persons as are competent judges of this class of animals. The board, by this means, would have a large number of names to choose from, and could select experienced men from the various parts of the Province, that is, one from the east portion of the Province, one from the centre and one from the west.

H. H. S., Brooklin, Ont.

Which Exhausts Most, Butter or Cheese?

A subscriber who has always sold butter, and whose family would like to be relieved of the labor of butter-making, asks how much the butter from a cow yielding 4,000 lbs. of milk will take from the soil, and how much the cheese from the same milk will take. He has heard that cheese is more exhausting to fertility than butter.

This is an important question, and should be thoroughly understood by the dairymen. In the sale of butter, only oil is lost to the soil, or so small an amount of nitrogen (about two ounces in 160 lbs.) and ash as not to be worth taking into account. If the butter were pure, there would be nothing but fat, composed of carbon and water, having no manurial value. In 4,000 lbs. of milk, there would be 160 lbs. of butter (at 25 lbs. of milk to one of butter), or 400 lbs. of cheese. The sale of the butter, as we see, does not replete the soil, but the sale of the cheese gives a very different result. The 400 lbs. of cheese contains about 120 lbs. of casein, or 18 lbs. of nitrogen. This is one of the most important elements of fertility, and is considered worth, commercially, as a fertilizer, 20 cts. per pound. The cheese would also carry off about 18½ lbs. of ash, containing 9½ lbs. of phosphate of lime, or 4 lbs. of phosphoric acid, and this is estimated at 12 cts. per pound. It would also contain about 5 lbs. of chloride of potash, worth 4 cts. per pound, thus showing that the nitrogen, phosphoric acid, and potash in the 400 lbs. of cheese would have a manurial value of \$4.28, or about one cent per pound of cheese.

It is quite probable that, in many places, the fertilizing value of the cheese carried off could be replaced at somewhat less money than the commercial estimate; 25 lbs. of finely ground raw bones would replace the phosphate of lime and part of the nitrogen; one bushel of unleached wood ashes would replace the potash, or the nitrogen and potash might both be replaced by nitrate of potash, one of the German salts. The nitrogen might best be provided for in feeding to the cows a small amount of very nitrogenous food.

But it is plain to see that the butter dairyman is selling that product of the cow which does not deplete his soil, whilst the cheese dairyman is selling fertility which must, sooner or later, be replaced, or his soil will cease to honor his drafts upon it.

As we have hinted, the system of feeding may do much to balance accounts, and the dairyman cannot be too diligent in studying that question. —[N. L. S. Journal.]

The Pea Bug.

SIR,—The question is often asked, what is to be done with the Pea Bug, which has driven many farmers to give up sowing peas? I feel a great interest in the pea crop, knowing it to be one of the most valuable crops for feeding sheep, pigs and horses. Early threshing is advocated by some, and the bug or fly to be destroyed by a chemical process, or by corking the bugs in tight jars to prevent their work the next season. Such a scale would be too small for a farmer. I find the date of sowing has much to do with the ravages of the pest. The earlier the kind of pea the greater the loss. Early threshing would cause a waste of straw for feed, yet a saving of the peas would be made by chopping them before they were complete shells. The past season I decided on late sowing. Lot No. 1, 5 acres, on the 18th May, about one-third eaten by bugs; Lot 2, on 22nd May, not so bad; Lot 3, 4 acres, on the 29th, free from bugs; Lot 4, 8 acres, some on the 3rd and 4th of June, entirely free from bugs. Of a twelve acre field of the last lots some was intended for a fallow, as the thistles stood about six inches high over the whole field at the time. I was told I would reap more thistles than peas with such farming. The sowing and harrowing were followed closely after the plowing, while the land was fresh. The season was favorable, and turned out as fine a pea crop as ever I harvested, and without a thistle to be seen in the field, and are still free from a single bug. The above is my experience. J. L., Langstaff.

[It would be well if farmers in different sections of the country were to follow J. L.'s example in experiment with sowing peas late. The pea bug or fly enters into the green pod of the earlier sown peas. Those sowing late might find the blossoms too late for the insect's habits.]

Rape for Sheep.

SIR,—Last year our sheep did well on rape; this year we had them on it, and we have had four die. After they were skinned they appeared very bloody about the neck and shoulders, as if they were bruised, although we could see nothing of it before they were skinned. My neighbor had his on rape up to last week; he lost three; they looked like mine when skinned. I took mine off the rape before the cold weather; there appears nothing the matter with them since. If you, or any of your subscribers who have had any experience with rape, can give me any information, or whether they have known any injurious effects from it on sheep, as I always understood that rape was good for sheep, I shall feel much obliged. J. W., South Yarmouth.

[We have grown and fed rape to sheep and cattle (principally the former) for many years, and never had any evil results from it; but we always exercised the utmost care. Animals should not be allowed to remain long on it when first turned on; watch them to see they do not fill themselves too full; allow them to become accustomed to it by degrees. This may be done by turning them on it for a few hours each day, or twice a day, for the first ten days. It will be found advisable not to pasture on it when it is wet or frosty. It is also a good plan to remove stock to another field or pen every night, allowing them only to pasture on it during the day; but in cases where this is not convenient, losses like the above may be avoided by giving the animals an occasional change of pasture for a few days. The death of the sheep was caused by the blood becoming carbonized from feeding excessively on rape.]

Winter Wheat.

SIR,—Which is the best variety of Winter Wheat for white flour and good yield, and where can it be procured and at what price per bushel? Also, will seed wheat harvested the past autumn do as well to sow next season as that from next year's crop, in case it can be procured in time? By favoring a subscriber to your journal with your practical knowledge of the subject inquired about you will greatly oblige. I may add that I have had a fair amount of success the past year in growing Winter Wheat imported from Ontario, and sold to me for the "Scott" variety, which, though it grew well, and turned out fine, heavy grain, does not make as white bread as flour sent from your Province. Perhaps you will be able to recommend another variety, besides the "Scott," that will enable our farmers to drive Ontario flour from this market. No doubt you will do the best you can to promote wheat growing in Nova Scotia. J. L., Truro, Nova Scotia.

[The Soules and Blue Stem wheats are the best varieties of winter wheat, but neither of them are as hardy as some other varieties. The Deihl wheat has been grown lately to a greater extent than any other of the White wheats. It makes a very white but very weak flour. The Democrat wheat appears to be the variety that might suit your purpose as well as any we know of. If you have the Scott wheat we do not think you can select a variety that will suit you better, as it is as hardy and safe a winter wheat as we know of; it makes a good quality of flour when properly ground. We do not think you have any mills or millers in your Province equal to those in this part of the country. All the latest improvements are employed. There is such a wonderful change in the manipulating of wheat, that really good, white flour is made from very inferior looking Red wheat. We have no hesitancy in saying that the mills here will make a much better and whiter flour from the worst sample of Red wheat you can raise, than your mills can properly make of the best White wheat that we can raise. We speak thus, judging from the mills we saw when in the Maritime Provinces and the work done by them. Your millers cannot afford the expense necessary to put in proper machinery from the small supply of wheat to be ground. You will find no perceptible difference in the germinating qualities of wheat a year old if it has been well kept, except that the new wheat may germinate a little earlier than the old. Every farmer in Ontario would be pleased to hear that you could grow sufficient wheat for yourselves, because when I was in your part of the Dominion I heard a great many complain that your flour was taxed 50 cents per barrel for the benefit of Ontario farmers. We wish to disabuse your minds from such an erroneous impression. The Ontario farmers never got a quarter of a cent more for all the

flour you import from Ontario. The Liverpool market fixes the prices that farmers in this Province receive. The extra 50 cents per barrel that you have to pay does no good to the revenue in any way that we know of. It appears to us as a tax or duty put on the poor consumer, for the sole benefit of wealthy capitalists, who pocket the 50 cents that ought, in justice, go into the mouths or on the backs of poor Frenchmen's families. I have inquired of the seedsmen in this city, but they have no pure fall wheat on hand at the present time. The common wheats of the country can be procured almost any market day at market prices. They would answer for seed, but would require to be re-cleaned, as they would be pretty sure to be mixed to some extent with other kinds. There is not one farmer in five hundred who really has pure wheat when he brings it to market. Perhaps some of the seedsmen, whose advertisements have appeared in this journal, might have seed wheat on hand.]

SIR,—I have a field that was under pasture for five years—sheep, cattle, &c. Last fall I ploughed it, and took a crop of oats out of it. This fall I ploughed it again, and intend putting wheat in it and sowing it with hay seed, and as perhaps the land may not be rich enough and give a good crop of wheat, what would you advise me to top-dress it with? Would you advise me to use salt, superphosphate of lime, or guano?

SPERO, Hopewell, Nova Scotia.

[Different varieties of soil require different treatment and different fertilizing. Had you told us whether your soil was light or heavy, loam, clay or gravel, we might answer your query more definitely than we can now. In the present number of our paper you will see the result of experiments with salt and phosphate. Experiments are the surest guide in agriculture. Phosphates are excellent manures when properly used on soils needing lime. Salt stiffens the straw and improves the quality of the grain. Gypsum, as well as phosphate, has a chemical effect on the soil. Gypsum also attracts humidity and ammonia from the atmosphere.]

SIR,—Now that coal is so much used here instead of wood, it is well the value of coal ashes, if they have any value at all, should be known. The only use I see made of them is to fill holes in our streets. I have used them as a mulch around fruit trees and have found them very useful.

H. G., Westminster.

[It is not generally appreciated how much heavy soils can be benefited by the use of coal ashes now generally wasted. Vick says that it is quite satisfactorily shown that coal ashes, though not having material value sufficient to warrant any expense for carriage or long hauling, may with advantage be spread upon the ground where they are produced. Mixed with heavy soils their mechanical effect is to lighten it and make it porous and friable. A number of experiments with coal ashes, reported within the last year or two, leave no doubt that they have at least some slight value as manure and that mixed with heavy land their effect is very beneficial.]

SIR,—I am feeding several steers, and I would like to know whether it is better to give them water to drink or not. I am feeding the following feed:—Turnips, sliced, 1½ bushels; pea-meal, 2 gallons; bran, 2 gallons; hay, all they will eat, daily. The reason I would like to know is this:—I gave them all the water they would take a week ago, and since they do not eat heartily. J. S.

[When cattle receive about as many turnips or mangolds as they will eat up clean, as a rule they do not desire to drink, but should they drink readily when offered them, let them have it. If your stables are cold it would be better to have the chill taken off the water by adding warm water, or by slightly heating it; but if your stable is warm, give them the water directly as it is pumped from the well. In the winter season, if water stands in a trough or other vessel which is exposed to the cold air, it soon becomes too cold to be profitably given to stock. In all likelihood, you have given your cattle water which chilled them.]

Recent advices report the successful establishment of the Province of Quebec Colonization Society, with a capital of \$1,000,000, and having for its President the Earl of Dunmore, a Scotch nobleman, well known as a breeder of fancy stock,

Cracked Hoofs.

SIR,—I have a three year old colt, and his forward feet are very badly cracked on the inside quarters. I would be very much obliged for any information with regard to their treatment.

I consider the *ADVOCATE* better adapted for this Province than very many of the other agricultural papers. It is a real agricultural library of itself.

A. M. B., Upper Woodstock, N. B.

[The treatment recommended by J. Law, V. S., is as follows:—"A carefully prepared bar shoe, having an even bearing all round the foot; a nail driven through the edges of the crack and riveted so as to hold them together; a transverse groove $\frac{3}{4}$ to 1 inch in length cut to the quick just above the upper end of the crack, and active stimulation or slight blistering of the coronet above this point, will usually succeed in obtaining an unbroken growth from above, and when the crack has grown off at the lower end the hoof is perfect. But inflammation will sometimes demand poulticing." We have had some experience in this matter, we made slight incisions with a chisel and hammer above the crack, and dressed with tar the part affected.]

Sowing Rape.

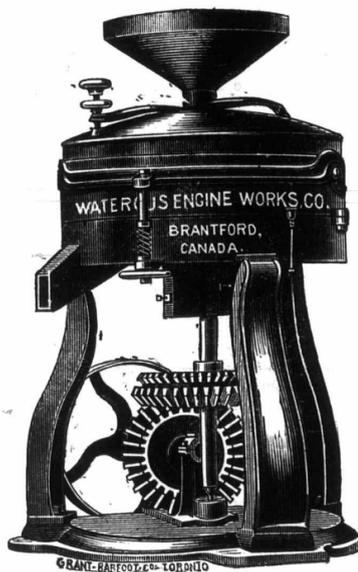
SIR,—I am very much pleased with the *ADVOCATE*, and am surprised at the amount of useful information it contains. I took notice of one editorial, giving advice concerning the cultivation of Rape, which I differ with. I cannot agree with sowing Rape broadcast, as I have frequently sown it in that manner, and must readily give the preference to sowing in drills. My method is to prepare the land the same as for turnips, with the exception of manure, although manure would not do any harm. I drill from 16 to 20 inches apart, and sow one and a half lbs. of seed to the acre. When it is in drills you can run the horse-hoe between the drills. By that means you keep down weeds, loosens up the soil and keeps the ground moist; cultivation also greatly promotes the growth of Rape. Another advantage is that cattle or other stock will walk between the drills and not trample near as much under their feet. I would like to have said more about its cultivation, and the beneficial effect it would have on stock, farms and farmers if it was more extensively cultivated.

T. B., Solina, Ont.

[We would like you to say more about it. We would find plenty of space for all communications that give as much useful, practical and profitable hints as these. You may depend that some of our readers will profit by them. Such gentlemen as those whose initials appear in this journal in furnishing useful agricultural information, are the parties who should fill the public offices in Canada, and replace those whose main and whole sustenance depends on the political party that gets into office. It really makes us look with disdain and disgust when we see nearly every office in the country filled by some political rogue, or his ally, and the plain, honest, industrious farmer is compelled to pay and keep up every one of the office-seekers, nine out of ten of whom never have or never will do as much good to those that contribute their millions to the revenue of the country, as the above short hint will.]

SIR,—I am highly pleased with the many valuable letters as well as other matter, containing so much useful information, in your paper. I take great interest in the subjects so ably discussed, and wish some of your experienced contributors would give me the best plan for enriching heavy clay upland with swamp muck. I wish to sow spring wheat or barley on a ten-acre piece, cropped last year with barley. The soil is so hard that it breaks in lumps, being almost impossible to plow it. I can, during this winter, draw fifty loads to the acre of aluvial soil from a drained swamp of so rich a character that I can only grow on it corn and roots. With this muck I propose to mix twenty-five bushels to the acre of unslacked lime, and plow the mixture under early next spring about six inches in depth. I desire the benefit of practical wisdom in approval or disapproval of my plan, hoping some intelligent and brotherly farmer will give me an early criticism through the bright columns of the *ADVOCATE*.

S. L. M., Bronte.

**Grist Mills.**

SIR,—As you have given accounts of different kinds of implements, I wish you would inform me what machinery for a grist mill would cost and which you consider the best.

J. S., Victoria, B. C.

[We are not acquainted with all the improvements made in mill gear, the Americans are now introducing so many improvements. The latest we have heard of is a plan of grinding or rather pressing the wheat in a series of rollers. This is claimed to make much better flour than is made by the common burr stones in general use, but we know not the maker or price, or whether they will drive the burr stones out of the mills or not. We give you an illustration of what we think an excellent mill, where only a limited amount of gisting is to be done. This mill was shown at Toronto Fair in Sept. last, where, in connection with a portable bolting chest, smut mill and elevators, secured first prize for best portable grist mill. In this mill a new device is used for raising and lowering the stones, and in place of adjusting by raising the lower stone, as has hitherto been the custom with under runner mills, the upper stone is adjusted by a simple contrivance. The upper stone is swung on a universal point, so that it is always in balance and always true with the bed stone. This mill, with the bolting and cleaning apparatus, is erected and tested, and packed already to erect at destination, for \$650. This is for a complete grist mill, capable of turning out $1\frac{1}{2}$ to $1\frac{3}{4}$ barrels of finest flour per hour, and is so simple that any one of ordinary skill can run it. In many localities this will be found very valuable. You see the address on the mill to apply for full particulars.]

BRINE FOR BATHING THE FEET OF HORSES.—A correspondent, writing to the *Practical Farmer*, in relation to the use of salt and lime for bathing the feet of horses, says, "I have tried strong brine on foundered horses or hoof bound horses, and with good results. I made a solution of salt and water and applied it three times a day, by washing the legs and pouring upon the bottom of the feet, and holding them up a few minutes to let it strike in. I saw the wonderful effects in a few days. I account for it in this way: Salt will extract moisture from the atmosphere which keeps the feet moist. Salt operates nearly like melted grease upon the feet. The hoof becomes tough, yet pliable. Like a chunk of wood saturated with salt or brine, it is tough, yet moist. Thus it is with a horse's foot. Here let me add that the practice of rasping a cracked hoof to toughen it, is folly. Apply brine and you will effect a cure. A horse that is driven upon a hard road is liable to get stiffened. I have seen valuable horses upon our roads a few days get quite lame. I reasoned to myself as to the cause, and adopted the use of brine as a remedy, which proved effectual.

Condition of the Crops in the United States, November, 1880.

This report, which we have received from the Department of Agriculture, U. S., is of great importance to farmers, and consequently to all classes in the country. To us Canadians it is a matter of great interest, as the abundance or the scarcity of the United States crops must have a decided influence on our markets. The report is favorable to the American producers, as the yield is above an average one, yet it is lower than we had expected. But notwithstanding the advantages of a fertile soil and a diversified climate, the average produce of American farming is lower than that of our more northern country.

WHEAT.—The average yield throughout the States is 13.3 bushels, a slight decrease from that of 1879. The estimate of the area sown with this cereal shows an increase of 9 per cent. over that of the previous year. The highest average yield was that of New York—20 bushels per acre. The next highest average yield was Ohio, 18 bushels. The lowest was Alabama, 1.4. Of Nebraska the average was under 9, and of Kansas 10.

CORN.—This crop yields a return about equal to that of 1879. The heaviest acreage was in Pennsylvania and Michigan, 42.6 bushels in each. Ohio comes next, with 41.5 bushels. South Carolina, Georgia, and Florida each yield under 10 bushels. In many States the yield was much affected by climatic influences, as the drought in the New England States and a cold wet spring followed by a protracted drought in Indiana and Illinois.

OATS.—The oat crop of 1880 shows a slight decline as compared with that of 1879. The yield per acre is a fraction less than 28 bushels. The highest yield was 36 bushels in Colorado and Nevada. In New York and Minnesota the average was 33. In the Southern States it ranged from 9 to 10 bushels.

RYE.—Compared with 1879 the yield per acre shows a slight increase. The highest yield was in Oregon—23 bushels; while in the Southern States it was as low as from 5 to 8 bushels. Rye and other small grains produce heavier crops in northern latitudes.

BARLEY.—From 21 States we have reports of the barley crop. The highest average in any of the States is that of Vermont—30 bushels per acre. The second highest is Ohio—over 27 bushels. The lowest is West Virginia, average 10 bushels. In barley and potatoes the agricultural produce compares more unfavorably with Canada than in any other crop.

BUCKWHEAT.—The great average yield is 28 bushels in Maryland and Virginia. The total produce of buckwheat shows an increase over the crop of the preceding year.

POTATOES.—With an acreage planted in potatoes but little change since last. There is a decided falling off in the crop. The average yield per acre is 91 bushels per acre. The average is in no season large—98 in 1879, 69 in 1868 and 44 in 1877. All the States (Texas, Arkansas, and California only excepted) report a decline in yield. The highest return is from California—176 bushels. The lowest is Maryland—59 bushels. New York even reports only 90 bushels. There is not one Province in Canada that could not show a better return in potatoes, and we doubt not in other roots.

The heavy or light yield is somewhat due to causes which the farmer cannot control, as drought, blight, &c., but very much is also the result of his skill and diligence. We can greatly increase the agricultural produce of our country. Let every one do his own part and all will be well.

It is stated by Farm and Fireside that in districts where grape-rot prevailed only the fruit of those vines escaped which were allowed to run at will over trees of red cedar. Other trees so used saved them to a large extent, but the "juniper" alone seems to afford a sovereign antidote. The juniper hedge of a correspondent of the *Tribune*, now ten or twelve feet high, carries a crown of vines at one end, which yield abundantly or perfectly fair fruit—no rot—but then he has little rot elsewhere. The Italian method of growing the grape on living trees seems to suit our varieties better than the severe cutting and forceful training of the German and French pattern—the recommendations of which are the larger bunches and berries (though less in total quantity) and the convenience of reach.



The Family Circle.

"Home Sweet Home."

A LITTLE MISTAKE.

BY THE AUTHOR OF "TRISSIE'S BRIDAL," "WILFUL WINNIE," "AGAINST HIS WILL," "A TWISTED LINK," "CLASPED WITH RUBIES," ETC.

(Concluded.)

While she was on her knees thus engaged, Fritz came towards her with something in his palm, asking: "What do you call this?" He knelt down beside her that she might look into his hand. It was the tiniest spray imaginable, and consisted of two or three pale green leaves, and a couple of white berries. A pretty spray, and an innocent-looking one; and the sight of it made Nelly redder than a rose.

"Let us telegraph before the office closes," suggested Nelly. "A few words will suffice:—Safe and well, but still waiting for Tom, whose friends have preceded him." The idea was acted upon; and when they returned, rosy with their brief walk, Mr. Graydon was standing on the hearth, and Fritz was questioning cook, whose cold rendered her so unintelligible that he glanced up in despair.

"That was because I was watching you chop up the candied peel. I was in a fright lest you should cut yourself." "Do you faint at the sight of a cut finger, Mr. Meryon?" he was scornfully asked. "Do I give you the impression of being very chicken-hearted?" he queried in return.

Perhaps it was to give her convincing proof of this Fritz enticed her with his arm, and drew her towards him.

"How did you discover that thieves were in the house?" she asked, as she bashfully disengaged herself from the embrace.

"I am a light sleeper at all times," he explained, "and had been awakened by some noise too slight to have kept me from turning round, and going to sleep again, if it had not been followed by a faint cry. I jumped out of bed directly, slipped on my clothes, aroused Graydon, and got here just in time to see you in the villainous hands of that—scoundrel. It's well I didn't kill him. I longed to do it!" he added, frowning and panting with ire at the recollection.

Nelly shuddered.

"It was a horrible moment. I shall never forget it, nor the unpeakable relief it was to see your kindly face. Indeed, Mr. Meryon, I am so grateful that I cannot find words that are sufficiently expressive to tell you what I feel."

"Poor Nelly! You overrate the services Graydon and I have rendered. I wish you would fetch me a handkerchief to tie round my arm," and for the first time she noticed that her gallant preserver looked pale.

"Have you hurt yourself?" she asked, anxiously.

"Not much—a mere flesh wound—but it bleeds tremendously. One of those rascals drew a knife upon me, and I suppose I should have had an inch of steel in my side if I had not contrived to ward off the blow and receive it just above my wrist instead."

Nelly's cheek lost its colour; her lips quivered and grew pallid, too; and her head was sinking upon the young man's shoulder, when the sound of approaching footsteps revived her. It was Mr. Graydon with the policemen; and, glad to avoid another glimpse of the ruffians, she stole back to her sister, and sent cook to bandage the arm of the brave Australian whom she was exclaiming into a hero.

No one thought of courting sleep for the remainder of that night. When a bustling Inspector had been over the premises, and heard as coherent an account of the affair as the sisters and Fritz could give him, he went away with his prisoners; and cook lighted a fire, around which they all gathered, wearied and silent, but utterly thankful, and very much refreshed by the strong coffee she hastened to prepare.

Just as morning began to dawn, and the good woman, not much interested in the desultory conversation kept up so languidly by her companions, was nodding in her chair, a thundering rat-tat at the outer door aroused them all.

"The police have caught John, and have come to tell us!" suggested Grace, who wonderfully revived during the last hour, and cook declaring that nothing would please her better than to hear this, bustled away to ascertain whether it was the case.

There was a long parley, and then two voices were heard uttering exclamations, of which the only ones audible were: "My poor girls!" and "Where are they?"

"Papa! Tom!" cried Grace and Nelly both together; and the next moment they flew into the loving arms extended to receive them.

"It's Tom's fault, and yet it isn't," cried Mr. Derville shaking his head at the tall, sunburned young man who had accompanied him. "He ought to have come straight home, and he didn't. Don't tell me of pretty widows, indeed!"

"She's an angel, father," interposed Tom, colouring and laughing, "and she won't be a widow long if I can help it, so don't abuse your daughter-in-law elect."

"Hold your tongue, sir, and let me tell your sisters how, while you were philandering with the lady, you heard that we were at Anderson's, and came across country, never dreaming that Grace and Nelly were awaiting you here."

"I should have hurried home as soon as I learned this," said Tom, taking up the story; for I knew that I was behaving rudely to the good friends I had left in the lurch; but there was no train till the night one, in which my father and I have travelled, bringing Mr. Anderson and Belle's pressing entreaties that the whole party will return with us. Graydon, you know my father already. Fritz, let me have the pleasure of introducing you to him."

"And now, Tom dear, you may as well introduce Grace and me to these gentlemen," said Nelly, with one of the quizzical looks that had already puzzled Fritz. "At present they only know us as Mr. Derville's little hand-maidens."

"Nay," said Mr. Graydon, "I was mystified at first, especially as Miss Nelly here called her sister Prue; but within the last hour or two the truth has dawned upon me, and I have recognised"—here he took the hand of the blushing Grace—"a dear friend, who will some day, I hope, give me leave to call her by the yet dearer name of wife!"

"Been masquerading, then—eh, girls?" Mr. Derville demanded, when he had answered the shy look of entreaty his elder daughter gave him, by kissing her heartily, and shaking hands with Mr. Graydon.

"No! Intentionally, papa. Misted, I suppose, by our caps and aprons, Mr. Meryon took us for your servants, and we did not think proper to undeceive him till Tom arrived."

"It was a foolish mistake, sir," interposed Fritz, shaking off the stupor into which the *clairsement* had thrown him—"a mistake for which, Miss Nelly has already revenged herself by roasting me most unmercifully."

"Then, as she has taken your punishment upon herself, I shall have nothing to do with it," said Mr. Derville. "I should think your gallantry of last night must have atoned for all past offences."

"Has it, Nelly?" whispered Fritz following her, as she fitted into the adjoining room, ostensibly to assist cook in preparing breakfast. "Will your consciousness that I would lay down my life for your dear sake, make you look leniently on my blunders, my stupidity, my want of polish?"

But Nelly would not let him say more.

"Don't exaggerate, Mr. Meryon. You really are not more disagreeable than your sex in general."

"Thank you for that concession."

"You have been horribly impertinent—"

"Not intentionally," he pleaded,

"And sadly forgetful of the difference between your position and that of the little maid you condescended to be so civil to."

"I'll not confess to that," said Fritz, sturdily. "I came here and found myself domesticated with a charming little creature, who alternately teased and delighted me. I saw her intelligent, affectionate to her sister, lady-like and refined, even in her merriest moods; and I challenge her to mention a single act of mine that gave her cause for annoyance. It is true that I pressed her hand last night."

"Hush!" said Nelly, trying to make her escape.

"And that my arm stole round her this morning—"

"Will you be silent?" she cried, hiding her face with her hands.

"Yes, if you will acknowledge that you are not angry at my boldness."

"Not very," she murmured.

"And that you have quite forgiven my little mistake?"

"Quite," said Nelly, looking up to smile at him.

"And that we are to be friends from henceforth and forever, in token whereof—"

But, as if deeds were more binding than words, Fritz stopped here, and finished his sentence by putting his lips so close to her blushing cheek, that Tom Derville, coming suddenly into the room, exclaimed, "Hallo, what's this?"

Nelly rushed away; but Fritz contrived to explain matters to the satisfaction of his friend.

And they all kept Christmas together at Mr. Anderson's, very amicably and very merrily; the mystification of the last two days affording plenty of fun for everyone but Grace and Mr. Graydon, to whom, somehow, more indulgence was accorded.

When the whole party had gathered after dinner round the easy-chair of Mrs. Anderson, who was well enough to join them in the drawing-room, Fritz contrived to edge his seat near that of Nelly's, whose white dress, after much meditation as to the propriety of the act, had been adorned with the crimson ribbons he had chosen for her.

Taking heart of grace from his token of good-will, he whispered a saucy speech in her ear:

"Cook has promised that I shall not be disappointed of the pudding—our pudding, Nelly. She will take the greatest care of it, and it shall be cut—"

"When? next year?" she asked, innocently.

"No, dear—at our wedding."

And Fritz Meryon kept his word. When he did return to his Australian home—which was not till after the long-trying affection of Grace had been rewarded by her union with Graydon, and Tom had married the charming widow—he carried with him an English bride. In that far off land they too will make merry at this season of peace and good-will, although it will be under the hot sun of summer, instead of our wintry snows. But the same love, the same faith, still unites them with those whom they have left behind; and so, to our reasonable wishes wafted across the sea to Fritz and his Nelly; earnestly praying that to all those dear, if unknown, friends who read this Journal, the Christmas hours may be fruitful ones; and yet more—that the coming year may bring them the great blessings of health, prosperity, and hearts full of grateful love for the Giver of all the good we enjoy!

The Lime-Kiln Club.

"A leetle money will buy wood an' 'taters an' bacon, an' shoes an' cloze," began the old man as the meeting opened.

"Lots of money will buy silks an' satins an' jewelry an' white houses. De man with a leetle money seems to believe dat de man with lots of it am takin' all de comfort. I used to have dat ideah, but I'ze got ober it. It am my solunn belief dat de man who sots down befo' his own fire, with his wife on de right an' his chill'en on de left an' de ole cat an' a pan full o' apples in de middle, am in posishun to take jist as much comfort as if he lived in a house wid gold-en stairs. Take de world frew an' you'll fin' dat de humblest homes am de happiest. De man who has steady work, a savin' wife an' healthy children wouldn't be a bit happier if he was to draw \$30,000 in a lottery. If he don't take comfort it's his own fault. It's her own fault if his wife isn't happy. Sometimes my ole woman gits de blues an' blows aroun' kase she sees odder folks ride out in deir kerridges an' dress up in deir satins; but I build up a good fire, git out de apples, cider an' pop-corn, draw up de big rockin' cheer, an' she can't stan' it ober ten minits. De blues begin to fly away, an' she pats de bald spot on my head an' says: 'We has a cabin of our own, plenty to eat, a little money in de bank, an' I s'pect we kin sot down an' take as much solid comfort as if you war Guv'nor, an' I had ten silk dresses.' He who makes de most of what he's got am fittin' himself to enjoy better. No situashun but what could be made worse. Ebery dollar made by honest work ought to bring two dollars' wort of solid comfort. Wid dese few remarks, called forth by overhearin' Samuel Shin growlin' aroun' bekase he couldn't have mashed tater at ebery meal, we will now eradicate the usual order of business."

"Eradicate?" queried the Rev. Penstock as he bolted to his feet.

"De cha'r said eradicate," answered the president. "De cha'r doan' boas' ob his eddicashun, but he knows de difference between predicate an' eradicate."

"Could you predicate dis meetin'?" asked the reverend.

"If sarcumstances was favor'ble an' de moon in de fust quarter I think I could. If de brudder will now drap back into his seat we will endeavor to perambulate de gin'ral programme."

"Per—!" "Will Brudder Penstock drap?" He drapped.—Detroit Free Press.

A few mornings since a ragged little beggar stopped at a door and plaintively suggested victuals. As the benevolent lady of the house was filling his basket she asked, "What is your name, my son?" "My name is Grimes."

"Is your father living?" "Yes ma'am."

"I thought old Grimes was dead." "That was my grandpa."

The First Paper-Maker.

Who was the first paper-maker? If the reply to this query should be, as is quite likely, that some old-time inventive genius was the man, it will be incorrect. The date of the invention and the founding of paper-making is not definitely known. The common wasp was, however, the inventor. The big wasp's nest, which was always kept at a safe distance, and often knocked down with a stone during the rambles of boyhood, was composed of actual paper of the most delicate and elegant kind. As spiders were spinners of gossamer webs of intricate and exquisite pattern when primitive man went about dressed in the shaggy skins of beasts, and could neither spin nor weave the beautiful and fine cloth fabrics of to-day, so little wasps, when people of a later and somewhat more advanced age had recourse to such rude and unsatisfactory substances as wood, stone and brass, the bark of trees, and the hides of animals on which to preserve memoranda, were making a material of far greater excellence.

They made their paper, too, by very nearly the same process employed by man at the present time. Indeed, several of our best discoveries in regard to building, architecture, and manufactures of various kinds, if they have not been derived from acute observation of the work of certain animals, including insects, have, when compared with their constructions and their manner of making them, been found to show a wonderfully close resemblance.

The beaver gave men their earliest and most serviceable knowledge concerning dam building, and to-day no workman can surpass this animal's skill and precision in the erection of such structures.

Nature is a great teacher, and especially does the paper-making wasp illustrate how valuably suggestive she may sometimes be; for, assuredly, the wasp was the first to show that it did not always require rags to manufacture paper, that vegetable fibers answered for this purpose and could be reduced to a pulp, and that to make the paper strong and tenacious, the fibers must be long.

The first thing the wasps do, when about to build a nest, is to collect, with the preference for old and dry wood, fibers about one-tenth of an inch long, and finer than a hair, and put them into bundles, which they increase as they continue on their way. These fibers they bruise into a sort of lint and cement with a sizing of glue, after which they knead the material into paste, like paper mache, and roll up a ball; this they trample with their feet into a leaf as thin as a tissue paper.

The ceiling of the wasp's chamber, to the thickness of nearly two inches, is often constructed by putting, one above another, fifteen or sixteen layers or sheets of this prepared paper, and between these layers spaces are left, so that it seems as if a number of little shells had been laid near one another. Next they build up a terrace composed of an immense number of the paper shells, until a light and elegant structure, like a honey-comb, has been constructed, and in the cells thus formed they rear their young.

That the wasp was the first paper-maker will, we think, hardly be disputed. As patent laws did not probably exist in the days when wasps first began to multiply on the earth, and to build their houses of paper, the field has been an open one up to comparatively later days, and has been well improved and enlarged upon. The quality has been much improved, the quantity greatly increased, and the uses to which paper has been successfully adapted are many and marvelous. The wasp was building much higher than he knew when he went into the paper-making business. He was a genuine Christopher Columbus, and really discovered the Paper World.

DOMESTIC ENDEARMENTS.—I hold it indeed to be a sure sign of a mind not poised as it ought to be, if it be insensible to the pleasures of home, to the little joys and endearments of a family, to the affection of relations, to the fidelity of domestics. Next to being well with his own conscience, the friendship and attachment of a man's family and dependents seems to me one of the most comfortable circumstances of his lot. His situation, with regard to either, forms that sort of bosom comfort or disquiet that sticks close to him at all times and seasons, and which, though he may now and then forget it, amidst the bustle of public or his hurry of active life, will resume its place in his thoughts, and its permanent effects on his happiness, at every pause of ambition or of business.

Minnie May's Department.

MY DEAR NIECES.—To begin the New Year, I am afraid I shall have to begin by scolding, or good advice we will call it; the fact is I have a very severe cold and it is the manner in which I got it that annoys me.

Some visitors when about to leave a house are so thoughtless as to stop and talk unnecessarily with the hostess at the outside door. When a lady is so polite as to accompany a friend to the hall-door, it is in bad taste for the visitor to linger, particularly in winter.

The lady may have been sitting in a comfortably heated room, or perhaps she is warm from working in the kitchen; not expecting to be kept in the cold, she does not put on extra wraps when she goes out with her caller to the door. The latter in her heavy cloak and furs does not mind the cold; it is rather agreeable to her than otherwise. The hostess is the one who suffers; the shock often leaves her with a cough, chills or neuralgia.

There is another thing of common occurrence that ought to be changed. It is the habit that some people have of asking to see a friend at the door for "just a minute." If the call did not extend beyond the specified time, it might be well enough in most instances. Generally, the call of a minute is lengthened to one of five, ten or twenty minutes. When a lady receives such a peremptory summons to the door she answers it as quickly as possible, naturally thinking that her friend is in a hurry. She fails to discover any reason for undue haste, and secretly wishes she had waited to finish her half baked cake or the garment that lacked but five stitches of being done.

It may be she is tired and would like to rest in an easy chair while talking, as she could if the caller would only come into the house. "She don't want to go, and she don't want to stay," as Josiah Allen's wife said of the "Wido Doodle," so what can she do?

These things happen every day, and will continue so until ladies reflect a little upon the evil of what at first seems of little consequence. Now I think, my dear nieces, you can well guess how I obtained my cold. Visitors should finish talking while indoors, and when they make a move to leave they should go without delay.

MINNIE MAY.

Answers to Inquirers.

JESSIE.—Never expose your disappointments to the world.

W. S. B.—How can I keep a curl in the hair?
ANS.—Dampen the hair before curling with a solution of borax in water.

A YOUNG MAN.—What can I use to strengthen the growth of whiskers and beard? ANS.—Age will do it more effectually than you may wish. A quick growth of hair may be procured by frequent shaving, but the effect of this is to make the hair bristly. You may use a little of the following:—alcohol, one ounce, 10 drops tincture of cantharides, rubbed well into the skin after washing or shaving. It would be advisable not to shave if soft silky hair is desired.

EVALIE.—Woollen underwear is considered by physicians of far more benefit to the health than the silken garments that have been brought into unwarranted popularity of late. Delicate persons, whether suffering from neuralgic, rheumatic or pulmonary weaknesses, should wear wool next the skin, not only on their bodies, but also on their feet. Woollen stockings alone have been known to effectually ward off neuralgia and rheumatism for a whole winter. The sleeves of knit or flannel undershirts or chemises should for such sufferers always be long.

RECIPES.

MUFFINS.

To one quart of milk add two eggs well beaten, a lump of butter half the size of an egg, and flour enough to make a stiff batter. Stir in half pint of yeast. Let them stand until perfectly light, and then bake on a griddle, in tin rings.

JOHNNY CAKE.

Take one quart of buttermilk, one teacup of flour, two-thirds of a teacupful of molasses, a little salt, one teaspoonful of saleratus, one egg (beat of course). Then stir in Indian meal, but be sure and not put in too much. Leave it thin, so thin that it will almost run. Bake in a tin in any oven, and tolerably quick. If it is not first-rate and light, it will be because you make it too thick with Indian meal.

TO CLEAN LACE.

Upon the leaf of a large book sprinkle magnesia, place a strip of lace upon it and cover with magnesia, put another strip of lace on and more magnesia, repeating until all the lace is packed; place a weight upon the book and let it remain twenty-four hours, then gently rub the magnesia out. If the lace is badly soiled it may require a second packing. I have tried this and found it to be efficient.—J. T. S.

OYSTER PIE.

Puff paste, oysters, cream, butter, two-eggs cracker crumbs, pepper and salt. Roll out the puff paste, and cover the pie dish. Fill with bread crusts, and cover with puff paste. Bake till the crust is done. Stew the oysters with the cream, butter, pepper and salt. When done, stir in very quickly, while on the fire, the two eggs well beaten, and one tablespoonful of cracker crumbs. Lift the top crust of the pie, empty the crusts out, pour in the oysters, cover, and serve very hot.

Lard for Keeping.

When the scraps are just beginning to get brittle and brown, put in a tablespoonful of fine salt to a quart of hot lard, and there will be no trouble; the lard will keep perfectly sweet for any length of time, and the salt does no possible harm to any kind of crockery. Persons can easily judge of the quantity of lard if they know how much the kettle holds. It makes the lard whiter and harder, aside from preserving it sweet. It must cook a little while after adding the salt. That designed for summer use should be either kept in a tight earthen jar, or a tin bucket with a cover. To restore lard that is a trifle tainted, put the lard into an iron kettle, and cut up salt pork into thin slices—about one-half pound of pork to a gallon of melted lard; add two spoonfuls of salt, and let it cook till the pork is crisp; take out the slices of pork, and turn the lard into your jar, and you will never know that it has not always been sweet. But it is better to salt it, in the first place, as it saves much trouble and time.

Alligator's Nests.

These nests resemble haycocks. They are four feet high, and five in diameter at their bases, being constructed with grass and herbage. First, they deposit one layer of eggs on a floor of mortar, and having covered this with a stratum of mud and herbage eight inches thick, lay another set of eggs upon that, and so on to the top, there being commonly from one to two hundred eggs in the nest. With their tails they then beat down round the nest the dense grass and reeds, five feet high, to prevent the approach of unseen enemies. The female watches her eggs until they are hatched by the heat of the sun, and then takes her brood under her own care, defending them, and providing for their subsistence. Dr. Lutzenburg, of New Orleans, told me that he once packed up one of these nests with the eggs in a box for the Museum of St. Petersburg, but he was recommended, before he closed it, to see that there was no danger of the eggs being hatched on the voyage. On opening one, a young alligator walked out, and was soon followed by the rest, about a hundred, which he fed in his house, where they went up and down stairs, whining and barking like young puppies.

Bulbs of hyacinths, tulips, lilies, &c., which naturally grow at some distance from the surface of the soil, should be planted in pots and kept in a cool, dark place until the roots are developed, the darkness having the effect of keeping back the growth of the top until the roots have made a good growth.

FASHION NOTES.

Bonnet strings are immensely wide.

Hand-painted designs on silk and satin pin cushions and satin-covered toilet bottles command fabulously high prices for holiday gifts.

Cloth jackets matching the costume, or of cream colored material, are very stylishly trimmed with plush, which is used for the hood, collar, cuffs and muff.

Broad velvet sashes are worn, tied at the left side in a careless knot. They are gaily lined, and finished on the ends by shirring and tassels; sometimes one end is left plain.

Furniture tidies are things of fine art at the present time. They are of silk, satin, plush and lace, and enriched with hand-painted designs, embroideries of chenille and tinsel, and trimmed with ribbons, laces, balls and tassels.

HOW TO BE BEAUTIFUL.—Large feet should never be cased in kid, least of all in white kid slippers, for kid reveals so clearly the form and movements of the feet, and stretches so easily, that few feet have a chance in them. Those who are very stout should wear nothing but black; those who are very thin should put a little padding in their gowns; and neither should be in the least décolleté.

One of the prettiest millinery sets seen this winter is a bonnet or toque of maroon plush with a garnet satin quilled border in place of a brim, and a long ostrich plume fastened on one side and waving down the back; on the opposite side of the toque are some red plush rosebuds. The muff of maroon plush is trimmed at the ends with garnet satin quilling and red silk lace. On the front of the muff instead of a bow a red paroquet is placed flat, its head covering the steel clasp of a concealed portmanteau. The cord which suspends the muff is of heavy garnet chenille.

Cheerfulness.

Although a cheerful countenance does not always betoken peace of mind and a heart at ease, it is the harbinger of goodwill, and speaks favourably for the character of the wearer. On the other hand, a sulky appearance is oftener the sign of peevishness and displeasure, than of sorrow or pain. As politeness is a man's passport where he is not known, so good humor will ensure him a continuance of favours which his good manners have elicited, and will preserve affections that beauty and elegance can do little more than win. Nothing is more amiable than a constant desire to please, and an unwillingness to offend the taste, or hurt the feelings of a friend. And when this sweetness of disposition shines out in the calm, placid countenance, it is the token at least of a contented mind.

The troubles of life fall lighter when they are calmly looked for and quietly received, than when he who must bear them bears also a continual frown. The less we dwell upon our various burdens, the lighter they will appear; and if we must carry them—if misfortune must be our lot—why aggravate our distress by reproaches and grievings? and why tell the world, by gloomy looks and bitter words, of the trouble which sympathy may not relieve?

But good nature may be carried too far, and become the unintentional cause of prevarication and deceit; and men are sometimes found, who, rather than offend a friend, will stoop to flattery or downright untruth. There are those who use it to so great an extent, that it blinds their reason, and, like Honeywood in the play, they satisfy and encourage the apparently charitable demands of those who have penetration enough to ascertain the weak points of their "good-natured" friends, and impudence enough to invent and carry out their schemes of attack.

Good humour, when not weakened by an universal and indiscriminate charity, is the most exquisite beauty of a fine face, and a redeeming grace in a homely one. It is like the green in the landscape, harmonizing with every colour, mellowing the glories of the bright, and softening the hues of the dark.

The Coming Home.

A CHAPTER ALL HUSBANDS OUGHT TO READ.

(From Hearth and Home.)

Lately, dear householders, we considered the home-welcome in its various aspects; now let us give a thought to the home-coming. I hold that while it is the duty of every woman to render home attractive and beautiful, it is the duty of every man to so conduct his home-coming that it will be the bright spot in the day of the waiting household. Too few men bring with them their proportion of light and sunshine. Some do, we know, but what is to be said of the cloudy man—the man who is fretful or stingy, or fault-finding, or glum, or careless? Does he brighten his home at the threshold?

The cross man is never pleased. His wife either speaks too loudly or not loudly enough; his slippers, not assorting themselves with due regard to right and left, are scolded as if they were animated beings; and the chair in his way is treated as if, with its own four-legs, it had voluntarily and with malice aforethought placed itself in his path, and could actually feel the spiteful kick with which he sends it out of his way.

The stingy man's quick eye immediately detects an extra light, which he extinguishes; and closes the stove dampers, to prevent the too rapid consumption of fuel. The bright ribbon bow which his wife has put on to enliven her poor, faded dress, is, perhaps, noticed only to ask its cost; and if all have eaten as well as they could with the consciousness that almost every mouthful was counted, there happens to be any food left upon the table, the extravagance of the cooking is coldly commented upon. How can such a man expect to find light, warmth, beauty and comfort at his fireside?

The fault-finder rarely has anything as he wants it, and the words "never" and "always" are so pat to his tongue as to be to the painstaking housekeeper the most trying in the whole dictionary. If once in six months his umbrella is misplaced, it is never where it should be. If once during the same time the steak is overdone, it is always cooked to death. If, in consequence of numerous duties, the careful wife for the first time in a year makes her appearance untidily dressed, the "always" and "never" man says he wishes she would not "forever go looking like a fright."

A lady, accounted by the world as being the happy wife of a model husband, once confessed to me that she knew if she had dinner promptly on time three hundred and sixty-four days out of the year, and on the three hundred and sixty-fifth day should be ten minutes late, this model husband would unblushingly affirm that "dinner never was ready on time."

Few women are so angelic as never to lose their temper in consequence of this too often repeated "always" and "never."

The "glum" man enters his home, hangs up coat and hat, walks into the room, and, sitting down, stares straight into the fire. You would not guess from his bearing that there was another being in the house beside himself. Should a little child happen near, it is only noticed to be reproved for "troubling;" and the question of wife and mother are answered with so few words that a real good brisk quarrel would be somewhat a relief.

The housekeeper here feels that were all her energies spent in rendering home attractive, the individual for whose benefit the brightness was intended would not reward her by noticing, either favorably or otherwise, anything in the pleasant arrangement of his home.

Then there is the careless man, who walks into the room with unclean boots, throws overcoat and hat on the floor or a chair, leaves all the doors open (which fact is immediately announced from a sneeze from the baby), runs against and upsets various things in the room, litters the floor with papers, and in about two minutes from the time of his entrance turns the tidy room into a domain of disorder.

This peculiarity is certainly annoying, but when accompanied with good nature, as it often is, can not be so direful in its effects as either of the before-mentioned faults.

There are many men who never come home at all. Their bodies come regularly to be fed and refreshed, but the man himself is still down-town, scheming and planning to circumvent and make the most out of his fellow beings.

His handsome house is purchased and elegantly furnished with entire reference to the effect it will

have upon his business, and his wife is a convenient machine for adding to his list of friends, and entertaining those who, when the proper time comes, can be utilized by the sharp man.

I have not yet mentioned the cruellest blight of all, when the home-coming man is for the time not a man at all, but a hideous caricature of himself. It may safely be inferred that no man who shall read this is a confirmed drunkard. Yet it is sadly true that hundreds drink at least temporary degradation from the so-called "social glass." Wife at home may beam like a bright star, everything may twinkle and murmur "welcome," but if that wife listen in dread lest the coming step be the uncertain one of a reeling form, and the eye that should meet hers in fond truthfulness be bleared and silly, or cruel with the deep disgrace of a self-clouded mind, there will be weary and anxious lines in her face that she can not help, and that will darken the cheeriest room.

On the other hand, the so-called sober man is not always temperate or kind, nor does he invariably try to keep himself at his best estate for his family's sake as well as his own. Such a man shall be known at a glance, if only by the manner of his home-coming.

There is much in the way the house is entered. Let the man come in with a smile that will match his wife's in brightness; bring little wished for trifles to the waiting ones; put hat and coat in their proper place, and just as much kissing as the law allows. Then let him be ready to romp with the children, pay pleasant little attentions to the grown women, and be willing to take an extra step to carry a burden to relieve overtaxed hands. Let him notice and speak of the little things that are done for his pleasure, and, above everything else, let him be sympathetic. Many a weary head would ache less if its pain were noticed and regretted by a loving husband, father or son, and many a joy would be multiplied by being shared.

Not always is the effort of speech or action necessary. Some men can brighten with a mere glance the room they enter. There is a joy-shedding grace in the way in which some husbands and fathers give themselves to the solace of an arm chair by the fireside after a day of weariness. At any rate, I am sure, if the man enters his home with the will to make its inmates happy, he will find the brightest halo of joy about himself.

In short, the home is like the world—millennium will be reached when each one works for the happiness of others.



THANKSGIVING DAY—(See December No., page 275.)



HALLOWE'EN PARTY—(See December No.)

Medical Use of Eggs.

For burns or scalds, nothing is more soothing than the white of an egg, which may be poured over the wound. It is softer, as a varnish for a burn, than collodion, and being always at hand can be applied immediately. It is also more cooling than the "sweet oil and cotton" which was formerly supposed to be the surest application to allay the smarting pain. It is the contact with the air which gives the extreme discomfort experienced from ordinary accidents of this kind; and anything which excludes air and prevents inflammation is the thing to be at once applied. The egg is also considered one of the best remedies for dysentery. Beaten up slightly with or without sugar and swallowed, it tends by its emollient qualities to lessen the inflammation of the stomach and intestines, and by forming a transient coating on these organs to enable nature to resume her healthful sway over the diseased body. Two or at most three eggs per day would be all that is required in ordinary cases; and since the egg is not merely medicine, but food as well, the lighter the diet otherwise and the quieter the patient is kept, the more certain and rapid is the recovery.

CHILDREN AND MUSIC.—Let no child be taught music who has not a natural aptitude for it. Decided musical talent generally shows itself early. Many children sing before they can speak. I have written down, with the date affixed, so that there could be no mistake, more than one actual tune invented and sung by a small person of 3 years old. But the negative to these positive instances is less easily ascertained. The musical, like many another faculty, develops more or less rapidly according to the atmosphere it grows in. And there is always a certain period of "grind" so very distasteful that many a child will declare it "hates music," and wishes to give it up, when a little perseverance would make of it an excellent musician. I am no cultivated musician myself—I wish, with all my heart, the hard work of life allowed me to be!—but I feel grateful now for having been compelled, three times over, amid many tears, to "learn my notes," which was nearly all the instruction destiny ever vouchsafed me. Nevertheless, I believe I did a good deed the other day. A mother said to me: "My child is 13, and has been working at music ever since she was 7. She has no ear and no taste. If she plays a false note she never knows it. Yet she practices every conscientiously two hours a day. What must I do?" My answer was brief: "Shut the piano, and never let her open it more." The advice was taken, and the girl who now spends that unhappy two hours upon other things, especially drawing, in which she is very diligent and very clever, would doubtless bless me in her heart if she knew all. But the love of music, which she had not, often exists without great talent for it. Still, in such cases cultivation can do much. Many vocalists, professional and otherwise, have begun by being *voc et praterea nihil*, that is, possessing a fine organ, but no skill in using it. While on the other hand, many delightful singers—I recall especially Thomas Moore and Sheridan Knowles—have had scarcely any voice at all. The expression, the taste, the reading of a song are as essential and delightful as the voice to sing it with; and these last long after nature's slow but inevitable decay has taken away what to a singer is always a sore thing to part with, so sore that many are very long—far too long—in recognizing this. Sadder to themselves even than to their listeners is the discovery, that now, when they really know how to sing a song, they have not the physical power of singing.

THE OLEANDER.—This beautiful plant, when under proper culture, is truly a gem among flowers. This is a good time for making cuttings of it. The best way to root them is in a bottle of rain water set in the window. The cuttings should be not deeper in the water than half way up to the second joint, and when the rootlets get to be half an inch long, carefully pot in rich, sandy loam. After the plant blooms, cut back to within a foot or fifteen inches of the ground, when three branches will come out; let them grow until it again blossoms, after which cut them all back about six inches from the main stock, and every time it blooms repeat cutting back, and in a few years a very beautiful plant will be the result; in fact with proper care, it will grow more beautiful with age.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—We have watched the last struggle of the dying year, and ushered in the new one with its unknown future. What will it bring to us? Who can tell? How many that were with us last year are with us now? And who knows how many of our friends will wish us a Happy New Year in 1882? How uncertain is the future! Although this is a time of rejoicing, yet it is with a feeling of sadness that we reflect on the departed years (wasted by many of us) and lost opportunities, for who has not sometimes to regret? How many of our good resolutions have been kept? But I think I will leave the remainder of my sermon to be delivered from the pulpit (I am sure it will prove more efficacious and be listened to with less ennui), while I shall proceed to more interesting topics. First, I will commence by wishing you a very Happy New Year, with many pleasures, and hope you may live long to enjoy them. At Christmas all endeavored to meet again at the "dear old home." How pleasant it is to welcome the return of a long absent brother, or a dear sister; we all try to have the brightest of smiles and best of wishes with which to greet the wanderer.

The custom of decorating our houses is not so universally observed in Canada as in England; still it is a pretty one, and makes home appear unusually attractive. Cedar, hemlock, spruce, and the berries of the mountain-ash, make very pretty decorations. In England, holly, ivy, and mistletoe are used.—Kissing a fair one under the mistletoe and wishing her a Happy New Year as you present her with one of the berries is the custom there. It may be that some of my readers do not know what the mistletoe is, and if they do it will be useful to know more about it. It is a parasitic plant, found wild in England, very rarely in Scotland and nowhere in Ireland. It grows luxuriantly upon crab and apple trees, but rarely upon oaks; it is evergreen winter and summer, and bears a white, glittering berry, and is utterly different from the plant upon which it grows. The mystic uses of the mistletoe are traced to pagan ages; it has been identified with the golden branch referred to by Virgil, and is affirmed to have been used in the religious ceremonies of the Greeks and Romans. I shall now give you a few hints in regard to New Year's calls. It is a charming way of beginning the year, and is a French custom brought to us by the early settlers of Canada and the States. Visits are made from ten or eleven in the morning till about the same time in the evening. Unless a gentleman feels that he is on sufficiently friendly terms with the ladies of the house to make his call welcome on any day of the year, he has no right to call on New Year's Day; but some latitude is allowed in the case of gentlemen who are making calls together, as they are permitted to bring their companions to the houses of their respective friends. Such introductions, however, need seldom be afterwards acknowledged. Hats are always carried into the drawing-room, and cards are usually left in the receiver for as many ladies as are in the house. A lady need not shake hands with strangers who come in with

other friends, unless the gentleman offer his hand. It is always nicer to have some refreshments provided for visitors. It is not now fashionable to offer wines; cups of tea and coffee should be small, and I advise my nieces not to worry making a variety of refreshments—a few simple things nicely served in whatever manner is best suited to circumstances. Be simple and natural on New Year's Day as on every day of your life, and I trust the coming year may prove a pleasant and prosperous one to all my readers. **UNCLE TOM.**

PUZZLES.

99—Whole I mean to suffocate, behead and I am a parent, behead again and I mean not the same, curtail and behead and I am the definite article, behead again and I mean masculine, again and I am a vowel. **J. W. LOVERKIN.**

103—ENIGMA.

My first is in shoe, but not in last.
My second is in heat, but not in blast.
My third is in rum, but not in beer.
My fourth is in bear, but not in deer.
My fifth is in wren, but not in owl.
My sixth is in hen, but not in fowl.
My seventh is in man, but not in boy.
My eighth is in cap, but not in toy.
My ninth is in cat, but not in mouse.
My tenth is in den, but not in house.
My eleventh is in inn, but not in bar.
My twelfth is in depot, but not in car.
My whole is a Nova Scotian river.

ELLA J. PUTNAM.

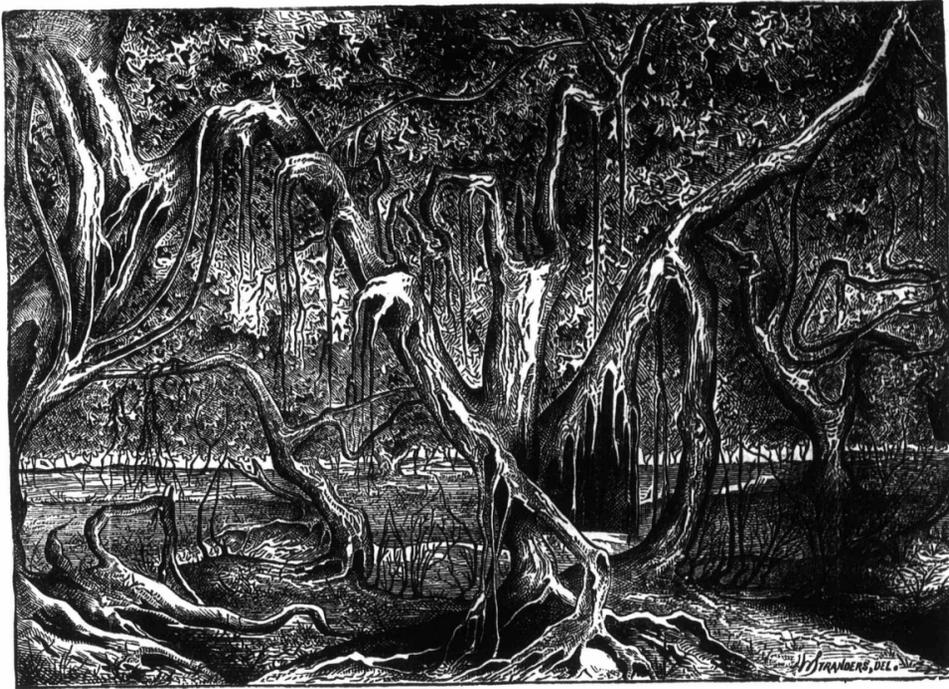
Names of Those Who Sent Correct Answers to December Puzzles.

Richard E Osborne, Florence Gill, Tom Stevens, Frank Johnstone, Fannie Burns, Arthur Simpson, Carrie Jell, Minnie Hill, Bennie Lind, Harry Hiscott, Mary Ellis, Bertha Errington, Willie Brown, Geo Coomers, Joseph Roe, Willie Silcox, Charlie Gordon, Lee Smith, Johnny Crawford, Jack Sims, Ellis Johnson, Michael Attwood, Maggie West, A. C. Cross, Robt Parkins, Nelly Craig, J. J. Wells, Annie A Rock, Jessie Cassells, Gus Gordon.

Answers to Dec. Puzzles.

94—Carlise; Cardiff; Ayr; Bath.
95—The eye.
96—Because he sets down three and carries one.
97—1881.
98—Marselle.

It is related that a Yankee who had just lost his wife was found by a neighbor emptying a bowl of soup as large as a hand-basin. "Why, my goodness, Ed-anthus!" said the gossip, "is that all you care for your wife?"—"Wal," said the Yankee, "I've been cryin' all the mornin' and after I finish my soup I'll cry another spell. That's fair, anyhow."



100.—OUR MENAGERIE. HOW MANY ANIMALS CAN YOU FIND?

101—BOTANICAL CONUNDRUMS.

1. Plant a youthful Virginian before it can walk, and what comes up?
2. Plant a piece of bunting, and what comes up?
3. Plant a wise man, and what comes up?
4. Plant a large, inclosed basin, and what comes up?
5. Plant a ruminant's lips, and what comes up?
6. Plant an egg, and what comes up?
7. Plant a color, and what comes up?
8. Plant a sea-shore, and what comes up?
9. Plant yourself, and what comes up?
10. Plant a muff, and what comes up?

A. and T. J.

102—ENIGMA.

My first is in corn, not in grain.
My second in hail, not in rain.
My third is in lamp, not in light.
My fourth in darkness, not in night.
My fifth is in well, not in sick.
My sixth is in cane, not in stick.
My seventh in maple, not in pine.
My eighth is in back, not in spine.
My ninth is in green, not in red.
My tenth is in needle, not in thread.
My eleventh in archer, not in bow.
My whole was an emperor long ago

MAY E. T.

Who can tell the value of a smile? It costs the giver nothing, but it is beyond price to the erring and relenting, the sad and cheerless, the lost and forsaken. It disarms malice, subdues temper, turns hatred to love, revenge to kindness, and paves the darkest paths with gems of sunlight. A smile on the brow betrays a kind heart, a pleasant friend, an affectionate brother, a dutiful son, a happy husband. It adds a charm to beauty, it decorates the face of the deformed, and makes a lovely woman resemble an angel in paradise.

At a meeting of the Onondaga Farmers' Club at which pear-blight was discussed, no one could give any reliable remedy, most of the speakers intimating that they became more and more mystified as year after year gave more experience with the evil. Mr. Geddes had lost 4,000 choice dwarf trees, but the old natural standard pear seemed exempt. Mr. L. T. Hawley had found salt useful among his pear trees as well as among his other crops. Pear trees struck with blight had recovered after the limbs had been removed by using brine liberally over them and about their roots. This seems to corroborate the view that it is a fungous infection, which salt has the power to kill or repel. A dressing of salt is said to have a good effect in preventing the rust in wheat stems, and in keeping the straw bright and clean until the grain fills and matures.

Commercial.

FARMER'S ADVOCATE OFFICE, }
London, Dec. 27, 1880. }

Since our last we have had a month of unusually fine winter weather. Some localities have been favored with snow and others the best of wheeling. This has had a very beneficial effect on business.

WHEAT

has ruled very dull and lower since December came in, and now, at the time of writing, the decline in Chicago from the highest point has been 17½ cents per bushel. This is a serious decline and has caused the suspension of a number of Chicago grain firms who undertook to "bull" the market upon an artificial basis of values. It is estimated that the liabilities of these firms will foot up the sum of \$300,000. Stocks are accumulating in the west and every elevator and grain warehouse in the cities and those along the railways are full to overflowing. To such an extent is this the case that the owners of this grain, in many instances, are unable to get any insurance on their grain as the insurance companies have all they can carry. Enormous sums of money are also in the same way locked up, and the effect is that money is scarce and difficult to negotiate in the west.

Another trouble with them in the west is the great scarcity of cars, the railways being quite unable to supply sufficient cars to move the grain as fast as wanted. How long this is going to last it is hard to conjecture. The question is often asked, "What has become of all these cars?" The answer is, they are detained at the seaboard, and the local traffic has assumed such unexpected proportions that it is requiring a large number of the surplus cars usually used for grain.

Stocks in Canada are also heavy and on the increase, as holders are not disposed to take prices now offered, freights also being rather high and the railways not very anxious to contract.

As near as we can ascertain there is one-half to two-thirds of the wheat still in the country. These causes all have their effect on the market, and the dealers in England know the situation as well as we do here. They are now trying to hammer prices down, and it remains to be seen how low they will succeed in getting them. They must have a certain amount of our wheat, and the forcing of prices too low will have the effect of stopping the movement till the prices right themselves again.

PEAS

are accumulating. Dealers and holders have worked the prices up too high, and the result is that together with high freights they have checked the movement.

BARLEY

keeps pretty well up and holders are firm in their price. It is a very unstable article and one never knows what is its legitimate value.

HAY.

The trade in this article is assuming quite important proportions this winter. The shipments have been largely to New York, where hay is very dear this winter, caused by the short crop all through the Eastern States. It is being delivered at the railway stations, where the dealers have their machinery for pressing, and compressed into bales so that about nine tons can be put into a car. Should we have a long winter we may look for higher prices for both hay and oats, before grass grows next spring.

CHEESE

is now pretty well cleared out, with the exception of a few large factories who will most probably

hold till the end of January or February. A good many very fair lots of cheese have been bought lately, at 11½ cents. Some of these were sold to dealers at 13 cents, the buyer being only too glad to find some excuse to get out of his bargain as the markets have gone the wrong way. There is a much better tone to the market the past week and we look for a quiet, steady trade during the winter, and we hope to see stocks well cleared out before next May.

BUTTER

keeps very still and stocks seem to be accumulating all over the country. The wonder is where all the butter comes from when the market gets dull. When butter was twenty and twenty-one cents we could hardly find a dealer who had any. But now, when it is down to seventeen and eighteen cents, everybody seems to have butter and nobody wants to buy. The fact is, prices should not have gone over seventeen to eighteen cents. Another cause for the depression is the immense quantity of oleomargarine which is made and thrown on the market. Especially is this the case when butter gets up to and over eighteen cents. We hear of a shipment of creamery sent from New York that has been ordered back to that city from Liverpool, as it is thought that it can be disposed of to better advantage at home.

London Markets.

London, Dec. 27, 1880.

English advices show markets to have been dull and inactive and prices declining. The feeling has been strengthened that supplies are pretty sure to be sufficient for the demands of the English market, and purchasers are holding back expecting a still further decline. The deficiency in the European crops has been less than some previous years, and in the surplus wheat crops in the United States there has been much greater increase. Supplies have lately been in excess of consumption. Meantime prices are pretty firm, and will probably not decline further till the arrival of the large supplies now afloat from the Pacific coast. The prospects of fall wheat in England are favorable.

GRAIN.

	Per 100 lbs		Per 100 lbs
Deihl Wheat	\$1 68 to 1 75	Peas	80 to 1 00
Treadwell	1 68 to 1 70	Oats	85 to 90
Clawson	1 68 to 1 70	" Old	
Red	1 68 to 1 70	Corn	1 00 to 1 03
Spring	1 50 to 1 70	Rye	80 to 90
Barley	90 to 1 50		

PRODUCE.

Butter, crock	16 to 18	Potatoes, bag	50 to 60
do roll	20 to 22	Apples p bag	30 to 50
do keg	15 to 18	Turnips, p bu	25 to 30
do inferior	8 to 12	Beef, per qr	3 00 to 5 00
Carrots, p bu	20 to 30	Mutton, lb	6 to 7
Onions, bag	1 00 to 0 00	Lamb	5 to 8
Beef, per qr	3 50 to 6 50	Wool	27 to 27
Tallow retd	8	Dressed hogs	per 100 lbs, 6 00 to 6 25
" rough	4	Live hogs, do	5 00 to 5 50
Honey	20 to 20	Lard	9 to 9
Cordwood	4 00 to 4 00	Geese, each	45 to 50
Ducks	30 to 40	Turkeys	75 to 1 25
Chickens, pr	25 to 40	Milch cows	26 00 to 40 00
Cheese, per lb	12½ to		

FLOUR.

Flour, fall wht	3 00 to 3 00	Oatmeal fine	2 70 to 2 00
" mixed	2 75 to 2 75	" coarse	2 50
" spring	2 10 to 2 75	Cornmeal	1 50 to 1 50
Shorts, per ton	14 00 to 18 00	Bran, per ton	10 00 to 10 00

HAY AND STRAW

Hay, per ton	9 00 to 10 00	Straw, per load	2 00 to 3 00
--------------	---------------	-----------------	--------------

English Markets.

Liverpool, Dec. 23, 1880.

Flour, 9s. 10d.; wheat, spring, 8s. 6d. to 9s. 9d.; red winter, 10s.; white, 9s. 10d.; club, 9s. 8d. to 10s.; corn, 5s. 5d. to 6s.; oats, 6s. 2d. to 6. 3d.; barley, 5s. 3d.; peas, 7s.; pork, 65s.; lard, 46s.; bacon, 27s. 6d. to 39s.; beef, 77s. 9d.; tallow, 34s.; cheese, 65s.

Chicago Market.

Chicago, Dec. 28, 1880.

Wheat in fair demand and lower, 94c to 99½c; corn, 36½c; oats, 29½c to 30c; rye, firm at 88c; barley, easier at 81.07; flour, dull end nominal; pork, lower \$11.25 for cash; lard, dull and a shade lower, 88.35; bulk meats, steady and unchanged.

New York Markets.

New York, Dec. 27, 1880.

Flour dull, \$3.00 to \$3.75 for state and western, \$4.00 to \$5.50; wheat, \$1.15; rye, 53c to 57c; corn, less firm, 53c to 57c; barley, quiet and unchanged; oats, 4½ better; 41½c to 46c; butter, 13c to 34c; cheese, 7c to 13½.

Montreal Market.

Montreal, Dec. 28, 1880.

The market dull with nominally unchanged prices. Flour, xxx, \$5.50 to \$5.40; spring, extra, \$5.25 to \$5.35; superfine, \$4.90 to \$4.95; strong bakers, \$5.75 to \$6.25; fine, \$4.25 to \$5.35; middlings, \$3.70 to \$3.75; pollards, \$3.10 to \$3.35; Ont. bags, \$2.60 to \$2.70; city bags, \$3.30 to \$3.35; oatmeal, \$4.40 to \$4.45; cornmeal, \$3.00 to \$3.10; pork, \$16.50 to \$17.50; hams, 10c to 11c; dressed hogs, \$6.40 to \$6.50; butter, creamery, 24c to 26c; Brockville and Morrisburg, 18c to 21c; western, 17c to 18c; eastern townships, 20c to 22c; cheese, 12½ to 13c.

Toronto Market.

Toronto, Dec. 28, 1880.

Fall wheat, No. 1, \$1.12; No. 2, \$1.10; No. 3, \$1.05; spring, do, \$1.00 to \$1.16; barley, No. 1, \$1.02; No. 2, 90c to 95c; No. 3, 75c to 85c; peas, No. 1, 68c; No. 2, 97c; oats, 33c to 34c; corn, 60c; flour, superior, \$4.85; strong bakers, \$4.95; spring, extra, \$4.75; bran, \$12.50; hogs, \$5.80 to \$6.00; butter 15c to 18c; barley, 95c to \$1.00; rye, 83c to 84c; oatmeal, \$3.85; cornmeal, \$3; pork, \$15.

Boston Markets.

Boston, Dec. 29.

Corn, per 56 lbs, 60c to 65c; Oats, 46c to 52c; wheat, \$1.10 to \$1.22; rye, \$1.00 to \$1.05; barley, \$1.00 to \$1.30; shorts, per ton, \$18.50; hay, per 2,000 lbs., \$20 to \$25; straw, 100 lbs., \$1.00 to \$1.75; butter, 17c to 33c; cheese, 6c to 13c; flour, \$3.75 to \$4.50; potatoes, 55c to 70c; oatmeal, \$5.50 to \$6.50; onions, per lb., \$3.50 to \$4.25; beans, \$1.80 to \$2.15.

Stock Notes.

A cow, bred by F. W. Stone, of Guelph, Ont., was recently awarded the 1st prize at the Fat Cattle Show of Hull, England.

The Canada West Farm Stock Association have sold the young red bull, "Waterloo Duke 2nd," to Henry Pickereil, Harrison, Ills.

Mr. Jno. Dryden, M.P.P., of Brooklin, Ont., has recently imported from the celebrated Cruickshanks herd, of Scotland, six fine Shorthorns—four heifers and two bulls.

Prof. Roberts is a strong believer in the good effect of a proper atmosphere in the stable. The air should be neither too hot nor too cold, but above all should be dry. Dampness he considers highly detrimental to all kinds of stocks.

Messrs. H. & J. Groff, of Waterloo, Ont., are fattening 800 sheep this winter. If they would kindly furnish us the results when they sell, we think the information would be read with interest and profit by many.

Mr. J. R. Pettit, of Grimsby, informs us that his present herd of Shorthorns, about 40 head, have all been raised from one cow and her progeny, which he purchased some years ago, and he has also sold from her, and her descendants over \$6,500.00 of stock.

Messrs. D. M. Ferry & Co., of Detroit, Mich., are doing a large seed business in Canada. We consider them reliable, and have heard good reports of seeds sent out by them. As will be seen by referring to their advertisement in this issue, they send their catalogue free to applicants.

Mr. H. H. Spencer, of Brooklin, Ont., reports a large number of sales this fall both to Canadian and American breeders. The demand for South-downs has been especially good. He has also sold a large number of Shropshire and Oxford Downs and Berkshire swine. Mr. Spencer reports his stock as doing well, and that his recent English importation of South Downs and Shropshire Downs are of high quality.

Mr. W. W. Kitchen, of Grimsby, Ont., is at present on his stock farm, at Orlewin, Iowa, in connection with Capt. D. L. McLeod. They are doing well with their fine herd of Shorthorns, having increasing demand and ready sales for young stock, at \$100 per head on leaving the cows. They have over 50 females in their herd, all in fine condition, many in calf by "Golden King," from Scotland. We wish Mr. K. every success.

RECREATIONS.—Let your recreations be manly, moderate, seasonable, and lawful: the use of recreation is to strengthen your labour and sweeten your rest. But there are some so rigid or so timorous, that they avoid all diversions, and dare not indulge lawful delights for fear of offending. These are hard tutors, if not tyrants to themselves whilst they pretend to a mortified strictness, they are injurious to their own liberty, and the liberality of their Maker.

Pots containing flowers should be washed as often as any mould or fungus growth appears.

Young grafts that have made a good growth should be pruned now lest the winds may tear them from the stock. It will be advisable to cut two-thirds of them away, leaving one-third, which will not offer much obstruction to the winds.

If onions are once frozen they should be kept so until the Spring, when they will thaw out all right. Keep them in the barn in a dry, cool place, and if a thaw occurs, cover them with straw or hay. If they become thawed, remove them to a cellar and do not permit them to freeze again.

In cold weather, or in a cool place, cheese will keep without material change for months, but in warm weather or in a warm place they ripen more rapidly, and from a ripe state pass into that of decay. Many persons do not understand that under certain circumstances cheese is a perishable article as much as milk is.

The annual meeting of the Western Ontario Dairymen's Association will be held in Stratford, on 2nd, 3rd, 4th and 5th February.

The election of officers of agricultural societies takes place on the third Wednesday of January.

Advertisements.

Something Good for Threshers

WILLIAM HAGGERT,

Bathurst St., London, Ont.

Makes a specialty of manufacturing Circular Saw Mills to suit threshing engines, capable of cutting from 3,000 to 8,000 feet of lumber per day; also 10, 12, 14 and 16 horse-power Portable Threshing Engines, with return flues, boiler and locomotive fire box, acknowledged to be the strongest, most durable and economical boiler made. Engine and Mill complete from \$1,200.00 to \$1,600.00. Engines up to 40 horse-power made to order.

WM. HAGGERT, London.
181-tf

"BELL" ORGAN

The following is what MR. HAGUE says about the "BELL" ORGAN:

To J. Hecher, Esq., Agent for Bell's Celebrated Organs at Montreal.

Dear Sir,—In handing your cheque in payment of the Bell Cabinet Organ I purchased from you, I cannot but say that the instrument is of a style and quality which I did not suppose capable of being produced in Canada, the tone is pure, rich and deep, and the effects that can be produced by combination of the stops are charming.

Messrs. Bell & Co are to be congratulated on their success in developing the manufacture to such an extent as is manifest in the instrument you have sent me.

Wishing them large and remunerative sales, I remain yours truly,

Signed, **G. HAGUE,**
General Manager Merchant's Bank of Canada.
Montreal, January 24th, 1879.

- Received Silver Medal and Diploma at Provincial Exhibition..... 1871
- Received Silver Medal and Diploma at Centennial..... 1876
- Received International Medal and Diploma at Sydney, Australia..... 1877
- Received only Medal for Parlor Organs at Provincial Exhibition..... 1878
- Received only Medal for Parlor Organs at Industrial Exhibition, Toronto..... 1876

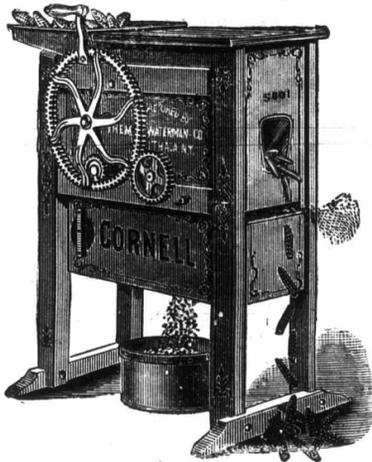
W. BELL & CO.

41-47 E. MARKET-SQ.,

GUELPH; - ONT.

71-tf.

CORNELL'S CORN SHELLER.
1st Prize, Western Fair, 1880



Reasons Why Every Farmer

Should shell his corn with a

CORNELL CORN SHELLER

All Corn sold in the ear entails a loss to the producer. In selling corn in the ear it is sold at 70 lbs. to the bushel. In selling shelled corn it is sold at 56 lbs. to the bushel. The weight of a bushel of cobs after shelling is about 11 lbs., showing a clear loss of 3 lbs. on every bushel of corn sold in the ear, showing clearly every farmer who has 1,000 bushels of corn to sell makes about 3,000 lbs. by shelling. Also saving the cost of hauling the cobs, no small item, when they are given away, and in localities where fuel is scarce it is said the cobs will pay for the labor of shelling. Try it. Weigh a bushel of corn and you will become convinced.

For sale by The Canadian Agricultural Emporium, 360 Richmond Street, London, Ont., Canada.



The Great Fat Steer,

"DOMINION CHAMPION," which took Special Prize of \$50 at Provincial Fair, Hamilton, 1880, for "best fat ox, steer, cow or heifer," was fed on

THORLEY CATTLE FOOD

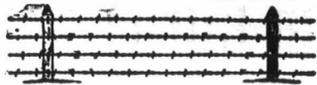
by Mr. John Russell, Brougham, Ontario; is a pure white, a picture in himself, is 4 years old, weighs 2550 lbs., and is sold for the handsome sum of \$550, to be taken to England, where we doubtless shall hear more of him, inasmuch as competent judges at "Canada's Great Fair," Toronto, pronounced him the best steer in America. This steer also took four other prizes this year, amounting to \$75.

Messrs F. Murdoch, Elora; J. & W. Watt, Salem; J. S. Armstrong, Eramosa, exhibited handsome fat animals, all fed on Thorley Food, each taking first prize in its respective class.

Messrs. Watt, Salem, also exhibited Durham Bull Calf, and Thomas Guy, Oshawa, exhibited Ayrshire Bull Calf, fed on Thorley Food, each being awarded first prize in its class at Toronto and Hamilton. Space will not permit us to name many other animals fed on Thorley Food, which took first prizes at Toronto and Hamilton. For sale in all principal places. Please ask for circular. Manufactured at 48 John street south, Hamilton, Ont. 170-L



WASHBURN & MOEN MFG. CO.
55 College St., Montreal, P. Q.



Sole Manufacturers in Canada of

PATENT STEEL BARB FENCING

THE BEST AND CHEAPEST FENCE for Railroads, Farmers, and Stock Raisers.

A STEEL Thorn Hedge. No other Fencing so cheap or put up so quickly. Never rusts, stains, decays, shrinks, nor warps. Unaffected by fire, wind, or flood. A complete barrier to the most unruly stock. Impassable by man or beast.

42,000 Miles of Barb Fence erected in the United States in last three Seasons.

For the Gardener, the Stock Grower, the Vineyard proprietor, BARB FENCE is the only perfect fence. SEND FOR ILLUSTRATED PAMPHLET.

CAUTION!

To all Dealers in BARBED FENCE WIRE or Barbs for Fence Wire—and to all Farmers or others who put Barbs upon wire fences making a Barbed Wire Fence.

You are hereby notified that, in putting barbs upon wire, making a barbed wire fence, or in using or dealing in barbs for wire or barbed fence wire, not made under license from us, you are infringing upon our patents, and we shall hold you strictly accountable for damages for all infringements of Canadian Letters Patent Nos. 4,916 and 7,880.

Washburn & Moen Mfg. Co.

MONTREAL P. Q.

WOOD & LEGGAT

AGENTS.

169-tf Hamilton, Ont

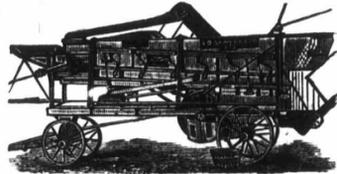
L. D. SAWYER & CO.

Hamilton, Ont.

Original and Only Genuine

"Grain-Saver"

THRESHING MACHINERY.



THE STANDARD of excellence throughout THE GRAIN-RAISING WORLD.

MATCHLESS for Grain Saving, Time Saving, Perfect Cleaning, RAPID AND THOROUGH WORK.

INCOMPARABLE in Quality of Material, Perfection of Parts, ELEGANT Finish, and BEAUTY of Model.

MARVELOUS for VASTLY SUPERIOR work in all kinds of Grain, and UNIVERSALLY known as the only successful Thresher in Flax, Timothy, Clover and all other Seeds.

ASTONISHINGLY DURABLE and wonderfully simple, using less than one-half the usual gears and belts.

LARGEST Capacity of any Separator made in Canada.

STEAMPOWER THRESHERS A SPECIALTY

36-inch Cylinder. 48-inch Separator.

For full particulars write for Illustrated Circulars of Threshers, Engines, Mowers and Reapers, which we mail free.

173-L

KENDALL'S Spavin Cure!

The Best Liniment in Use.

READ THIS!

New York, Dec. 24, 1879

R. J. KENDALL & Co.: Gents.—You will please send us six dozen of your Spavin Cure and one dozen Blisters, as we are about out. This makes, we think, our last order for this year, and if the demand improves next year as fast as it has this, we think it will outsell any horse liniment (for which a practical cure is sure to follow) ever introduced in this market. We have not heard the first complaint of its not doing what is claimed for it out of the many thousand bottles we have sold. We are perfectly satisfied that there never was anything made to equal it, nor can there be anything to take its place, as it removes the trouble, and no remedy can do more.

Yours, etc.,

C. M. MOSEMAN & BRO

KENDALL'S TREATISE on the HORSE AND ITS DISEASES.

An extraordinary book.

PRICE, 35 Cts., POST FREE.

MARSDEN & CO., MONTREAL, P. Q.

Proprietors for the Dominion.

AGENTS WANTED. 177-L

COTTON YARN.

WHITE, BLUE, RED AND ORANGE. Warranted the very best quality. None genuine without our label. Also, BEAM WARFS for Woolen Mills.

Send for Circulars, &c. Address—

WM. PARKS & SON, New Brunswick Cotton Mills, St. John, N.B.

W. N. WHITE, Fruit and Potato Broker

COVENT GARDEN,

LONDON, - ENGLAND.

Market Reports sent on application. Account sales with Bank Draft within days of ship's arrival.

180-tf

J. N. ANDERSON, M. D., M. C. P. S., Ont.—Eye and Ear Surgeon, 34 James St., Hamilton, Ont.



Dr. Anderson gives EXCLUSIVE ATTENTION To the Treatment of the various diseases of the

EYE AND EAR

Cross Eyes Straightened.

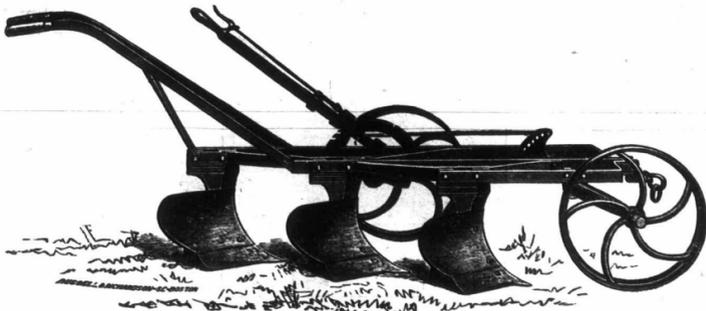
BEE KEEPERS.

My circular and price-list of pure Italian Queens, Bees, Apianian Supplies, with much valuable information, will be sent free to all. Samples of Bee Journals free. Address

71-4f

CHAS. F. DODD, Nile P. O. Ont.

Port Perry Gang-Plow Works WITH NEW IMPROVEMENTS.



THE BEST IN THE MARKET! THOUSANDS IN USE!

Every farmer should have one. Orders filled direct from our establishment to all parts of Canada. Reliable Agents wanted in every county. Address, 181-f PAXTON, TATE & CO., Port Perry, Ont.

Great Devonshire Cattle Food

May be relied on as containing no copperas or other metallic substance, and is unquestionably the only scientific combination to produce a healthy, saleable and working condition in horses, and fattening cattle to a degree produced by no other feeder, shown by the successful exportation of cattle to England fed with the Great Devonshire Food.

Ask for the Devonshire, and take no other.

Beware of Worthless Imitations. \$1.00 per Box. Book sent free on application.

JOHN LUMBERS, Sole Manufacturer, Cor. Adelaide and Francis Sts., Toronto.

Seed Catalogue FOR 1881.

Our Illustrated Catalogue of Field, Garden and Flower Seeds will be ready about the 1st of February next, and will be sent free, post-paid, to all intending purchasers.

Address—

The CANADIAN AGRICULTURAL EMPORIUM LONDON, ONT

SEED PEAS.

Persons having any good samples of Golden Vine, Early Kent, Black-eyed Marrowfat, White Marrowfat, Champion of England, or Crown Peas for sale, free from bugs, will send samples and prices with quantity for sale to

The CANADIAN AGRICULTURAL EMPORIUM 360 Richmond Street, LONDON, ONTARIO.

OSBORN



GUELPH SEWING MACHINE CO.

Invite inspection and a trial of their "OSBORN A" STAND, OR... "E" Hand Shuttle Sewing Machines, OR THEIR...

UNEQUALLED LAWN MOWER. Superior Sad Irons & the Dover Egg-Beater.

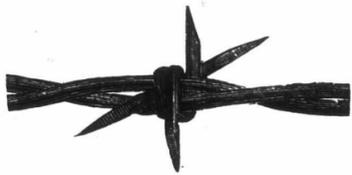
All first-class articles, necessary in every house. Try them! W. WILKIE, Manufacturer, Guelph, Ont.

Farms and other Properties for Sale.

The largest list yet published in Ontario sent to any address on application to W. J. FENTON & CO., Land Agents, Hamilton, Ont. 170-L

DR. W. E. WAUGH. Office—The late Dr. Anderson's, Ridout Street, London, Ont. 169-tf

SHORT'S



Patent Four-Pointed Steel Barb Wire.

Weights 14 1/2 oz to the rod, and will stand 1,600 pounds to each line, before breaking. It is adopted by Railroads, Stock Raisers and Farmers, on account of its superior style of Barb, which passes between the two wires, firmly locking them together, then is wound around both, fastening the barb securely so that it cannot be moved, thus making the strongest, most durable, and cheapest wire in the market.

SEND FOR CIRCULARS AND PRICES. SAMPLES SENT FREE ON APPLICATION. Ontario Metallic Spinning Co'y., WOODSTOCK, ONTARIO. In writing, please mention this paper 179-tf

FARMS FOR SALE.—A full description of over 200 improved farms, also of wild lands, throughout the whole of Western Ontario, sent to any address upon application to GEO. B. HARRIS, Real Estate Agent, London, Ont. da tf

SALT

Parties requiring bulk Salt in car lots should place their orders at once, as demand cannot be fully supplied in the spring from scarcity of cars and stock.

Having works at Seaforth and Blyth, we can offer to all points, either on Great Western or Grand Trunk Railways, with connecting roads, the advantages of lowest freights.

State Station wanted at, and address GREY, YOUNG & SPARLING, Seaforth, Ont. 181-c

GOOD BOOKS FOR THE Farm, Garden & Household

Allen's (R. L. & L. F.) New American Farm Book.....	\$2 40
American Dairying, by Arnold.....	1 50
American Bird Fancier.....	30
Allen's (L.F.) American Cattle.....	2 50
Barnard's Simple Flower Garden.....	38
Barry's Strawberry Garden.....	38
Barry's Fruit Garden.....	2 50
Buisi's Family Kitchen Gardener.....	1 00
Book of Household Pets, paper.....	1 50
Bommer's Method of Making Manures.....	25
Brill's Farm Gardening and Seed Growing.....	1 00
Culver's Fruit Preservers' Manual.....	25
Clock's Diseases of Sheep.....	1 25
Cooked and Cooking Food for Domestic Animals.....	20
Dadd's American Cattle Doctor, 12 mo.....	1 50
Every House Owner's Cyclopaedia.....	3 75
Elliott's Lawn and Shade Trees.....	1 00
Farming for Boys.....	1 50
Flint on Grasses.....	2 50
Fuller's Forest Tree Culturist.....	1 00
Flax Culture. (Seven Prize Essays by Practical Growers).....	30
Fuller's Grape Culturist.....	1 50
Fuller's Small Fruit Culturist.....	1 50
Fulton's Peach Culture.....	1 50
Gardening for Pleasure.....	1 40
Gregory on Squashes (paper).....	1 00
Grant's Best Book Sugar.....	1 25
Gregory on Cabbages.....	30
" Carrots, Mangolds, &c.....	30
" Onion Raising.....	30
Guenon on Milch Cows.....	75
Harian's Farming with Green Manures.....	50
Harris' Talks on Manures.....	1 50
Harris on the Pig.....	1 50
Henderson's Gardening for Pleasure.....	1 40
Henderson's Gardening for Profit.....	1 50
Henderson's Practical Floriculture.....	1 50
Hop Culture. By nine experienced cultivators.....	30
Hunter and Trapper.....	1 00
Johnson's How Crops Grow.....	2 00
Johnson's How Crops Feed.....	2 00
Johnson's Winter Greenhouses at Home.....	1 00
Klippart's Wheat Plant.....	1 75
Law's Farmers' Veterinary Adviser.....	3 00
Our Farm of Four Acres. Paper, 30c; Cloth, 60c; extra cloth.....	1 00
Potato Culture.—(Prize essay).....	25
Pockald's Our Common Insects.....	1 50
Quincy's Mysteries of Bee-keeping.....	1 50
Quincy (Hon. Josiah) on Soiling Cattle.....	1 25
Quinn's Pear Culture for Profit.....	1 00
Roe's Manual on the Culture of Small Fruits.....	50
Rarey and Knowlson's Complete Horse Tamer.....	50
Roe's Play and Profit in my Garden.....	1 50
Stewart's Irrigation for the Farm, Garden and Orchard.....	1 50
Stewart's Stable Book.....	1 50
Stewart's Shepherd's Manual.....	1 50
Stoddard's An Egg Farm. Paper, 50c; cloth.....	75
Thomas' Farm Implements and Machinery.....	1 50
Ten Acres Enough.....	1 ..
Thompson's Food of Animals.....	1 ..
Waring's Farmer's Vacation.....	3 ..
Wheeler's Homes for the People.....	2 ..
Williams' Practical Butcher Book.....	1 ..
Williams' Window Gardening.....	1 40
Waring's Draining for Profit and Health.....	1 00
Waring's Elements of Agriculture.....	1 00
Wright's Practical Poultry Keeper.....	2 00

The Wedding Cake Emporium of Canada

Ships with great care and perfect safety, WEDDING CAKES IN NEW AND BEAUTIFUL DESIGNS, RICHLY ORNAMENTED,

And made from the very choicest materials, to any part of Canada, and satisfaction guaranteed. HARRY WEBB, 483 Yonge, Toronto Ont. 178-d