THE FARMER'S ADVOCATE

PERSEVERE AND SUCCEED.

AND HOME MAGAZINE

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OUR EXHIBITION NUMBER.

After the issue of our October Number the balance (about 40,000 copies) of our Exhibition Number will be mailed and distributed. We have had an unprecedented demand for this special issue from subscribers who wish to increase the circulation of "The Farmer's Advocate and Home Magazine." We want each of our present subscribers to send one new name for 1882. We don't ask each to send Forty or Ten, as so many do, but at least one each. We are very ambitious. We want to give you the best Agricultural Paper in the world, so try and let every subscriber do something. Send for a sample for any intending subscriber. Put up our Poster (if you receive one) in a conspicuous place. Place a copy of the "Advocate" before new friends, visitors, or new neighbors, and let us make a long pull, a strong pull and a pull altogether to DOUBLE the circulation of the best Agricultural Paper in Canada, and the most widely circulated amongst the best farmers of our happy and prosperous Dominion.

The Provincial Exhibition.

The 36th Provincial Exhibition of the Agricultural and Arts Association was held in the city of London, from the 21st to the 30th of Sept. Wonders will never cease, and the grand success of this exhibition has been a wonder to its opponents, and they have been numerous and powerful, and have worked hard and long to overthrow it. For instance, the city of London has been divided against itself, and two of its most influential and wealthy citizens (one on each side of politics) have, for a long time, tried to have the grounds disposed of and the exhibition placed where it would be less convenient to visitors and exhibitors.

Last year the Governor-General & Co. visited London against the wishes of the city just before the holding of the Western Fair, and the Governor-General visited a close rival exhibition at the time it was in progress. Not a single leading politician or deputy Governor visited the Provincial this year, and very few M.P.P.'s. No speech was made at the opening or closing of the Exhibition, no military display, no outside or undue attractions were made, and the advertising of the Exhibition had not been half properly done. Yet the farmers made it a success, despite the directors of the Association, many of whom we believe wished it a failure.

The present grounds are admitted by all that are really interested in Agriculture to be the best and most convenient that can be procured, in fact they are unequalled in Canada, and are sufficiently large for the purpose for all time to come. Those that desired to dispose of them, had, by a catch vote, actually obtained a vote to sell them, and they would have been sold had not a few citizens and others prevented the sale. There still exists a strong party that would sell them to-morrow if they could. It is much to be regretted that some members of the Provincial Board aided the selling party. Whether any of the members of the Board have in any way concurred with Toronto powers, and what the inducements have been, or if an error of judgment, you must decide for yourselves, but the following facts look very ominous.

The Secretary of the Board of Agriculture and Arts wrote, at the expense of the Association, requesting the members of the Board to meet on a certain day in the Toronto Exhibition grounds. By far the largest majority of the Board did go to Toronto on that day, and the time of meeting with the Toronto Board was set, and the members of the Board were indebted to the hospitality of the Torontonians. It is difficult to get facts from close corporations, but gentlemen whom we deem quite as reliable as any members of the Board, informed us that arrangements for holding the Provincial Exhibition for 1882 were to have been made. Do you think it right that the Board should in any way allow themselves to be tampered with, or meet and make arrangements that might curtail or prevent the interest or the attendance that should take place at the time and at the place where the Provincial Exhibition is held?

The President and Vice-President of the Toronto Exhibition have stated that they did not want the Provincial Association, but they desired to secure the money and control it themselves; also they desired to procure a grant from the Dominion. If these requests were granted they would be able to eclipse in expenditure other exhibitions. The object with them is to obtain all the money that is granted for the purpose of encouragement of Agriculture and continue its expenditure in Toronto, which in reality implies a grant to the city of Toronto and to the farmers within 20 miles of it. As the selfishness already displayed shows clearly where all the favors would go, thus the money intended for the benefit of farmers would be expended diametrically in opposition to their interests, and for the benefit of citizens and speculators.

Why, let us ask, is it difficult to obtain information from this Board—why so much kept in darkness?

What does this mean? A committee of Grangers on this Board is appointed to treat with the Grangers; the arrangements are made for Grangers to receive 20 per cent. of the receipts of what Wednesday should bring over the receipts of Tuesday Wednesday has always been the day of the largest attendance. After this arrangement had been made with the Provincial, the Grangers sold themselves at the same price to Toronto, and influence is brought to bear on the railroads to put fares down that day to one-third less to carry people to Toronto than to the Provincial Exhibition at London; for instance, the fare from London to Toronto and return was $2.65, but at no time was the return fare less than $3.40 from Toronto to London. Despite this, the Provincial Board actually pay $300 of your funds to the Grangers, several of whom are members of the Board. Is this not too conspicuous a gratuity to one class of farmers. Many other acts of injustice might be cited.

This Exhibition is made interesting to farmers by the large expenditure of manufacturers and importers, and conducted for the interest and instruction of agriculturists. Why should not the most intelligent class of the farmers and manufacturers be just as much entitled to 20 per cent. discount on the proceeds as one class of the farmers. This is a deplorable state of affairs, particularly when one class of farmers sell their influence at the expense of others.

When the vote came whether Kingston should be the place for holding the Exhibition next year, or Toronto, is it surprising that the Grange influence should vote against Kingston and use their influence and power to compel all to vote with them whom they could in any way control? We failed to see any valid reason brought forward to show that Kingston should not have it. Kingston offered all that could be asked, and when the Exhibition was last held there, despite the wet weather that unfortunately prevailed at that time and kept visitors from it, the loss to the Association was not at all to be compared to the loss sustained when in Ottawa, and yet when Toronto says she does not want it, they attempt to force it on her. Question: Had the Board been bound or pledged to give it to Toronto before the annual meeting? There were only a very few members of the Board who voted for Kingston. We must say that when one member of the Board does an improper act, the other members are far too apt to unite and sustain anything done, whether right or wrong. This we noticed at the several meetings that have been held in this city during the Exhibition: a strong attempt to encourage and support speakers who aid them and discourage outside opinions.

We believe it but right to hold the exhibition in Toronto at a proper time, and when the Torontonians desire it, but it is a sad state of affairs to force it on Toronto when a deserving locality offers every accommodation, and richly deserves it. Despite this the majority of the delegates and members vote that the exhibition be held in Toronto next year.

The Exhibition at London.

The Exhibition on the whole has been a grand success, although the recent drouth tended to diminish the display in the horticultural department; still the roots, fruit and flowers were fairly good for the season. Dairy products were well represented. The main building was well filled with varied mechanical productions, ladies' work and works of art. The latter two exhibits drew forth many remarks as being a decided improvement on previous exhibits. In the poultry department the exhibit was very good. In the carriage department the display was all that could be desired.

The stove building deserves special remarks. The interior was well filled with superior displays contributed by the leading stove makers in the Dominion. A very large painting over the door, conspicuous above all other signs, was the name of a city firm, which led many visitors to believe the building belonged to said firm. This was objected to by the representative of a leading firm from Hamilton, but the objectionable sign was kept up during the Exhibition. This undue prominence or favoritism to local exhibitors has raised a feeling of envy and detestation among exhibitors from other cities. Not only has this been the case in this city, but the same complaints are made in reference to the Toronto Exhibition. It is this local favoritism that must be avoided as much as possible. As surely as the Provincial Exhibition should be permanently fixed in one or more localities, this partiality would rapidly increase and the utility of the institution be destroyed. See the exhibits of the Vice-President in Toronto this year as an instance. We think the Provincial Board erred in not attending to the complaint this year. All should act courteously and honorably to their visitors.

The crowning parts of this Exhibition were the stock and implement exhibits, despite the detrimental arrangement of compelling exhibitors of stock to keep them on the ground for ten days, a most injurious and expensive arrangement made more for the direct advantage of citizens and hotel-keepers than for farmers. This arrangement we know kept a very large number of exhibitors of stock at home who would otherwise have exhibited. Yet the display, although smaller in numbers, was more select in quality. There never was such a magnificent display of Clydesdale, Percheron and Suffolk Punch horses exhibited in this Dominion. They were quite a show alone, well worth travelling a long journey to see. Some of these horses were claimed to be the best in the world, and no one pretended to dispute these assertions; they were deservedly admired by all. We doubt if you will ever have such an opportunity of seeing so many of the very best of these three classes assembled together again. This is rather remarkable, as there are no prizes for the Percherons or the Suffolk Punches. Here again we think the directors have not shown the necessary care.

In poultry and bees they have given attention; in the pig pen the Poland Chinas have been paid a list of prizes; in the Polled Aberdeen cattle a class has been made; in the sheep pen additions have been made. But here, in these two highly valuable classes of horses—perhaps the most deserving of encouragement of any exhibit on the ground—nothing has been done. Why have they thus long been neglected? What is the value of their diploma? It is not worth the paper it is printed on: it is granted too often to men, not to products. For instance, it is granted to a man who has a patent churn, which is not as good as the old dash churn; and a similar prize may be carried away by the owner of perhaps the most valuable horse in Canada. The diplomas have been scattered too lavishly to be considered of value.

IMPLEMENT DEPARTMENT.

This exhibit was undoubtedly the best that has ever taken place in this Dominion. Nearly every implement manufacturer of prominence was represented here. The principal exceptions were Frost & Wood, of Smith's Falls, and Cossitt Bros., of Brockville. As they confine their business to Quebec and the Maritime Provinces, they were engaged at those exhibitions. They are very large manufacturers and turn out excellent implements. They no doubt feel sore because Kingston, their place of exhibiting in Ontario, has been abandoned. Should we not try to satisfy the manufacturers and farmers in that locality? Try and get them to reunite at the Provincial Exhibition. We have now cut them off. Hamilton is sore, Brantford vexed and Guelph insulted.

The greatest interest in the implement department centered on the binding harvesters. There were 8 different kinds exhibited, but the opinion of the majority is that the binder for the mass is not yet made, or if it is, is not yet complete. The cost of the present machines in use is too much for a small farmer; they are so complicated that only a skilled man is fit to run one, and then the expense and loss from breakages, etc., are heavy items. They appear better adapted to large farms where several are kept, as then a skilled man can be kept also. But the time is coming when the binder will be complete, and the large farmers will have them.

A great deal of attention was paid to the large number of agricultural engines exhibited. This is the home of these giant workers, there being five separate firms building them in this city, and only one shop in which they are made east of Toronto. Unfortunately, while the exhibition was being held, the news of the explosion of one made east of Toronto spread over the ground and caused quite a flutter among the manufacturers, as several parties had been killed by the explosion. This caused us to make more enquiries about these mighty engines. We found that one other explosion had taken place and several barns had been burned by them. As far as we could learn, these losses were not attributable to the engines, but to the men in charge of them; for instance, one man chained down the safety valve and the boiler burst; another man had tipped his engine over, broke the spark arrester, and burned a barn by his neglect; another had dragged a coal out of the fire-box. The fact is that too many of these engines have fallen into the hands of negligent, ignorant and careless men. It is now necessary that some guarantee should be furnished to the farmer that in case of neglect by these people in charge of farm engines, the proprietor of the engine should be responsible to the farmer. Of course an Act to regulate this is necessary, and should be considered before the next session of Parliament.

The Industrial Exhibition.

This Exhibition opened in Toronto on the 5th and closed on the 17th of September. The Directors of this Exhibition deserve great credit for their energetic labors; they worked hard and have accomplished much. The buildings have been improved, the grounds are neatly kept; trees have been planted, and the roads have been gravelled. The grounds and buildings are in themselves very attractive and pleasing, and being situated on the borders of the lake adds additional attraction. The weather was favorable.

The G. W. R. provided much better accommodation than usual to assist visitors going to and from the city; the steamboats lent their aid, and on the two principal days, Wednesday and Thursday of the second week, all were overtaxed with work.

A very useful and attractive feature was added this year, namely, a bakery. The front part was devoted to the manufacture and sale of candy, etc.; a large, open dining room was in the rear, where people could get a good meat pie or fruit pie for 5c., and a good glass of milk, or cup of tea, coffee, or a sandwich at the same rate. This the majority prefer to waiting a long time at a restaurant and paying 50 or 75c. for a meal. The Provincial or Dominion Exhibition directors might profit by copying this plan. The Centennial Exhibition set the pattern.

The Exhibition on the whole was a good one. In the stock department some classes were never better represented in Canada. The visitors were generally well satisfied, and a holiday does every one good.

Despite all that can be said in praise, it is but right to turn to the other side. First, we meet a patent hive and honey display in a special building. Very little honey is seen in the comb, and Dame Rumor says it is very unsafe to consider you are eating honey unless you procure it in the comb.

The machinery hall was not half as well filled as on former occasions; in fact, comparatively speaking, it was a total failure, and some of the exhibits were decidedly injurious. In the implement building there was not as much interest taken as in former years.

In the carriage department the display was most meagre. In fact, in order to fill up, three old hearses that had been used for many years, and were only poor at the best, were actually allowed to disgrace the building.

Increased interest was taken in the dairy department, as the new feature, the dairy in operation, drew many to examine it, and many returned to this spot again and again to partake of the nice fresh buttermilk that was eagerly sought for at 5c. a glass, and some took home a pound of butter neatly put in a tin can, price 50c. a pound.

The season having been so dry, the horticultural, fruit and root departments were not as good as usual.

The main building was arranged so as to make it pleasing to visitors. Although the display was good, there was an evident falling off. For instance, many of the first class manufacturers, as Goldie & McCullough, of Galt, Ont., who formerly exhibited, were absent. The kings of Canadian organ manufacturers, Bell & Co., of Guelph, Ont., who formerly made a grand exhibit and gave a volume of music, were also absent.

Messrs. Brown & Patterson, of Whitby, exhibited a new Grinding Mill, which they say is the best in the world; they were to have been supplied with power to run it; they had a pile of bags of grain to show its work, but all through the busy time of the Exhibition no power could they get. Mr Brown was so vexed to see all other machinery running and his standing still, that he said that it was the last time he would exhibit in Toronto. However, on Friday morning, the last day, as we were passing by, they just started his mill. First oats were ground, then corn, grinding fine or coarse, slow or fast, as they chose. They had only run a few minutes, when a Traction Engine that had been running about the ground, ran against the engine that was driving their machinery and nearly knocked it over.

There were two new Binders exhibited, one by Green Bros., of Waterford, and one by the Haggert Manufacturing Co., of Brampton. Both of these were attachments that could be put on any reaper. They are much more compact than the binders now in use; the grain is not carried by a bit of belting or canvas to a high altitude, but is bound near the ground. Neither of these machines were in perfect order, but the one exhibited by the Haggert Company appeared to us to be the most complete, as only the knife that cuts the wire was out of order. We should think that these machines could be constructed at about one-quarter the price the present harvesters are. We are strongly impressed with the idea that these attachment binders are to supercede the large complicated machines now in use.

Carter's Ditching Machine was again exhibited in a new form. It was exhibited 14 years ago, and made a very handsome ditch in the ground; any quantity of testimonials were obtained in regard to its efficiency and utility, but when put into general use it was found that very little land could be efficiently drained by it, as the inequality of the land made it often necessary to dig the ditch deeper, and the narrow space would not allow it being properly done, without digging the whole ditch to a proper width. (This and stones and

breakages caused them to be abandoned.) Some alterations are made in this new one, but they do not overcome the difficulty. When we see it properly worked, we shall be pleased to give you our opinion of its efficiency. We do not think the owners are justified in calling it a new machine. Mr. Carter richly deserves to be rewarded whether this is efficient or not, for he has labored for years at inventions of different kinds. The ditcher made a great racket and was kept in motion and placed in the most conspicuous place; consequently it drew much attention.

The fact is that many of the exhibitors from other towns, cities and townships are dissatisfied with the Torontonians, who they consider are attempting to extract more money from the public exchequer than they are justly entitled to, and are trying to monopolize. Not only does this feeling exist in towns and cities, but the farmers of the country consider the attempts to check outside agricultural exhibitions, whether in the township or county, or other city exhibitions, have emanated from that centre, and that for selfish purposes. To do this effectually every means have been used to induce the railroads to carry visitors cheaper to Toronto than to any other exhibition. Free tickets of admission have been scattered broadcast over Ontario to those who have influence or power; free tickets for a big feed provided, at which the Grange Order was depended on for aid, the Provincial Board of Agriculture invited; the School of Agriculture supplied the speakers.

The greatest work was to have been done at the grand stand. At the horse ring the grand stand was crowded with thousands; the ring was surrounded with the mass. The hurdles were set ready for the jumps, the band was trying to charm the audience, and just before the trial of speed, the hurdle jumping and lady riding, the great oration was to take place to incorporate the township and all other agricultural exhibitions for the benefit of Toronto. The speakers' platform was well covered with well-primed speakers, M. P. P.'s, etc., etc. To give it an apparent agricultural countenance, the Master of the Dominion Grange was to give the first address. A few minutes showed the audience what was up. They would not hear him nor any of the other speakers. Thus the prepared resolutions were lost, despite the big feed and big preparations.

To add to this deplorable disaster, posters had been put all over the ground calling a meeting in the City Hall in the evening. The Mayor of the city, the Master of the Grange, Prof. Brown of the Model Farm, and many other magnets were announced as the speakers. Despite all their persuasive powers, the immense crowd in Toronto, and the fine hall, the chairman had to apologize for the meagre attendance. We counted 58 at one time and at another 73; at no time were there 200 in the hall. The Mayor spoke highly in favor of Toronto as the agricultural hub; the Master of the Grange had his say; Mr. Brown did not appear, having attended the Canadian Shorthorn Breeders' Association meeting, which was in session at the same time; but Mr. Mills, the Principal of the College, and Mr. Johnston, the former Principal, both gave very useful addresses. Resolutions recommending the expenditure of more public money under the name of agriculture were passed.

Mr. Johnston suggested the propriety of establishing a Farmers' Alliance. It is our opinion that such an organization, if it could be kept out of any ring, would be the best and most useful institution in Canada, not only for farmers, but for the country generally. We hail with pleasure anything we consider would be for the real interest and benefit of the farmer and his family, and believe a Farmers' Alliance, if properly managed, would do good.

The Provincial Exhibition—1882.

The inhabitants of Kingston and the farmers in that locality have exerted themselves to secure the Exhibition. They were, by means of liberal subscriptions and in other ways, prepared to give every encouragement, and promise to furnish every accommodation necessary for exhibitors, and are willing to pledge themselves to furnish ample sleeping accommodations for visitors. This last clause is a most important one, as neither Ottawa, Toronto nor London has ever yet properly attended to this requirement.

Kingston has many just claims that should be considered. First, she erected the first Crystal Palace in Canada for the accommodation of the Provincial Exhibition. Second, the inhabitants of this locality are entitled to have it, as they pay their proportion of taxation for its maintenance. We are unable to give a lucid reason why Kingston has been slighted by the Provincial Association for so many years. She has always been ready to pledge her support and furnish accommodation. We should like to know from any one of the old members of the Provincial Board why Kingston has not been treated honorably by them. Has it been for a political censure? Has it been for the purpose of gratifying the whim of an individual that so much of our money has been spent in Ottawa? The first time when held in that city, as an agricultural exhibition it was a worse failure than it ever had been in Kingston; and the second time Kingston was slighted and the exhibition held in Ottawa.

The whole association has become so demoralized that it will take a series of years and a thorough change in its management to restore the confidence the Province once had in its managers. We feel quite satisfied that very great changes must take place in the acts of our legislature in regard to agricultural affairs. We must deal with matters as they are, and the present Board and the delegates have to select a place for the Provincial Exhibition for 1882. Let it be Kingston—let Kingston fulfil her promises to the letter, and let us unite and try to restore the shattered bark. The Provincial Exhibition has done good work when under proper management, and can do good service yet if the directors would throw pomp and politics into the fire and try and act honorably and justly toward the farmers of the Province.

There are some parties who desire to use the name "agriculture" for the purpose of advancing local or personal interests. It is to be regretted that such parties have too often been able to gain the ascendancy over the real practical farmers. In our public expenditure under the name of agriculture the object should be to do the greatest good to the greatest number. Despite all the cheap excursion low rates given by the railroads, there are comparatively few farmers who attend any of the large exhibitions who will travel over 100 miles, and only a very few who will go 50 miles unless they have their expenses paid either as delegate, judge or prize winner.

The Provincial Exhibition, if continued for the benefit of farmers, must be a itinerant exhibition, and further, with the large grant it has so long enjoyed, it should ere this have been a self-sustaining, honorable and wealthy institution, and have been able to disseminate ten times more valuable information than it has done. The fault has not been with the institution, but with the managers of it.

No agricultural exhibition that we are aware of stands as high in the estimation of the world as the Royal Agricultural Exhibition of England. It receives no Government grant; it requires no expensive buildings. The whole exhibition is held under canvas tents that are put up and transported to any locality that may be deemed most suitable. It travels all over England, and you cannot tell two years ahead where it will be held next. This institution is managed for farmers and by farmers. It has rolled on for years, gaining honor and doing good; no allurements foreign to agriculture are allowed to detract from its utility.

When in Prescott recently we noticed an American agricultural exhibition bill, large, colored and illustrated. On it an agricultural hall was shown, cut of horserace, etc.; but the points that appeared the most impressive were the picture of a wheelbarrow race, occupying nearly a quarter of the bill on one side, and an illustration of a bag race, the men being tied up in the bags, on the other. Although these foolish games may attract a crowd, and may draw money, you may depend that it is at the expense of our agricultural interest. There is sufficient in agriculture to make these exhibitions attractive and useful without bag races, blindfold races, wheelbarrow races, fire eaters or any other nonsense.—[London Exhibition Supplement.

On the Wing.

Not having visited Brockville and vicinity for many years, we deemed it judicious to spend a few days there. We are pleased to report that the farmers in that vicinity have better crops this year than for many years past. The drouth during the past three weeks, together with the great heat, has dried the moisture out of the land to such an extent that fires have done much damage to many farms. Some farmers have had their crops and buildings destroyed. One man we saw informed us that he had not a rail left on his farm. These are very serious losses, but in some localities we hear that the fire is running over large tracts, burning all the vegetable mold and the surface soil to the depth of several inches, and sometimes a foot. As this destroys the fertility of the soil, it takes many years to bring it into good condition again. When the soil is destroyed the farmer's bank is broken. When the fires burn the soil we think it a much greater loss than when buildings, a year's crops or fences are swept away. The latter can be restored, but the fertility of the land may never be restored.

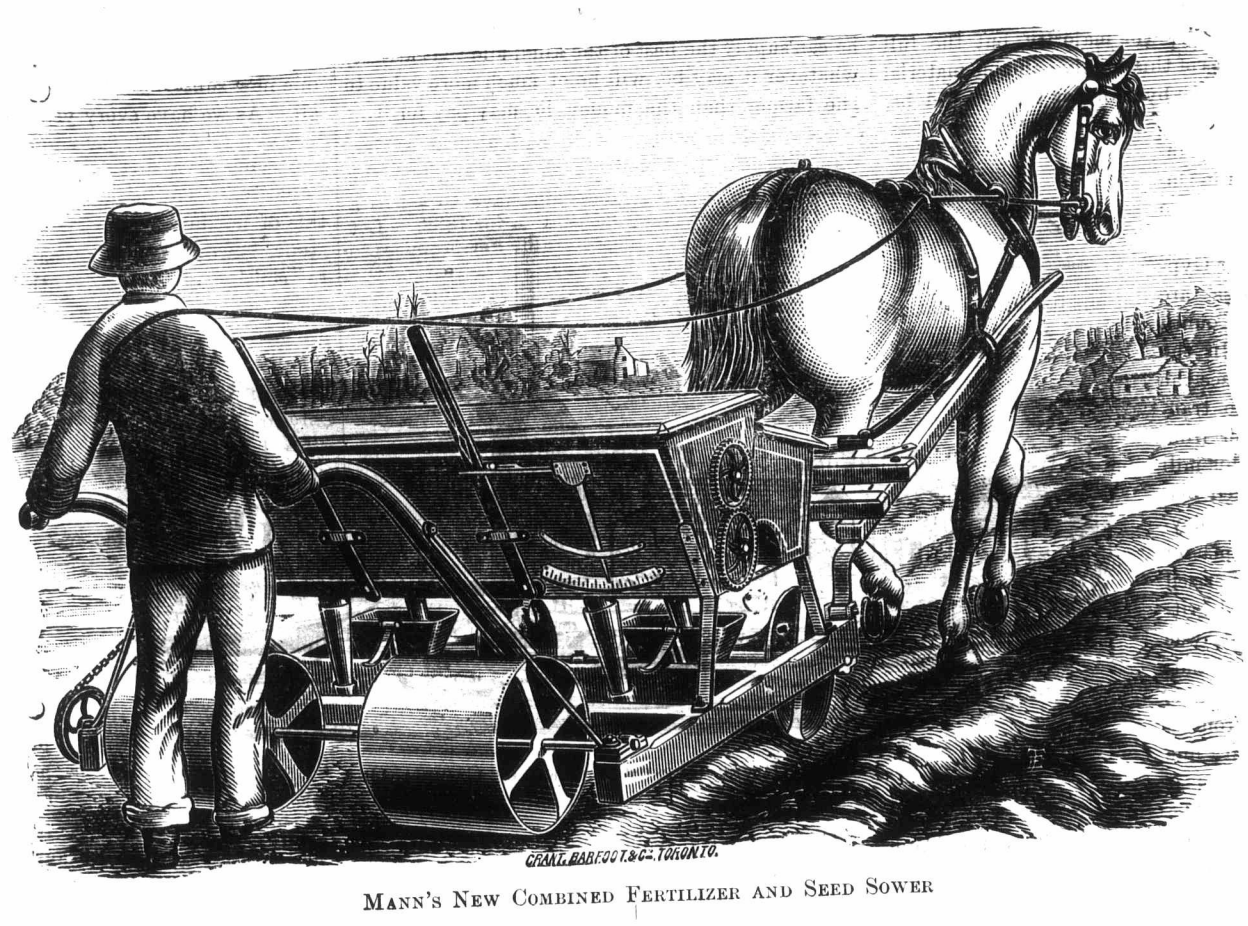
ARTIFICIAL MANURE.

On the docks at Kingston we noticed farmers unloadlng lots of rubbish-looking rock. Some of it is of a grey color, some brown, some bluish, and and some of a dirty white. This rock is called "apatite." To the inexperienced one would think this of no more value than granite or any other stone, but by chemical analysis this rock is found to consist of a most valuable plant food. To make it available for the rootlets it has to be crushed through massive and powerful crushers; then it has to be ground as fine as flour, and bolted through the dusting sieves. In this state it is only half prepared. It then has to be thoroughly saturated with sulphuric acid, which softens all the substance, and makes it the strongest plant food known. But it cannot be applied in this state, as it would pack and become as hard as a rock. It now has to be dried; even after this it would absorb moisture sufficient to cause it to pack and become hard. To prevent this, another very valuable powder, has to be added. This powder is imported from Chicago, and is made from the refuse of the slaughter-houses of that city, consisting of the bones, blood, offal—in fact, all the refuse matter. This is thoroughly dried in kilns, then ground into powder and sold to those who wish to fertilize their land. It sells at a high price. A portion of it has to be mixed with the superphosphate, to prevent the particles from adhering to each other. It is this animal production, which is mixed with the ground rock, that causes the strong and disagreeable smell always found in superphosphate. This is the most valuable fertilizer known, when it is procured in a pure and unadulterated state. There are people that will do anything for money, and no farmer can tell whether he has real, genuine superphosphate or not; and it is one of the easiest things to adulterate, as a small quantity of the genuine article will emit smell enough to infect many tons of plaster, and chemical analysis alone can tell whether your superphosphate is adulterated or not. The cost of the genuine superphosphate is $32 per ton. This appears to be a high price, but we are assured it cannot be made pure and genuine, and allowing a living profit, at a less price. It requires a great deal of work, and the ingredients are all expensive. Of course, this price puts it out of the reach of the average farmer. In fact, it requires much more knowledge and skill to use superphosphate profitably than some farmers possess. It is like steam power. One farmer chained down the safety valve and went up; another neglected to put water on the spark arrester

and the barn went down; another neglected to put water in the boiler at a proper time, and the boiler went up. In the hands of the ignorant, superphosphate will kill plants or seed, or it may be applied at a wrong time, at an improper place or not in proper quantities; and by the ignorant the very best is apt to be condemned as inferior, and most inferior is often lauded as the best.

We wish our subscribers to be the best informed about their agricultural business, therefore we go personally to ascertain and try to give you the benefit of our researches. The rock, or apatite, as it is called, that was lying on the dock was of different qualities; some we were informed was worth only $6 per ton, and some was worth $17.50 per ton. A quantity is procured near Kingston. Sometimes the mines or crevices only contain a few tons and are soon exhausted; others have yielded 2,000 tons. There is as yet comparatively little of it used in Canada. Large cargoes of it are shipped to Europe, where they know the value of manure and how to use it. Large quantities have been and are being sent to the Southern States, to New Jersey and several other points. While we are supplying this valuable fertilizer to the world, is it not rather strange that Canada should be impoverishing her soil and scarcely one farmer in a hundred knows anything about its use, its quality, or the profits or losses of its use?

There are many farmers who may not require it, but there are also many who would find a judicious use of it profitable. Five hundred pounds is said to be the right quantity to use for an acre of land. It is claimed that the result in increased production of hay, grain and roots is astonishing, and repays the cost of the superphosphate, besides adding largely to the permanent value of the land. In the hands of the ignorant it may become like the steam threshing machine alluded to; we have heard of seed and crop being destroyed. Every real farmer should understand something about the use and value of all kinds of manures, whether he requires any or not.



MANN'S NEW COMBINED FERTILIZER AND SEED SOWER

THE FARMER'S BANK.

By far the safest and most profitable bank the farmer can have is his fertile fields. Inexhaustible land is not in existence. The most fertile soil will cease to yield profitable returns unless the fertility is maintained by some return to the soil. Many good farmers add yearly something to the fertility of their farms, but the majority of American farmers are gradually and surely exhausting their farms. Thousands of farms are now so reduced that the occupants have been obliged to abandon them. Barn-yard manure is the best and cheapest procurable, but there are localities where a sufficient quantity of it cannot be had, nor any other substitute obtained without resorting to artificial manures. We know of no manure that can be moved on to the land as cheaply as superphosphate. We should be sorry to hear of any of our subscribers injuring their pockets by going headlong into large expenditures for this fertilizer without first trying a small quantity in different ways and marking the results. If he finds he can use it profitably, then, and not till then, should large orders be given. So much pleased is the Legislature of Quebec Province with the use and value of this fertilizer that an order for a very large quantity has been given to a firm in France. We understand that thousands of tons are to be given away to he French Canadians It may be asked: Are the French Canadian farmers more enlightened in its use than the farmers of other parts of this Dominion? Have ythe had experience? We should like o have the first valuable hints on its use from a practical *habitant*. Another point is this: Canadian superphosphate, we understand, ranks quite as high in fertilizing qualities as the foreign superphosphate. Yet this large order must be sent to France! Question—Why?

On the Rideau River, nearly half way between Kingston and Ottawa, there are large expanses of water—we may call them lakes. They are dotted with immense numbers of beautiful islands. Many consider the scenery here to surpass that of the Thousand Islands. In this vicinity large quantities of the apatite is mined, but we understand that the best quality is procured from north of Ottawa. The only works at which the real, genuine superphosphate is manufactured are situated in Brockville. They are carried on under the name of "The Brockville Chemical and Superphosphate Works." This company owns extensive sulphur mines near Brockville, and have very large and costly works, where they make the sulphuric acid—the material that converts the rock to plant food. In this vicinity the farmers are using superphosphate more extensively than in any other part of the Dominion. The beneficial results are gradually becoming known there, and the consequence is an increased demand. One thing which proved detrimental to the use of superphosphate was that its strength was such that it was not solely confined to the destruction of grubs and insects and the promotion of the growth of the plant, but when it came in direct contact with the seed the vitality of the seed would be destroyed. To obviate this, mechanical skill is called into play. J. W. Mann & Co., very energetic manufacturers, possessed of good mechanical and business faculties, have invented a fertilizer and seed sower combined, which answers the purpose admirably, and saves the seed from destruction. This machine first deposits and covers the seed, and then deposits the superphosphate over the seed and covers it. In this manner it is found to act like a charm, although the superphosphate may kill the seed if it comes in direct contact with it.

It does not destroy the plant when growing, but protects it from many insect pests and furnishes the actual food to make not only the plant leaf but also to fill the grain in the ear, thereby enriching the farmer. This is a highly valuable aid, but to the ignorant it may act the same as a steam engine. We deem this of so much importance that we give you an illustration of the Seed Drill and Fertilizer.

The concave iron roller carried on a shaft in front shapes the drill, and will adjust to suit the ridges, varying in width from 18 to 32 inches.

Turnip, carrot, beet and mangold seeds can be sown perfectly even and in any quantity per acre; any kind of fertilizers can be sown at the same time if desired; any boy that can drive a horse can work it, as it requires no guiding when at work. The handles are merely to steady the driver, if he does not wish to ride on the machine. They guarantee the efficient working of their fertilizers and drills, and allow good farmers to try them before purchasing.

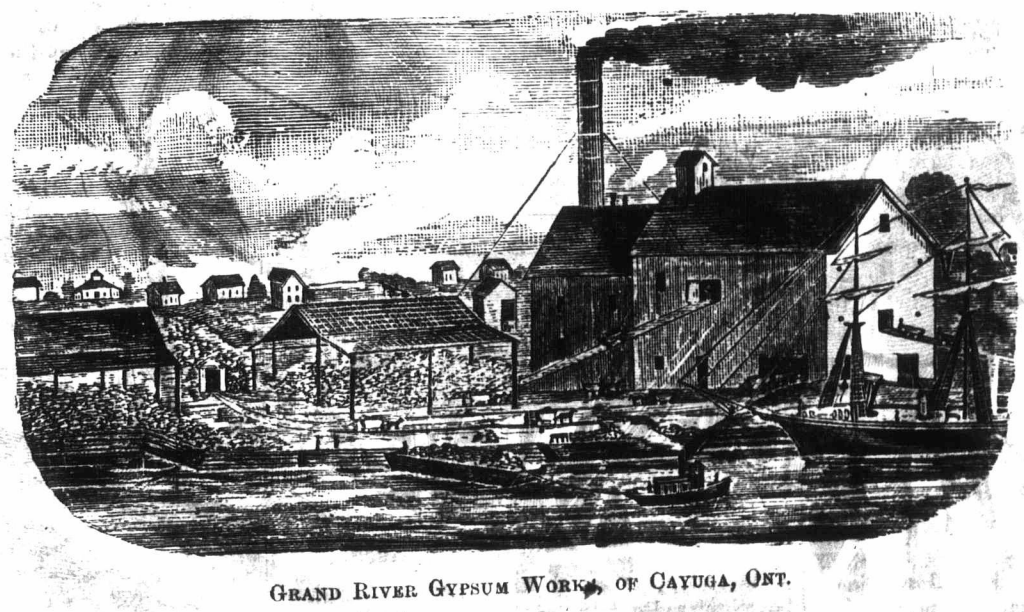
They also make drills of larger capacity and of high reputation, so much so that many of their drills have been bought by Americans across the lines, and as they are only on the opposite side or the St. Lawrence, such has been the demand fof their drills that they are contemplating erecting another shop on the American side.

J. W. Mann was formerly one of the most enterprising farmers in the County of Simcoe. It has been from his practical knowledge of the requirements of the farmer that he attributes his improvement on seed drills.

While dwelling on superphosphate it is but right that we should not overlook the use of gypsum; this is not a plant food, but of very great importance to good farmers, and a substance that should be more extensively used in some localities.

Gypsum is a wonderful absorbant of ammonia, and ammonia is the concentrated plant food, it will gather it and retain it for plant food better than any other available substance; for instance, every farmer has found strong smells emitted from pig-pens, stables, sewers, or closets. Some may not think this of much consequence, but the well informed know that this is in reality the strongest and most valuable manure they can procure, and the most intelligent use it. Lhis is done by the occasional sprinkling of yards, stables or cesspools with gypsum. No one can estimate the loss that is sustained by the escape of the ammonia; that we may prevent by the liberal use of plaster.

The use of plaster as a stimulant to the growth of clover is known by the majority, but the full use and advantages of this highly valuable material are not so well known by many as they should be. We will now introduce you to one of the principal plaster beds in Ontario, by giving you an illustration of the works of the Grand River Gypsum Co. These are situated in the County of Haldimand. In the foreground you see the vessels ready to transport the plaster from the mill. In this mill new and improved machinery is now employed, whereby the plaster is so finely pulverized as to lose that old gritty sensation that was always felt when handling the plaster; it is now reduced from a sandy or gritty to a fine flour, thus making it much more valuable. You see the sheds in which the rock is stored previous to its being ground, at the back of which you see a dark looking entrance. If you were to enter you would find it dark enough in this cavity; the men are at work nearly a quarter of a mile from the entrance and between 100 and 200 feet below the surface of the ground. The sound of the pick, the hammer, and the drill salute your ear, as preparations are being made to blast the rock.



GRAND RIVER GYPSUM WORKS, OF CAYUGA, ONT.

Some may prefer working in this cool place in the hot weather in summer, or in the cold weather in winter, but you and I would rather be preparing the soil or caring for the crops or stock that these subterraneous workers are aiding us to improve. The rock is run out of the plaster lands in little low cars, some of which you see in the illustration.

One name or a dozen may be forwarded at any time. Subscriptions can commence with any number of the ADVOCATE.

Any reliable person can act as agent for THE ADVOCATE. Good commistion given.

I like your paper much more year after year, for I think it improves with age, just as good cheese.

ISAAC S. CROSBY,
Marshfield, P. E. Island.

Travelling Agents.

The country is full of them. There are two kinds. Some are furnishing good information in regard to useful wares; many of these are well informed, gentlemanly and reliable persons. There are others that may put on a good appearance and talk very nicely, but their whole aim is to palm off some inferior, perhaps worthless, article, or to obtain a farmer's note, for something that he does not require. The former class deserves encouragement; the latter deserves rebuke. The difficulty with the farmer is often to know one from the other.

We require at the present time two good agents, to whom we will give steady employment, a good salary, and pay travelling expenses. We have had good agents, and invariably, after a few years, they have gained sufficient capital in cash and knowledge to start in different lines of business, in which each one has been successful, and they stand in their respective localities honored and prosperous. It is not every person that is adapted to fill the position. It requires one well informed on the business he undertakes, and who has a good address, and is able to convince those that he comes in contact with that he can supply the best of the kind, and that article, whatever it may be, will be of much more value to the farmer than the money he may pay for it.

The FARMER'S ADVOCATE is undoubtedly the best agricultural paper published in Canada. No reasonable person can truthfully deny this. Knowledge is power, and power represents wealth. Every farmer should be thoroughly posted in his own calling, and all that pertains to it. The FARMER'S ADVOCATE is entirely devoted to the interest of the farmer and his family. It has fearlessly advocated his interests for the past sixteen years. It has furnished the most useful information during that period in regard to the farm, dairy, orchard, seed, stock and all agricultural affairs. Many of the best writers on agriculture in Canada and the United States contribute to its columns. The proprietor is a practical farmer, and travels to each of the Provinces in quest of valuable information for its pages.

Some opponents of independent agriculture may argue that they obtain agricultural information from other publications. A good agent should be able to convince every reasonable farmer that every other publication purporting to furnish agricultural information furnishes such information for some other purpose than for the farmer's interest. Such publications invariably have some more influential party to serve; consequently the writings that may appear under the name of agriculture may be, and often are, intended to serve some other purpose. Every independent farmer should use his utmost endeavors to encourage an agricultural journal that is not and has not been devoted to any other interest than that of the farmer and his family. As an educator of the farmer and his family, it is undoubtedly the most valuable publication ever issued in Canada. That it is worth every year many times more than it costs can be testified to by thousands of the best farmers in Canada. No farmer can expend $1 to as good advantage. Neither the young nor old can obtain so much useful, entertaining and timely information is furnished by the ADVOCATE. We do not wish applications for these situations from old drummers who have been used to running through the country with drugs or "gimcracks." We want two good farmer's sons, whose parents have taken the paper and they have attentively read it for years. Young schoolmasters have made our best agents, and young men who have read and known the paper for years also make good agents. Every one of our readers may help us by trying to add one new subscriber. There is plenty of room for all. As we have every year improved our paper according as our subscription list has increased, you will, therefore, help yourselves by aiding us to improve the ADVOCATE. Just kindly use a little exertion, and try to send one new subscriber. You can do it if you try.

Farmers of Canada.

The FARMER'S ADVOCATE has for the past sixteen years fearlessly advocated your interests, and that in a more open, bold and fearless manner than any other journal has done; it has not been subservient to any locality, political party or organization; the greatest good to the greatest number is what it has labored for.

LIGHT, TRUTH AND JUSTICE

is what it has aimed to disseminate.

Much good has already been accomplished; thousands of the most enlightened and most enterprising farmers of Canada testify to this. Thousands say that it is the most useful publication in Canada. Have you ever taken it? If not, send 25 cents and take it for three months' trial, or $1 for one year.

Agriculture is like the sun—that is, necessary to the life of all. The FARMER'S ADVOCATE is the only journal published in Canada whose main aim and principle is the farmer's interest. Let agriculture stand first, politics second and sect third.

The ADVOCATE has every year been improved since its commencement, and still greater improvements are contemplated for the coming season.

Every farmer who desires information in regard to his calling should take the best publication devoted to his interest. Thousands of farmers say the FARMER'S ADVOCATE is the best.

I am very much pleased with the ADVOCATE; it is complete in all its various departments. Would not wish to be without it. I admire its independent and outspoken principles in all matters for the general good of its subscribers.

JAMES GOOD, Jacksonville, N. B.

English Letter No. 30.

[FROM OUR OWN CORRESPONDENT.]

Liverpool, Sept. 1.

Disaster to all, and ruin to many, is, in brief, our agricultural record of the past month. Up to the end of July there was every prospect of a good, if not a brilliant harvest, and English farmers generally, though scarcely hoping to retrieve past losses, were at least sanguine of holding their ground. But, alas! almost without intercession there has been rain, now a steady downpour and then a deluge, floods, and high winds ever since, over the whole of the British Islands, and the hope of winning any considerable portion of the crops in fair condition, has now almost wholly died out. The hay crop was very thin, but this will be compensated for to some extent by the abundance of the autumn pastures. Disease, owing to the incessant wet, is threatening the potato crop, which is abundant; and other root crops, owing to the ravages of the fly in early summer, cannot be heavy. The general condition of the British farmer therefore is worse than ever, and he may well despair. As samples of the general state of things I may quote the following instances: I met a farmer who is also a miller near Liverpool, two days ago. He told me that his grain had been cut now for some days, and he fears that it will soon sprout as the ears have been kept in a constant state of saturation. That morning looking out of his bedroom window, he was horrified to see several loads of wheat floating round the flooded mill stream. A letter I saw the other day says: "I am farming about 200 acres of land in Monmouthshire, but, what with the high rates and taxes, and now this frightful weather, I find I cannot make it pay, and must go." Another writer says, "I was farm bailiff for Lord ——, but am now farming on my own account; I have done so for the last three years at very great loss, in fact I am now getting quite tired of losing my capital and am determined to emigrate." Yet again, I heard that on account of this fifth successive disastrous season, no fewer than 40 families from one nobleman's estate are making arrangements for leaving for Manitoba in the ensuing spring, encouraged by the reports of one of their people who went out two years ago.

The Liverpool horse fair was held last Tuesday, and was a marked improvement on most of its predecessors, both in the number and quality of the animals submitted for sale. The show of heavy horses was good, and prices were well sustained. Mr. Scotson, who probably has the best of the heavy cart horse trade with the Liverpool merchants, refused 180 guineas ($945) for a pair of fair average animals, nothing special about them. The demand for heavy draughts in this country is increasing, and apparently the same state of things exist on your side of the Atlantic. The extension of the tramway system in Liverpool and other towns should also keep up the demand for animals of a lighter mould but great power.

As you have no doubt been informed by cable, the cattle trade is buoyant, and I understand that arrangements are being made for large shipments this fall. The rates of freight are fluctuating, and both dealers and steamship agents begin to regard $15 per head as a living freight for all parties concerned, and this will be about the general quotation, I expect, for stock next season.

The dead meat trade, notwithstanding the fair keeping weather, is flat, and it is stated that some of the beef exporting firms of the United States have made very serious losses this season, in one instance running as high as $100,000. Of course this makes our Yankee cousins very jealous of the advantages under which Canadian cattle enter Great Britain. One dead meat dealer in Liverpool is very spiteful towards Canadian cattle, and in his weekly report to a journal published here in the interests of the U. S. trade, has for a long time past seized every opportunity possible of saying nasty things. This week he says, "the show of plain beef would be Canadians, and very rough they were." It is to be noted that the sheep coming forward from Canada are improving in quality, though there is still much room for improvement. A very fine lot of wether sheep arrived recently from Prince Edward Island, and these fetched the top price in the market.

As a commentary on our deficient hay crop of this year, I may remark that Messrs. Cleeve, Torontonians, who are now established in business at Limerick, Ireland, have made arrangements for a large weekly supply of first-class Canadian hay, mixed timothy and clover, to be delivered in Glasgow and Liverpool. They appear to have every prospect of carrying on a remunerative business.

I understand that several noblemen and gentlemen in our inland counties have recently been forming herds of Polled Aberdeens. A number of the Suffolk polled cows, which are red in color, and have been vastly improved of late, have recently been exported to the Dominion and to the States. It will be interesting to watch their success in the showyard when brought into competition with their black-coated rivals of the north. Mr. Coleman, the well known mustard manufacturer, of Norwich, has probably done more than any one else to improve the red polled cattle of Suffolk and Norfolk, and I understand that he intends sending specimens to America next year to compete with other breeds for early maturity and leanness of meat.

Mr. H. D. Troop, of St. John, N. B., an extensive ship owner, is in this country arranging for the purchase of steamers to form a line from St. John to Liverpool, mainly for the development of the dead meat and produce trade of that Province.

Mr. A. B. Sheridan, carpet manufacturer, also of St. John, is here engaging hands for a large new carpet manufactory. This should stimulate the local production of wool.

Notes from Devonshire.

[From an Occasional Correspondent.]

Exeter, Eng., Aug. 31st.

Harvest operations in this corner of England have been sadly retarded during the past two or three weeks by rain and storms, and such an unfavorable state of affairs naturally affords some ground for anxiety on the part of the farmers. Whatever may be the result further up the country, it is certainly rather early to be shrieking in these parts, as some alarmists have been doing, about the utter failure of the harvest, because such a depth of misfortune as that has not yet been reached; indeed, with the change for the better in the weather that has set in since last Saturday, there seems every probability that a large proportion of the unsaved crops will be brought in in tolerably good condition.

With regard to the immediate neighborhood of this city, it is pleasing to note that the farmers' prospects are anything but gloomy. The accounts received from agriculturists living within a radius of 20 miles of Exeter tend to show that for the most part the wheat crop has been got in, and put away in better condition than might have been expected. In some few places, where the crops are late, however, things were discouraging before the last few days of sunshine. Samples of new wheat were shown on the Exeter Corn Exchange last Friday, some of which were acknowledged to be very good indeed, but farmers asked more than millers seemed inclined to give, the quotations varying from 6s to 7s per bushel. The Devonshire barley crop is everywhere reported in excellent condition, and far superior to the wheat. With few exceptions, the rain does not seem to have injured it to any great extent, and all that is wanted is a continuance of the present fine weather to save it well. The root crops of Devon are not so good as last year. Turnips are reported to be rather thin, and in some quarters damaged by the fly, but mangold looks more promising. Potatoes, too, are said to yield well.

Speaking generally of grain, be the outlook in this quarter cheering or cheerless, the corn merchants have considered the present an opportune time for raising the price of wheat, and the baker in town has advanced the price of bread. In some measure purchases by the French and American speculators account for this, and it is not wholly due to the operation of the natural laws of supply and demand. Still it would hardly be safe, be the weather what it may, to reckon on prices being easier for some time.

One of the oldest herds of cattle in this country —the famous Cadbury herd of Mr. George Turner —will be brought to the hammer at Tiverton next Saturday. Mr. Turner, who has won over 600 prizes with his pure bred Devon cattle and Leicester sheep, having now reached the advanced age of 88, has decided to sell the whole of his stock by auction. Connoisseurs have been loud in their praises of the Devon cattle comprised in this stock, which are said to be the most ancient pure-bred cattle in England. Evidence is adduced of their purity for two centuries, and they have always been remarkable for the amount of beef they produce in comparison with waste. Such cattle, in fact, as the housewife, above all others, would admire. A great merit in them, too, for breeding purposes is said to be that they thrive in any climate, having been tried in many parts of the continent, and in both North and South America. They are not of large size, but I am told it has been proved in this country that you can keep and fatten three pure Devons on the same quantity and at the same expense as two Shorthorns, and butchers will give one penny per lb. more for them. Mr. Turner's flock of sheep was formed more than 60 years ago.

Several of the leading fairs of Devonshire have been held within the past two weeks, and taking a survey of the whole the supply of stock seemed short as compared with former years. Most of the cattle offered appeared to be what is known here as "keeping sorts," and these changed hands at from £13 to £15 apiece. At Crediton Fair useful horses realized from 30 to 35 guineas each. The average for sheep was about £6 10s., but at one or two fairs good long wool rams fetched as high as 9 guineas each.

DEVONIA.

From the United States.

WASHINGTON, D. C.,
Sept. 16th, 1881.

The long continued drought in the United States during August has greatly injured the unmatured crops. Corn, cotton, tobacco and potatoes, in all the sections where these are cultivated, bear evidence of its withering breath. The reports received from all parts of the country at the Department of Agriculture, and just issued, show the general average condition of the corn crop up to the first part of September to be 17 per cent. below that of July and 31 per cent. lower than a year ago at the same date.

The Veterinary Surgeon of the Department of Agriculture, who was sent to England in June last by the Commissioner of Agriculture for the U. S. to investigate, in connection with the Privy Council of Great Britain, the question of Pleuro-pneumonia among American cattle landed in that country, has returned, and reports that upon his arrival in London, at his solicitation a meeting of the Privy Council was held, the president, Earl Spencer, presiding; and that the result of the ex-

amination and discussion of the subject which then took place has greatly tended to remove from the minds of the English authorities the strong impression they had formerly entertained as to the existence of contagious Pleuro-pneumonia among cattle in the western portion of the United States, and impressed upon them the facts well known by the authorities of this country, that this disease at this time only exists among a small per centage of the cattle kept within a narrow strip of country extending along the eastern sea-board from the vicinity of New York City southward. A full and extended report of his action while in Great Britain will soon be published.

Last season the Department of Agriculture sent out a few samples of Nepane or Beardless Barley for experiment in its cultivation in different sections of the country. From Dakota Territory they report that it is the best barley they ever saw. From Nebraska they say it is the best barley raised, stiff straw and rich berry. From New Hampshire the report is: "It promises to excel anything known in this country in quality and quantity." From Washington Territory comes the report: "Weighs 50 pounds to the bushel; the finest variety of barley we ever saw." The only disparaging account is from Sheybogan Co., Wisconsin, where they say it blighted badly. All these, it will be observed, are from about the same latitude as Ontario.

There are also a few reports on experiments with a new cabbage called "The Carolina Buncombe." This variety originated in Buncombe County, North Carolina, and was thought to be the best variety known for a warm climate; but recent experiments in Michigan, Minnesota and Nebraska show that it does quite as well in a northern latitude. From Minnesota they say that the heads are one and a half times larger than other varieties under the same conditions, and solid, crisp and sweet.

In digging among the musty records of our Dept. of Agriculture one often finds curious and instructive reports from practical agriculturists and farmers of this and other countries, many of which are highly instructive and very useful, but have never been utilized by the farmers of this country. Here is one from France:

"In France beet leaves are very largely used as food for cattle. A difficulty has hitherto existed in reference to this application on account of the readiness with which the leaves become decomposed and the impossibility of keeping them fresh for any considerable length of time. This has now been overcome by M. Mehay, who subjects the leaves to the action of diluted hydrochloric acid, by means of which, after undergoing a special treatment, they can be stacked away in large quantities and kept indefinitely for future use. The application of the acid employed, so far from injuring these leaves as food, seems to impart to them special alimentary peculiarities, visible in the production of an *improved quality of butter*. Several veterinary surgeons have certified, as the result of a critical examination of the experiments, that the food gave rise to no disturbance of the digestive system, and that in every respect the new preparation was to be considered a success."

Hon. Geo. B. Loring, the new Commissioner of Agriculture for the United States, has engagements to deliver addresses this autumn before seventeen State and County Fairs, and is at present absent on that mission. These addresses, when collected and printed, will doubtless furnish interesting and instructive reading to the farmer and planter.

LOTUS.

We took both the American Agriculturist and Country Gentleman, but gave them up as the ADVOCATE was better, besides being Canadian.

G. F. P., Fergus, Ont.

I could not think of giving up your book, for it gives the best of information on every subject, and as I am a woman farmer, it is of intrinsic value.

MARY HALL.

Comparisons of the Exhibitions.

To arrive at the comparative merits of the Toronto and London Exhibitions, on the last day we took a walk among the exhibitors of implements and asked representatives of each firm we met the two following questions:

1. Where have you found most farmers examining your implements, in Toronto or in London?

2. Where have you made most sales?

The following are the replies and names of firms:

MASSON, of Oshawa—More in London and many more sales.

COCKSHUTT, Brantford—More farmers in London.

MANN & Co., Brockville—A great many more in London.

BELL & SON, St. George—Much rather exhibit in London; a better lot of interested examiners.

FLEURY, Aurora—More examined his goods in Toronto, and made more sales there.

MAXWELL, Paris—I exhibited more implements in Toronto, but have made three times as many sales in London.

THOMPSON & WILLIAMS, Stratford—London is the place; I have sold clean out.

THE GLOBE WORKS, London—I have had about double the number of farmers examining my implements here, and taken more orders.

MASSEY M'F'G Co., Toronto—Could have done much more business in London, if he had as much help as they had in Toronto.

WATSON, Ayr—Many more farmers in London, and many more sales are made.

GURNEY, RUSSELL & Co., Dundas—London is the best place to exhibit.

NOXON BROS. M'F'G Co., Ingersoll—There have been many more farmers examining implements here than in Toronto.

PATTERSON BROS., Richmond Hill—More farmers examined my goods in Toronto.

GOWDY, Guelph—This is a better place to exhibit than Toronto.

HARRIS, Brantford—The two places are about equal.

WISNER, Brantford—London is the best place both for attendance and sales.

HAGGERT, Brampton—London is the best spot.

LEONARD & SONS, London—London.

MCPHERSON, GLASGOW & Co., Fingal and Clinton—Sales have been about even, but London is the best place to exhibit.

WATEROUS, Brantford—I sold more in Toronto, but it cost me three times as much to exhibit there.

STEVENS, TURNER & BURNS, London—A better crowd here and many more sales.

JOHN ELLIOTT & SONS, London—London is the best place; I made a contract for $120,000 worth of implements here.

JOHN ABEL, Woodbridge—The attendance is good here, but I made more sales in Toronto.

We took these replies in a short time, and did not select parties who to ask, but some parties were too busy and we could not see them, or they were not there. Many manufacturers exhibited at London who did not exhibit at Toronto; of course we did not record their opinions. We only asked three of the stockmen, all of whom said that London was the best place to exhibit and for sales.

Wheat Moth.

In several Canadian papers we have noticed articles calling the attention of farmers to the fact that an insect known as the wheat moth is doing serious damage in the United States, especially in the Southern States. Some fear that it may be introduced into this country, and the advice is given to farmers where the insect is found to remove all your grain, and have it ground up or otherwise disposed of; then thoroughly fumigate the granary with sulphur, or sprinkle with carbolic acid diluted with water. Do not put any grain in the bins this season, but store it elsewhere, because every moth must either be destroyed by poisons or starved out before the same building will be a safe depository for any kind of grain again. Furthermore, your neighbors must do the same, or the moths will come from their barns to yours. Until vigorous measures are adopted, the spread and ravages of such pests cannot be prevented.

At the annual meeting of the Entomological Society held in this city, Sept. 27, Mr. William Saunders, the President, in his address, said:

While Entomology may be said to deal with small things, the abundance or scarcity of the tiny creatures called insects involves great issues. The truth of this statement has been illustrated forcibly in several directions this year, notably in the case of the Angoumois wheat moth which has played sad havoc among the stores of corn and wheat in granaries in the South-western States. It is said to have destroyed many thousand bushels of grain, and so widespread has the evil become that it is the opinion of the New York Sun that if the Government or the farmers of America could at this time arrest the progress of this insect by expending five millions of dollars it would be the best investment ever made by the people.

The Angoumois grain moth, *Butalis cerealella Oliv*, is a small moth the larva of which is every destructive to all sorts of grain. The female lays her eggs on the grain sometimes in the field before it is fully ripened, but more frequently in the bins of the granary. The eggs are of a bright, orange red color, and in a few days there issue from them very minute whitish colored worms scarcely thicker than a hair, which bore into the grain and occupy it, one larva in each kernel. Each kernel contains sufficient food to support one occupant until it reaches maturity, when it changes to a chrysalis within the grain, which, although hollowed and almost entirely consumed within, appears outwardly sound and plump. On pressing between the fingers the grain is found to be soft and yielding, and when dropped into water it floats on the surface.

When the larva is full grown it spins a white silken cocoon, which occupies one end of the cavity within the grain, the other end being filled with the castings of the worm. The moth makes its escape through a small round hole in the side of the grain, which the larva cuts with its jaws before spinning its cocoon. When preparing this orific for the escape of the future moth the larva is careful not to cut entirely through, but leaves a thin tissue-like skin unbroken, which the moth finally ruptures when it makes its escape. The body of the moth is about one-third of an inch long, and its wings when spread measure about two-thirds of an inch across, the fore wings are of a plain brownish buff color, with a satin like lustre. The hind wings above and below, as also the under side of the fore wings, are blackish grey.

This insect is a native of the warmer parts of Europe, and has long been very destructive in France. It was introduced into the southern portion of the United States more than 100 years ago, where it has become fully naturalized. It is often brought into New York in cargoes of grain, but the climate of the Northern United States and Canada appears to be too cold to permit it to thrive amongst us, or to permanently establish itself. It has never yet, to my knowledge, been found within the limits of our Province.

Cattle Farming on the River Plate, South America.

"Few can form an idea of the great increase in cattle breeding on the River Plate during the last two years," says the Buenos Ayres Standard. "Estancias are silently spreading out on all sides, especially in the South. The prices at present paid for cattle are unprecedented, and many wonder at their acceptance, leaving out of account that cattle are cheap at $300 or even $400 mlc. when they can stock camps at $75,000 mlc per league. As late as 1878 breeding was in its infancy, and only in the hands of a few who could risk and afford to lose several thousand head of cattle by Indian depredations and epidemics arising from overstocked camps. At that period, nevertheless, the business yielded great profits, but it was mainly in the hands of wealthy capitalists. The final disappearance of the Indian allowed small capitalists to enter the field, and we witness the first great stride towards development and improvement. The increase in the business during 1880 has been still more important. The following figures will easily corroborate our remarks on the value of prize stock sold during the last five years: 1876, $1,253,920 mlc; 1877, $3,668,903 mlc; 1878, 88,267,334 mlc; 1879, $10,517,580 mlc; 1880 $18,605,857 mlc. The increase of 1880 is superior to that of every other previous year, in spite of revolution and consequences. We may look to still more important improvement at the end of 1881."

Poultry.

Poultry House.

To the readers of the ADVOCATE we present in this issue a cut of a poultry house—probably one of the very best in the country. Under the gables are the sheds, or what are made open sheds by the opening of the windows, which are seen and represented as being opened in the cut, while the windows in the laying room are now represented by wire netting. The building is 100 feet long, and 20 feet wide, through the entire length of which is a hall-way 3½ feet wide. As will be seen by our ground plan, the building is cut up into 12 rooms and 6 sheds for fowls, and an incubator room 8 x 16, in which is now in operation an incubator of 360 eggs capacity.

The interior finish of the house is of hard pine for the floors and hard wood for the studding or close partitions, with plastered ceilings.

The upper panels of all the doors are heavy wire netting, which enables one to inspect the fowls from the hall, and doors opening on the hall enable one to collect all the eggs from the nest boxes, No. 2; while in the center chamber will be seen the grain bins, No. 4; where also the stove, a base-burner, keeps off all dampness, yet does not over-heat the house; also sink and water works, etc. From the side ventilators (No. 5), constructed 5 x 10 inches covered by net-work to exclude all rodents, comes the air pure from the outside and escapes by way of the three cupola ventilators in the roof, so the house is free from all the disagreeable scent we usually meet with in fowl houses, many of which we should call foul houses.

The dust boxes (No. 1) are special provisions in that line, while all the floors are covered to the depth of three inches with clean, sandy gravel.

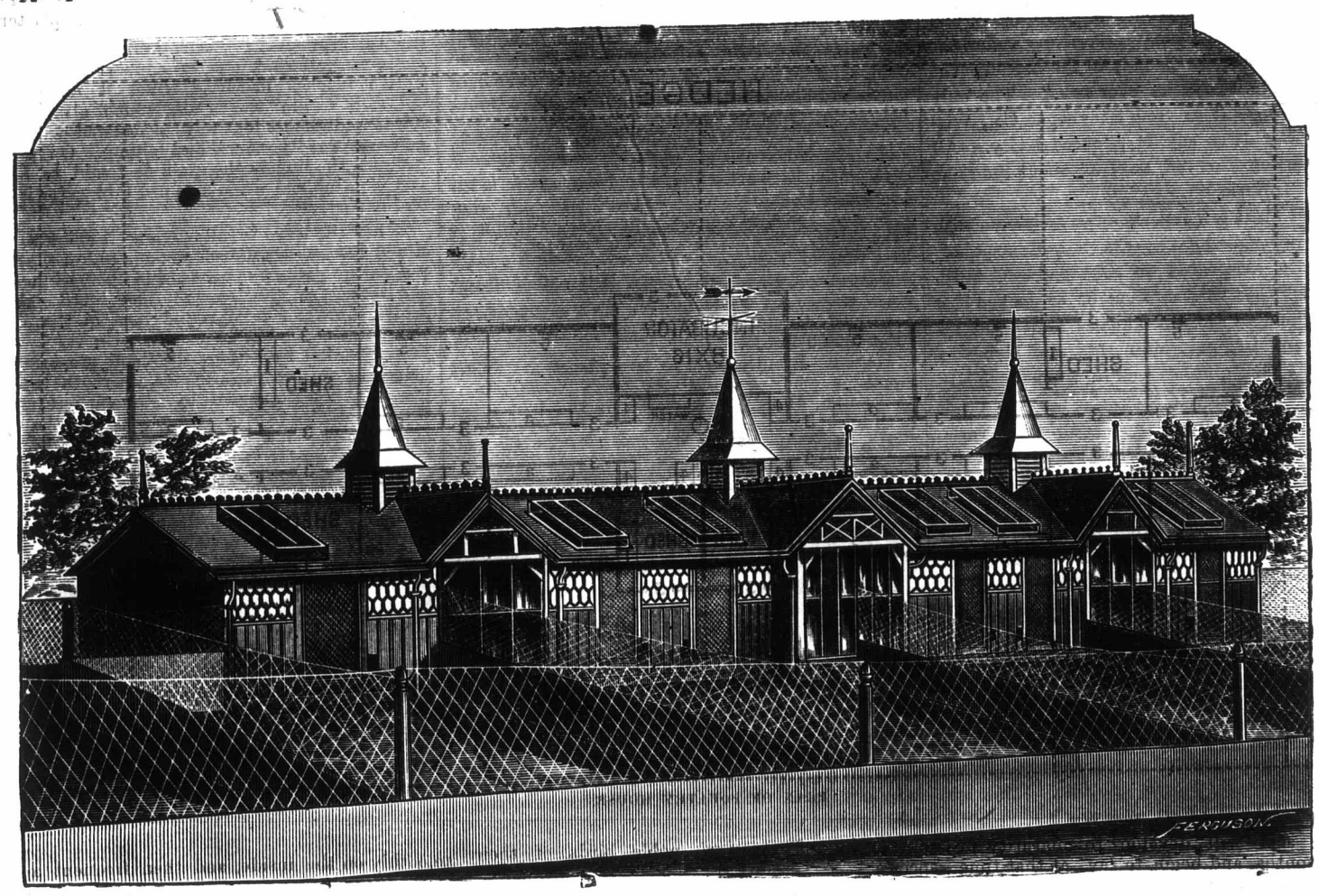
It will be seen that the plan is a good one, and while this one is expensive, yet the same advantage could be derived from one built more cheaply. Any poulterer could afford the expenditure, and one such house would be of great convenience, while if the centre were carried up another story in which to construct room for artificial culture of hicks till three or four weeks old in early spring, the convenience would be very much enhanced.

This building is supplied with aqueduct water, which is so arranged as to be kept continually running by means of a faucet in each room, over a quarter globe iron basin attached to the side of partition with an escape valve to prevent the basin overflowing. This furnishes pure water all the time, the health of the fowls being very much enhanced thereby.—Abridged from Poultry Monthly.

Amateurs and Different Breeds.

BY R. A. BROWN, CHERRY GROVE, ONT.

We are in receipt of so many inquiries from farmers and tradesmen, all asking similar questions, that I deem it necessary to repeat what has already been brought before the public in the FARMER'S ADVOCATE time and again; but I would like to ask are those all new subscribers, or do all read and remember what has been stated so frequently in these columns. Whichever is the cause, I hope for the future our readers will be a little more attentive.



POULTRY HOUSE.

In the first place any person who wishes to succeed in rearing poultry must be willing to give more than a passing attention to it. They must acquire a taste for the business, also study the different kinds of poultry.

To make a good poulterer one must have a natural desire to be amongst poultry and have a real liking for them; if the inclination is but half that way it can be stimulated by visiting a good yard often and chatting about them, or by procuring some books on poultry and reading about them, attending the shows, seeing the different varieties, and comparing them together.

If there is no desire to be amongst poultry, "and even more," a dislike for them, but a desire to go into the business simply because there is money in it—to such we would say, better try something else, for there would be none for you; only disappointment and vexation, besides loss of time and money.

If you have a real taste or fancy for poultry, select the breed or variety you wish to keep. I believe that is a very difficult thing to do. Probably after visiting Mr. A's yard and seeing 20 or 30 fine Light Brahmas together on a clean grass run, their plumage contrasting so nicely with the grass, one is apt to think they never saw a nicer sight, which in reality is good to behold. On seeing Mr. B's Spanish grouped together, either on the porch or in the yard, and the rich rewards gathered from them—or a yard of well fed Leghorns with their stately combs and pendulous wattles, neat white earlobes and sprightly strut; or you may have seen Mr. C's lordly Langshans, heard their powerful crow, and dazzled by their glittering feather or completely taken by their immense size; such sights as those may have come up before the young farmer or tradesman, and he is considering which of those to admire the most, or to invest his bottom dollar in.

Again I would wish to say that you must be willing to sacrifice extra time and a little money to have good comfortable quarters and good feed and pure water to drink, and supply their wants with the greatest regularity; keep their quarters neat and clean, see that their droppings do not remain in their roosting room for weeks, or months perhaps, but regularly every week, or better, every day remove them to the manure or compost heap. If a little dry road dust, plaster, sawdust or chaff be sprinkled around the floor and beneath the perches, it will absorb nearly all the smell and make it easy to clean thereafter.

As for varieties and breeds, some do well enclosed, some do moderately well, some require a run or flight once or twice a week, some will not do at all if enclosed, and will not pay for their keep unless they get an outside run every day, and wide range at that. We cannot describe half in this article, but will resume the subject again in the future.

There are four kinds of poultry that we include as farm poultry, viz.: Turkeys, Hens, Geese and Ducks. The latter two varieties are termed water fowl, the two former land fowl. In each of these varieties there are many different breeds, and in each of those breeds some one sees every good possible perfected, and all the rest as being

but nominal compared to the one they are breeding. For this time we will touch upon the Hens, and try and give an unbiassed opinion upon them There are two classes of those fowl, or rather they are divided into two divisions, termed sitters and non-sitters. All the large breeds are enrolled amongst the sitters, while the smaller birds are noted for their good laying qualities and have not much of a desire to sit or incubate their own eggs.

Among the large breeds to-day, the Langshan is the latest variety, and is claimed by all those who have bred them to be the best of all the Asiatic class. In plumage they are black with a glossy appearance on every feather. The cock is very leggy, often standing two feet in height, arrives at a good weight, has been known to turn the beam at 16 lbs.; comb, face and earlobe are a deep red down the neck beneath the jaw, the flesh is red like that of the turkey cock. The legs and outside toe are feathered, sometimes very full, sometimes very little; the wings are very small and not sufficient to carry him much of a distance while on the wing; the tail is also small, which makes the bird appear to have an unfinished appearance amongst small breeds. He is very docile and fattens rapidly, and is said to be an excellent table fowl. The hen (like the cock) is a raven black with feathery feet, but not so long of leg according to sex, will develop to maturity in about nine months, and begin to lay at that time if properly handled up to then.

She is a good layer of large rich eggs, of about 7 to the pound, and often 6 will make 16 oz.; but they are sometimes very long in hatching. I have known them to remain under the hen for 40 days, and then to bring out a healthy, well developed chick, which when first making its appearance from the shell is sometimes the shade of a canary, and often with light colored bottom and wing feathers. The hen will desire to sit when warm weather sets in, but she is not so determined as most other Asiatic breeds, being easily broken off.

(To be Continued.)

The excrements of sick birds are the principal means of spreading the cholera and the first, step in stamping out the disease is, consequently, to destroy all which are voided yellow, urates and the bowel ejaculations, for the latter are frequently of a yellow color in health; but a little observation will preclude any mistake of this kind. The killing should not be by any method which allows the escape of blood, as this fluid is even more virulent then the excrement; wringing the neck is a quick and easy method of destroying the life. Once killed the bodies are to be taken beyond the limits of the poultry run and deeply buried.

Poultry at the Provincial Exhibition.

We have to record our thanks to the directors and managers of this institution for their generosity in giving this branch of farm industry so much attention this year. The old Machinery Hall has been converted into a show room for poultry. It is large and was neatly arranged; all the coops were filled with excellent specimens of the various breeds. We think there have been more fowls exhibited at some previous fairs in the city, but seldom have we seen a better show. This is the worst time in the year for showing poultry, just when the birds are "moulting" (or casting their feathers) and we are sorry to say that there are so many farmers that pay so little attention to this stock that they do not understand the fact, as they are often heard to remark when passing by some cages where birds are in the moult: "Did you ever see such specimens, or such hens as those; I could have picked up better ones in the first barn yard I come to." But for all this we presume that the farmers of Ontario would do well to breed such *specimens*.

On entering the hall our attention was attracted by two large white-headed eagles, perched up in a box of their own, which sat upon the top of the show coops. They were noble birds of their species.

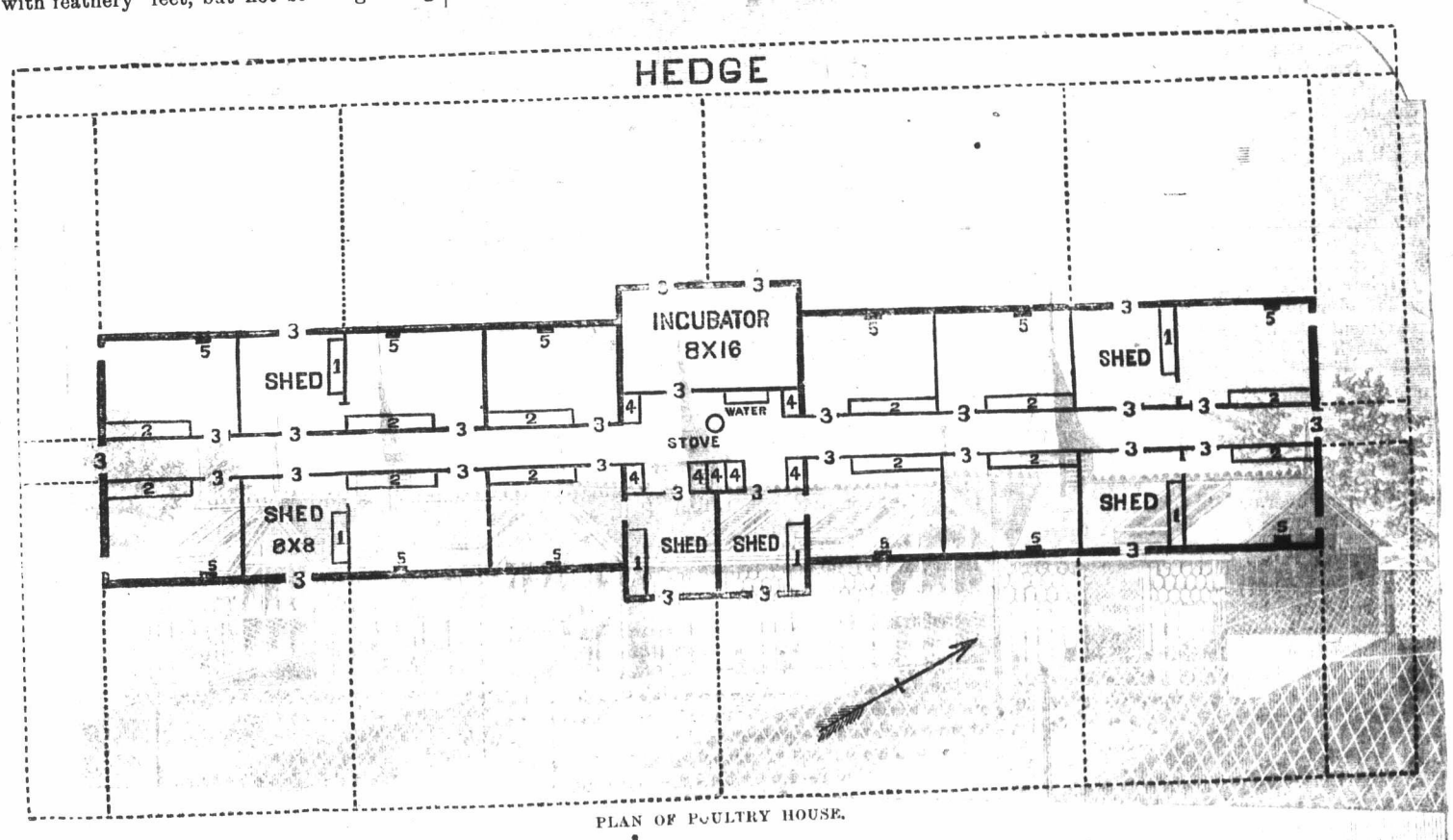
There were very few new varieties on exhibit this year; however, at the right side in the centre row of coops were arranged six pair of Langshans, and very fine ones they were. In the Light Brahma class we were very much pleased, especially with the hen in the first prize coop. We believe that it would be a hard matter to beat the same bird on the continent. The Cochins were out in full force, but from comparing coops it is easily seen that all breeders have not yet arrived at a conclusion as to style, shape, and color. We noticed but one pair of Houdans, and we thought they were worthy of their stand. Dorkins were only moderate in quality or number. Plymouth Rocks very few and not good. Hamburgs were plentiful, and there were some beauties amongst the number. Polish were good in some coops others only moderate. Spanish, few but good. Leghorns, very well represented; we saw one poor specimen of the black variety. Bantams were more numerous than usual. Very few Turkeys were shown; we think that they were not as good as at the Western last year. Geese plentiful and *par-excellence*. Ducks were well represented as to varieties and condition. There was a very small show of Pigeons, but those shown were good. Rabbits were few, but fat and slick. We noticed one pair of Angoras; they were young, and promised to well repay their keeper at no distant day with a good fleece of wool.

Taken in all, the poultry exhibit this year was a success, and should the directors of the Western Fair for 1882 favor the poultry with the same building and erect a few more cages, they will doubtless have a large and good show.

Vermin-Proof Poultry Houses.

Many are the ways and means devised to circumvent these pests of the poultryman; some being effectual, provided they are persisted in, while others utterly fail to accomplish the much desired object. When these pests, these insect enemies of poultry, once gain possession of house and fowls alike, it is a work of time and patience to dislodge them entirely, and far more trouble than to use measures at first to prevent them from coming, for prevention is far bettter and far cheaper than cure in this case.

When the breeder can afford it, it is a good plan to have the poultry house lathed and plastered



PLAN OF POULTRY HOUSE.

smoothly on the inside, and then frequent applications of whitewash will serve generally to keep them from coming to stay, for the smooth surface of the walls offers no crevices for their lodgment. Such a house, too, is warm and comfortable in winter and cool in summer.

When the expense deters breeders from adopting the above plan, it is a good and cheap substitute to line the entire side of the house with tarred paper, which is manufactured especially for building purposes, and can be had and put on cheaply. This should be treated to frequent coatings of tar, which is very distasteful to vermin and very healthful for the fowls. As far as preventing the appearance of lice and mites, this tarred paper or "felting" is ahead of any thing else we know of at present, while it has the advantage of being cheap and readily applied by any one. It gives a smooth finish to the interior of the houses, though many object to the dark color as well as to the smell of the tar. Be that as it may, its great usefulness should overcome such trifling objections to those of a practical turn of mind. We would here remark that old and foul nests and nesting boxes are regular hotbeds of lice and vermin, and no careful breeder will permit such evidences of slothfulness and neglect to find room about his premises, but will condemn them to the flames.—[Poultry Monthly.

Fattening Chickens for Market.

Large numbers of chickens are reared and sold in all town and city markets throughout the country, but it is surprising to see how many are very inferior in quality and size. It is the exception, not the rule, to be able to buy a large, tender, well-fattened chicken. Yet there is an ever increasing demand for such. Chickens always sell well, and an improvement in quality would greatly improve the demand. Fowls, like everything else, will not pay unless care is exercised in their management; but if well attended they are very profitable. A good breed should be secured. Mr. Wrigh, in his excellent work on the subject, says at the age of four months chickens — if of a large breed—should be grown enough for the table, and if they have been well fed and come of good stock, they will be. To prepare for market the birds should be penned up for a fortnight or three weeks, which ought to add at least two pounds to their weight. For a limited number of chickens it will be sufficient to provide a number of simply constructed pens, each of which should measure 9 x 18 inches, by 18 inches in height. The bottom should be made of narrow slats placed about two inches apart; these slats should have rounded tops. The partitions, tops and back must be of boards and should be so made that the birds cannot see each other. These pens ought to be placed about two inches from the ground, in a partially darkened place, free from draught. Fresh, dry earth should be placed each day beneath the coops to catch the droppings, which should be cleaned out daily. Cleanliness must be the rule, or the best results will not be had. As soon as an occupant of a pen is removed for market, its pen should be whitewashed all over the inside and allowed to get quite dry before another is introduced. This will prevent trouble from insect vermin; but should trouble be experienced from them, a little powdered sulphur rubbed well into the roots of the feathers will give immediate relief. In front of each apartment should be a ledge three inches wide, on which to place the food and water tins. The latter must be replenished once and the former three times each day. Care should be taken to keep both clean and sweet. After each meal the pens must be darkened for *half* the time until the next by hanging a cloth over the front. This cloth is best tacked along the top, when it can be conveniently hung over or folded back as required. Two hours of darkness ensures quite a thorough digestion, but it is *not desirable*, as most do, to keep the birds thus the whole time till the next meal. The chickens will have a better appetite by the plan we recommend.

The best food for fattening is buckwheat meal, when it can be obtained. It is to the use of this grain the French owe in a great measure the splendid fowls they market. If it cannot be procured, the best substitute is an equal mixture of barley and corn meal. Each bird should have as much as it will eat at a time, but no food left to become sour. A little barley may, however, be scattered along the ledge. The meal may be mixed with skim milk if convenient. A little chopped green food should be fed daily to keep their bowels in proper order. In three weeks the process should be completed. Fat only is added by penning a chicken; the lean flesh must be made before, and unless it has attained the proper standard in this respect, it is useless to attempt to fatten it, hence the importance of high feeding from the time of hatching. The secret of rearing chickens profitably is to get them ready for the table at the earliest possible period, and not to let them live a single day after. Every such day is a loss, as they cannot be kept fat. Once up to the mark, if not killed, they get feverish and begin to waste away. If extra weight and fat are wanted, the birds may be *crammed* during the *last ten days* of the fattening period, but not before. The meal is to be rolled up the thickness of a finger, then cut into pieces an inch and a half long; each piece must be dipped in water before it is put in the bird's throat, when there will be no difficulty in swallowing. For home use nothing is equal to those never fattened at all. If well fed there will be plenty of good meat. In any case let the chicken be fasted twelve hours before it is killed.

Paper pulp made from sawdust is to be sent to England from Welland, Ont. It will be tried at an English factory, and the paper sold as an experiment. If successful, several capitalists will start a factory at that place.

Fattening Turkeys on Time.

One who has had considerable experience with poultry writes:

We never had any luck trying to fatten turkeys until this season. We used to give them all the corn they would eat, putting it out on the ground in a pile where they could help themselves. The trouble was they wouldn't eat, but would go around day after day, picking frost-bitten grass, and walk around the heaps of corn without touching it, as though they had a suspicion that Thanksgiving was coming. We thought we would try if possible to get the last lot of turkeys fat, and so we inquired of everybody, and at last found a farmer who fattened about one hundred annually. His practice was to shut them up about two weeks before he wanted to market them, and to feed them cornmeal mixed with water. We confined ours in a box stall, and gave them a fresh supply of wetted cornmeal daily, with clean water for drink. At the end of two weeks they were plump and fat, but not being ready to dispose of them they were kept a week longer, when one of them was found dead. We were satisfied that there was no disease among them, and that this one had died from excessive fatness, or paralysis which had been caused by its plethoric condition. We had the turkeys immediately killed, and found that they were, if anything, too fat. Hereafter we expect to fit our turkeys for killing without failure, but we are satisfied that they should not be confined longer than two weeks. Turkeys will not bear confinement for any length of time, as it is their nature to roam around and take a great deal of exercise, and when deprived of it they will not do well. I recollect, when a boy, shutting up a large gobbler in a hogshead into which a little light came at the bottom. Through this opening corn and water were given. This turkey became very fat. Some people fatten them by the cramming process, that is, by opening their beaks and forcing pellets of cornmeal down the throat several times a day until they are gorged. In this way they can be fatted in a few days. Of course this system is impracticable for a large number, and is an unnatural way to put them in good condition.

Sheep Farmers.—The following from the Government Gazette published in New Zealand, gives some idea of the extensive farming of that far distant country. Sir Dillon Bell has 82,000 sheep. Wm. Robinson 68,000, Mr. McLean 50,000, Mr. Ketchum 80,000, Clifford & Wild 80,000, Geo. Henry Moore, 90,000; Dalzell & Co., 208,000, and Robert Campbell 386,000.

Stumps.—The Scientific American advances the following important information to those who desire to get rid of stumps on their farm: "In the autumn or early winter bore a hole one or two inches in diameter, according to the girth of the stump, and about eighteen inches deep. Put into it one or two ounces of saltpetre, fill the hole with water and plug it close. In the ensuing spring take out the plug and pour in about a gill of kerosene oil and ignite it. The stump will smoulder away without blazing to the very extremity of the roots, leaving nothing but ashes."

How an old grafter took *care of scions:* He cut them late in fall, on a fair day, after the wood had fully matured, but was not frozen; tied them in bundles of convenient size, labelled them, dipped the cut ends into hot wax and packed in sawdust in an air-tight box, made so by rubbing wax in the corners of it, and having the cover extend half an inch over the top of the box so as to rub the wax under the edge of it, so as to make it perfectly air-tight, then set the box in the cellar. Scions kept in this way will neither throw off nor absorb moisture, but keep through the season of grafting just in the condition they were in when cut.

As illustrating the difference in values between scrub and thorough bred stock, a Washington county stockman tells us the following story: A neighbor of his sold three three-year-old Short-horn steers which he had grained the preceding winter, and grazed off last summer, without feed of any kind in the warm months, obtaining for the three $280. Another neighbor had three scrub steers of the same age, which received the additional attention of meal feeding through the summer, and the price for which they sold was $140. The two lots were purchased by the same man, who cheerfully took the better stock at the full price named, while he strongly objected to paying one-half as much for the others. Comment is unnecessary.

Garden and Orchard.

Report of Small Fruits for 1881.

BY B. GOTT.

I very much regret that my time for this work is too limited to give even a respectable representation to a tithe of the new fruits, both foreign and seedling, that have been lately tested in our large and fruitful country. I shall therefore merely confine myself at pesent to the notice of those fruits of most promising utility, that more immediately come under my direct observation, and of their behavior with us in the present season. I may be excused in adding that small fruit culture, by which is meant the early summer fruits, is becoming more and more deeply interesting and engrossing to a still greater number of our industrious people. Owing to their indefatigable efforts in this direction, and the fine, well adapted locations and soils of our country, this praiseworthy industry is rapidly spreading amongst us on every side. Some growers are reaping, or rather picking, golden harvests in this promising field. There is little doubt in this connection that much of this flattering condition of things among us is very largely due to the well disseminated knowledge of the fruit of the Fruit Growers' Association of Ontario; their efforts in this respect are laudable, and command the respect of all the well informed throughout the country. May this good influence very largely increase in every country. As the most popular and acceptable, not to forget the most *profitable* of all the small fruits of this climate, I shall beg first to introduce to your notice the Strawberries, not only because you first request them, but also because the public are most anxiously concerned about them, and at the present time anything relating to this savory fruit is most acceptable. I may be excused in omitting a notice of Cranberries, as the culture of these has not so much as been attempted in our country, although we have not very far from our homes very fruitful natural plantations of Cranberries, from which have been gathered large quantities of very fine fruit. Next after my notice of Strawberries, I shall follow that of Raspberries and Blackberries as being closely related in interest on the list of small fruits in this country. There may follow brief notices of Gooseberries and Currants, as of some considerable interest to our people and also in our markets.

STRAWBERRIES

May be mentioned in the following order as being those of the greatest importance: Crescent Seedling, Cumberland, Triumph, Windsor Chief, Sharpless, Captain Jack, Duncan, Glendale, Arnold's Maggie and Bright Ida, Marvin, Col. Cheney and New Dominion. These are a dozen good varieties, and were I not afraid of provoking your smiles, I should like to have added to this list Wilson's Albany and Charles Downing as still the leading and most profitable varieties.

Crescent Seedling is undoubtedly the coming market and family strawberry, having characteristics to fit it for extended and general cultivation. It is hardy in plant, large and uniform in fruit, and of fine flavor and bright tempting color, and possessed of considerable solidity for transportation. It takes well in the market.

Cumberland Triumph is also a very promising sort, in many points resembling Crescent, but by some thought to be far finer flavor. It is characterized by great productiveness and uniformity of berry. It well deserves a place.

Windsor Chief is a new, early and fine fruit, of large size, good color, and fine flavor, but unfortunately too soft for distant shipping.

Sharpless is a very highly puffed variety, more we think to make money than to promote the interests of fruit culture. It has not fulfilled the promise in our experience, though we believe in some localities very satisfactory. With the exceptions of its large size and solidity of berry, it has no points to fit it for general favoritism or to recommend it to the public as either a profitable family or market sort.

Captain Jack is a comparatively new but very promising strawberry of the Wilson type. The plant is hardy and a good grower and bearer, and the fruit is solid and of a fine color and flavor. Would be profitable for market.

Glendale, for a late sort, is the most promising coming strawberry for family and market purposes. It is considered far in advance of Kentucky, and

will very likely supersede it for late market purposes.

Duncan is a very promising fruit, possessing very high internal qualities, as its flavor is the highest and most distinct of any sort. It is however not very solid, and the plant a poor bearer.

Arnold's Maggie and *Bright Ida* are new Canadian fruits, from our pioneer and well known champion of new fruits for this country. Where tested they are found to possess some considerable promise, and are firm in color and flavor, conical, prepossessing.

Marvin is a new American sort that may yet become distinguished among our Canadian lists of fruits. It is not at present much planted, nor can much be said of it.

Col. Cheney is not among the new sorts, strictly speaking, but it is a fine profitable variety, and worthy of more general introduction. It is of the Sharpless type, but far better than it in its productive qualities. It is increasing in favor as a profitable market sort.

New Dominion is a promising new Canadian strawberry of recent introduction. We have fruited it for some one or two years, and think it is for family and market purposes most decidedly an acquisition. It is hardy in plant, and fine in fruit, of the Crescent Seedling type, and of good flavor.

RASPBERRIES.

This fruit is very promising and rapidly growing in popular favor, and the planting and growing of it at present occupying much of our attention. I shall proceed to notice it in the following condensed order, viz: Highland Hardy, Brandywine, Turner Herstine, Naomi, Clark, Cuthbert, Queen of the Market, Thwack, Ganargna, Saunders' No. 55, Mammoth Cluster and Gregg, as being the best dozen come to our notice.

Highland Hardy is a widely disseminated American variety and is said to be the earliest of raspberries, but of very poor quality. Its remarkable earliness and its solid fruit, make it a very desirable variety for the market; with us it is only moderately productive and of small size.

Brandywine (*Susqueco* of some) in quality, earliness, productiveness, &c., much resembles Highland Hardy. It is very valuable for early market.

Turner, a recently introduced American fruit of the first promise. The plant is hardy and almost thornless, and a very strong grower, and the fruit is large, firm and handsome, juicy and sweet, and of fine quality. It is thought by our growers that this sort is the most promising of all for general cultivation and market purposes.

Herstine is another exceedingly valuable variety of foreign origin. The plant is strong and hardy, and a thrifty grower, and the fruit is large, oblong, firm and of a beautiful crimson color, and of fine sub-acid flavor.

Naomi, in quality and general character much resembling Herstine, but with us is of larger size.

Clark is the best raspberry for home or family use. It is remarkably productive and nearly hardy. The fruit is large, light red, conical and of a very high flavor. This variety is worthy of very extended culture for family use.

Cuthbert with us is an acquisition. It is one of the finest red raspberries yet introduced. The plant is hardy and exceedingly productive, and the fruit is large, conical, deep rich crimson, firm and of excellent flavor. This variety may be called the coming red raspberry.

Queen of the Market is much like Cuthbert, not excepting its late ripening, but is said to be not quite so good in flavor.

Thwack has slightly been tried here, but not to any great extent, but as far as we have gone it is of considerable promise. It is large and firm but not of any high flavor.

Ganargna, of the purple caps, is the best in cultivation and is well worthy of far more extended cultivation. The plant is hardy and will endure our climate, and produce heavy crops of fine fruit. The fruit is of a deep purple color, large and fine flavored. It is readily propagated by the tips and will thrive and do well in any well drained soil.

Saunders' No. 55 has fruited to some extent with us this season; you are doubtless well acquainted with the origin of this new Canadian fruit, in the hands of our esteemed Hybridist and brother, William Saunders, of London. It is almost premature to give you any opinion regarding its merits, but it is at present believed that it will not come up to the high standard of its competitor, Ganargna, which it very much resembles.

Mammoth Cluster; among the *black caps* their fine fruit has long stood in very high estimation, and to-day it is exceedingly popular, but it is regarded by some as a little tender in plant, although it stands our cold well.

Gregg; this is a black competitor of Mammoth Cluster, which it very closely resembles, but we notice some points of difference, viz: It is later in ripening, it hangs longer on the bushes, it is more even in size and it is a little higher in flavor, and we get a little better price for it. *These are good points.*

You will preceive that in this list there is nothing remarkably new, but all are good and worthy varieties for general cultivation.

GOOSEBERRIES.

You may remember we had some fine discussion about this fruit last summer at our meeting in Guelph. Those cultivators there have given this fine fruit considerable attention, and appear to have been eminently successful with it, but such on the whole has not been the case with us, especially where its culture has been attempted on a large scale. In the first place we have no varieties that we can keep clean from the dreaded mildew, excepting the American varieties, which are all small. Secondly, the dreaded ravages of the gooseberry worm in the fruit and the destructive sawfly on the leaf, are more than a match for our meagre supply of patience. At present the varieties in cultivation are mostly confined to Houghton's Seedling, an American sort of hardiness. Downing's and Smith's Seedlings are being attempted, but as yet not to any great extent.

CURRANTS.

This fine, popular and easily grown fruit is losing nothing in the estimation of our people and may be fitly termed *the poor man's fruit* or the *fruit for the million.*

Though the ravages of the gooseberry sawfly upon the leaves are very great, yet large crops are grown and matured. There is much carelessness in the growth and management of so fine a fruit, but still it most abundantly repays every attention bestowed upon it. The varieties generally planted are not numerous, being mostly Red Dutch, White Dutch, and Black English, and really the good sense of the people is here shown, for nothing in our experience has yet been introduced to surpass those old friends in real worth.

Red Cherry, though a fine, large and handsome fruit, is yet a poor unprofitable bearer, and so also with *La Versailles*, and as for *Victoria* it is considered too small in berry, though a good bearer.

White Grape is excellent, perhaps the best white variety grown.

Black Naples is good and very profitable, though so late in its ripening.

Lee's Black Prolific is thought to be nothing better than Black Naples, and as for *Prince of Wales* and *Bang Up*, we have not yet introduced them sufficiently to give you any opinion respecting them.

SUGGESTIONS.

1st. To be successful in growing small fruits better attention must be given to the preparation of soil, constant cultivation while growing, provision against the effects of drouth, the ravages of insects, &c.

2nd. Planters might very profitably be much more united in their efforts at growing and marketing small fruit; at least they should not by any means run against one another.

3rd. It would be very desirable and profitable and a great assistance to the markets in case of a glut to provide means for curing, and canning, and preserving fruits in every fruit growing section wherever practicable.

4th. This, in our opinion, would be best done by the establishment of drying houses and canning factories either on the independent or co-operative plan, something after that of our cheese factories or creameries.

5th. We would here suggest that the subject of canning and preserving fruit be more thoroughly discussed at our next winter meeting, and that the results of the society's deliberations be more widely distributed over the country.

There are said to be 50 injurious insects in our vegetable gardens, 50 in our vineyards, 75 attack our apple trees, and more than 50 our grain fields. Seventy-five millions of dollars is estimated as the damage done to the wheat in Illinois in one season, and nearly ten years ago the annual loss in the United States from insects alone, was nearly $400,000,000.

Cause of Black Knot.

We abridge the following from an article by N. Hendrickz, of the Canadian Horticulturist:

About fifteen years of age, I liked to read about insects and study their habits, so what I saw is formed by my own experience rather than what I have gleaned from authors, though I happened to get a book of "God and His Providence in His Insects," describing how wonderfully God had given to every insect the means of progeneration, even with the odds of man's destructive inventions against them, and also other natural enemies, such as birds and insects. He explains many facts in ways which seem plausible, among others this of the black knot. I had already remarked this, and as well as the author, came to the conclusion that the cause of it is an insect which instils through a sting an acid into the bark of the tree. This causes the sap to become poisoned and makes it swell and become of a spongious nature, thus enabling the egg which is laid into the cavity (made by the proboscis of the insect) to hatch out by the heat of the sun. Then it grows and works through the soft spongious matter until it becomes alive, remaining then until it becomes a reddish worm about half an inch long. It ordinarily drops out towards the end of July, digs into the ground and turns into a chrysalis; some come out and some remain, like the potato slugs. The birds kill a great many off. It prefers the plum tree which exudes the gummy matter, thus the cherry tree as well.

You will not find a worm in every outgrowth, because not every egg happens to hatch out, or to remain in the cavity the insect makes. It begins its devastating work early in the spring, many remaining and hiding in the crevices of trees or elsewhere. If the spongious matter be cut off the worm dies, and though we do not burn it, the insects cannot live any longer. As long as there be any of the acid left in the bark it will run up, but if well pared off, the bark will partly grow over it.

There is besides a plum borer, having the same shape as the apple borer, big headed, which runs under the bark into the tree and causes it to die. Until an effort be made by disinterested and generous persons, single-handed work will not do, for in a short time cherry and plum trees will have to go. In this neighborhood none care to cut down their trees, or to pare off the evil, so that there is no ample chance for them to multiply. They will afterwards attack the pear and peach trees, and even apple trees. This insect is clannish. If you have a tree infested separated from others by a great distance, it seems to remain there until it has completely destroyed this. If you cut this one down and have not previously destroyed the insects before they hatched out, they will fly until they find other trees; and the year after they have cut down the infected one all the other trees will be more or less stung. I found the insect to be very much like the curculio, but instead of having black ashy wings, they were brown, and of a hard shelly texture.

APPLE BLIGHT.—The cause is a parasitic fungoid plant which takes root in the bark, penetrates it, and spreads in the layer of cambium under the bark and destroys both. It spreads upward and downward until either a part of the tree or the whole of it is killed, and turns brown if scorched by fire. The only remedy is to cut off all the diseased parts as soon as they are seen to be affected and burn them at once, by which the spread of the disease is stopped. The sound wood only should be left. Draining the soil, the use of lime and wood ashes, and whitewashing the young trees with lime, act as preventives.

I. N. Stone, writing to the *Fruit Recorder*, says: Seven years ago, I had one acre of ground which I wished to set to strawberries the following spring, and knowing that there were a great many white grubs in every foot of it, concluded to plow in deep, just before winter set in. I commenced one afternoon and plowed one-fourth of it; a hard breeze at night kept me from plowing the balance until spring, when I finished ploughing the piece and set it to strawberries. The plants on the fall ploughing were not disturbed at all by the grub, while those on each side were nearly all destroyed by them. Since then I have adopted the plan of ploughing fruit ground just before it freezes up for winter, and have not had *any* loss from grubs and cut worms.

The Apple Crop.

Apples are a light crop this year, and we may safely expect that, for shipping and home consumption, they will command much higher prices than were received last year. In some sections the crop is above the averape, but taking the country over it falls much short of an average crop. The dry weather has also had a marked effect. Many have fallen from the trees, while those remaining will be smaller and not so fine as usual. When picking we oftentimes find a difficulty in gathering many apples from the centre of the tree, which cannot be reached from the ladder. The accompanying engraving shows a new implement for gathering, and we consider it the best of the kind that we have seen. It was invented by Mr. John Sager, of Thamesville, Ontario, and consists of a long canvas tube attached to a ring at the end of a long handle, A, and two semi-circular jaws, D, mounted over the mouth of the canvas tube, and operated by a rod, B, extending down the handle and provided with a thumb-piece. The details of construction can be seen in Fig. 2. The manner of using the implement is shown in Fig. 1. The open end of the canvas tube is placed around the fruit, the semi-circular jaws are closed upon the stem by pulling down the thumb-piece, and the fruit is conducted by the canvas tube to the ground, or to some suitable receptacle, without bruising or injury.

We do not think these are necessary, except where great value is set on the fruit; but we all have, or should have, some choice trees, the fruit of which gives us great pleasure and sometimes profit. Of course the average orchardist, who cares but little for his fruit, requires no such implement. Still there are some who will take pains to gather and keep the best of their fruit, even though it be beyond hand's reach; and to such this may be useful.

SAGER'S FRUIT PICKER.

The Doyenne D'Ete Pear.

The Doyenne d'Ete is the most profitable variety of pear I grow. The fact of its being so, however, is not so much due to any merits it may possess as to exceptional circumstances. It is the earliest good pear we have ripening about the first of August, a time when in this section of the country fine fruit is rather scarce, strawberries, cherries and other early fruits having about gone by, and fall pears, plums, &c., not being in the market. The tree is a fair grower, and although it cannot be classed among the hardy sorts, still it can be grown successfully throughout a large part of Ontario. It bears abundantly when quite young, either as a standard or dwarf, but except when a small tree is wanted for the garden I see no inducement to grow it as the latter. A large quantity of fruit can be grown with less expense on standards. The fruit is of small size, but as a dessert pear it ranks first quality. When ripe it is of a bright yellow color, and the best specimens are usually shaded with red. Those who are growing pears for family use should plant a tree of this variety—probably one will be sufficient. So long as it is grown in small quantities as a market variety, it will probably prove profitable, but if it be grown extensively the market will soon be glutted, for it is too small to be profitably used for any purpose save as a dessert fruit.—[J. M. McA., in Canadian Horticulturist.

From latest accounts in English papers of the operation of the steam digger it seems at last to be made quite perfect. It digs the soil to a depth of six inches or more as required. It can be run up close to fences, turned easily, and can be traveled along narrow roads and through gateways. It costs only about $1 per day to dig the soil with it, which is much less than that of steam ploughing, and the land is left in better tilth by it than if thrice ploughed and harrowed.

Window Gardening.

The question is often asked: How often should I water my plants? Although a seemingly simple question, it is under all conditions a difficult one to answer, as some plants, even of the same kind, require different supplies under different conditions. Take geraniums, for instance. When growing with full vigor, with the pots well filled with roots, there is but little danger of giving too much. Every day will not be too often if the weather is clear. Take the same plant with but a small number of leaves on it, and newly shifted into fresh soil, with but few roots, and watering once a week may even be too often for it. All soft wooded plants growing vigorously require an abundance of water; always when they are the least dry, which can be told by the surface of the soil getting white, or when, the side of the pot being tapped with the finger, a hollow sound is made. By feeling the weight of the plants a little practice will suffice for knowing pretty nearly the condition of them, whether wet or dry.

Plants sparely supplied with foliage and with few roots, require sufficient water to keep them in a healthy condition; but care must be taken not to approach anything like a saturation of the soil. Succulent plants, such as agaves and cactuses, require but little water. When at rest their succulent leaves serve for storing up water sufficient to keep them in healthy condition for a long period. Deciduous plants—such as fuchsia and crape myrtle—during the time they are without leaves should not, however, be allowed to get too dry. As the stem and branches evaporate moisture, sufficient water has to be given at the roots to supply this evaporation; for, if not, the roots will evidently shrivel up and die.

The temperature of the water supplied to plants should be about the same degree as temperature of the room in which the plants are growing; or, if a little higher, will be a benifit, rather than anything else. And when water is given, sufficient should be applied to thoroughly saturate the soil. A mere dribble on the surface does more harm than good, as it draws up what moisture there may be in the soil below where it is wet. Plants should not be allowed to stand in saucers filled with water. Give sufficient water to run through into the saucer. But then empty it out and do not allow the plant to remain in it. During cold weather watering is better to be done in the morning, as then all superfluous moisture gets a chance to evaporate before night.

The temperature at which plants should be kept during the winter is lower than a good many would suppose. High night temperature to both green house and window is injurious, the results of which are weak and slender growths, with but few flowers being produced. A temperature of 45 degrees during the night with 60 to 65 during the day time is high enough for most plants. Of course there are plants which require a good deal higher temperature than this, but they are not so well suited for window culture. The main aim should be a steady temperature more than a high one. A high temperature to-day and a low one to-morrow has a very injurious effect upon all kind of plants, and should be avoided as much as possible. Pans for evaporating moisture should be kept on the stoves during severe weather, when plants are growing. It not only helps to prevent gas from having an injurious effect, but modifies the temprature to a great extent. The most effectual way of fertilizing plants in pots is by applying it in a liquid form. Caution is necessary however not to apply it too strong. Weak and often is the best method and has the most beneficial results.

On the afternoon of warm days it is a great benefit to growing plants to have their foliage sprinkled. It helps to wash off the dust and keep the plants in a healthy condition. Cleanliness with plants is a great source of success. An occasional sponging of the leaves frees them of insects and gives them a chance to breathe more freely than when coated over with dust. Fresh air must be supplied to plants, as well as animals, to insure good health. On all good days give enough to change the atmosphere of the room; it is best given at the top of the window, as a circulation is then made without causing a draught, which, under all conditions, avoid. Rather than have a cold draught rushing through the plants, keep the window closed, and there will be sufficient air admitted through the laps to benefit them.

A tablespoonful of ammonia in two quarts of water is strong enough for the most vigorous plants and has a wonderful effect upon most all kinds of plants. Guano is an excellent fertilizer, but has to be used with caution, as a little too much may destroy the roots of the plants, to which it has been applied, and may lead people to look for the wilted condition of the plant to some other cause, and apply remedies which will prove more desstructive than beneficial. Just sufficient to slightly color the water is strong enough to use guano in a liquid form for plants. Soot makes excellent manure for plants in pots, if judiciously applied. It gives a bright green tint to the foliage and deeper coloring to the flowers. On some kinds of plants—such as hydrangeas—it changes the color of the flowers altogether. It is difficult to mix soot with water, if put into it loose; but when tied up in a cloth, and then soaked in the water, it can be pressed out and made as strong as wanted. Only very small quantities should be used. If applied strong it destroys the roots of the plants, like guano. Pigeon and hen manure make good fertilizers for plants; if coal be mixed with it, the smell is mostly destroyed; but caution has to be observed in its use, as it is like guano, very strong and injurious to plant life when used too strong.

All plants grown in greenhouses and windows are liable to insects of some kind. Some kind of plants are more subject to the attacks of insects than others. The best preventive of insects of all kinds is thoroughly syringing the plants that endure it without injuring the foliage. Some kinds of plants, such as the fine-leafed begonias and Chinese primroses, which are both very impatient with water overhead, are not liable to the attack of any kind of insects. A dry, warm atmosphere is just the condition for insects being produced in large numbers, and is a condition uusuitable for plants thriving in. It is generally unhealthy plants that are first attacked by insects. Plants in a vigorous healthy condition repel them to a great extent.

Green fly is the greatest pest in the way of insects we have. It increases so fast that in a short time after the first of them appear they are to be found in large numbers. Fumigating with tobacco is the most effectual remedy. As soon as they appear, place the plants under a barrel and place some burning tobacco stems beside them. As soon as the barrel gets filled with smoke, lift out the burning coals to prevent too much heat, and not smoke, which destroys the leaves of tender plants. Heliotropes, salvias, and similar plants are easily hurt with the smoke. Caution is therefore necessary, if any of them get covered with fly, that smoking be done gently. On the morning after fuminating, give the plants a good syringing, to clean off the insects. The foliage of plants to be fumigated should be dry, as they are easily injured when wet.

Red spider is the worst insect in number which gives us trouble, and is produced where the atmosphere is too dry and warm. In an atmosphere where plants are growing vigorously, this insect is never seen. To get rid of it, frequent syringing is needed. It appears generally on the under side of the leaves; is a small insect and is not often known to be on the plant until the foliage begins to get discolored by its ravages. Rose leaves, when attacked by it, get brown on the under side and finally drop off. The thrip is an active little fellow, generally doing his depredations on the under side of the leaves. It is a long and slender creature, with very narrow wings, and proves very destructive when it once gets a foothold. Fumigating with tobacco and washing the leaves are the best remedies for its destruction.

Scale or cocus is a common pest on a good many plants, especially hard-wooded kinds, like oranges, oleanders, camellias and many others. It is to the superficial observer, stationary, but spreads rapidly, there being a great many of them—white, brown and black. The white is the one that gives the most annoyance, being the most difficult to wash off, which is the only remedy for getting all the kinds destroyed. Use in the water when washing them off, plenty of soap and tobacco juice. Mealy bug is a loathsome looking creature, something like the above, but has a mealy covering looking like down. Washing and brushing with a soft brush is the best way of getting rid of them.

Plants which are regularly washed and syringed are never much inf sted with insects of any kind, and if any of the kinds mentioned above first make their appearance destroy them by this means before a foothold by them is secured, and there is but little trouble in keeping them from doing much injury.

Worms in pots often give considerable annoyance to plant growers, but a little lime put into the water will expel them. Soot answers the same purpose.—*Ohio Farmer.*

Easy Blanching for Celery.

Peter Henderson says he knows of no vegetable on the cultivation of which there is so much useless labor expended as on celery. This is the reason so few cultivate it for their own use, and why those who attempt it do not succeed better. The chief difficulty is in blanching it well, and in securing a place for it where it is easily accessible. Although often prepared for the table late in autumn or early in winter, there are few who care much for it at those times when an abundance of fresh fruit can be had, and when so many other vegetables are easily obtained. On the approach of spring, and when the warm weather of April arrives, well prepared celery becomes delicious and is eagerly sought. The great point, therefore, is to have it ready immediately after the departure of the coldest winter weather. We have long been in the practice of blanching it in narrow trenches, one spade wide, and deep enough to admit the whole length of the plants standing erect in the trenches, which are covered thickly with forest leaves on the approach of winter. But this mode of packing them away late in autumn requires much more care and labor, and they are not very accessible for use when wanted.

A simpler, easier and better mode, at least for modern supplies, is to keep the plants, when taken up, entirely away from earth, if intended for winter blanching. Abou the middle of November they are taken up on a dry day, and placed in watertight troughs, or other vessels, in a quite dark cellar, the plants standing erect and closely together. Enough water is poured on the roots to cover them, and the supply is continued through winter as it evaporates. This constitutes the entire labor. The stalks are gradually and handsomely blanched in the darkness, and many new ones spring up during the winter months, especially if the apartment is not very cold, and these new shoots are remarkable for their delicacy and perfect freedom from any particle of rust, appearing like polished ivory. A small, separate apartment in the cellar, without windows, answers well for this purpose. Boxes, tubs, or any vessels which will hold a few inches of water may be employed. The plants, as grown in the open ground, need not be earthed up at all, or they may be slightly earthed to bring them into a more compact form if desired. Probably the best way would be to adopt the course which is sometimes employed of setting out the plants in summer on the level surface of deep, rich soil, eight or ten inches, or a foot apart each way, in order that their close growth may tend to give them a more upright form. They are merely kept clean by hoeing through the season.

Healthy Apple Trees in Cold Climates.

BY PROFESSOR W. J. BEAL.

We know there is much difference in the capacity of varieties to endure severe weather, yet under some circumstances a tree of tender variety may not perish. We have seen sound trees of the Baldwin in the same orchard where hardy varieties had apparently been winter killed. The Baldwins had the advantage. In one case the writer has in mind, the Baldwin trees in an orchard were nearly all killed or nearly killed, while in other orchards less than half a mile away with nearly the same elevation, the Baldwin trees were uninjured. The soil of the first was black loam, and relatively low and flat; of the other, gravel and relatively a little elevated.

To prepare trees to endure severe weather, the writer would prefer to set with pains in well prepared soil, trees one or two years old of some variety known to be quite hardy, then insert several buds or grafts of such varieties as are desired in the tops of the young trees. Set the trees leaning towards the prevailing wind. Start the tops very low near the ground. Encourage a leader in the centre of the tree. Thin the top moderately all around the outside, no more in the centre than on the sides. Never cut off a limb much if any over an inch in diameter, and avoid cutting any limbs from a large limb. Rub off the young shoots if they are not desired. Each tree should have plenty of room; in large varieties when twenty years old or more, as much as forty by forty feet.

The cultivation should be varied according to the nature of the soil and climate, so that the trees shall start off well in the spring and stop growing early enough to mature the young wood and buds. This growth can be controlled, in most cases, by tilling the soil more or less, by using or withholding fertilizers. The growth should be moderate, not rank nor stunted.

While the trees are young the surface of the ground should be heavily mulched for four feet each way from the tree by some coarse porous material, or by mellow soil kept so by frequent cultivation. "Hoed crops" may be raised among the young trres, but "sowed crops," never.

In no case must a tree be allowed to over bear, especially when young. The best soil for apples is not black loam or prairie. Most clay loams—good strong wheat lands are excellent for apples, provided always they are artificially drained.

Gravelly soil which produces good wheat is also usually good for apple trees. One reason is this, it is very apt to be naturally well drained, and very few farmers will take the pains to tile land for an apple orchard.

This importance of thorough drainage for healthy trees in a cold climate needs to be emphasized. It is often the key note to success and the one often neglected.

Another point of scarcely less importance, is elevation or nearness to some large, deep body of water. It is important that the land be relatively high when compared with other land in the neighborhood. A difference of 150 feet in elevation has been known to show within one mile, in a still cold night, a difference of seventeen degrees.

From this elevation the cold air rolls off like water down a slope.

If a person is obliged to plant apple trees on ground which is nearly flat, it should first be plowed into high ridges, the higher the better. Plant the trees on the ridges after they are made, and not make the ridges after setting the trees.

Cider Making.

When a prime article in cider is desired for long keeping, the first step toward its attainment is the production of a good article. October and November, according to climate, or when the autumn frosts have begun and the fruit is in all its perfection of ripeness, is the time to make it. A good cider apple is rather astringent in its properties of flesh and juice. The strongest cider furthermore is expressed, as a rule, from apples containing the least amount of juice. Champagne ciders are made from apples the juice of which contains the largest percentage of alcohol, as the Hessians, Virginia Crab and Campfield; this last, by the way, is the celebrated cider apple in New Jersey.

Apples should be sweated and permitted to dry somewhat before they are ground, the quality and strength of the cider being improved in consequence of the fruit having parted with 6 or 8 per cent. of water. The apples, cleared of leaves and defective fruit, are crushed or ground, according to the old or new process employed. The former is yet preferred by some, who argue that pomace which has been finely ground yields cloudy or muddy liquor. Cider-makers generally, however, use the newer process and largely employ in the the press hair-cloth or gunny instead of straw. The pulp, if laid aside for twenty-four hours and turned occasionally to allow fermentation to set in before the juice is expressed, gains body, richness and color. By this exposure the aromatic oil contained in the seeds is extracted, and, communicating its flavor to the mass, a fuller-flavored beverage is the result.

The color of the juice may be changed by the management of the pomace. Different kinds of apples impart different flavors, but from any one kind two distinct sorts of cider can be manufactured, the one by expressing the juice before any change of color occurs from the exposure of the pulp to the atmosphere, and the other after this exposure. Champagne-cider makers cognizant of this fact press the pomace as soon as ground. Casks provided for receiving the juice must be sweet and clean. Those made of strong oak staves are recommended when new ones are to be employed; if second-hand ones are used whisky and other spirit casks are preferable. It is imperative that second-hand casks be cleansed of all impurities, which can be done with lime or wood-ashes and water. In addition to this thoroughly fumigate with matches of roll brimstone dropped into the bung, afterwards rinsing with hot water and draining dry. Fill barrels thus prepared and set on blocks or skids with the bungs up where the temperature will not exceed 75 degrees Fahrenheit nor fall below 60 degrees.

The saccharine fermentation which will soon begin ought to be allowed to continue, with the bung loose, until the hissing sound occasioned by the escape of carbonic-acid gas shall cease. The cider is now ready for its first racking. Having drawn it off into clean barrels replace the bungs tightly for a few days, when they should be loosened that the cider may again ferment. The cider can then be racked a second time and the bungs securely closed. If designed for draught use keep in a cool cellar; if designed for bottling (which is the surest means of preserving cider unchanged and indefinitely) draw it off and bottle in the early spring, *i. e.*, before the appearance of apple blossoms.—*N. Y. World.*

The best time, says a writer in the *Prairie Farmer*, to remove evergreens, is undoubtedly in the spring, just as the terminal buds are opening. They may be removed safely until they have grown three inches. The next best time is in the latter part of the summer, or just before the fall rains set in. It is true, however, theoretically, that they may be removed at any time of the year when the ground is not frozen, and practically true if extreme care is taken. Our opinion is that they are removed with least loss in the spring, as we have stated. As to mulch, it makes really little difference what the material is, so it will not blow away or scatter noxious weeds.

The Dairy.

Some Things About Stilton Cheese.

BY L. B. ARNOLD.

Stilton cheese when skillfully made is one of the finest products of the dairy. Nothing in the way of cheese can excell it in the richness and delicacy of its flavor; and none is more easily digested or more wholesome and nutritious. A well ripened Stilton is so soluble as to melt on the tongue like a ripe pear or a piece of butter. Such a cheese has none of the constipating effects of ordinary cheese, but on the contrary, has a laxative tendency. It is one of the few things which can be at the same time a luxury and a healthful and nutritious food. According to Prof. J. P. Sheldon, Stilton cheese was invented by a lady, a Mrs. Paulet, of Wydonham, Leicestershire, England, just about 100 years ago, and at first, both the precise locality and the mode of manufacture were kept a secret, the cheese selling for half a crown per pound. When these became known the production expanded, but it was for a long time kept within pretty narrow limits, and comparatively small quantities were made, the manufacture being confined to England. The make, however, amounted finally to several tons annually, which found a market at 20 to 30 cents per pound. More recently the manufacture has extended to other countries, among which Canada may be numbered—a few Canadians having made it for several years. In England less is now made than formerly, and there is a great complaint of a depreciation in quality. Very little really fine Stilton, it is said, is now made there.

The chief peculiarity which distinguishe Stilton from other varieties of cheese consists in its being made of new milk with cream added to it. The customary addition is composed of the cream which would rise during the night, on the previous evening's milk when spread out and set at a moderate temperature. In form they are made cylindrical, and in size nearly uniform, being about 8 inches in diameter and 10 inches high, and weighing from 12 to 16 pounds. Cheese having this size and form but made in the usual way, are often called Stilton, but the name when thus applied is a misnomer. No cheese which has not more cream in its composition than belonged to the milk it was made of, is entitled to be called *Stilton*.

The process of manufacture as originally carried on in England, and indeed as it is still carried on, is attended with a great deal of useless manœvering, being worked wholly by the rule of thumb without any reference to science or philosophy.

In the original practice, after the cream was added, the milk was warmed and the curd formed very much as in our dairy practice before the days of cheese factories. It was done by guess, but the thermometer has shown the temperature to be 80° to 90°. It took an hour to have the curd come enough to begin to work. In the early practice the curd was neither cut nor broken till it was hard enough to dip from the cheese tub and laid upon a cloth placed upon a rack or strainer, where the whey could readily drip away. Mrs. Parson's, an English lady living near Guelph, who has made Stilton cheese for many years, follows this mode now, but most modern makers I believe make the curd fine by more or less cutting or breaking. When it had been laid on the cloth to drain, the edges of the cloth were frequently lifted to change the position of the curd a little to facilitate the escape of whey, and the corners and edges of the cloth then thrown over the curd tokeep it warm. This is a slow and tedious operation and takes a long time; it may be hastened a little by pressure upon the cloth so gentle as not to start the white whey, and by cutting and turning the curd; it was treated in this way until it became firm enough to put into the hoop, which would be late in the day, and yet at a stage considerably softer than we are accustomed to press other cheese. The hoop in which the cheese was moulded was made of strong tin and perforated with holes to aid the escape of whey, and when filled was set in the "draining room," where it remained until the dripping ceased and it became firm enough to stand up by being bandaged. No pressure was applied. To keep the surface of the ends smooth the hoop, with its contents, was inverted several times a day while the curd was soft, the cheese each time sliding down the hoop and resting on the table; as it grew firmer the turning was less frequent. In two to four days, or when the cheese had done draining and become stiff enough to stand up by bandaging, it was taken from the hoop, a snug fitting bandage sewed on, and placed in the curing room, and turned often enough to cure evenly and keep in shape. When the bandage was no longer needed to sustain the cheese in an upright position, it was removed. The curing room must be cool and not too dry; a basement is considered a good one.

It takes a long time to cure Stilton cheese thus made. Not being pressed, there is a much larger per cent. Of whey left in the curd than in pressed curd; and the sugar it contains turns to milk acid and makes the cheese intensely sour; this excessive sourness arrests the curing, and it makes little or no perceptible progress until the acid dies out, as it will in time. It takes at least six months to make such cheese at all palatable, and they are generally not fancy until they are about a year old.

The opinion generally prevails that the peculiar excellence of this kind of cheese can only be produced in certain localities having peculiar soils, and at certain seasons of the year, as from May to September inclusive, and that it must be derived from old rich pasture, without the use of grain or other extra feed, an opinion which is doubtless as well founded as the one which long prevailed in this country that good cheese could only be made in Herkimer County. When we come down to actual facts, good Stilton can be made anywhere and out of any milk which would make good cheese of other varieties. Neither is there anything necessarily stereotyped in the mode of manufacture. The essential point is to work in the extra cream without waste. Any good cheesemaker having the conveniences, can with a little experience and the exercise of judgment, soon accomplish this. In experiments made with Mr. H. J. Losee at his factory in Norwich, we were fairly successful in the first experiment, and completely successful in the second. We worked by different methods, the long slow course customary in Stilton manufacture, and by a shorter method differing but little from the Cheddar process. We set at 90°, cut, worked and scalded in the usual way; but with so much care as to make no preceptible loss by soiling the whey. But instead of working the curd down hard as in the Cheddar process, we put it into the hoops while it had the softness usual to Stilton curd when hooped. One-half of a curd was hooped without any pressure in the usual way; and the other was pressed and moulded in a bandage but pressure was applied so gradually and lightly at first as not to start the white whey. By pressing we expelled so much whey as to prevent the extreme sourness common in a Stilton curd and thereby greatly shortened the time of curing. The pressed half of the curd cured as much in six weeks as the unpressed half did in six months, and the former was the finer cheese. It was splendid. This proved to our satisfaction that the old and tedious route could be very much shortened and the expense of making reduced, and capital turned in a few short weeks instead of waiting a year or more.

It was found difficult to work a large bulk of milk together, as it required too much violence in stirring to keep the curd fine without starting the white whey. By the aid of Brintnell's new curd agitator, better work could be accomplished and fine Stilton furnished at a cost which would invite a considerable consumption at home and perhaps offer inducements for exports. There is possibly a good field open in this direction for some enterprising genius which would be free from the objections which lie against lard cheese and oleomargarine butter.

Milk and Cheese Affected by Soil.

There are some curious things about milk which are not well understood, and which continue to give dairymen at times a great deal of trouble. They are the causes of peculiar phases which milk assumes when coming from different soils, requiring different methods of manipulation, especially when the product made from it is cheese. Fifty years ago, before the factory system was inaugurated, and when the nature of milk was not so closely studied, or its behaviour so well known as now, certain farms were supposed to be incapable of producing a fine quality of cheese. This opinion seems to have been confirmed in numerous instances, when the best makers, removing from farms where they had been eminently successful, and occupying the lands in question, utterly failed to make a first-class product in their new situation. When I was examining the dairy districts of England some years ago, certain farms were pointed out on which it was said fine cheese had never been made, and could not be produced, as frequent trials had demonstrated, under the best or most skillful makers. The same opinion has prevailed more or less in this country, and many old cheesemakers, who were once distinguished for making a fine product, will affirm to-day that in their experience in changing farms and location they were unable to accomplish the same high results on the one farm that they did on the other, though grass, water and other conditions seemed to be alike favorable on the different farms.

The late Harry Burrell, of Herkimer, owned quite a number of fine dairy farms lying in a block, which for many years were rented to tenants, who, under the old system of farm dairying, were excellent cheese-producers. On three of these farms the cheese made was more or less faulty, and the best makers, when occupying these farms, were unable to turn off a first-class product, notwithstanding they had acquired an enviable reputation for their skill on other farms. A son of Mr. Burrell, an educated and highly accomplished gentleman, who has devoted much attention to dairying, and who is a practical cheese-maker, and well skilled in the art, said to the writer recently that he was unable to fathom the mystery concerning the peculiar behavior of the milk coming from these three farms. The farms are well watered with never-failing springs and streams of good sweet water. The grasses are of the same kinds as those on the adjoining farms, and their growth is apparently luxuriant. All the conditions for producing a fine quality of milk are apparently as favorable on these farms as on the others, and yet, as hot weather approaches, the milk suddenly appears defective, and decomposes with great readiness, causing trouble in its manipulation. He now owns, and for some years has managed, the factory that takes the milk from all the farms located in the block, and he says he always kept what he terms a "hospital vat," to accommodate the "sick or affected milk," so that it could be made up separately. Every summer the milk from these three farms went regularly into this vat.

He says he has never been able to tell, nor has any of the tenants on these farms for the past thirty years been able to fathom, the reason for the peculiar condition which milk is liable to assume on these farms. If there had been a different variety of grasses, or some unusual weed or herbage that the cows feed upon, then we might reasonably look to this source for a difference in the milk; but as the same variety of herbage is common to all the farms, the source must be elsewhere. How far soil may influence the constitution of plants, or so affect their nutrition as to render them in some way imperfect milk-producers, is a

question which has not been very thoroughly investigated or discussed by our dairy authorities; but there can be no doubt that certain soils, though capable of yielding grass abundantly, produce it of very inferior quality, and of such a character that cows feeding upon it are unable to convert it into milk of good quality.

NO FIRST-CLASS CHEESE FROM POOR GRASS.

The observations of Dumas, Payen and Boussingault have shown the fact that a cow gives healthy milk in exact proportion to the surplus of food beyond what is necessary for her own maintenance. If the animal is kept on food barely sufficient for proper nourishment, the milk produced must be at a loss of animal tissue, with general deterioration of the milk and also of the cow. Milk formed at an expense of the nutrients and tissues of the body, has less caseine, butter, sugar and salts, while the albumen will be increased. It follows that the value of milk must depend upon the excess of food beyond what is required by nature to keep up the normal vigor of the body. Decaisne demonstrated by experiments during the seige of Paris in 1871, in 43 cases of nursing women, that insufficient or non-nutritious food produces a diminution in the normal quality of the milk; also a variation of its chemical constituents, such as an increase of albumen and diminution of caseine, butter and sugar. The proportion of albumen in such cases is generally in inverse ratio to that of caseine. Such milk rapidly decomposes, and this will explain why in hot weather, if mingled with good milk, it would induce ferments and cause serious trouble to the cheese-maker.

That the quality of grasses is greatly influenced by soil and situation, has been generally observed by farmers who have been in the practice of fattening stock for the shambles. Upon certain pastures, cattle fatten rapidly and without trouble, while upon other lands they do not readily take on flesh, though the growth of grass seems abundant and of varieties accounted nutritious. It is not surprising that cheese-makers often have trouble in handling milk when going from one locality to another, for in addition to the more common causes of bad milk, such as uncleanliness in milking, bad water, abuse of cows by beating and overdriving, there is still another affecting milk—that of soil or the food which it produces. Generally on high and dry pastures of gravelly loam, the milk will be more readily converted into cheese than when the milk is produced on low, wet grounds. The treatment of milk and curds, therefore, must be varied to meet the different character of soils, for that manipulation which would make good cheese in one locality might make bad cheese in another.

It has been said that good dairy products can be made over a vast extent of country, and almost in any section where there is a suitable climate; and the extension of dairying over the West and Northwest is cited in proof that soil has little or no influence in the production of the finer qualities of dairy goods. This is undoubtedly true if pasturage is supplemented with ground grain, cornmeal, shipstuffs and the like; but if cows are to be kept wholly on grass during summer, as is common in the best dairy districts of the East, the truth of the statement may well be doubted. The fine butter and cheese that come from Iowa and other parts of the West, are not due wholly to the excellence of western grasses, but to the full supply of ground grain which the cows get as a supplement to their pasturage in summer. The success of winter dairying depends upon the feeding of meal, bran, shipstuffs, or the like, as a supplement to good hay; for hay alone, as ordinarily fed, does not make a "gilt-edged" product.

HOW TO REMEDY THE TROUBLE.

If nutritious grasses are found on worn soils—grasses that are not capable of making good milk (and we have no doubt such soils are more common than is generally supposed)—the remedy, it is plain, must be in supplementing pasturage with some kinds of ground grain or concentrated food, that will supply all the elements of nutrition by which good milk can be made. There is abundant evidence to show that the grasses on different soils vary greatly in nutrition, and that it is not always the quantity of herbage on a field that has capacity to make good milk, but that this is regulated largely by its quality. The question is one of deep interest to dairymen who are striving to excel in their dairy products. To make the best goods we must have the best kind of milk, and dairymen will do well to study more the source of the production than to hug the delusion that the best butter and cheese depend wholly on the skill of the maker.

The late Mr. Joseph Harding, of Markesbury, England, was accustomed to say that he was able to make a fair quality of cheese on any soil by studying closely its character and the food it produced, and that different soils required a different manipulation of the milk and curds; but to make the highest grades of fine cheese required the sweetest and most nutritious pasturage. It will be remembered that in England the feeding of ground grain or some concentrated food in addition to pasturage, is much more common than in this country, and on account of this supplemental food Mr. Harding was doubtless warranted in assuming the position referred to. It should be remembered in this connection that floating curds are unknown in English dairies, all the conditions for making good, sound milk being such as to cause no trouble of this description.

When we consider the great variety of causes for faulty milk at American factories, and the skilful method in which it is often handled by the manufacturer, great praise is due to our factory cheese-makers for their high acquirements in the art of making a merchantable article out of bad material. Give them the best kinds of milk, and there is no fear of their not surpassing the world in the excellence of their product.—X. A. WILLARD.—*Ex.*

Cheese and Butter at the Provincial.

The show of cheese was large, and considering the weather through which they have passed, the make and quality were good. When we compare the quality made now with that made some 12 or 14 years ago, the improvement is very marked and striking. If by any means the quality of the goods now made should degenerate to a par with those of 1867 or 1868, we have no hesitation in saying that such cheese would not bring more than 5 cents per pound. We think it was a pity the judges were not a little more careful in boring and plugging the cheese; many of them were without a plug, and others might almost as well be without.

In butter the show was very small, but said to be fine. We hope the day is not far distant when we shall see the same competition in butter there is now in cheese. This can only be brought about by the introduction of creameries, and we hope to see them some day as numerous as the cheese factories.

Our Native Cows.

The superior merits of the common Canadian and American cow as a dairy animal has long been known, and it is a matter of doubt whether the imported stock, so highly praised, are really her superiors. Hunt up the best milking families (many of them are very good) and breed as carefully, feed as well as you do the imported animals, and we venture to say she will surprise many. Prof. Henry, of Cornell University, says at the Experimental Farm at that station they have a native cow which produced over 8,000 pounds of milk in one season. She was well fed and cared for. Another gentleman says he has a native cow which gave 11,000 pounds in one season. It is proposed by the managers of the Experimental Farm at Madison, Wisconsin, to take a good selection of native milkers that are as far removed from all the different breeds as possible, and see if they cannot be improved just as well as the imported stock. They hope to make a Wisconsin breed of good milkers.

The oleo-margarine question has a nearer interest for Canadians than has, perhaps, been imagined, in this way: In the past winter, and up to the end of April, all the choicest beef tallow in various parts of Ontario had been bought up, and was sent to Montreal, there to undergo a process of refining preparatory to being shipped to New York, where it was manufactured into oleomargarine.

The best beef is young beef, reaching its greatest point of superiority at from two to three years. The same is true of sheep and swine. A wether, for the best mutton, should be in the market at two years. As a general rule a 250 pound pig is better in quality and more profitable than a hog weighing 500. The point of appreciation of quickly maturing animals is being reached, though somewhat gradually, and it remains to improve the various breeds, especial care being used to select animals to breed from that come to maturity at an early age.

Stock.

Recent Stock Sales at Guelph, Ont.

The first of these was Mr. F. W. Stone's 14th annual sale, which was held at his farm near Guelph, on the 7th of September. The attendance was fair, about 300 breeders being present from various parts of Ontario, Quebec and the U. S. A. The sale commenced at 12:30 p. m., and was concluded by 6 o'clock p. m. Col. J. W. Judy, of Illinois, U. S. A., and W. S. G. Knowles, of Guelph, were the auctioneers. Most of the animals were taken from the pasture, not having been stall-fed during the summer. Very fair prices were realized, but no fancy figures such as ruled among some breeders a few years ago. Forty-three shorthorn cows and heifers were sold at an average of nearly $98 per head; twelve bulls and bull calves made an average of a fraction over $106 per head. The highest price paid was $225, for the bull Baron Craggs (37595) calved October, 1879, and the lowest for a bull calf, which sold for $35. After the shorthorns were sold, 14 Cotswold rams and 8 Cotswold ewes were offered. The rams made an average of nearly $30 per head, and the ewes $17 per head. Nineteen Southdown rams were then sold, at an average of $28 per head, and 24 head of ewes averaged $20.50 each.

The next day the Ontario Experimental Farm held their fifth annual sale. A large number of breeders from various parts of Ontario, some from Quebec, and a few Americans, were present. Three shorthorns were sold, at an average of nearly $100 each. All of these were bought by gentlemen of this province. Only one Hereford was sold, viz.: Duke of Connaught (4528), which has been used for the past few years at the College Farm. He was bought by an American for $175. Three Polled Angus were then sold—one of which was a young calf, another a very fine two-year-old heifer and the third "Gladiolus" (1161), their old stock bull. The three brought $565. All remain in Ontario. Then came two Ayrshires, their aged bull and a bull calf. They brought $130. This year was the first time Devons have been offered for sale at the College Farm. Two only were sold, a two-year-old heifer and a heifer calf, both of which were bought to go to Quebec. The two brought $95. This finished the cattle, and 98 sheep were now sold—55 Cotswolds, 21 rams, including the imported stock ram, 1 two shears ram, 5 yearlings, 14 ram lambs. The remaining Cotswolds were made up of aged ewes and ewe lambs. The 55 head made an average of nearly $17.50 per head. Some of the aged ewes were old. In all cases the age was not given. The yearlings were small, coarse in the wool and rather inclined to be bare underneath; they were by no means a first-class lot. The ram lambs were very much the same, but the ewe lambs, though small, were of better quality. Though the printed circular stated that full pedigrees would be given with all, when required, the breeding of the sheep was not given in the ring. If the animals had good pedigrees, we believe they would have sold much better if their breeding had been stated when they were brought in the ring. We have had experience in this line and found the above course profitable. Eighteen of the above Cotswolds were bought to go to Quebec, and three to the U. S. A. The others remain in Ontario. Ten Leicesters were disposed of. They were composed of one yearling ram, 15 ram lambs, and four ewe lambs. They were a much better lot throughout than the Cotswolds. The average price was $19.70. The Oxfords were also of fair quality. Four were sold, viz.: the imported stock ram, a yearling and two ram lambs. This lot made an average of $42.25. Two Shropshire ram lambs were offered, and sold for $89. Twenty-seven Southdowns made an average of nearly $20 per head. The bidding on the Downs was much more spirited than for the long-wools. Especially was this the case with the Shropshires. Six very nice Berkshires, all of which had good pedigrees, sold for $164.

Sale of Imported Stock by the Government of New Brunswick.

A LARGE ATTENDANCE AND FAIR PRICES OBTAINED —THE PURCHASERS.

The sale of the sheep and pigs recently imported from England was held on the 20th of September, at the grounds of the St. John County Agricultural Society. The stock was in good condition and looked none the worse for their passage across the Atlantic and their journey since then. Mr. T. B. Hanington was the auctioneer. The attendance of buyers from the different agricultural societies in the Province was large, and a general desire to get the best stock, especially in sheep, made the bidding quite lively.

Among those present were the Attorney-General, who came down from Fredericton to attend the sale, and who, though not officially connected with the department of agriculture, has taken a marked interest in the stock farm, purchase of stock, &c.; the Provincial Secretary, who is, *ex officio*, President of the Board of Agriculture; the Solicitor-General, Hon. W. E. Perley, Hon. Robert Marshall, Mr. Rogers, M. P. for Albert, Mr. Ferris, ex-M.P.P., for Queens, Messrs. Woods, Morton and Elder, of the Local Legislature; Mr. Montgomery, ex-M. P., Messrs. Fairweather, Barker, Hamm, Magee, L. Donovan, Ward, of various Boards of Agriculture; representatives of agriculture from different counties, A. Chipman Smith, Dr. Steeves, and many others, interested in agriculture and in public matters generally.

It was the opinion very generally expressed that the sheep were a fine lot and well selected, and the bidding proves that the stock was much appreciated. There was no choosing or selecting for the sale, the attendants bringing them as they could catch them. The first sheep was a Border Leicester ram, which sold for the low price of $30. The next was a Shropshire, which sold for $65. The Cotswold and Shropshire appeared to be the favorite breeds and brought the highest prices, one of each breed selling for $90 apiece. In fact, it may be said that the prices paid were very fair, and the Government will have no reason to find fault. The prices for which the pigs sold were not so good, the highest price paid being $55 for a Berkshire boar. A fine White Windsor boar brought $46. The sale netted something over $3,100.

Forty-nine sheep and twenty hogs were sold, all of which remain in the Province of New Brunswick. Forty-two sheep and twelve hogs were bought by agricultural societies, and seven sheep and eight hogs by private individuals. All the sheep and twelve of the hogs were males. Three young Berkshire boars remain unsold. Two or three of the animals were held by the Government for the stock farm.

The following is a summary of the purchases made by the different Agricultural Societies, and the total amount for each society. The list which follows shows to what section of the country the stock goes :—

Name of the Society.	Amount.
St. Stephen	$142
St. Patrick	125
Sunbury	85
Sussex and Studholm	254
Blissville (Sunbury Co.)	122
Sackville and Westmoreland	145
Kincardine	128
Union K. Co'y	50
Woodstock	440
Sumarez	154
Jacksonville	160
Addington	158
St. Mary's	218
Stanley	81
Central Kings	110
Albert	47
Gladstone	96
Baltimore	20

Cattle Shipping.

It is the opinion of many vessel owners and seamen that to lessen the loss often incurred, and also the suffering of the animals, transportation across the Atlantic ought to stop between the months of October and April, unless the shipbuilders can invent a very superior class of ship to the majority of those which are now used the year round in this trade. It is the Atlantic winter gales which force masters of ships into so-called cruelties you read about, and no man will question that there is a positive inhumanity in starting a ship, with her decks crowded with animals, across the sea in the bitter, fierce weather which prevails during the winter months in the North Atlantic.

British American Shorthorn Association.

CONSTITUTION AND BY-LAWS OF THE SOCIETY.

A meeting of the Canadian Shorthorn breeders took place in the Agricultural Hall, Toronto, Sept. 14th, notice of which was given in the September number of the ADVOCATE. On this occasion a very large number of Shorthorn breeders assembled. With one or two exceptions all the prominent breeders of the Province were present; also several members of the Agricultural and Arts Association, including the President. The business of this meeting was to receive the report of the committee appointed at the last meeting of the breeders to draft a Constitution and By-Laws (see July number of the ADVOCATE, page 157). Mr. John Dryden, M.P.P., Chairman of the committee, read the following Constitution :

CONSTITUTION.

1. This Society shall be known as the "British American Shorthorn Association," and is established for the purposes set forth in the resolutions passed at a meeting of Breeders of Shorthorn cattle, held in the Walker House at Toronto, on Thursday, June 2nd, 1881.

2. The persons hereinafter named in appendix A, shall constitute the original members of the Society, any, and every other person taking an interest in Short horn cattle, may and shall become a member, who having signified to the Executive Committee his desire to do so, shall be approved by the committee and entered on the register of members. A member may, at any time, withdraw from the Society by giving three month's notice in writing to the committee through their Secretary for the time being.

3. Every member shall be either a life member or an annual member, and shall pay on entrance an entrance fee of five dollars; life members shall pay an additional fee of forty dollars.

4. The income and property of the Society, from whatever source derived, shall be applied solely towards the promotion and furtherance of the objects of the Society, as set forth in the resolutions above referred to, and no part thereof shall be paid or transferred, directly or indirectly by way of bonus or otherwise howsoever, by way of profit, to the persons who are at any time or may have been members of this Society or to any person claiming through them; provided, always, that nothing herein prevent the payment in good faith of remuneration to any secretary, editor, officer, clerk or servant of the Society, or to any member of the Society or other person, in return for services actually rendered to the Society.

5. The rights and privileges of every member of the Society shall be personal to himself, and shall not be transferable.

6. Every member shall be entitled to receive annually a copy of the Herd Book and such other publications as the Society may issue during that year, either free, or for such reduced price as the committee may find necessary to charge, should the funds of the Society not permit of their being distributed gratis.

7. Any member who shall fail to observe any rule, regulation or by-law of the Society, or whose conduct shall be, in the opinion of the executive committee, prejudicial to the interests of the Society, may be suspended by the committee from the privileges of membership, and the committee shall report all such cases to the general meeting of the Society, when, after the suspended member shall have been heard, if he so desire it, it shall be competent for a two-third majority of those present and voting, to remove such person from the membership of the Society. Information that it was intended to propose such a resolution, shall have been given in the notice calling the general meeting.

8. The officers of the Association shall consist of a President and one Vice-President from each Province in the Dominion represented, to be elected by members of the Association at the regular annual meeting in each year.

9. The Executive Committee shall consist of twenty-one members (five of whom shall form a quorum) who shall be divided into three lists, to be called the A, B, and C lists, and who shall retire in rotation as follows, that is to say, the A list shall retire after the first general meeting after the orgination of the Society, the B list at the second general annual meeting, and the C list at the third annual meeting. The President and the Vice-President of the Society shall be, ex-officio, members of the executive committee.

10. At the annual general meeting in each year the Society shall elect seven members to serve on the Executive Committee to take the place of those retiring. A retiring member of the Executive Committee shall, in all cases, be eligible for re-election.

11. In the event of a vacancy occurring in the Executive Committee, either by death or retirement from the Society, such vacancy shall be filled at the next ensuing general meeting, and the member so elected shall retire at the same time as the members on the list to which he shall have been elected.

12. The Executive Committee shall have power to do all such things as may be incidental or conducive to the objects of the Society, and shall be generally charged with the administration of its affairs, and shall have the power of the appointment and dismissal of the servants of the Society. They shall place all moneys received by the Society in one of the chartered banks, and all payments shall be made by cheque, signed by the Chairman and countersigned by the Secretary. The Executive Committee shall convene special meetings of the Society from time to time as occasion may require, or at any time on requisition signed by six members of the Society.

13. A regular annual meeting of the Society shall be held in the month of February in each year for the purpose of the election of the officers of the Society and members of the Executive Committee, to receive the report of the audit of the accounts and to appoint auditors for the ensuing year.

14. The voting shall take place as follows: Each member who wishes to vote shall give in, either personally or by proxy, to the chairman of the general annual meeting, a voting paper with the names of seven members of the Society written thereon, for whom the member desires to vote. The chairman shall then appoint scrutineers, who will meet privately and count the votes and present the count to the meeting, and the seven members having the largest number of votes shall be declared elected. A member may appoint another member his proxy to vote for him in the election of the officers and the Executive Committee, but for no other purpose; every such appointment shall be in writing, and shall be signed by the appointing member and given to the chairman before the voting begins.

15. All matters, when not otherwise specially provided for, shall be decided by a majority of the votes of the members present, and in the case of an equality of votes, the chairman shall have the casting vote.

BY-LAWS.

1. Persons desirous of becoming members shall so notify the Secretary, pay the entrance fee, and agree, if elected, to conform to the rules of the Society, and not to withdraw without giving three months notice of his intention to do so.

2. Members shall pay an entrance fee of five dollars and an annual subscription of four dollars, which annual subscription shall be due and payable on or before the day of the annual meeting in each year.

3. When the election of a member takes place in the last quarter of any year, this annual subscription shall be counted as being for the year next ensuing, but he will not be entitled to receive the publications of the then current year, free.

4. Members whose subscriptions are in arrear will not be entitled to receive the publications of the Society until all such arrears are paid.

5. Under the constitution, the Executive Committee may suspend any member, and a two-third majority may remove any person from membership in the Society, should the conduct of such person be proved to be derogatory to the character or prejudicial to the interest of the Society.

6. Members must keep the Secretary advised of their Post Office address, and all communications shall be considered delivered which have been mailed, properly addressed and prepaid.

7. Ten days before any general meeting, notice thereof, and of the business to be transacted thereat, shall be mailed to every member.

8. No member whose subscription is in arrear shall be admitted to take part in any meeting until such arrears are paid.

9. The ordinary meeting of the Executive Committee shall be held in the Association offices at least once every three months.

10. The Executive Committee shall have power to elect from among themselves a sub-committee

who shall be charged with the examination of all pedigrees of cattle presented for the first time, and whose duty it shall also be to investigate all cases of doubtful or suspicious pedigree, or any case of alleged wilful misrepresentation as to the age, health, or breeding qualifications, &c., in any bargain or sale of Short horn cattle. In all such cases the sub-committee shall report on the case to the next meeting of the Executive Committee, and a statement that such report will form part of the business of the next meeting, shall be given in the notices calling such meeting.

11. The Secretary shall be directly responsible to the Executive Committee for the discharge of the various duties which he may be called upon to perform.

12. All moneys received shall be entered by the Secretary in cash book, and at the close of each day all moneys received shall be deposited in one of the chartered banks. The Executive Committee shall pay the Secretary small sums for postage, &c., by cheque.

13. The Secretary shall have charge and supervision over all the other servants of the Association and shall report any case of misconduct to the committee.

14. No animal shall be admitted to registry in the British American Short horn Herd Book except those whose pedigrees trace in all crosses to imported* cows registered in the English or American Herd Book. Registry in the English Herd Book of stock imported before 1865 will not be required.

*NOTE.—The word imported here used, applies solely to animals brought from Great Britain.

FEES.—Charge of registration will be,
To Members....$0.50 for each animal.
"Non-members, 1.00 "

The above clauses were taken up one by one and unanimously adopted, until by-law 14 was arrived at, concerning which considerable discussion arose, but it was finally passed, only one gentleman voting against it. The constitution and by-laws were then adopted as a whole, a large number of gentlemen were enrolled as members, and the election of officers took place :

President—John Dryden, M. P. P., Brooklin, Ont. Vice-Presidents—Richard Gibson, Ilderton, Ont.; Hon. M. H. Cochrane, Compton, P. Q.; Prof. Lawson, Halifax, N. S ; Kenneth McKenzie, Burnside, Man.; Jas. Steele, New Westminster, B C.; J. L. Inches, Fredericton, N. B.

EXECUTIVE COMMITTEE.

A list—1, John C. Snell, Edmonton, Ont.; 2, Jas. J. Davidson, Balsam, Ont.; 3, W. G. Pettit, Burlington, Ont.; 4, John Miller, Brougham, Ont.; 5, A. R. Gordon, Cooksville, Ont.; 6, James Hunter, Alma, Ont.; 7, Wm. Whitlaw, Guelph, Ont.

B list—8, H. Snell, Clinton, Ont.; 9, Arthur Johnston, Greenwood, Ont.; 10, Prof. Brown, of Guelph Agricultural College; 11, Henry Groff, Elmira, Ont.; 12, J. D. Pettit, Paris, Ont.; 13, J. L. Cowan, Galt, Ont.; 14, J. S. Smith, Maple Lodge, Ont.

C list—15, John Clay, Brantford, Ont.; 16, J.S. Armstrong, Speedside, Ont.; 17, Francis Green, Oakville, Ont.; 18, Edward Jeffs, Bond Head, Ont ; 19, Wm. M. Miller, Brougham, Ont.; 20, Wm. Linton, Aurora, Ont.; 21, Sol. White, M. P. P., Windsor, Ont.

At a meeting of the Executive Committee, Mr. J. C. Snell was appointed Corresponding Secretary, and Mr. John Miller, Treasurer. The appointment of a Recording Secretary was deferred until the next meeting of the Executive Committee, which takes place toward the end of November next.

Live Stock at the Provincial Exhibition.

The display of cattle in all classes was very good. The Shorthorns and Shorthorn grades were well represented, and the quality of those shown was uniformly good; the competition for prizes in the pure bred class was very keen. There were 171 entries of pure-bred Durhams and 90 grades entered on the Secretary's books. The principal exhibits in this class were as follows : Mr. James Russel, of Richmond Hill, Ont., exhibited 14 head of superior Shorthorns, and won 2nd prize on 3-year-old bull, 3rd on yearling bull, 1st and 2nd on 3-year-old heifers, 2nd on 2-year-old heifers, and 3rd on yearling do.; diploma for best herd of 5 females bred and owned by the exhibitor, also diploma and $25 for herd consisting of one bull and five females of any age, owned by the exhibitor. Messrs. Groff, of Elmira, Ont., had on exhibition 13 pure-breds and 18 head of grades, including fat cattle. They won 3 prizes on pure-breds and 10 on grades, including the FARMER'S ADVOCATE Prize of $100 for three fat cattle for export purposes, and the Society's Gold Medal for four fat cattle under four years old; also the diploma and $25 for five grade females, any age, the property of exhibitor. Messrs. J. & W. Watt, of Salem, Ont., showed an exceedingly fine herd numbering 18 in all, 11 of which were pure-bred and 7 grades. Among the pure-breds they won 1st on their 3-year-old bull, also diploma on same for best bull of any age, 1st and 2nd on bull calves, 2nd on aged cows, 1st on 2-year-old heifer, 1st on yearling do., and 3rd on heifer calf; also four prizes on grades. J. & R. Hunter, of Alma, Ont., exhibited 11 choice animals, all pure Shorthorns, and won 7 prizes on the various ages. John S. Armstrong, of Speedwell, exhibited 7 head of very fine animals, and won 6 first prizes, principally in the fat class. J. & R. McQueen, of Salem, Ont., showed 6 breeding cattle and 4 that were fattened. In the pure-bred class they won 2nd on aged bull, 3rd on grade cow and on fat cattle two 2nds and two 3rds. H. Snell & Son, of Clinton, Ont., had on exhibition 7 head and won 3 prizes. James Dixon, of Seaforth, Ont., had a herd of 10 pure-breds and 3 grades. Several other gentleman exhibited one or two animals each.

HEREFORDS.

The exhibit in this class was considered by some to be the best ever made at an Ontario Provincial Exhibition. There were 62 entries made, but all that were entered did not appear on the grounds. F. W. Stone, of Guelph, and C. C. Bridges, of Shanty Bay, were the principal exhibitors ; the latter exhibited 16 head, 5 of which were imported. Mr. B. won 5 first prizes and 3 seconds. Mr. Stone's herd numbered 13, and won all the remaining prizes, including the diploma for best female of any age, and diploma and $25 for best herd.

AYRSHIRES.

The entries in this class number 106. Next to the Shorthorns they were the most numerous class of cattle on the ground. The quality of the animals shown was good, but there were not so many as in some previous years, some of the well-known breeders being absent. The principal exhibitors this year were Thomas Guy & Son, of Oshawa, Ont., and J. B. Bessey & Bro., of Limehouse, Ont. The latter exhibited 20 head, and won ten prizes, including diploma for best bull of any age. Messrs. Guy's herd numbered 24, and won seventeen prizes, including diploma for best female of any age ; also diploma and $25 for best herd. A. Kains, of Byron, Ont., had on exhibition 8 head, mostly young, and won first on 2-year old bull. In the Devon class there were 75 entries ; but like most of the other classes many more were entered than were present. Several very choice specimens were shown, but the number was not up to some former years. Mr. Rudd, of Guelph, exhibited 11 head of very fine animals, and won five first and three second prizes, including diploma for best bull of any age ; also diploma and $25 for best herd of any age or ages. G. & A. Wood, of Islington, Ont., showed 8 head, and won four first and three second prizes, including diploma for best female of any age. Wm. Peters, of London, made a display of seven head, and won four prizes. Other parties exhibited a few head, among whom was W. Currie, of Bowmanville, Ont., whose stock won two prizes.

The only exhibitors of Jerseys were Messrs. Beaty & Miller, of Claremont, Ont. These gentlemen exhibited eight females and one bull. The animals were exceedingly good, and presented a very handsome appearance and were very much admired. In color they are a beautiful fawn—known to breeders as "whole color." The entire lot were recently imported from Great Briton, and are eligible for registration in the American Jersey Cattle Club Register. Of course this herd won all the prizes awarded to this class of stock. No Alderneys or Holsteins were exhibited.

Among the black polled cattle Mr. Thomas McCrae, of Guelph, exhibited a very fine herd of seven Galloways, all of which were recently imported from Great Britain. To this herd seven first and three second prizes were awarded.

Mr. Hood of Guelph, exhibited a few Galloways and won two first prizes. He also exhibited the Polled Angus bull "Gladiolus," which he bought at the late sale of the Ontario Experimental Farm.

Mr. Boyd, of Bobcaygon, Ont., exhibited three Polled Angus, which were much admired. This is the first time the Association have offered prizes for this breed. This year they gave $50 to them, divided in two prizes, one of which Mr. Hood won on his bull ; the other was won by a very fine cow belonging to Mr. Boyd. This breed has for some time past, been attracting a good deal of attention in Great Britain. They are large smooth cattle and produce an excellent quality of beef, are essentially a beef producing breed. In color they are a glossy black with a fine skin and coat like the Galloways; they are destitute of horns, and in other respects resemble them closely, but on examination they will be found to be less shaggy in the hair. Especially is this noticable about the head and ears, and the general quality of the animal will be found to be somewhat smoother, having a little better finish. By many excellent judges they are considered next to the Shorthorns the best breed. One noticeable feature of the cattle exhibit was the large number of superior Shorthorns and Shorthorns Grades. Although a liberal prize list was offered to grades, and a large list to the fat class, including some very tempting prizes, none but Shorthorn breeders exhibited stock in these classes. We are sorry for this; we should like very much to see the Galloways, Herefords, Devons and Polled Angus competing. What is the reason they do not ? Are their breeders afraid of the Shorthorns, or do they never raise any for fattening purposes ? When crossed on the native cattle, does their produce not fatten well ? Unless the breeders of the above classes of cattle do within a few years exhibit grades and fat cattle, farmers will certainly believe them to be inferior to the Shorthorns.

(To be Continued.)

The Woodstock, Ont., Fair.

The Woodstock Fair was a very successful exhibition. The weather of Monday and Tuesday, the 19th and 20th of September, was all that exhibitors could desire. Woodstock is a rich agricultural centre, such as might be expected to make a good exhibition, and the expectations were fully realized. The Exhibition Grounds are well situated for the purpose, though the area is limited, and the exhibition building is quite unworthy of the town and the farming community. A larger fair ground and a new hall are much needed. The number of entries was over 2,500, and the number of persons on the ground on the second day of the exhibition is said to be over 5,000. The receipts at the gate were larger than last year. The cattle show was large, as usual, the Shorthorns especially; Ayrshires and grades were also well represented. The horse show was the great feature of the exhibition. The show of sheep in all classes was large. There was a fair show of grain, butter and cheese. The root exhibition was very good. The fruit show was small ; the best specimens were among pears and grapes. The exhibition of flowers, as well as that of fruit, was small, owing greatly to the unpropitious season.

The Chatham Exhibition.

The Exhibition of the County of Kent was held on the Exhibition Grounds of Chatham on Monday and Tuesday, the 19th and 20th of September. The main building is an octagon, in diameter 75 feet, with two large wings added. Inside flags, banners and evergreens figured profusely. Under the dome there was a central stand of fruits and flowers. A pyramid of fruits and flowers occupied the centre of the main building, and at its base was an exhibit of apples, pears and other fruits, comprising thirty varieties of apples, besides grapes, melons, etc.—forty-eight entries in all—and the pyramid was crowned with a fine collection of foliage plants.

There was a very good exhibition of agricultural implements—ploughs, cultivators, mowers, reaping machines, etc. Machinery so necessary for improved agriculture now forms one of the most interesting features of our annual exhibitions, and Chatham, with the wealthy farming county of Kent subsidiary to it, is not behind in this important Canadian industry. In fact, all industrial pursuits were well represented.

THE FARMER'S ADVOCATE for September, just issued, is up to the top mark of agricultural family papers. None better is published anywhere. It is packed with valuable information relating to the farm and fireside, and is edited with an intelligence and independence that makes THE FARMER'S ADVOCATE exactly what its name indicates.—[Free Press, London, Ont.

Agricultural.

The Clover Seed Midge.

In a former number of the ADVOCATE we gave a brief sketch of an insect that was preying upon the seeds of the red clover in the State of New York. Since then it has become better known by Entomologists, from the researches of whose investigations Mr. Saunders, editor of the Canadian Entomologist, has kindly furnished us with the results.

The insect has committed serious depredations upon clover seed in several counties of Western New York during the past year. In one county fields of clover that had been kept for seed were so badly injured that they were not kept for cutting. Its ravages had extended to other States, and, as we had dreaded when we first directed the attention of Canadian farmers to it, we have information that the insect pest has invaded our Dominion, and we have complaints that it has been committing depredations on farms along the line of the Canada Southern Railroad and in that vicinity. Of all leguminous plants we can the least afford being compelled to cease sowing clover, and we do hope that its ravages may be stayed.

The attention of entomologists was called in the summer of 1877 to some "worms" which had been discovered in the heads of red clover and were said to be preying on the seeds. They were small maggot-like creatures and were entirely destroying the seeds that they attacked. The insect was at that time unknown. The following season a number of the larvæ were obtained from heads of infested clover, which had been sent from the President of the N. Y. State Agricultural Society, from Elmira, to Mr. Lintner, N. Y. State Museum, Natl. Hist. Soc., Albany.

A careful investigation enabled him to refer them to the *Cecidyomidae*, of a species related to the wheat midge, an insect too well known from its destructive propensities. Mr. Lintner says that the insect is a true *Cicidomyia*, and he now proposes the name of *Cecidomyia leguminicola* for this American species as its distinctive name. It is thus described: Wings with three longitudinal veins, the third either turning a fork or becoming more or less obsolete towards the tip. A cross vein placed between the root and the tip of the first longitudinal vein. In this section the cross-vein is frequently almost obsolete. The wings are clothed with numerous short, curved, blackish hairs which give them a dusky appearance; ciliæ paler, long. The abdomen is fuscous marked in each segment dorsally, with black hairs forming a segment of a circle having the curve in front. The thorax is black above clothed with rather long hairs.

The mature winged insect resembles the wheat midge very closely, so much so that few can distinguish them. We have therefore been particular in the description of the clover midge.

The farmers of the United States who have suffered from its depredations have as yet discovered but one method of subduing it, that one proved effectual with other insect pests, starving them out by ceasing to grow clover in the localities where it prevails. This method was ere now found efficacious in subduing the wheat midge in Genessee Valley, N. Y., when every other remedy failed, and it may be found a radical remedy. It has been suggested that the starving out might be effected if farmers in the infested districts will cut their first crop of clover earlier than usual, just as the first heads are being formed, and if they will not endeavour to get a seed crop.

Meeting of the New Brunswick Board of Agriculture.

A meeting of the above Board was recently called to receive the report of the special committee appointed to examine farms offered for the Provincial Stock Farm. After advertising fourteen farms were offered for sale, each of which was visited. In their report they gave a description of those most suitable. After considerable debate, it was,

Resolved, 1st.—That this Board recommend the Lieut.-Governor in Council, to purchase the Col. Beer farm, situate in Sussex, for the prposed Stock Farm.

2nd.—That this Board is of opinion that Thomas F. Barker is a suitable person to manage the proposed Stock Farm, and would recommend his appointment by the Lieut.-Governor in Council,

3rd.—That in the event of the Government deciding on leasing a farm in lieu of purchasing, the Board would recommend the Otty farm in King's Co.

The above mentioned farms are described as follows:

Col. Beer's farm, situated in Sussex, King's County contains about two hundred acres, fifty acres of which are low uncultivated land, 140 acres intervale, and ten acres of high cleared land. This farm is well watered, and the greater part of the intervale land is in a fair state of cultivation. There are two dwelling houses on the premises in good state of repair. The barns will need considerable repairs, and the fences are not good.

The Otty farm is situated on the Hammond River, in the Parish of Rothesay, King's County. It contains abcut 300 acres, 75 of which is interval, 75 tillage, 100 pasture, and the remainder is wood land. This farm is in a fair state of cultivation, and is well watered. The house and barns are good, and would require very little, if any, expense to fit them for use for a stock farm. The fences are good. This farm can be rented for a term of ten years at $1,000 per year.

The imported Government stock for the above farm having arrived at Quebec in charge of Mr. Simeon Beattie, of Annan, Scotland, Mr. Inches, Secretary of Board, and Mr. T. F. Barker, Manager of farm, went to meet them. The consignment comprize Shorthorns, Ayrshires, Red Norfolks, Herefords and Polled Angus, about forty head in all, the Shorthorns being the most numerous, the Ayrshires and Norfolks next, and about equal in number; the other breeds jointly number seven or eight. The Norfolks are large, hornless cattle, remarkable for their superior dairy qualities. They have been recommended by Professor Sheldon.

The importation includes more than 100 sheep, of the most approved breeds, including Border Leicesters, Shropshires, etc. There are also about 30 pigs, Berkshires and Yorkshires.

Recent Meetings Held Under the Auspices of the Agricultural and Arts Association of Ontario.

While the Exhibition was going on in this city, several evenings were taken up by public agricultural meetings; but, strange to say, although these meetings had been widely advertised and promised to be of much interest and of great benefit if properly carried out, they were in several cases very poorly attended. Farmers, as a rule, do not take the interest in such meetings they should; it is hard to get them to combine in any association which is solely for the benefit of agriculture. Such an association is very much needed, and should be composed of agriculturists only. A farmers' alliance is what is needed, and should be a Provincial if not a Dominion Association. The farming community must have a representative body, and each farmer should be an interested member in bringing that body into existence and maintaining it when brought forth. On Wednesday evening, 21st of September, a public meeting was called at 7 p. m., to discuss the subject "How to make stock-raising the most profitable, and how best to advance the interests of the breeders;" also to read the prize essays on Forestry. The essay which gained first prize was written by D. Nicol, of Cataraqui, Ont., and the second by P. E. Bucke, Ottawa, Ont. The greater parts of both of these essays were read. They contained considerable information. The reading occupied some time, but the discussions on stock-breeding which followed were meagre in the extreme and nothing new was brought out, though a good opportunity for doing so was afforded. Very few farmers or stock-breeders were present.

On Friday, the 23rd, the annual meeting of the Council of the Agricultural and Arts Association and the delegates from the various agricultural associations took place. A large number of farmers and delegates were present.

The President, Mr. J. B. Aylesworth, of Newburg, Ont., read the following

ANNUAL ADDRESS.

GENTLEMEN,—Having been honored with the position of President of the Agricultural and Arts Association of Ontario, it becomes my duty to address you on the present occasion.

I think we can safely congratulate ourselves on the success of this, the 34th Provincial Exhibition—the 8th one held in this Western city. The first was in the year 1854. Some of those held here since that date have been among the most successful ones, financially, that the Association has ever had.

It affords us much pleasure to acknowledge the handsome manner in which the city of London has faithfully carried out the pledges given at the annual meeting a year ago by its chief magistrate, Mayor Campbell.

Last year the experiment was tried of holding the Exhibition for two full weeks, but this was found to be rather too long to be popular with exhibitors, so at the last annual meeting it was decided to commence on Wednesday and continue for nine days, taking part of two weeks; by this arrangement it was thought exhibitors and others could attend the Exhibition and return home, being absent only one Sunday. If any better plans as to the length of time could be suggested at this meeting, I am sure the Council would cheerfully act upon it.

We believe those ladies and gentlemen who have so kindly responded to the invitations to assist us as judges, have endeavored to discharge their duties honestly and impartially. The Council has tried in all cases to appoint none but competent persons to act as judges.

It is a most difficult matter for a committee of judges to satisfy everybody, especially when there are a dozen or more competitors for the same premium. In a large number of cases it is not the money value of the premium that gratifies the recipient. Many persons prefer a medal or a diploma.

The object of awarding premiums at all Exhibitions—big and little—is not so much paying a certain number of dollars to a man because he is the owner of the best animal, or because he may chance to have the best wheat or other grain. Money premiums are given to meet—in part—the expense and trouble, and sometimes loss in bringing animals and articles a long distance, and placing them on exhibition for the pleasure and profit of those who see them. And we are often very much benefited by what we see.

We think it hardly possible for an observing man to attend an Agricultural Exhibition without seeing and hearing much that must prove valuable to him.

Admitting the correctness of the axiom that "the earth is the source of all wealth, and that labor developes it," every reflecting mind must be impressed with the fact that the wealth and prosperity of a country depends largely upon the success of its agriculture.

To the inventive genius and enterprise of the mechanics of our Province must be attributed much of the success of agriculture in Ontario. They have supplied the various implements, and the different combinations of machinery that have done so much to lighten the labor of the farmer, and to expedite the many agricultural operations he undertakes.

The display at the present Exhibition gives us the gratifying assurance that there is no immediate danger of a falling off in the supply of labor-saving machinery.

The Association has this year made a departure from its usual course, by the initiation of prizes for the composition of essays on the subjects of "Forestry," and on the best "methods of restoring the fertility of partially worn-out lands."

Two years ago the Council of the Association decided to offer medals as prizes for the best kept and best managed farms. They grouped the county societies into six divisions or districts, the farms in one of each of these divisions to be gone over and examined each year.

Last year District No. 1, comprising fourteen ridings, east of London, in the Niagara District, was taken. The judges made a full and lengthy report of the condition of the different farms they had examined. The report, after being submitted to the Council, and a copy sent to the Commissioner of Agriculture, was printed for free distribution. This year group No. 2 composed of the counties of Essex, Kent, Lambton, Elgin, Middlesex, and Oxford, has been taken and a personal inspection of a number of the best farms in those counties made by the judges appointed for that duty. The result of the examination will shortly be given to the public in the form of a report. In a like manner a district will be taken each year—a plan that will give to every farmer in Ontario an opportunity of having his farm examined for a prize, if he wishes to avail himself of it.

As proof that our Government is still wise enough to understand what will in this respect promote the best interests of the Province, it has continued to aid the Association by a grant of some of the public money. We notice that *two* or *three* members of the Legislature seem to be opposed to giving the grant. They argue that aiding the Agricultural Association of the country is a *waste* of public money—that the benefit is not equal to the expenditure. If those gentlemen are honestly in search of something to reform—something that costs the country more than it is worth—they might perhaps find it nearer home in connection with their own indemnity.

As the years pass by, the condition of farming in Ontario is constantly undergoing changes. We can no longer depend on grain growing alone. It is not necessary for us to enquire into the cause of these changes. It is enough for us to know the fact. Farming is now much more of a science than it was fifty years ago. The farmer who then could make a living easily would now starve if he followed the same system of cultivation.

We must turn our attention to stock raising, dairying, fruit growing, gardening, etc. We are pleased to notice the continued increase in the dairy interests; as also, the facts that our products are taking a front rank in the English markets. What is most necessary now is, that those engaged in the manufacture of cheese and butter should be careful to adopt the best approved system of management, so as always to put on the market a first class article, and preserve the good reputation Ontario has already acquired.

The raising of stock for exportation—though comparatively a new enterprise—has developed into a trade which is a means of profit to our farmers. Fifty thousand head of cattle were exported last year. And this year the exports to Britain alone will probably amount in value to three million dollars! To grow stock for the British market requires the exercise of excellent judgment. Poor cattle, sheep and horses will not pay their expenses; while good animals in proper condition will pay a handsome profit to the shipper. Our native cattle would never pay for the

trouble and expense of fattening and exporting. But the high class grades, or the pure-bred animal will sell readily at a profit. The same rule will also apply to sheep. Our farmers must learn to raise better bred animals. If thoroughbred heifers cannot be procured, pure blood bulls, at any rate, can be, and this in a very few years will so improve the farm stock that it will be fully as profitable for exporting purposes as the pure bred.

For the purpose of encouraging the further development of this,—one of our greatest resources,—Mr. Weld, proprietor of the FARMER'S ADVOCATE, has generously given a prize of $100 for the "best herd of fat cattle for shipping." This munificent prize is to be given annually.

The Press is the cheapest and most effective educator of the masses, and it is gratifying to know that we have journals devoted especially to agriculture, able edited and true to the interests of the farmer.

Farming is, like any other profession, capable of indefinite advancement and improvement, and the farmer who thinks he "knows all that can be learned about farming" has very much need of instruction, and does great injustice to the profession.

Merchants try to keep thoroughly *well up* in all the departments of their trade. They take special interest in all periodicals which are calculated to keep them well posted in commercial matters.

The doctor has his "Lancet," and the lawyer his "Journal," the merchant his "Monetary Times and Trade Review," and so on all through the different professions and trades. But how is it with the farmer? Many of them take a newspaper for the general news, which is perfectly right, and what every one should do; but too many stop at that, thinking that as they know all about farming, they don't need to take an Agricultural Paper!

Many farmers think that all the knowledge requisite in agricultural pursuits every farmer can learn for himself by experience, and make a living at the same time. And there are some who believe that the only way to get a correct knowledge of farming is to grow up on a farm and learn by experience and observation. No doubt the latter is the most certain method of getting a good common education, provided there be a competent instructor to lead the pupil.

But one thing lost sight of is, the practical farmer is much assisted and profited by the experience of others, and such experiences are to be met with in agricaltural publications.

Farmers are just beginning to recognize the fact that science is a great help in agriculture. Chemistry applied to practical agriculture is capable of conferring the greatest benefits.

Entomology is a science, and there is no farmer, when his attention is properly called to it, but will concede the importance of knowing exactly what insects are harmful, and what are not. To know this means profit. We hope the day is not far distant when every farmer will read his agricultural paper, and believe that there is something to be learned in it; and also in books on subjects connected with arming.

Let the truth, that mind and muscle are co-workers in the great field of agriculture, be generally recognized, and a long step upwards will have been taken towards the attainment of the rightful position of the farming community.

The election of auditors was then proceeded with, and resulted in the election of Messrs. N. Cavin, of Galt, and Hobson, of Guelph.

The next point of interest was the

SELECTION OF A SITE

for holding the exhibition of 1882. The only places proposed by the delegates were Toronto and Kingston. The latter place certainly has many just claims; a large delegation, headed by the Mayor of Kingston and Sheriff Ferguson, came to lay before the meeting those claims, with authority from the city of Kingston and county of Frontenac to guarantee that the Association should be provided suitable accommodation to make the fair a success.

The show has not been held in Kingston since 1871, when the weather was very unfavorable and on that account the exhibition was not a success. Ottawa has had the Provincial twice since then, although Kingston is a much more favorable situation to hold it at, and the Fair would undoubtedly be more successful than when held there. The western cities have each had it once or twice since it was last held in Kingston. This city and the farmers in the vicinity have therefore been slighted and deprived of their rights, for it is well known that the Association is supported by a yearly government grant, of which the city of Kingston and farmers in the vicinity pay an equal proportion with other sections of the country.

It is also well known that the vicinity in which the Fair is held is benefited above all others. Then why deprive Kingston and surrounding country of this benefit to which they have so just a claim, especially as many of the farmers of that vicinity are not as far advanced in stock breeding or general agriculture as their western brethren?

It is usually the practice for the Association to receive pledges from the cities where the exhibition is to be next held—pledges to the effect that said city and surrounding country will provide necessary accommodation. This Kingston did, but Toronto did not—the reverse, she did not ask to have the exhibition, did not want it. Letters and telegrams were read from the Mayor of Toronto and other prominent citizens, to that effect. But certain members of the Association held that the farmers had a right to say where they would hold the Provincial Exhibition, and that there was no necessity of consulting city authorities. They deemed it proper to hold the next exhibition in Toronto, believing that it would be a better show and be more successful financially, thus putting the Association on a better footing.

For the latter reason some might be in favor of centralizing the Exhibition in Toronto, or at least to always keep it in the west, which would be a very unjust course. When the vote was taken Toronto was chosen by a majority of 38, but it was understood by the meeting that if Toronto would not furnish suitable accommodation the Board were to select some other city.

THE ASSOCIATION CRITICISED.

Mr. Thomas Cowan, of Galt, then addressed the meeting on the financial situation. He advocated a decided reform in the direction of economy. The receipts and expenditures for the last three years he quoted as follows:—The prizes in 1878 amounted to $15,490.00, and the expenses in addition to this amount, were $19,874.01. In 1879 the prizes were $12,000; the expenses, $13,681.33; 1880, prizes, $13,476.50; expenses, $16,794.90. He then gave some of the items in connection with this exhibit, and quoted the accounts of the London and Toronto local fairs as showing economy and good management. The delegates and country should awake to the importance of the fact that it cost them $1.50 to pay out $1 in prizes. He concluded with the following motion:—

Moved by Mr. Cowan, seconded by Dr. Beadle, that it is desirable in the interests of the Provincial Exhibition to secure a much more economical management of its affairs in order that funds contributed to its support may go to increase the prize list, and for other useful purposes, as in our opinion there is too great a disproportion between the amount of prizes and the expense incurred in paying them.

Mr. Cowan's address and motion were received with cheers.

In reply to Mr. Cowan, members of the Board stated that charges of extravagance could not be justly laid against the Board. The actual expenses of the members in attending the meetings were often more than the allowance they received. The Board has more to do than formerly, and necessarily spends more money. The itinerant nature of the Association was an expensive feature. In every city they exhibit they have to spend a considerable amount of money in preparing the grounds, buildings, &c.; for instance, toward the Toronto buildings they gave $4,000. The large increase in delegates entailed a large additional expense, over which they had no control. The Herd Book was a continual drain on the Association, and the expenses of publishing it were not nearly met by the receipts. Several economies had been put in force recently, reducing the salaries of the officers and otherwise curtailing the expenses, by which means they had been enabled to lessen the expenses this year some $3,000 or $4,000.

(Is not this last statement an admission that the Board has been spending $3,000 or $4,000 more each year than was necessary?)

Mr. Johnston, late President of the Ontario Agricultural College, was called to give a plain statement of facts. He had been requested to look through the Association's books, and did so, feeling when he began just like Mr. Cowan. After going through the books for the last ten years, he came to the conclusion that, considering what they had done, where they were, and the way they had to do it, they had reduced every expense down to the lowest point possible with any degree of efficiency. He then pointed out the many things which the Board had the control of, and expressed the opinion that they were overloaded with work. They would find at the next session of the Local Parliament a large number of members in favor of doing away with this Board, and they would have no defence. The remedy he would advise would be a change in the Act of Parliament which now governs the Association. He strongly advised the farmers to form a Dominion Farmer's Alliance, with a voice which should be heard in both Houses of Parliament.

After the above address a motion was moved in amendment by D. M. Campbell, seconded by Robert Scarth, that this meeting desires to express their opinion that they have entire confidence in the Board, and congratulate them on having reduced the expenses of the Association some three or four thousand dollars during the present year, and trust that they will pursue the same course of economy in the future.

This motion caused a great deal of very warm discussion, but was finally carried.

AGRICULTURAL EDUCATION.

Professor Mills, President of the Ontario Agricultural College, then addressed the meeting.

At a former meeting of the Board they had discussed the advisability of holding examinations on agriculture, live stock and kindred subjects at convenient centres for farmer's sons and the granting of certificates on the result thereof, and on that occasion they requested Prof. Mills to draw up a course of study and lay the same before the delegates from the agricultural societies for their consideration at the annual meeting. Mr. Mills in presenting his course of study pointed out the necessity of it, and how it should be conducted. A resolution was passed advising the Association to hold said yearly examinations, and recommended the course of study prescribed by Mr. Mills.

SHORTHORN HERD BOOK.

On Wednesday, the 28th, a meeting of the breeders of all kinds of pure-bred stock was called, with a view of gaining their opinions and discussing the subject of Herd Books generally. The meeting was very largely attended. Discussions concerning the Canadian Shorthorn Herd Book occupied the entire meeting. The representatives of the shorthorn breeders present contended, as previously shown in the ADVOCATE, that the record as at present conducted and as it has been for some years past, is an injury to the breeders and the country at large, and that to be of any benefit all grade animals must be expunged from its pages, and that the standard of entry must be raised. A resolution to this effect was moved by Mr. Gordon, seconded by Mr. J. C. Snell, that this meeting approves of raising the standard for entry into the Shorthorn Herd Book, so that no animal shall be entered unless the pedigree traces in all crosses direct to imported stock, registered in the English Shorthorn Herd Book.

The above motion was almost unanimously carried. We do not remember of but one man voting against it, and he is not a breeder. The breeders also contended that the management of the record should be handed over to the British American Shorthorn Breeders' Association, and that they be allowed to control the book in future. By this course they claimed the record would be successful, and be conducted in a way which would prove most beneficial to the farmers and country generally. The A. and A. Association opposed giving the control of the record over to the Breeders' Association, but thought it should continue under the control of the A. and A. Association, as at present. They stated that if the Association was worthy of confidence at all, it was worthy of being entrusted with the Herd Book. If the standard were raised, would the country be benefited? The question was, are the breeders of Shorthorns prepared to raise the standard, and if so, are they willing to hand the book over to the new society? Until the Provincial Association have been assured that the breeders are prepared for such a change, they would be untrue to their trust did they submit to it.

The members of the Board seemed very desirous of retaining the control of the record, and promised that the wishes of the breeders would be consulted hereafter, and that the future volumes would be issued more promptly—as one of the breeders said, at least within the life time of the animals recorded therein. A few breeders were in favor of the Board retaining the management.

Mr. Hugh Love moved, That we are happy to hear that greater care and promptitude is being exercised in regard to the Shorthorn Herd Book, and we hope such may continue to a greater extent, and that in the meantime we believe it best to leave the matter, as it is, in the hands of the Board of Agriculture and Arts.

Mr. Geo. Hood, of Guelph, seconded the motion.

An amendment was moved and seconded by prominent breeders, to the effect that the A. and A. Association give the control of the record to the breeders, the breeders not having confidence in the past management. When these motions were put the members of the Board did not vote. Eighteen of those present voted for Mr. Love's motion and seventeen for the breeders' amendment. Some of the prominent breeders did not vote, but the majority of those who did voted for the amendment. Several who voted for Mr. Love's motion were not Shorthorn breeders, and some who were breeders voted for the motion because they thought there should be two records—one for grades, the other for pure-bred animals.

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.

SIR, —With much interest and appro val I perused an article on "Butter Making," by Miss Fannie Morley, in last issue of the ADVOCATE. It is not my intention here to criticise the article or enlarge on the subject whatever; but rather to offer some suggestions on the means employed in the manufacture of butter, which I firmly believe would tend to accelerate the progress in this desirable industry. The principles advocated by Miss Morley towards a more extensive knowledge in the art of butter making, I thoroughly corroborate, and which principles, if rightly understood by all butter makers, would have the effect of greatly reducing the quantity of bad butter which is yearly thrown upon our market. But the question which I would propose is, Could there not be a more economical method employed towards bringing about these desirable results, than by confining the making of butter exclusively to each farmer's household?

A thorough knowledge of the art of butter making requires a great deal of time and care to accomplish. It is an occupation that is confined almost exclusively to the "gentler sex," and it is to their credit that this can be asserted. Many tedious and laborious days have been spent by the females in this occupation; a local poet fairly sings out,

"If ye would ca' the kirn
Ye maun be unco firm
Or it will gar ye girn."

In default of time and opportunities for acquiring a real and complete art of butter making, many, under the present system, remain ignorant of the essential principles of this art; hence the cry of the inferiority of our butter. What else can be expected under the circumstances? What use of merchants and agricultural writers lauding themselves to the skies and pouring torrents of obloquy upon our farmers' wives and daughters? How long is this state of affairs to exist? Is there no remedy? Have all other trades and industries to be constantly in the march of progression, while the butter trade lags behind?

This is a question of political economy. In the first place the cost of production must be diminished by economizing labor; this all will admit. But how is this to be effected? By co-operation. There may be, and is, a diversity of opinion existing on this subject; but I think it will be clearly evident to all who have given it consideration that unity in this, as in all things, is a source of strength. There are instances, I believe, in Ontario where butter factories exist; but they are mostly in the hands of individual proprietors, or speculators, who see money in the business, and are ever ready to take advantage of the farmers when opportunity offers. What I offer is joint stock association among the farmers of a community. They can in that manner have the benefit of the profits of the factory, and can employ competent and skilled workmen to superintend the making of the butter. Of course it would be superfluous in me to specify all the advantages that would be derived by an association of this kind; but if the clamor for better butter is to be satisfied, if the laborious work incurred under the present system is to be averted, then dairymen must endeavour to strike off from the old outridden rut, and march on in the line of progression. Then let farmers co-operate; let them form joint stock associations, and by a more minute division of labor a remedy will be effected and one of the most vexed questions in Canadian agriculture will be once for all set at rest.

J. D., Dumfries, Ont.

THE FARMER'S ADVOCATE has no equal in Ontario. You may safely believe this.

WM. H. READ, Port Dalhousie, Ont.

PROSPECT OF FOREIGN DEMAND FOR CANADIAN FRUIT

SIR,—Early apples from America in large quantities will not make the extreme prices of former years; on the other hand a limited supply will always command good prices. For early shipments I recommend large green apples, or highly-colored apples; intermediate will not find good sale this time. Our growers are getting more in the habit of sending their goods to market direct from the trees, experience having taught them that unless they do so they get lower prices as soon as any quantity of American comes on the market; having last year's figures to go on, when America sent here 1,300,000 barrels, they will hurry their produce as soon as fit; I therefore calculate that their produce will be cleared by the end of November. Continental produce will be effected by whatever news comes from your side; if reports come over that your crops are heavy, they will hurry shipments, or *vice-versa*. Here I would remark that if apples are sold cheap to commence the season, it will have a beneficial effect on the remainder, as it will cause the whole of the consuming public to buy, and afterwards enquire after this fruit. That the public will consume cheap apples, and that the trade can be increased, is proved by the vast quantities that sold here last year, every barrel of which, that came properly packed, must have paid a profit to the shipper.

On all shippers I would impress the necessity of tight packing: if goods are packed tightly they arrive in good condition, but unless they are tight they settle during transit and their various journeys cause all slack-packed apples to rub one against the other, and so causes them to rot. To this cause may be traced all of the parcels that arrive in bad condition. Careful packing will reduce the risk to a minimum, providing always that the best routes are chosen for shipping, and to this end I would recommend only fast steamers, and never on any steamer that carries cattle; the heat from the cattle, or some other cause, is so bad that it is the exception for a cattle boat to bring apples in good condition. Unfortunately this port is not well represented on your continent for fast boats, and freights are generally 4s, whereas to Liverpool the freight is usually 3s. Last season large quantities came to this market, via Liverpool, through charge on which amounted to about 5s per barrel. By this route you have the benefit of a quick service, and competition between the different railways is so keen that the day after goods are landed they reach this market, each company striving its utmost to bring the apples in good condition and with as little oscillation as possible.

That this market is the best in the United Kingdom has, I believe, been proved, more especially to such as sent best goods. This fact, I believe, was never more shown than last year, when the bulk of shipments at the finish came here, and our buyers had not to send their orders to other markets, as this had a two-fold effect: first, it kept the buyers here, and second, it took away the orders from other markets, which would otherwise have gone.

In conclusion I would remark that the consumption of fruit increases every year by a very great extent, which necessitates larger supplies, and I look upon the American fruit trade as only in its infancy.

The following is a list of apples, showing their value as shippers this season:—

Baldwins—Free seller, bright color preferred.

Cranberry Pippins—Sells fairly well, bright color preferred.

Fall Pippins—Bad keeper, no use this season.

Fallwater—Free seller, and commands good prices in the spring.

Golden Pippins—Soft, dangerous apple, no use here this season.

Golden Russets—Free seller, and, when clear, makes good prices.

Gravenstein—Soft apple, dangerous.

Greenings—Free seller, well known.

Gilliflowers—Poor, should not be sent to England.

Holland Pippins—Good apple, but soft.

Jennetings—See remark against "Gilliflowers."

Jonathans—When of good color, command good prices.

Kings—Good seller, but should not be sent ripe.

Lady Apples—Sell well at high prices.

Lady Pippins—Fairly good, moderate prices.

Maiden's Blush—Good apple, properly colored commands high prices.

Montreal Fameuse—Highly colored, sells fairly; green, bad seller.

Nonpareils—Nova Scotia and Canadian always command fair prices.

Newtown Pippins—Large, selected fruit commands high prices; small, speckled fruit bad to sell even at low prices.

Nonsuch—Soft, dangerous.

Phœnix—When clear, sells fairly; very liable to turn black on one side, which spoils the appearance.

Pomeroy—Small bright sells fairly well; large sort liable to turn pithy.

Pomme Gris—Sells well, particularly when clear.

Pound Sweet—Dangerous, no use this season.

Queen Pippins—Fair seller.

Rambo—Medium only in price and quality.

Ribston Pippins—Good seller, but must not be sent ripe; loses its crispness, which is essential.

Romanite—When small and good color, commands fair prices.

Roxberry Russets—Useful apples, medium price.

Salisbury Pippin—Fair seller, when sound.

Seeks—Good apple, and when high colored sells well.

Spitzenburgh—Good apple, but quickly decays when ripe.

Spys, Swaars } Must be large to sell well.

Talman Sweet—Medium apple, fair seller when large size.

Twenty Ounce—Good medium apple.

Vandeveers—Fair seller.

Wagners—Good color, fair prices.

Woodstock Pippins—Good color, good prices.

The name of the apple should always be written or printed on one end of the barrel, and in all cases the apples should be of same quality throughout the barrel. Some American shippers have a habit of putting a few good apples at the ends of the barrel and filling up the centres with those of an inferior quality. This is called facing, and is very injurious to the American trade. If a barrel chances to be opened that has been so packed, it will seriously injure the entire shipment.

W. N. W.

London, England.

BUILDING PENS FOR SHEEP, ETC.

SIR,—Care should be taken in erecting pens or sheds to make the entrance large enough. Sheep ought not to be crowded in going in or out. Many fine animals have been injured in that way, for sheep go in and out of their quarters when feeding time comes with a rush, and huddle close together. If the entrance is sufficiently large there need be no danger of crowding. All weakly lambs or sheep should be separated from those in good condition and allowed extra rations. Delicate sheep never stand much chance in a flock of fat, thrifty ones, as they are apt to be knocked around, and seldom get their share of food. I am glad to see that farmers are waking up to their interests and getting sheep of improved breeds. The old fashioned, coarse-wooled kinds ought to give place to such as the Cotswolds, Downs and Merinos. Not only is the yield of wool greater, but it is of superior quality and brings a much higher price. Their mutton qualities are also superior, both for quality and quantities. Sheep judiciously managed pay better, all things considered, than any other class of stock, while as a general thing they are less trouble than most other stock. The price of wool is rather low at present, but, like other things, the business will have its ups and downs.

JOHN H. SWALES,
Logan, Ind., U. S.

SIR,—By your request I send you an account of the crops in this section. During the months of July and August we had here, as elsewhere, a great deal of wet weather, which prevented many from gathering anything like a fair quality of hay. Although the quantity was increased, the quality by over ripeness and rust was materially decreased, so that on the whole we will not have an average crop, taking quality for standard. Early wheat, which has now been housed, has been an average crop, having escaped rust, but what is yet to ripen will not be half a crop, judging from what I have seen.

Early oats is an average, although very badly laid down; they were well on to ripeness when lodged and did not suffer much. Late oats are ripening very slow, particularly those on sod, and promiscuously through the fields are large patches very badly laid down, and a second growth starting up, which betokens not an average crop.

Barley being an early grain, escaped unhurt, although lodged.

Buckwheat is the only grain that appears to

have stood the wet. I have seen none lodged, but it is not heavily loaded and somewhat blighted.

Corn, if frost don't visit us before 1st October, will be an average, but sooner than that I fear for it.

Potatoes have all been attacked with rust, and are now looking pretty black. Many say that their potatoes are rotting quite badly. The yield per hill is not up to the average.

Beans are looking well, and I think will be up to the average.

Turnips are not making growth at the bottom as is usual this time of year, but they have very large tops.

Beets, mangolds, parsnips and carrots are doing fairly.

The apple crop appears to be irregular; in some orchards there are very few, in others more than an average. The spring frost appears to have affected some orchards more than others, and I think the natural fruit stood the frost better than the grafted; however most all apples are scabbed, which we attribute to the spring frost.

A. S., Upper Brighton, N. B., Sept. 2.

SIR,—In 1880, on your recommendation, I put seed corn before planting into coal tar and water, and thus saved it from the crows. This year I had a pig above 80 lbs. too weak to stand. I treated it for thumps with spirits of turpentine. It now weighs about 150 lbs. I think I have got a little more than my subscription by reading the ADVOCATE. We are deluged with rain. The loss of hay is enormous. The loss near Sackville is estimated at from $40,000 to $60,000. The St. John is as high as it was in the spring freshet. I fortunately escaped, excepting two or three acres.

J. F., Upper Woodstock, N. B.

A FEW OF THE REASONS WHY WE PREFER THE COTSWOLDS TO ANY OTHER BREED OF SHEEP.

SIR,—Having had considerable experience in breeding Leicesters, Lincolns, and Southdowns, as well as Cotswolds, and having given all a fair trial, we decided in favor of the Cotswolds as the best breed for all purposes, combining, as they do, weight of carcass and weight of fleece in a greater degree than any other breed.

Being a pure-bred sheep, the rams are better adapted for crossing upon other sheep than those of any other of the English breeds; the first cross frequently producing an animal having nearly all the appearance of the thoroughbred.

As in America, the pure-bred sheep must be used mainly in its crosses upon other sheep; the breed which will make the greatest improvement, in ombining the largest weights of mutton and wool, with early maturity, demands the preference.

The demand that is springing up in this country from England requires something approaching to a fair or good mutton sheep. The South Down for *quality* of mutton excels all others, but they are light shearers and of light carcass, and with all the talk of the shippers about *quality*, we have noticed that they are not willing to *pay* for *quality*, but will pay the highest price per pound for *heavy* sheep

The Leicesters are good feeders and mature early, but are not hardy, and they produce too much *fat*, not being so well marbled, or mixed with lean meat. They are not as heavy shearers as the Cotswolds, and will get bare of wool on the belly and legs, which is a vexatious failing, as it is almost impossible to sell a ram with bare belly or sack. The Cotswolds hold their wool below, to any age, and there is less difficulty in getting a suitable ram to breed from than in any of the other breeds.

The Cotswolds are hardy, heavy shearers, quick feeders, and early maturing. Crossing them upon Merino, or native ewes, their produce, the first cross, is nearly equal to the thoroughbred in size and quality, and at the present time the fleece is in demand at prices beyond the Merino, or pure-bred Cotswold. They will go to market under liberal keep at 18 months old, weighing 150 to 200 pounds live weight, and at this age will command the top prices from the butcher in our best markets.

There is none of the mutton breeds that will feed out at an early age with as much profit, and none that will cross on other sheep with as much profit.

In order to show to what weights Cotswolds can be fed, when forced, for show purposes, we may state that we have had ram lambs at 7 months to weigh 180 lbs.; yearling rams at 18 months, 350 lbs.; and matured rams at 2½ years, 426 lbs. Ewe lambs, 160 lbs.; yearling ewes, 266 lbs.; and aged ewes, 346 lbs. At the Chicago fat stock show in 1878, we showed nine ewes that averaged 315 lbs., the lightest being 290 lbs., and the heaviest 346 lbs.

We think we may safely challenge the breeders of any other breed of sheep to show a better record of weights than the Cotswolds have made *at any age*, and while we do not approve of forcing sheep intended for breeding to such weights, or nearly approaching them, as we know it sadly impairs their usefulness as breeders, yet we are proud of the breed of sheep that is capable of making such records.

As to weight of fleece, we have had rams to shear as high as 20, 22 and one 26 lbs.; and ewes from 16 to 20 lbs., unwashed wool of good quality, and for several years our flock of breeding ewes have averaged 1[illegible] lbs. of clean washed wool. Compare this with the average of 5 lbs. or 6 lbs. from some of the other breeds, and even if their wool brings two or three cents per lb. more, our fleeces made nearly twice as much money, being nearly twice as heavy.

Most of the English Downs, such as the Oxford, Shropshire and Hampshire, have been made up from crosses of the Cotswold and the South Down, and are at best only cross-bred sheep, and though by culling freely from large flocks they have produced large mutton sheep, yet it must be admitted that they have not become a sufficiently fixed breed to produce anything like a uniform offspring, when crossed upon common and grade sheep, and we shall be mistaken if those who are paying high prices for imported animals of these mixed sorts do not find themselves sadly disappointed at the end of two or three years experience with them in this country, with American modes of handling sheep and the absence of hurdles, turnip folds and experienced shepherds.

As an evidence of the growing popularity of the Cotswolds we may point to the fact that although in the last 15 years there have been ten times as many Cotswolds imported from England to Canada as of any other breed, there has never been enough to meet the demand for them, and there never was a time when the stock of rams was so closely sold as at the present time. The demand for them from all parts of the United States, from Virginia to Montana, shows how well they are adapted for all sorts of soils and circumstances, more so we venture to say than any other breed.

JOHN SNELL'S SONS, Edmonton, Ont.

CLOVER SEED.

SIR,—Through the medium of your widely-circulated paper I would urge the farmers who raise clover seed to get their seed threshed out at once and sold, as without doubt there will be a large surplus for export. Of late years our Canadian seed has come forward too late to suit the export demand, therefore causing a loss of over one dollar per bushel of 50 lbs. In the States of Ohio, Indiana, etc., farmers are threshing out their seed and selling it for export at a high price, and if our Canadsan seed were ready soon, good prices could be got for it. When brought to market early dealers have time to clean and bulk it well before shipping, making it up to a high standard and giving our seed a good name in the foreign markets. To get full value for it bring it to market early this fall, well cleaned, and not wait till the American seed has filled up the European markets.

Toronto, Ont. G. K.

SIR,—Would you inform me how a butterfly box should be made, (an inexpensive one) should it have cork lining in the bottom of the box, and if papered, what tint would be best? How would a very narrow moulding of gilt look on the top, near or next to the glass? Which looks best a long or square box? What is the best Canadian work on Entomology, and what price?

D. R., Port Dalhousie, Ont.

[A butterfly box may be made of any form, the only essential is that when closed it shall be perfectly tight, so as to prevent the access of parasitic insects, which attack and devour the bodies of the specimens. In the collections of entomologists they are usually so made as to have a glass top so that the specimens may be examined without injuring them. They are lined with cork at the bottom, which is covered with white paper. About 15 x 18 is a common and convenient size, but some prefer larger; others smaller sizes; there is no rule in this matter. The best Canadian works on entomology are the reports of the Entomological Society of Ontario, most of which are obtainable. Write the Secretary of the Society, E. B. Reed. London. *The Canadian Entomologist*, the monthly journal of the same Society, also contains a large amount of information on Entomological subjects.]

The Dominion Exhibition.

The Exhibition was opened in the Agricultural Hall, Halifax, N. S., on the 22nd September. The main building in which the industrial exhibits are shown is a large structure, well fitted for display. In the centre was a platform beautiful with plants and flowers, and on it there was a band stand. The southern part of the main floor was occupied by carriages.

At the opening the Machinery Hall was in an unfinished state, many machines not being in their places. It is an annex, divided into three sections with broad aisles between. The motive power is a 25 horse power engine, made and fitted up in the city. In the middle of the building is the electric battery which feeds the machine for lighting up the main building. The surprising developments in manufacturing appliances, by the inventive genius of Canadians, is shown by the large collection of machinery, and the exhibits of manufacturers from every part of the Dominion. The great resources of the country have made her people proficients in every branch of skilled industry, whether on sea or land. No other country can compete with Canada in her forests, her mines and minerals, her fisheries, and the fertility of her soil.

The display of mines and minerals at the Halifax Exhibition was on a larger scale than ever before. The richness of Nova Scotia in her valuable coalfields, and the extent of her beds of stone and lime, with 3,000 square miles of gold-bearing quartz, were shown by the exhibits made. There was a very fine collection of gold—bearing quartz and galena ores from the newly laid out gold districts, of the Argyle Mining Co., and this was but one exhibit of many of equal or greater similar exhibits.

The coal trade of Nova Scotia is rapidly growing in importance and is becoming one of the leading interests of the Province. The different mining companies were well represented in the main building, by specimens in columns and blocks of the various stove, gas, steam, and bunker coals. The extent of this flourishing industry may be imagined from the fact that no less than eighteen Nova Scotia collieries were represented. Among the exhibits of minerals were samples of manganesse, of which the value is $120 per ton, and also a magnificent specimen of Shelburn granite.

The exhibition of horses and other farm stock was very good; New Brunswick, as well as her sister provinces, was represented in both cattle and horses. They form, it is said, the finest show ever seen in the city. New Brunswick contributed largely in the various departments. The exhibits of furniture, poultry, and musical instruments were subjects of general admiration, as was also the rotunda of the main building, which was devoted to the fine arts.

There was a very good display of agricultural implements, mowing machines, wheel rakes, hay presses, reapers, grain sowers, root cutters and pulpers, and a large collection of ploughs and others.

A mole plow attracted much attention. It is designed to do away with the necessity of tiles in underdraining, it making a perfect drain without tiles or stones. The drains are said to possess great durability, having been for some time in use in Amherst and Truro marshes. There were few exhibitors of agricultural implements from Ontario, and the marked absence of exhibitors from other than the Maritime Provinces is a matter of general complaint. The committee are censured that they had not given sufficient publicity to the preparations made and the apportionment list was not such as to induce the attendance of exhibitors from a distance.

The Provincial Exhibition at Montreal.

The Agricultural Exhibition opened at Montreal on Tuesday, the 21st, under the most favorable circumstances. The weather was all that could be desired. The fair from the beginning bid fair to excel any that had hitherto been held in the Province, and all things succeeded admirably. The number of visitors was unusually large, and the number of exhibitors was proportionately great. The exhibition, for which elaborate preparations had been made, was formally opened on Wednesday. Many dilatory exhibitors had put off until the last hour the arrangement of their exhibits, so that the opening day may be said to have been one of preparation. This dilatoriness was said to be the only drawback, and that, too, was of short continuance. It was expected from the arrange-

ments that the fair would be successful and the attendance would be large, but the crowds that arrived by the several lines and streamed into the entrance surpassed the expectations of all. Every reasonable precaution had been taken to prevent disorder and to insure the success of the exhibition and the pleasure of the exhibitors and visitors. Ere the close of the proceeds it was evident that the financial results of the exhibition were satisfactory, and that there would be on hand a handsome balance.

The exhibition of horses was at least equal to all former displays. The horses shown in the ring on Saturday were objects of general admiration. All the classes were well represented and gave unmistakable evidence that the efforts by breeders to improve the quality of the stock meets with marked success. Many valuable imported animals were shown, and they who had seen the exhibition of former years must have noticed at first sight the great improvement in this most important stock. Of thoroughbreds the show is comparatively small, but in it were some superior animals. In Clydesdales the class was well represented, showing that here as elsewhere they are great favorites for draft and farming purposes. Some very fine specimens were shown.

Of Roadsters there was a large exhibit. There were some very handsome pairs, well mated and generally admired. This very useful class is deservedly coming into great favor in town and country. Canadians are beginning to know their great utility as well as Britons. Draught Horses—In this class there was quite a large exhibit, many of the animals being imported. There were pairs very well matched. Of Hunting and Saddle Horses, and also of ponies, there were exhibits.

The Cattle—This department shows a decided improvement upon that of previous years. The quality of the stock has every year been improved by the importations of pure-bred cattle, and this year the improvement is more observable than at any former period. The Shorthorn exhibit was of a very superior class, comprising some very fine animals of the favorite breed. The show of shorthorn bulls was very large. Of Ayrshires the exhibit was very large. There were about 150 entries, and no less than eight herds were competing. The general quality is considered good. Of Herefords the show was not very large, but it comprised some very fine animals. This class is growing in popular estimation. It is said by many that they are the best cattle for general purposes, though the Durhams may hold the first place as beef producers. They are hardy and easily kept. So highly are they esteemed for these qualities that fifty bulls have been sent to the Newcastle Ranche at Bow River, N. W. T. The exhibit of Devons was very small. Of Polled cattle the Aberdeen, or Angus and Galloways were well represented. The former breed is growing in popularity, and it is contemplated to place a large number of them on the North-west ranches.

Of Jerseys and Alderneys there were quite a number on the ground. Their beautifully-formed heads and rich fawn color cause them to be generally admired. The class of grade cattle was a very large one, having many fine specimens of this very useful farm stock, showing that dairymen and feeders have profited by the advice so often given, to secure the service of well-bred sires. There were also on the ground specimens of that very hardy breed, the West Highland and Kerry cow, not large, but handsome and good for milk and butter.

Of sheep the display showed a great improvement on those exhibited last year. In the several classes there was a keen competition. Leicesters, Cotswolds, Shropshires, Hampshires, Oxfordshires and South Downs were well represented. The Leicesters seem to maintain their ground in the Province, and the show was unusually good. The entries of Cotswolds also were very numerous, showing the esteem in which they are held. The show of Southdowns was very creditable, both in quality and number of entries.

In the swine department the exhibition was excellent, of the improved breeds, Berkshires, Suffolks, Essex and Yorkshires. Of these the most numerous were Berkshires.

The different species of poultry were represented.

Agricultural Implements—The department of machinery has become one of the most important in our agricultural exhibitions. Every thing connected with farming interest was well represented at Montreal. Ample provisions had been made for the exhibition of agricultural implements. A large square had been enclosed with a high board fence and with spacious buildings. Among the exhibits were a potato digger, that digs, cleans and collects the potatoes; a fine coliection of ploughs, a manure spreader, harrows, cultivators, a broadcast grain sower, reapers and binders, and many others, of which many are now indispensable to modern agriculture.

Grain demanded especial attention. All the cereals were well represented. Of white winter wheat there were 7 exhibitors; of red spring wheat, 13; and so with barley, rye, etc. In hops there was a fine display.

The dairy exhibit was very large and the competition keen. In some of the sections there were three prizes, viz: $100, $50, and $25, and open to competitors from Canada and the United States. There were very superior exhibits in both cheese and butter.

In the horticultural department the exhibits surpassed the shows of previous years. That of fruits especially was excellent, and of fruits the show of grapes was especially good. One exhibitor showed a collection of forty varieties of grapes.

The exhibition of sugar beets was very attractive.

Stock Notes.

The most important stock sale to take place during the coming month is that of Messrs. Beatie, Miller & Holderness. At the Provincial Exhibition they exhibited the largest lot of magnificent imported Clydesdale horses and mares that we have ever seen in this Dominion. Their exhibit of Shropshire and Oxford Down sheep had never been equalled in Canada. Among the Jerseys we also counted several beauties, and as for the Cotswolds, Beatie & Miller have always been leading men and large importers. In purchasing Cotswolds the object with this firm has been to try and combine fineness of wool with symetry and size of carcass, and they have succeeded admirably in their aims. If you want a good animal it will pay you to attend this sale. Whether you do or not, it is an important sale, and every progressive farmer who can should attend it. The standing of the men who make it is well known to all. They have been engaged in the business of stock-raising and importing for a great many years, and have brought a great quantity of stock to America within the last 40 years. See advertisement in this issue.

Mr. Arthur Johnston, of Greenwood, Ont., who has for many years been a leading breeder and importer of fine-bred stock, writes us that he has done a good deal of advertising in leading American and Canadian papers, but adds that his card in the Breeders' Directory of the FARMER'S ADVOCATE has paid him better than any other advertising he ever did, and concludes by saying, "Put me down for a three-inch space in the advertising columns of the October issue, and continue my card in the Directory.

A subscriber writes us to the effect that he recently visited the farm of Jos. Fisher, of Milton, Ont., and was much pleased with his two Clydesdale fillies and one colt, which he has recently imported from Great Britain. They are prize-takers and the offspring of celebrated prize-winners. Their recorded pedigrees show them to be descended from some of the finest strains of blood at Mr. Andrew Montgomery's, Castle Douglas, and Mr. Laurence Drew's, Lanarkshire, Scotland.

Mr. M. Boyd, of Bobcaygeon, writes us that he has recently purchased from Mr. Henry Arkell, of Guelph, the imported Oxford-Down shearling ram which took first prize at the Toronto Industrial Exhibition, and eight imported ewes; also from Messrs. Beatie & Miller, the pair of shearling ewes of the same breed, which took first prize at Toronto and London, and four others, all imported.

The following is the prices paid for the cattle recently imported for the Ontario Agricultural College:—Shorthorn bull, $787; Shorthorn heifer, $1,310; Aberdeen polled bull, $275; Aberdeen polled heifer, $250; Ayrshire bull, $275; Hereford bull, $200. In addition to the above prices, other expenses averaged about $100 per head. All the animals are young.

Mr. James Russell, of Richmond Hill, who is an old subscriber, informs us that he values the ADVOCATE very highly. He also states that his fine stock has done very well this season, and that sales are brisk. By reading his advertisement, which appears in this issue, all can see that he has been a very successful competitor at the leading Canadian shows.

V. Fitch, Oriel, Ont., recently bought from F. W. Strong, Guelph, the imported cow "Polyanthus," for which he paid $200; also Mr. Stone's imported stock ram, which was bred by Mr. R. Jacobs, of England. Mr. F. Has been a breeder for a number for a number of years, and will no doubt do well with his purchases.

Wm. Rolph, of Markham, Ont., reports his Jerseys as doing exceedingly well, and that the demand for them is increasing. He says his four-line card in the Breeders' Directory of the ADVOCATE has been the means of his selling $3,000 worth of stock.

The extra labor entailed in attending the exhibitions has caused the delay in issuing this No. We will endeavor to be on time next month.

Send at once if you want an extra copy of THE ADVOCATE.

Don't fail to read our Prize List.

The Family Circle.

"Home, Sweet Home."

My Sister Margerie.

At the last Margerie whispered to me—

"Do you blame me now? Look at the happiness on Blanche's face."

Then she laid her hand on Sir Jasper's arm and went out to the carriage.

A few hasty good-byes a trample of hoofs, and the carriages had swept down the street. I went back into the house alone.

How very dreary and dolesome it looked without the two faces I knew and loved so well! Leaning sadly in the window, looking out with eyes dim with weeping, Philip Hilliard, hastening by to do the work of the feeble old Rector, smiled at my sorrowful face, and the quick, fond glance from his eyes made my heart throb with the old pain—and yet that fond, bright smile had made me happy too.

* * * * *

Sir Jasper Deleware kept his bride on the continent till nearly Christmas time. Margerie wrote bright glowing letters full of descriptions of strange scenes and places; they had been at Paris, and Margerie was bringing home Paris finery enough to last her a lifetime. Sir Jasper seemed indeed the most liberal and considerate of husbands, indulging every wish of his young wife's with a lavish generosity.

And Blanche wrote sweet, happy letters too. Her honeymoon was over, and she was in all the glory of furnishing her own little house; and the burden of her letter was "Charlie, Charlie!" I laid the letter aside and fell to musing.

Uncle Robert was a dull companion. He was glad at Margerie's marrying so well, but in his heart I knew he had not forgotten Blanche; and he grew more and more determined to keep Philip and me apart.

I never fully knew how much it was to me to be able to look on Philip's face once a week in church, to see him standing in his pulpit, and to listen to his voice, setting forth those truths that ruled and governed his own life. His earnest tones thrilled my heart, and for two hours in the week I was happy, until uncle Robert, seeing, I think, one day, my eyes fill suddenly with tears, announced his intention of walking next Sunday two weary miles into the country to attend a strange church. I knew the reason, and dare not oppose him; but I felt so lonely not to have even the consolation of seeing the grave earnest face I had grown to love so fondly

I was glad when Margerie wrote to say that they were coming home. And a grand home coming it was, in good old style—the horses taken out of the carriage and drawn up the avenue by Sir Jasper's tenantry, and Margerie, the fair lady Deleware, sitting by her tall, handsome husband, bowing and smiling and looking very pleased and very shy at the bursts of enthusiastic cheering for the bride and bridegroom.

Uncle Robert and I were on the steps of Deleware Castle. Sir Jasper lifted his wife from the carriage—lifted her, according to the old custom, over the threshold of the door, and whispered, "Welcome home, my darling!" And then Margerie was laughing and crying in my arms, while the tenants shouted, and uncle Robert kept bowing as if it were all for him.

"Well, what news?" asked Sir Jasper of uncle Robert as we sat at desert that evening in the grand dining-room at Deleware Castle. "Has anything happened while I have been away."

"The Rector died yesterday—that is all. He has been ailing for some time."

"I know; and Hilliard has been doing his work."

Sir Jasper and uncle Robert then fell to talking politics, so Margerie and I left the room. Sir Jasper opened the door and as we passed smiled a fond proud smile at the face of his wife.

"How he loves you, Margerie?" I whispered, as we went into the drawing-room.

She turned to me, a light in her beautiful eyes.

"Jean, I wish he loved me less, or that I loved him more. His whole thought is to make me happy; he is everything that is good and noble. What have I done to deserve such a husband?"

Her voice was trembling, and then she conquered her agitation, and in her own gay merry way told me of all the strange and wonderful places they had seen, and it all wound up with—

"Oh, Jean, you can have no idea how kind Jasper is, or how happy I am."

As uncle Robert walked home with me that night through the beautiful park of Deleware Castle, he was more talkative than usual.

"Margerie is happy," he said. "And she deserves to be—she made a sensible match."

"That Blanche might make a folish one," was on the tip of my tongue to say, but I didn't and remarked instead—"Margerie is happy, certainly, but I do not like people to marry for money."

"It is better than to marry without it," was uncle Robert's reply. "And as for all that humbug of persons being in love, why, the sooner it is knocked out of their head the better. We live in a matter-of-fact world, and must act accordingly."

"Did you ever care for anyone, uncle Robert?" I asked, looking up into his face in the dark. It was a full minute before he answered, and then his voice sounded low and strange—

"My past is my own—with that you have nothing to do, child."

Had this strange, hard man met with some disappointment in his youth which had soured and embittered him? Who could tell? Somehow I rather pitied than blamed uncle Robert after that night.

* * *

"Here is a letter, uncle Robert, from Margerie, asking us up to dinner to-night to meet the new Rector. I wonder who he is."

"You'll know soon enough," replied uncle Robert gruffly. "I can't go to-night; but, if you want to go, I suppose Sir Jasper can send you home, if you must see the new Rector."

"I don't care about the new Rector, but I do care about an evening with Margerie," I confessed, thinking anything preferable to the usual gloomy *tete-a-tete* with uncle Robert.

Evening found me debating in what dress to do honour to the new Rector, looking very wistfully at my own face in the glass—for it was not such a happy face as it used to be; and then, being in a gloomy frame of mind, I arrayed myself in black silk, and went to Deleware Castle, escorted to the door by uncle Robert.

Margerie was in the drawing-room with Sir Jasper. She looked more bright and radiant than us and his eyes seemed dancing with amusement. They were a happy couple, certainly. Margerie was beautifully dressed; she came up to me smiling playfully.

"Jean, you must have some scarlet flowers in your hair; the new Rector will be horrified. Come to the conservatory."

I let her do as she iked, and, laughing gaily, she fastened the flowers in my hair and dress When we came into the drawing-room again, the new Rector was standing on the rug talking to Sir Jasper. He turned; my cheeks crimsoned. Philip Hilliard stood before me, smiling and holding out his hand. Margerie clapped her hands.

"Oh, Jean, haven't I surprised you? But it was all Jasper's plan; he never told me till it was all settled"—clasping both hands on her husband's arm and smiling up into his face.

"I am the new Rector," said Philip, holding both my hands in his. "Jean, are you glad?"

My eyes as they met his must have answered the question, for he turned suddenly to my brother-in-law, and grasped his hand.

"Heaven bless you, Sir Jasper; you have made us very happy."

"I hope you may be half as happy as I am," laughed Sir Jasper. "My cup is about full."

It seemed to have come so suddenly, this great joy that filled my heart; I could hardly realize that I was sitting that evening with Philip, talking to him, and hearing his voice.

"You will see her home, Rector," said Sir Jasper, as I stood cloaked and ready in the hall; and then he took my hand.

"If Philip hadn't been the noble fellow he is, Jean, I wouldn't have made him Rector, not even for you."

What matters what Philip Hilliard said that night, as we walked home down the avenue, under the elm-trees? What matters indeed? Only to us two every word was fraught with its own meaning, when we who had been shut out from each other's society for so many months met at last.

Uncle Robert looked up as I entered the room, flushed and trembling.

"I know it already," he said. "Sir Jasper told me yesterday."

"You will give your concent now, uncle Robert?" I pleaded.

"Yes, and my blessing with it. I am sorry I kept you from him so long, Jean; he is a good man. Good night, child, good night."

That was a confession from uncle Robert. I went up to him and kissed him because he had spoken well of Philip.

* * * * * *

It was a soft gray afternoon, with the clouds hanging low in the sky. I was spending the day at Deleware Castle, keeping Margerie company. Sir Jasper had ridden off to the meet early that morning, and was not expected home till late. It was a week before my wedding, and I was to be married from Deleware Castle. Sir Jasper, thinking such an arrangement would please his wife, had wished it to be so, and Margerie was more than pleased at his thoughtful kindness.

We had plenty to talk about that long winter afternoon, and the time passed quickly enough. When the evening gloom came on we sat down in the arm-chairs at either side of the fire and resumed our many talks and plans as to the future. Margerie, leaning back in her chair, her white hands clasped above her head, was smiling into the fire—she had just thought of one more plan to complete our happiness.

"Charlie must leave the army," she said. "If Blanche were near us, I think we could wish for nothing more then, Jean."

"Margerie," I rejoined, intently watching the expression on her face in the firelight, "You have made Blanche and me happy, but are you so yourself?"

She turned her brave true eyes on me.

"I am perfectly happy. My husband loves me; what more can I wish?"

"And you love him?" I asked, quickly, remembering what she said when she married Sir Jasper.

Before she could answer the door opened, and the old silver haired butler came in. In the firelight the old man's face looked agitated.

"Is Sir Jasper home, my lady?"

"No, Martin," replied Margerie, looking up with a little surprise.

Martin lifted his trembling hands and wrung them together.

"Keep up your heart, my lady. Oh, my master—my master!"

We both stood up. I turned and looked at Margerie—at the dawning terror in her face.

"What has happened?" she said, calmly, laying a hand as cold as ice on mine.

The white-haired old man looked at her, while tears coursed each other down his withered, wrinkled cheeks.

"Heaven help you to bear up, my lady, for I fear some harm has fallen to master."

"Tell her at once, Martin," I said, my heart beating very fast. "Margerie my darling, be strong—be brave." For she was trembling now from head to foot, with quivering lips and great tearless eyes, looking intently into the butler's face as he spoke, sobbing at every word.

"Oh, my lady, Sultan trotted into the yard riderless, as if he had been through the river; it is very swollen, my lady—and—and——"

"Go on," came from Margerie's white lips.

"Sir Jasper's hunting cap was found in the river, and my master has never come home."

Margerie put her hand to her forehead.

"Something must be done. I can't think; help me, Jean."

"Let us send men everywhere," I said. Margerie, don't look like that; it may all be well."

She kept up while there was anything to be done—sent messengers galloping in several directions, gave her orders calmly and distinctly—but when there was nothing more to do but sit patiently and wait, she broke down, weeping for the husband who had loved her so dearly. We were in the drawing-room; the lamp had been lit, and I sat beside Margerie, weeping for her sorrow She lay on the sofa, her face hidden, her shoulders heaving with convulsive sobs, her hands clenched. Every how and then she would exclaim, "go and see if they have heard anything."

And when I came back my silence told her there was no news. Then poor Margerie rose and paced the room. A storm had risen and the winter wind was howling and wailing round the house.

"That wind—oh, if it would but stop, Jean! I cannot hear if there is anyone coming." And then she added, her poor face deadly white, an awful horror in her eyes—"Jean, I shall go mad if I hear the tramp of feet bringing him."

"Hush, Margerie," I cried; "oh, don't talk like that!"

"Jasper!" she cried, softly; and then with a wail of despair in her voice—"I wasn't worthy of him, and heaven has taken him away my husband!"

The door opened gently; she turned with a cry. It was only Martin bringing in a tray with some tea and wine.

"You have taken no dinner, my lady," he said, his voice trembling. Poor old man, he had carried Sir Jasper in his arms when a boy, and he sorrowed for his master with a grief that was real and unfeigned. "Do, my lady," he urged, looking pityingly at his mistress's sorrow-stricken face.

I got up and poured out a glass of wine.

"Take it, Margerie," I said. "You must, it will do you good."

"No, no, it would choke me. Martin, have the men come back?"

"No, my lady."

And once more Margerie resumed her weary pacing to and fro. Another hour dragged slowly by. It was past eight now. Was it only two hours ago that Martin had come in and told us? It seemed many more. The fire was dying low; Margerie rang the bell and had it replenished.

"Heap it up," she said; "make it blaze. He will be so very cold."

And she shivered, and, throwing herself on a couch began to talk of her husband, going back to the time when they were married, telling of all his love and kindness, of his brave good heart, which had prompted each kind and noble action, till her voice choked and her eyes filled and overflowed with bitter tears; and then bursting into bitter weeping with a wild cry of—"My husband, and he will never know how I loved him!" she once more buried her face in her hands, when a voice at the door made us both spring to our feet.

"Margerie, my wife, what is all this?"

"Jasper, Jasper!" and Margerie was in her husband's arms, clinging to him, and sobbing on his breast.

"My darling," he said, tenderly, pressing her tightly to his heart, "what happened? Have I frightened you?"

He lifted the weeping face hidden on his breast, but Margerie could not speak; she only wound her arms tighter around his neck. Sir Jasper turned to me for an explanation.

"What is it, Jean? I met all the servants in the hall, the women crying and the men nearly as bad; and here is my foolish little wife making herself ill because I wasn't home for dinner. Is that it, darling?" stooping and whispering to Margerie.

I soon told him of our fears, and all Margerie had gone through. His face grew grave and then very loving and tender. He placed her on a couch, and then brought her a glass of wine. She was very pale, and he thought she was going to faint.

"Drink this, Margerie. No? Well I won't tell you my side of the story till you do"

She took it then, smiling up into his face.

"Oh, Jasper"—drawing a long, sobbing breath—"I thought I was never to see you again!"

"There was no such good luck in store for you," he laughed, trying to make light of it, for Margerie was pale and trembling from the shock of the last few hours. "I'll tell you how it was," he added, sitting down by his wife and holding her hand in his. "I was trying to ford the river in the dusk, and that brute Sultan rolled over, and with some difficulty I extracted myself from him; he got out, but I was swept by the current—I had no idea it was so strong since the rains—about half a mile lower down. I managed to get ashore on the other side, and after resting a bit, I went to a cottage and got my things dried, and some whiskey-and-water to keep the cold out, and walked home, a good round of eight miles. I am afraid I frightened you all dreadfully."

"Oh, Jasper, if it ha been——" began Margerie, and then stopped with a little gasp, looking up in his face; and then she leaned her head on his shoulder with a sigh of content! saying, "Thank heaven, Jasper, you are safe!"

The door was thrown open, and old Martin, his face beaming, appeared.

"Dinner is ready, Sir Jasper; and cook bade me say, sir, the fish is spoilt, but the soup is none the worse for the delay."

Sir Jasper laughed—Martin was a privileged old servant and could say almost what he liked.

"Come along," said Sir Jasper gleefully; I hope you are all as hungry as I am."

The re-t of the evening passed merrily and cheerfully, and when Philip came to see me home we were able to laugh over our fears; but Margerie was a little silent gravely, happy, her eyes ever wandering to her husband's face.

As I went down the wide steps with Philip, I felt as if all our happiness was complete, for I had looked back and seen Margerie, with both hands clasped on Sir Jasper's arm, smiling a good-night to us, and then looking up lovingly into the brave tender face at her side.

That night, as I walked home under the elm with Philip, and down the quiet street, I was happy, for I knew that Margerie loved her husband at last.

A. I. W.

Mike—"It's the Irish that does all the invinting in these days, sure." Jonathan—"Irish be darned; the Irish don't invent anything to speak of; its the Americans that invent everything."

Mike—"Thin perhaps yez can tell me why the Irishman's name, Pat., is always next to the date, on all the new inventions. Divil of an American name can ye find on wan, at all, at all!"—[Louisville Courier Journal.

Minnie May's Department.

My Dear Nieces:

I left a story half told last month, so will now proceed with it; We had reached as far as Lake Champlain, this being the most direct route between Saratoga, the White Mountains, the Adirondacks, Montreal and Quebec, and we wanted to see as much as possible in a short space of time. The waters of the lake, whether reposing in a calm or surging under the power of a tempest, are indescribably beautiful, and made more attractive by the islands and by the bold rocky precipices which hang over the lake; but to continue for space will not allow me to dwell long on one point; from Lake Champlain we take the train for a short distance to reach Lake George. This lake, 36 miles long, has an elevation 320 feet above the sea. It is one of the finest sheets of water in the world, beautiful and romantic, dotted over with verdant isles, and on its shores at the foot of the mountains are built many pretty cottages and elegant villas. We leave the boat at Fort William Henry Hotel, a spacious and beautiful house, containing accommodation for nearly 1,000 guests, and where we were told were kept 500 negro servants.

A broad piazza surrounds the whole house, from which a magnificent view can be obtained of the lake and surrounding mountains. All steamers touch at this hotel landing, and four and six horse stages leave the hotel tri-daily for Glen's Falls, connecting with trains going southward. The coach we rode in was drawn by six horses and had 32 passengers, upper and lower deck. We rode in this manner for a distance of nine miles, then took the train in waiting for Saratoga. This celebrated watering place is a grand focus, to which the fashionable world of the United States, and indeed of Europe, is annually drawn. Here are intellectual men, stylish men, the beaux of society and men of the world, ladies of social rank, the marriagable daughter, the fluttering bee of fashion and the gentler bird of beauty are found amidst the throng. In fact to all classes Saratoga offers some pleasure; the most fastidious taste could not but be gratified in this respect, and among the elegant hotels situated in the place it would be hard to discriminate, some of which are not excelled in any city in the world.

Having made our choice of an hotel, we sally forth to see the sights, and at once decide that Saratoga is a very pleasant and pretty village. But our steps are directed towards the "springs," and as we visit in turn those wonderful outflows from the bosom of mother earth, we are informed that hundreds of thousands of dollars have been expended for their improvement, and that at the present moment Saratoga contributes of its healing waters to almost every part of the globe. Life in Saratoga is two-fold, home and hotel; the former is enjoyed by the residents of the village, and the latter arrivals frequently number 1,000 daily. Hotel or fashionable life is but for a short season. In those few brief months wealth, beauty and fashion intermingle, and amid the gay whirl and excitement of the ballroom at night, visits to the springs in the morning, and promenades and drives in the afternoon, is formed the daily programme of the pleasure seekers. Willing though we may be to linger amidst these pleasant scenes we are compelled to continue our journey.

We now proceed to Albany. It contains many buildings well worthy of notice and the new State Capitol is a magnificent structure. The view from the Capitol is very fine, as the whole of the city and a large tract of the country can be seen from this eminence; but I must not dwell long on this point. We next went to Rochester, and was very much struck with the cleanness of this city and the grand cemetery; from there we proceeded to the Niagara Falls; but enough has been said of these well known and much admired Falls. We then returned home after having spent a truly enjoyable trip.

Minnie May.

Recipes.

CHOCOLATE PUDDING.

One quart milk, fourteen even tablespoonfulls of grated breadcrumbs, twelve teaspoonfuls grated chocolate, six eggs, one tablespoonful of vanilla, sugar to make very sweet; separate the yolks and whites of four eggs, beat up the four yolks and two whole eggs together very light, with the sugar; put the milk on the range, and when it comes to a perfect boil pour it over the bread and chocolate; add the beaten eggs and sugar and vanilla, taste it to be sure it is sweet enough, pour into a buttered dish, bake one hour in a moderate oven; when cold, and just before it is served, have the four whites beaten with a little powdered sugar and flavored with vanilla, and use as a meringue.

TO SPONGE A BLACK SILK DRESS.

Sponge the black silk lightly, on both sides, with a perfectly clean sponge dipped in spirits of wine; then, with a moderately warm iron, smooth the silk over on one side, not the side that will form the outside when re-made. If the selvedges are too tight to allow the silk to become smooth, they will require snipping at intervals.

VEGETABLE CURRY.

Cut some onions in thin slices, and dry them a good brown in butter, add a breakfast-cupful of milk, in which a tablespoonful of curry powder has been mixed; let all boil together for twenty minutes, stirring the whole time; then add the vegetables previously parboiled, and let the whole simmer by the side of the Ore for about an hour. Potatoes, peas, beans, carrots and turnips can be used, and broad beans alone make a delicious curry.

ROUGH TOWELS.

May I suggest to the housekeepers that there ought always to be a rough towel in the spare-room? There are so many of us who are accustomed to take a morning bath and want a good rub down after it is over—and the number is happily increasing, that to leave a guest with nothing but a towel as smooth as a pocket-handkerchief is to deprive him of a luxury which is almost a necessity.

MUTTON BROTH.

Trim off the fat, cut up the meat and break the bones. Allow a scant quart of cold water for every pound of meat; put these together in the soup kettle and set it on the back of the stove to heat slowly. When it boils, remove the scum carefully, and repeat the operation until no more scum rises. Keep it simmering steadily for four hours; then strain the stock and set it away to cool, after which remove the fat from the surface. Allow an ounce of rice or pear barley for each quart of broth. Wash, and soak it for two hours in enough warm water to cover it; then stir water and all into the boiling stock and cook for twenty-five minutes. Season to taste with pepper, salt and celery salt. Be sure to keep the flavor simple and delicate, still avoiding insipidity. Stir frequently to prevent the rice from burning. If the broth is to be used immediately, the surface can be skimmed as carefully as possible and the balance of the grease removed with blotting paper.

Answers to Enquirers.

Christine.—Six months would be considered long enough to wear mourning for a brother-in-law; crape is not worn after six months, except in widows' mourning, or for a parent. Many ladies who are delicate wear high dresses in the evening.

Rosa Marr.—(1) Do you mean warts? because touching them with caustic will remove them; it must be used carefully on the face, as it blackens for a time the spot to which it is applied. (2) It is better in all cases to go to a dentist, as there are many causes for toothache. (3) As soon as the consent of the lady's parents has been asked and obtained and the engagement ring is given.

Margarita St. Clair.—(1) The duties of a lady's companion are varied in most instances; she is required to sing and play the piano, to read aloud, to act as amanuensis, and where no housekeeper is kept this duty frequently devolves upon her. If the lady who engages her is an invalid, probably she will be required to act as nurse. In travelling, she has to take tickets, see to the luggage, and make arrangements at hotels, etc., that is if the lady is unaccompanied by a gentleman. (2) It depends entirely upon the position of the person by whom you are engaged, and whether you are likely to mix much in society.

Bestie Baker.—(1) In presenting a wedding present, should it be sent to the lady previous to the wedding with the sender's compliments, or should you present the bride with it personally after the ceremony is over? Ans—(1) It should be sent the day before or several days before, with no compliments but kind wishes expressed, according to the degree of friendship between sender and bride. Wishing a great deal of happiness, or with best wishes for future happiness and prosperity; anything cordial and kind will befit an occasion which calls forth the warmest feelings from every friendly heart.

Topsy.—(1) To frost leaves, twigs, flowers, etc.: dip them in white of egg, afterwards in powdered loaf sugar or saltpetre and dry before the fire; another way is to dip them in a solution of gum and water, and dust with glass powder. (2) To clean brass: rub it over slightly with a piece of flannel dipped in sweet oil; next rub it with another piece dipped in finely-powdered r tten-stone; then clean it with a soft linen cloth and polish off with leather.

T. T. T.—The great wall around China was built by the first emperor of the Tsin dynasty about 220 B.C., as a protection against the Tartar tribes. It is 1,250 miles long, it is 20 feet high; thickness at the base, 25 feet; at the top, 15 feet. Earth enclosed in brick-work forms the mass of the wall.

Subscriber.—Please give a receipt for making a pumpkin pie with one egg, when eggs are scarce. Ans.—This is easily done if you use a uery little milk, when one egg will be plenty for a pie. With much milk several eggs are needed for the custard, and the pie is no better for it and not so much of a pumpkin pie.

October.

A few more songs and soon these tuneful voices
O'er the blue splendor of the Southern Sea
Will sound, where the red taniger rejoices
Beneath the acacia and the orange tree.

Soon, one by one, the rods now bright and golden
Will turn to dusty brambles by the way,
And starry asters fall, as from the olden
Rich tapestries the glories fade away.

Slowly the rushes, and the flags of iris,
Drooping, no more their purple banners raise,
And deep, as in the land of dark Osiris,
Streams the red light, through bars of chrysoprase.

A few more days and all this world of flowers,
The light and glory on the land and main,
Will fade, as once on great Aladdin's towers
The enchantment passed, and all was dark again.

No kingly power, or wand of necromancer,
Can gild with gold the withered fields again.
Nor clarion voice can fill, with jocund answer—
A veil of silence falls on hill and plain.

Yet in the west an orange light is burning,
Where bright Heaven's steadfast lamp is lit on high;
And bold Orion comes, each night returning,
With countless worlds on worlds beyond the sky.

And love shall live, though all the rocks should crumble,
And with the ever-blooming cypress last,
And warm hands clasp tho' loud the storm-winds rumble,
And joys burn brighter in the wintry blast.

Sarah D. Clark.

A Clever Crow.—I have had my Australian piping crow for about two years. At first he was quite uneducated, and rather a disreputable-looking party; but, with good food and exercise, his musical talent soon developed itself. He began with the first part of "The Bells," then he got off perfectly the trumpet call of "Cease Firing," "Charlie is my Darling," "Nix' my Dolly," and he is diligently at work at "God bless the Prince," and has the first part fairly well off. He fetches and carries like a dog, and seems never tired of running after a ball of crumpled paper, and bringing it back and putting it into one's hand and waiting for another throw. He will tumble about on the floor, and play more like a monkey than a bird. He will get into a slipper with a string tied to it, and allow himself to be coached round and round the room, holding on all the time to the string. Some time ago we were troubled with mice, but "Peter" soon brought them to a sense of their situation. He ferreted them out, chased them, killed them, and having duly washed them in his water tin, hung them up to dry, picked them, and swallowed them. It requires great perseverance training these birds. They will eat almost anything. Some days ago our bird swallowed a piece of glass, and for two days and nights was very ill, moaning pitifully; but he at last he brought it up in the usual way hawks and owls do. He is now quite recovered and in full song.—[The London Field.]

Two Sisters.

I remember a home by the hillside,
And a little room, curtained within ;
I see through the laces two sisters,
And one holds her dear violin.

She's a sister one could not but covet,
With dark eyes that silently speak ;
Her violin how she does love it !
I envy it there by her cheek.

Of the other the silver soprano,
I scarce could tell the sweet truth ;
But she looks there, before the piano,
Like a dream of the spirit of youth.

The soft-blending music comes stealing,
And I wonder if these sisters guess
How they're filling my heart up with feeling,
Which I never, with words, can express.

And now into silence 'tis dying—
Aye, it died many long days ago ;
Yet the echoes will often come flying
When the soft winds of memory blow.

They tell of a music diviner
Which those who reach heaven shall find,
And I fully believe t'will be finer,
Yet I cannot imagine its kind.

So I hope for forgiveness when- sometimes,
I think how that music will seem,
If a voice, violin and piano
Should mingle within my dream.

C. H. C.

The Effects of Sunshine.

From an acorn weighing a few grains, a tree will grow for 100 years or more, not only throwing off many pounds of leaves every year, but itself weighing several tons. If an orange twig is put in a large box of earth, and that earth is weighed when the twig becomes a tree, bearing luxurious fruit, there will be very nearly the same amount of earth. From careful experiments made by different scientific men, it is an ascertained fact that a very large part of the growth of a tree is derived from the sun, from the air, and from the water, and a very little from the earth; and notably all vegetation becomes sickly unless it is freely exposed to sunshine. Wood and coal are but condensed sunshine, which contains three important elements equally essential to both vegetation and animal life—magnesia, lime, and iron. It is the iron in the blood which gives it its sparkling red color and its strength. It is the lime in the bones which gives them the durability necessary to bodily vigor, while the magnesia is important to all of the tissues. Thus it is that the more persons are out of doors the more healthy and vigorous they are, and the longer will they live. Every human being should have an hour or two of sunshine at noon in winter and in early forenoon in summer.

Fashion Notes.

Myrtle green is a particularly stylish color.

Stripes in all materials and widths are the rage.

Satin-faced plush ribbon is used for bonnet strings.

Chenille embroideries and fringes are used upon velvet and *moire* toilets.

Mole-skin plush, with a short, velvety nap, is the novelty in this material.

Marabout feather bands, in imitation of fur, are the greatest novelty in trimmings.

Marie Antoinette collars and immense bunches of ribbon loops are still in favor.

Plain gored skirts with brocaded flounces are very stylish.

Chenille braids are used for trimming woolen dresses.

Peacock-blue with orange color is a fashionable combination.

Ribbons are wider than have been used for several seasons past.

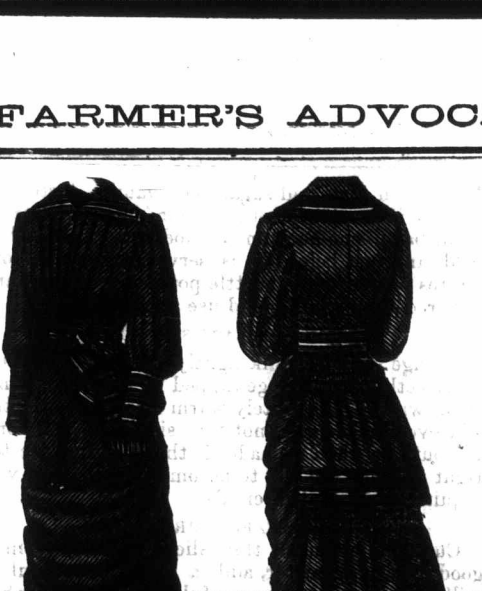
Ombre fur felt hats and bonnets are shown in all the new dark shades.

Fancy feather turbans are very popular with young ladies this autumn.

"Rough-and-ready" straw hats, trimmed with a profusion of ostrich feathers, will be worn very late in the season.

No. 1473—MIRABEL COSTUME.

This quaint and graceful costume is composed of a short, gored skirt, trimmed with a deep, shirred flounce all around the bottom, two similar overlapping flounces reaching to the waist at the back, and a draped apron on the front, and a plain, round waist, ornamented with a plaited surplice drapery and a sailor collar. Full bishop sleeves with deep cuffs complete the design. A medium size requires fourteen yards and three-quarters of goods twenty-four inches wide, and three yards and a-half of contrasting material of the same width. The underskirt will take four yards and three-quarters of lining. 30 cents each size.



No. 3027—BRUNSWICK ULSTER.

About three-quarters tight-fitting, double-breasted, and cut with a single dart in each side of the front, side forms rounding to the armholes, and a seam down the middle of the back. The size for twelve years requires five yards and three-quarters of goods twenty-four inches wide, or three yards of forty-eight inches wide. One yard and a-quarter of silk will line the hood and cape. Size for from 10 to 16 years. 25 cents each.

No. 3027—GIRTON WAIST.

Sizes for from 8 to 19 years. Price, 20 cents each.

The selection of Patterns is made from Madame Demorest's Portfolio of fashions, and may be obtained from the principal agent, A. J. Pell, 345 Notre Dame street, Montreal, by remitting price in postage stamps. Portfolio and What to Wear, 20c. each. Catalogue, 3 cents.

Uncle Tom's Department.

My Dear Nephews and Nieces,—

By this time I am once more settled in London, after having spent a very jolly time out camping, as you might infer from my last letter. But I must say I was rather disappointed in not receiving more letters from you all. Why do you not write? Now tell me what you are about, also send some puzzles and the answers of the puzzles in the paper, if you can make them out. If they are too hard, say so. During this season most of the exhibitions and township shows take place and I hope a great many of you will attend. A great deal is to be learned at these fairs, and often much pleasure and amusement is to be derived from them.

Uncle Tom.

N. B.—We cannot insert puzzles sent by correspondents unless accompanied by the answers.

PUZZLES.

145—HIDDEN FRUITS.

Dear Ida,—Ten days ago I commenced my school, and, if guess right, the coming term will be a pleasant one. I hope a chance may soon be found here for you. My eldest pupil is named Tom—a towering fellow, resembling brother Lem, only taller. One of my pupils—a plump little girl—stammers badly. Some who teach, err, you know, in scolding stammering pupils, and apparently make them worse. I love to range through the fields with this little girl as company. We reap plenteous harvests of wild flowers, I assure you. One day she exclaimed, "O, t-t-teacher! I s-s-saw a s-s-squirrel climb an-an-an elm tree just now!" We went to the tree and with sticks gave the branches many a ringing rap; even then, the squirrel escaped us. We saw the little scamp run eagerly into a stone wall beyond our reach. Please let me hear from you. My school will close in Apr.

I. C. Otis.

146—ILLUSTRATED REBUS.

147—ENIGMA.

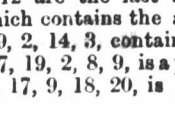
A youth who saw it bright and green
Shelter beneath, he sought it,
And on it something tempting seen,
At once he rose and caught it.

A lady coming near he saw,
And then he wished to evade it ;
Finding he could not, though a bore,
Politely turned and made it.

148—NUMERICAL ENIGMA.

I am composed of twenty letters.
My 10, 19, 6, d, 3, 20, is the city at which my whole was held this year ;
My 11 and 12 are the last two letters of the country which contains the above city;
My 3, 6, 17, 9, 2, 14, 3, contains the above ;
My 4, 5, 7, 17, 19, 2, 8, 9, is a present sovereign;
My 15, 2, 14, 17, 9, 18, 20, is governed by this ruler ;
My 13, 16, 1, is a part of the leg ;
My whole is a peripatetic Ontario institution.

149—GEOGRAPHICAL REBUS.



150—ENIGMA.

It's seen in stones, and dwells in the wood ;
It shuns the bad, but loves the good ;
It's often used when John is hurt ;
It shuns not gold, though it does dirt ;
It's seen in you, but not in me ;
And now its name you'll clearly see.

W. P. R.

151.

Whole I am a herdsman ; behead and I am a wanderer; behead again and I am on the other side ; transpose the remainder and I am a minister of the gospel.

J. E. L.

Answers to September Puzzles.

140—Word Square :

B A T H
A R E A
T E A R
H A R E

141—Geographical Acrostic:

M	onc	K
O	b	I
N	air	N
T	emiscamin	G
R	hode	S
E	astpor	T
A	rn	O
L	ondo	N

142—Malta.

143—1. Opposition is the life of trade.
2. Begin nothing without considering what the end may be.
3. Learn to labor and to wait.
4. Money is a good servant, but a bad master.
5. Knowledge makes humble ; ignorance makes proud.

144—He who fights and runs away may live to fight another day.

Names of Those who have Sent Correct Answers to Sept. Puzzles.

Minnie Gibson, Wm. Howell, T. H. Sawyer, Jessie McFarlane, Alice Stewart, Frank Munro, Lena Shore, Rosie Gillett, Geo. McKillop, Frank Arthurs, Rockliffe Lyons, Collin Johnson, Bessie Gordon, Frank Sexton, Dora Robinson, Gus Green, Bob Skirving, Alice Sullivan, Bessie Hague, Ella Wadsworth, Daisy McLean, Tom Bennett, Frank Green, Ella Jones, J. S. Myles, Minnie Parsons, Tom Ferguson, Harriet Brethour, Samuel Paul.

Humorous.

"How do you pronounces-t-i-n-g-y ?" Professor Stearns asked the young gentleman nearest the foot of the class. And a smart, bad boy stood up and said it depended a good deal whether the word applied to a man or a bee. Go to the head young fellow.

A darkey who was stopping to wash his hands in a creek, didn't notice the peculiar actions of a goat just behind him ; so, when he scrambled out of the water and was asked how it happened, he answered : "I dunno 'zactl ; but 'peared as if the shore kinder h'isted and frowed me."—American Punch.

This notice was once fixed upon a church door in Hertfordshire, and read in the church : "This is to give notice that no person is to be *buried* in this churchyard but those *living* in the parish ; and those who *wish to be buried* are desired to apply to me. Ephraim Grubb, Parish Clerk."

An Irishman who had never slept on a feather pillow once got hold of a feather, and placed it on a rock, lay down with his head on it.

"Be jabers," he growled, "if wan feather is as has hard as that I wouldn't like to sleep on a bagful !"

"Just keep your bottle of whisky in your closet and when the girls bring you your hot shaving water in the morning, you can mix your toddy quickly, and not a soul will know a thing about it," said the M. D. The plan worked well until the old man's daughter though he must be going insane because he wanted to shave five or six times every day.

A DESIRABLE SPOT.—This seems to be a very health spot of the country,—1st Inhabitant. Healthy ! Theer ain't a single livin' person dead sinst I bin 'ere— 2d I. : No ; an' the vilage is neat an' handsome, considerin' it's so plain, Miss:—1st I. : An' theer ain't a small village in England as kin beat it for size.—2d I. : Ah ! what more kin ony one want 'cept the price o'summat to drink ?

A Shrewd Reply.

Sir Walter Scott says all the alleged origin of of the invention of cards produced one of the shrewdest replies he had ever heard given in evidence. It was made by the late Dr. Gregory, at Edinborough, to a council at the Scottish bar. The doctor's testimony went to prove the insanity of the party whose mental capacity was the point at issue. On a cross interrogation he admitted that the person in question played admirably at whist. "And do you seriously say, doctor," said the learned councel, "that a person having a superior for a game so difficult, and which requires in a pre-eminent degree memory, judgement and combination, can be at the same time deranged in his understanding ?" "I am no card player," said the doctor, with great address, "but I have read in history that cards were invented for the amusment of an insane king," (Charles VI. of France). The consequences of this reply were decisive.

Parson B—— lived a few miles "out" on the road running from a certain elm-bowered city of Maine to a small manufacturing village just beyond. The parson was known as the embodiment of oddities and quiddities, and also as a very convenient resort when one of the city pulpits needed a "short-notice" supply, and the village of Sacarappa had a reputation, equally well established for manners and morality for which ungodliness, was a gentle term.

One Sunday morning the parson was suddenly summoned to fill the "crack" pulpit of the city, its own divine being unexpectedly detained away from home. Hastily snatching a sermon from the pile, he put it in his pocket, mounted his high-hipped nag, and was off.

It was a bright October morning, and the keen air had put life into the parson's veins and oratory into his soul. Warming at every sentence of his discourse, he poured forth a rising flood of rebuke, exposure, warning, and condemnation such as might well stir the souls of any company of sinners to their depths.

But as the climax was reached and the conclusion drew near, the parson began to recollect himself. This was no company of sinners. These were the "first circles" of P——, aristocrats in velvet and silk ; their church had the tallest steeple and the handsomest front in town, and their minister commanded a higher salary than any other church in Maine could raise.

The parson felt a blush stealing to his cheek. He hurried through his sermon, closed it, and reached uncomfortably for the hymn-book ; then, with a quick little movement, he wheeled about, and cocking his wizened face to one side, piped out, in his queer, high-pitched voice : "I hope no one in the audience will take offense at any remarks offered in my address this morning. I was sent for in great haste, had no time to make a selection, and *the truth is*, this sermon never was written to come here in ; it *was written for Scarap' folks.*"

The following story is told by an American correspondent. A Yankee tourist recently went to Chatsworth, the Duke of Devonshire's English estate. There is a little village on it, where an inn is built for the accommodation of visitors ; and when Mr. A. reached there, after having been through Chatsworth, he was naturally much impressed with its beauty, and he couldn't refrain from saying so to a quiet-looking man, the landlord, who was sitting on the inn piazza with him after tea. "Quite a place isn't it ?" said the American. "Yes, a pleasant place enough," returned the Englishman. "The fellow who owns it must be worth a mint of money," said No. 1 through his cigar-smoke. "Yes, he is comfortably off," agreed No. 2, quietly. "I wonder if I could get a look at the old chap," said the American, after a short silence. "I should like to see what sort of a bird he is." Puff, puff, went the English cigar, and then said the English voice, trying hard to control itself : "If you"—puff—"look hard"—puff puff—"in this direction, you"—puff, puff—"can tell in a minute." "You—you !" faltered Mr. A., getting up. "Why, I thought you were the landlord !" "Well, so I am," said the Duke, "though I don't perform the duties. I stay here," he added, with a twinkle in his eye, "to be looked at."

Our subscribers are invited to send for extra copies of our October or Exhibition number, for to hand intending subscribers.

Commercial.

THE FARMER'S ADVOCATE OFFICE,
London, Ont., Sept 30, 1881.

Another month of hot weather with occasional showers has given vegetation a fresh start, and pastures have improved very much. Seeding has progressed favorably, but unless we get warm weather through October the plants will be small and delicate.

WHEAT.

Nothing comparable to the extraordinary advance in prices, accompanied by excitement of the wildest description, has been witnessed in the grain trade for a number of years. The British markets continue to follow with apparent forced regularity the repeated bounds in value on this side. If this be the result of an actual deficiency in the world's breadstuffs supply, it certainly must be prospective. The visible supply of wheat on this continent is about 5,000,000 bushels in excess of this time last year, and there is an increase of 6,800,000 bushels on passage to the United Kingdom, over same time last year. We do not think there is much danger of a famine, and farmers will do well to sell now and not wait for wheat to go to $1.50 per bushel.

BARLEY.

There has been very little done in this as yet, and it is hard to say how prices are going to range. But, if the prices of other grains are any guide, it is likely prices will be above the average.

PEAS.

What few have come to market have found a ready sale at 65 cents to 68 cents. This is a high price, and farmers will do well to move what they do not need for home use.

POTATOES

are attracting a good deal of attention just now. American buyers are scouring the country in some sections, picking up all they can lay their hands on. The reason for this is the almost total failure of the potato crop in some States and a general short crop all over this continent. Farmers will do well not to sell themselves short.

APPLES.

Montreal reports a weak market for apples, caused by unfavorable reports from England, sales of Canadian apples this week having been made at 8 shillings per barrel. There has been considerable speculative buying, one dealer being reported to have bought some 8,000 barrels, and another 4,000. Also some Montreal dealers are said to have secured 20,000 barrels of choice winter fruit, at about $2 per barrel.

CLOVER SEED.

It is rather early in the season to say much about this article. However, this much may be said, that we think farmers will do well to market their seed early, and not hold back for fancy prices and allow the American dealers and shippers to supply the English and Continental demand. The yield in some sections is said to be good and in others not so good, while others complain of a midge that has destroyed a good deal of seed.

CATTLE.

The cattle market is somewhat unsettled from the effects of the cattle combination. The object of the combination was to control the export cattle trade by controlling all the freight room, and thus force the outside shippers out of the trade or compel them to pay long prices for the freight room.

HOGS.

Reports from the West so far as gathered are to the effect that the supply of hogs for the regular winter packing season will run a little short of 1880-81, and there is reason to believe such will be the case. Whether prices will be higher or lower than at present is, of course, a matter of conjecture only. But the general notion seems to be that higher prices will rule during the coming season. That fact alone will tend to increase the number

of hogs fattened, and will insure a larger per centage of prime, ripe hogs than if there was a fair prospect of low prices. Many are of the opinion that the enhanced value of corn will materially lessen the production of hogs; but if hog-feeding at the relative price of corn and pork at the present time does not give a better price for the corn than it could be sold for straight, farmers had better go out of the hog business entirely in the West. As we are governed to a large extent by the West, these remarks apply more or less to this country.

CHEESE

has ruled very quiet the past 3 or 4 weeks and the cable stands at 61s., and seems bound to stay there for some time at least. Those salesmen who have refused 12½ cents for August and 13 cents for September and October makes will now wish they had accepted these offers, and we must say we have no sympathy for them. The make is not nearly so short as those 13 cent and 14 cent salesmen would have the buyers believe. Besides, the quality is anything but fine, which is having a depressing influence on the market.

BUTTER

keeps moderately steady, and if dairymen and dealers would only market their butter as soon as possible, so that there would be no accumulation of stocks the market would no doubt keep steady and we would see a good trade the balance of the season.

FARMERS' MARKETS.

LONDON, ONT., 8th October, 1881.

	Per 100 lbs			
Wheat, Winter	$2 18 to $2 22	Flax Meal	$3 50 to $3 75	
" Red	2 18 to 2 22	Rye	1 10 to 1 15	
" Spring	none offering	Barley	1 40 to 1 75	
Oats	1 08 to 1 12	Timothy seed	none offering	
Peas	1 10 to 1 15	Butter, dairy	23 to 25	
Beans, white	2 50 per bush	" tub	18 to 20	
Corn	1 25 to 1 45	" crock	20 to 23	
Hay, per ton	11 00 to 13 00	Eggs	18 to 20	
Linseed Cake	2 00 to 2 25	Hops, 100 lbs.	25c per pound	
		Clover	none offering	

TORONTO, ONT., 8th October.

Flour, fall	$3 50 to $0 00	Potatoes, bush.	65 to 70
" family	3 25 to 0 00	Apples, brl.	3 00 to 4 00
Oatmeal, fine	3 00 to 0 00	Butter, lb. rolls	22 to 25
Cornmeal	2 00 to 0 00	" dairy	17 to 20
Wheat fall	1 18 to 1 20	Eggs, fresh	14 to 16
" spring	1 20 to 1 23	Wool, per lb.	23 to 24
Oats	42 to 43	Hay	9 75 to 17 00
Hogs, 100 lbs.	8 00 to 8 50	Straw	7 00 to 8 00

GRAIN AND PROVISIONS.

MONTREAL, October 8th.

Wheat—		Cornmeal	$3 30 to $3 50
Red winter	$1 45 to $1 47	Butter—	
White	1 41 to 1 45	East'n Tp's	20 to 22
Corn	70	Brockville& Morrisburg	20 to 22
Oats	41 to 42	Western	23 to 25
Peas	98	Creamery	25 to 30
Barley	70 to 72½	Eggs	23 to 25
Flour—		Mess pork	23 00 to 24 00
Superior ex	6 70 to 6 75	Lard	15 to 16
Superfine	6 00 to 6 25	Hams	14 to 15
Strong bak	7 00 to 7 90	Bacon	12 to 13
Pollards	4 25 to 4 50	Cheese	11 to 13
Oatmeal	4 90 to 4 95		

FOREIGN MARKETS.

BOSTON, Mass., 6th October, 1881.

Flour—		Hops, crop 1881	$ 18 to 23
West sup.	5 50 to 6 00	Butter—	
Com. ex	6 25 to 6 75	Creamery	30 to 33
Corn meal	3 45 to 0 00	Dairy	26 to 28
Oatmeal	6 75 to 7 75	Common	20 to 25
Oats	58 to 62	Cheese—	
Wool—		Best factory	12½ to 13½
Western fine	41 to 42	Farm dairy	12½ to 13
Pulled extra	30 to 43	Eggs	9 to 13
Canada pul'd	30 to 40	Beans, pr bu.—	
Combing	38 to 40	Hand picked	3 50 to 3 60
Hay—		Mediums	3 40 to
Coarse, p ton	20 00 to	Common	3 10 to
Fine	13 00 to 15 00	Potatoes, per bbl	70 to 80
Oat straw	9 00	Onions	3 75
Hops, 1880	18 to 20		

LIVERPOOL, ENG., October 8th.

	s d		s d
Flour, per c	10 09 to 13 06	Barley, per c	5 03 to
Spring wheat	10 02 to 10 08	Peas, per c	7 03 to
Red Winter	10 09 to 11 04	Pork	80 00 to
White	11 00 to 11 03	Lard	60 06 to
Club	11 03 to 11 07	Bacon	50 00 to 51 00
Corn	6 03 to	Beef, new	92 06 to
Oats, per c	6 04 to	Tallow	43 00 to

CHEESE MARKETS.

Liverpool, Eng., Oct. 3.

Per cable, 59s.

Little Falls, N.Y., U.S.A., Oct. 4.

Receipts, 501 boxes at 12c; 1,746 boxes at 12¼c; 2,068 boxes at 12½c.

Ingersoll, Ont., Oct. 4.

Receipts, 4,155 boxes; no sales; 13¼c offered.

London, Ont., Oct. 8.

Receipts, 6,055 boxes offered. The market was very dull, buyers and sellers attending as a matter of duty. No transactions are reported.

Montreal, Oct. 3

The cattle market was exceedingly dull this forenoon. the supply of beef cattle being small, while the requirements of the butchers seemed to be still smaller, consequently a light trade was done at about last week's prices. There were three car-loads of shipping cattle offered at St. Gabriel Market, but up to noon none of them were sold. About 250 beef critters were offered at Viger Market to day, but up to noon not over a third of them were sold. Good butchers' cattle, of which there were few on the market, sold at from $34.00 to $45.00 each, or 3¾c to 4c per lb. Dry cows and steers in fair condition sold at $25 to $32 each, or 3c to 3½c per lb. Leanish stock and bulls sold at from $12 to $25 each, or from 2c to 2½c per lb. An exceedingly fine fat calf was bought by Mr. R. Nicholson for $17. Mr. Robicaux, the drover who sold this calf, was very anxious to prevent the farmers from learning how much the calf was sold for. Sheep and lambs were rather scarce and prices are without change. Good sheep continue to be bought by shippers at from 4½c to 5c per lb; none but the very best bring the latter price. Good lambs sell at from $3 50 to $4.25 each, and common lambs at $2.75 to $3 each. Fat hogs bring from 7½c to 7¾c per lb, with a few rough ones at about 7c per lb.

LIVE STOCK MARKETS.

BUFFALO, Oct. 8.

CATTLE.—There was quite a liberal supply of sale cattle on hand, all of which did not sell, a few loads being shipped out in first hands. The demand on the whole was quite good however, and all the offerings that were not shipped changed hands. Included in the sales was a load of steers at $6.40; a drove of good medium shippers' at $5.30.

SHEEP AND LAMBS—The market continues dull for sheep and fair for lambs, trade ruling about the same in all respects as yesterday. A few lots of fairly good to choice sheep brought $4.25 to $4.85, with one lot of choice Western lambs at $6, while the bulk of the Canadas on sale brought $6.15. All the best grades were sold.

HOGS—The market ruled a shade stronger for Yorkers, or at a range of $6 50 to $6 75 for good to choice. A few common to fair light York weights changed hands at $6.85 to $6.25; good medium weights quotable at $6.75 to $6.85; fair to good heavy, $6.50 to $6.75; choice, $6.90 to $7; pigs, $5.50 to $5.75.

LIVE STOCK TRADE.

London and Liverpool, Eng.

Advices of Sept. 23rd state that the supplies of fat cattle were considerably larger in Edinburgh, but scarcely so heavy in Glasgow market, this week. Fine home-fed bullocks at both markets were easily disposed of at full rates, but secondary and inferior classes, which formed the great bulk of the supply, were difficult to realize, the tendency being in favor of buyers. The bulk of the cattle on offer in Glasgow were from Ireland. These continue to come only of moderate quality. The English markets this week, with few exceptions, have been quite as good, and have nearly recovered last week's drop. The supplies of sheep at both markets have been about the same. Trade has been rather dull, and, though prices are not quotably lower, there has not been much animation in the demand, though a clearance was effected. Lambs are now about out of season, though anything good in this class of stock commands high prices. The supplies of foreign stock this week consisted of about 36 cattle and 40 sheep from Denmark; 670 cattle from Canada, amongst which were a large lot of good feeding cattle, about 250 being taken for this purpose, somewhat cheaply. the unpropitious weather materially affecting the immediate demand for all classes of store cattle. The aggregate numbers from the Dominion will be greatly under those of last year, and there will not be many, if any, over 2,000 to come before the close of the navigation. 200 useful States bullocks made from 65s to, in some cases, 70s per cwt. There is a fairly good trade for all classes of store sheep, the turnip crop having improved considerably. Top price of the best home-fed cattle 9s 6d, in exceptional cases 10s; Irish, from 9s to 9s 3d; Canadians, 8s to 8s 9d per stone; secondary and inferior classes, from 1s to 2s per stone less respectively. Best mutton, 9½d; secondary, 7¾d to 8d; inferior, 6½d per lb. Lambs according to weight and quality.

Toledo, N. Y.

Clover seed market firm and in good demand. New prime, $5.70; Nov. delivery, $5.75.

LOSS FROM HEATING MANURE.—It is not all ways true that a pile of manure steaming with heat and smelling strongly is losing ammonia. Ammonia is a very volatile and pungent gas, and might be known by its peculiar scent, which is freely given off by close, ill-ventilated horse stables, or by the coat of ill-cleaned horses. But it is not often that this peculiar scent escapes from manure heaps; on the contrary it is a more disagreeable odor, similar to that of rotten eggs. This is sulphuretted hydrogen, and not ammonia, and occasions no loss to the manure except the sulphur. If in making a manure pile some plaster is mixed in the heap all the ammonia will be caught and held by it, and the water contained in the manure will also hold a large quantity (700 times its bulk) of it, and will not give it off at a heat that can be raised in a manure pile. If the manure is left to heat and get dry and "fire-fang," or slowly burn to a white dry light stuff, then the ammonia is lost and the manure seriously injured.

A quantity of Correspondence has been unavoidably crowded out of this issue.

Education.

THE LONDON COMMERCIAL COLLEGE.

This institution is established for the purpose of furnishing young men with a business knowledge in a short space of time. In our universities and high schools it requires about one-third of a life time to become efficient. There are thousands of young men who have not been able to devote that amount of time to this object, and yet can read and write, have common sense, and desire more knowledge about the actual business proceedings. A few months at this College gives them such knowledge by actual work in a much quicker time than it can be procured in the ordinary way. Farmers' sons who have been kept from school for a part of their younger days, and desiring to enter into any kind of business, will find a few months spent during the winter at this institution worth many times its cost in time and money.

The annual meeting of the Fruit Growers' Association, took place in London, Sept. 27th. Mr. P. C. Demsey was re-elected President, Mr. Wm. Saunders was also re-elected Vice-President; a full board of directors were chosen. The winter meeting of this Association will be held in the city of Hamilton.

On the 26th of September the annual meeting of the Entomological Association of Ontario took place in this city. Mr. Wm. Saunders of this city, was re-elected President; Vice-President, G J. Bowles of Montreal; Mr. E. B. Reed, Secretary-Treasurer and Librarian, the Council was also elected.

Don't fail to read our Fall Campaign Prize List, and have your house ornamented before Christmas.

American Shorthorn Breeders' Association holds its annual meeting the last Wednesday in October, 1881.

Full accounts of Hamilton, Guelph, Southern Counties and Manitoba Exhibitions, by our own staff or special correspondents, will appear in our November issue.

All who receive the ADVOCATE should read the important advertisements which appear in each number.

Inoculating Sheep.

Considerable attention has been directed to ome recent experiments of M. Pasteur, who has availed himself of an opportunity of practically testing the truth of his theory, that sheep may be protected from the disease known as "charbon" by inoculating them with the prepared virus of that disease in different degrees of strength. On May 5 the farm of a veterinary surgeon and sixty sheep were placed at M. Pasteur's disposal. Ten of the animals were left untouched, in order that later they might serve for comparison. Of the remaining 50, 25 were marked with a hole in their ears were inoculated the first time on the 5th of May, and the second on the 17th. On May 31st none of the inoculated sheep had lost fat, or spirits, or appetite. The same day the fifty sheep were inoculated with the strongest virus. M. Pasteur predicted that on the 2nd inst the 25 sheep not inoculated would be dead, and that the inoculated animals would show no symptoms of sickness. The prophecy was fulfilled. At two o'clock twenty-three of the sheep that had not been inoculated were dead, the twenty-fourth died at three o'clock and the twenty fifth an hour later; while the twenty-five inoculated animals, on the contrary, were quite sound and in perfect health. There is thus a way in which animals may be protected from diseases which would otherwise result fatally, just as human beings are protected from small-pox by vaccination. To agriculturists and breeders the discovery is likely to prove of the highest value.

PRESERVATION OF GREEN FODDER.—Having a large amount of refuse cabbage leaves, turnip-tops, etc., when we harvested these crops last fall, we tried the experiment of manufacturing some "*ensilage*," adopting the process used in the manufacture of "sour hay." It consisted simply of closely packing this succulent refuse matter into a pit dug into the ground, and covering it with a layer of earth about two feet in thickness. This pit was opened last April, and the produce was found to be in excellent condition, and was readily, even greedily, eaten by cattle. It had not moulded in the least, but was changed into a dark-brown produce with a strong, sour odor. We were gratified by the success of the experiment, for it showed that by this simple process we could save and turn to good account what would otherwise have been loss.—

The New Surprise Thresher and Separator.

Manufactured by JAMES SHARMAN, Stratford, Ont.

In three sizes: 28-31 and 36 inch cylinders; 28 and 31 inch cylinders, farmers' sizes; 31 inch cylinder for travelling. Straw thoroughly agitated, shoe, full width end-shake, complete cleaner. No waste of grain; very light running. THE COMING THRESHER OF THE DOMINION. Price of 36-inch cylinder machine complete, with gear, elevator, carriers, and large Pitts' power, $350; machine on 4-wheel trucks. ON EXHIBITION AT PROVINCIAL, LONDON—IN OPERATION. Every machine warranted.

Write for particulars, prices, etc, to

JAMES SHARMAN, Stratford, Ont.

See at the Toronto and London Exhibitions

THE GREAT AMERICAN FERTILIZER,

Gypsum, or Pure Land Plaster

Cheapest and Best Fertilizer in the World.

By Car Lot in Bulk, Bags or Barrels. Prepared by new patent process, which purifies product.

Ontario School of Chemistry, Toronto, March 16, 1881.

W. H. MERRITT: My Dear Sir,—In accordance to your request, I have obtained AVERAGE MERCANTILE SAMPLES of Land Plaster from dealers in Toronto, and beg to report as follows:

	Grand River White.	Oswego Grey.	Paris Grey.
Calcium Sulphate (fertilizer)	77.18	52.00	54.19
Carb. Lime and Magnesia (useless)	trace	15.27	15.01
Iron and Alumina	trace	1.50	1.60
Insoluble matter	1.27	8 75	15.60
Water and organic matter	21.55	22.48	13.60
	100.00	100.00	100.00

Yours obediently, THOMAS HEYS, Analytical Chemist.

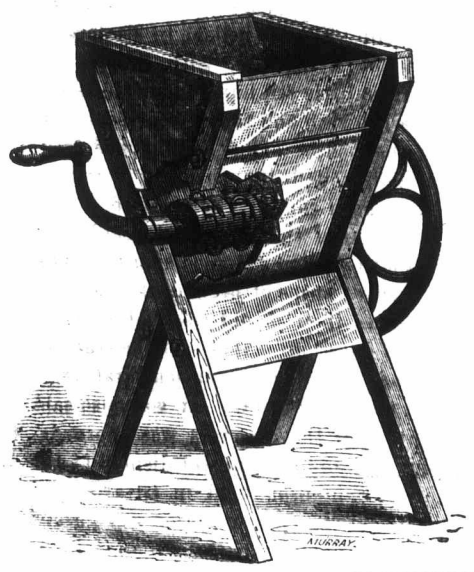
HON. GEORGE BROWN wrote concerning Gypsum:—"I am astonished that any farmer can afford to carry on his farm without its assistance; it will make all the difference between profit and loss on the crop of a field."

Circulars can be obtained at Exhibitions, or from **W. HAMILTON MERRITT**, office of GRAND RIVER GYPSUM CO'Y, "Mail" Building, TORONTO; or from **GEO. PRITCHARD**, LONDON, ONT. 190-LP

CLARK'S IMPROVED ROOT CUTTER!

PERFECTION OBTAINED IN CUTTING ROOTS.

This Cutter has received the First Premiums at every fair, and has no equal. Do not fail to examine it.



The Neatest, Strongest, Simplest, Cheapest, and most Perfect Root Cutter in the Market.

This Cutter is built with a heavy oak frame, well bolted together; is staunch and strong, neatly finished, handsomely striped and ornamented. The cutting apparatus consists of *twenty-five steel knives* (gouge shaped), so arranged on a wrought-iron shaft that they are perfectly secure; no chance of becoming loose or breaking. The roots are neatly cut in pieces suitable for feeding. No coarse, ungainly pieces are left by this Cutter. A boy can easily cut 35 to 40 bushels per hour, so easily does it do its work. ☞ Don't fail to examine it.

We are manufacturing three sizes, designated by numbers—1, 2 and 3.

Nos. 1 and 2 designed for hand use.

No. 3 is the power Cutter, and will cut 100 bushels per hour.

Price—No. 1.....$12 00
No. 2..... 15 00
No. 3..... 22 00

Manufactured by

HIGGANUM MANF'G CORPORATION,

Higganum, Ct., U. S. A.,

and sold only by JOHN S. PEARCE & CO., Managers Agricultural Emporium of Ontario, 360 Richmond St., London, Canada. 190-tf

25 Years'

experience of a CONSTANTLY INCREASING DEMAND for the

Cook's Friend Baking Powder

shows that the WANTS of the CONSUMER have been WELL STUDIED.

THE COOK'S FRIEND

is PURE, HEALTHY and RELIABLE. It will always be found equal to any duty claimed for it.

Retailed everywhere.

☞ ASK FOR McLAREN'S COOK'S FRIEND.

ONTARIO BUSINESS COLLEGE,

BELLEVILLE, ONT.

The thorough course of business training imparted in this Institution by experienced and well-known Accountants, who are authors of the standard works on Book-Keeping, the

"Canadian Accountant" & "Johnson's Joint Stock Book-Keeping,"

and the practical benefits of its teaching, have gained for it the front rank among the Commercial Colleges not only of Canada but America.

Students may enter at any time. Send for College Circular. Address,

ROBINSON & JOHNSON,
Belleville, Ont.

190-c

Wager $500.

To Whom it May Concern.

During the thunderstorm in Augu t the County of Middlesex alone suffered to the extent of from $50,000 to $85,000 in the destruction of dwellings, barns and outbuildings. Not one of the structures consumed was furnished with rods from the Globe Lightning Rod Company of London, although there are thousands and thousands of feet of our Rods erected upon the farm houses and barns in Middlesex Co., and over $10,000 being erected within the city limits alone during the past two years, the statements of a few wiseacres to the contrary notwithstanding. The Globe Company, in order to show their confidence in the goods manufactured and sold by them, are prepared to place the sum of $500 in the hands of His Worship Mayor Campbell (or any other responsible citizen), against a similar amount deposited by any person or persons who can prove, or claim to be possessed of any knowledge tending to prove, that a building provided with suitable rods from the Globe Company has been struck during either of the recent thunderstorms which have visited Western Ontario. The money to be divided between the different charitable institutions in the city.

T. C. HEWITT,

Manager Globe Lightning Rod Co.,

London, Ontario.

IMPLEMENT AGENTS! Wanted.

WATSON, OF AYR,

Wants good Agents in every County in Canada to sell his Celebrated Reapers, Mowers, Binders, Rakes and Plows.

The finest assortment of the most popular machines in Canada.

Large Inducements to Good Agents for 1882.

Make your applications for territory at once, naming territory wanted and experience to

JOHN WATSON,
Ayr Agricultural Works,
Ayr, Ont.

FERTILIZERS.

The Brockville Chemical and Superphosphate Co'y (Ld.)

BROCKVILLE, ONT.,

Manufacturers of SULPHURIC, NITRIC and MURIATIC ACIDS, and of

Superphosphate of Lime.

—PRIZE MEDAL, CENTENNIAL, 1876.—

This Superphosphate is manufactured from best Canadian Rock Phosphate, thoroughly dissolved and ammoniated, and is guaranteed of superior quality.

Put up in barrels, 250 lbs. each nett (8 to the ton). Price $32 per ton, f.o.b. rail or boat. Send for circular. 190-L

SALE OF LANDS.

DEPARTMENT OF THE TERIOR,

Ottawa, 13th August, 1881.

NOTICE is hereby given that the Government will offer for sale by Public Auction, at the Dominion Lands Office, Winnipeg, beginning on

Monday, the 19th September Next, at 10 o'clock, a. m.,

the following lands, namely:

1. The lands in certain parishes on the Red and Assiniboine Rivers, then remaining undisposed of. The upset price to be $5 per acre.

2. The lands then remaining the property of the Government in the Mennonite Reservations situated in townships 1, 2 and 3, ranges 1 to 5 west, both inclusive, and in township 1, range 1 east, in the Province of Manitoba, at the upset price of $3 per acre.

3. Certain School Lands in Manitoba, situated in the best settled portions of the Province, at the upset price of $6 per acre.

TERMS OF PAYMENT.

For the river lots and the lands in the Mennonite Reservation, one-half in cash at the time of sale, and the remainder in two years in equal annual instalments. For School Lands, one-fifth in cash at the time of sale, and the remainder in nine years in equal annual instalments. Interest in each case to be charged at the rate of six per cent. per annum on the unpaid balances.

Lists of the lands and explanatory maps may be obtained at the Dominion Lands Offices at Ottawa and Winnipeg.

By order,

LINDSAY RUSSELL,
Surveyor General

NOTICE.

DEPARTMENT OF THE INTERIOR,

Ottawa, 15th September, 1881.

The sale of Government Lands advertised to take place at Winnipeg on the 19th instant, is postponed until the 19th October next.

By order,

LINDSAY RUSSELL,
Surveyor General.

190

EAST VIEW HERD

—OF—

Polled Angus or Aberdeen Cattle

HON. J. H. POPE, Prop'r.

THIS HERD is composed of the Choicest Animals that could be obtained in Scotland, and may safely be called the best herd of Polled Angus outside of Great Britain. The proprietor is now prepared to sell calves from this stock at prices—taking into consideration the excellence of their pedigrees—defying competition. Pedigrees guaranteed in all cases. Communications solicited,

R H. POPE, Manager.

East View Farm, Cookshire, 188-tf

CARDS, 10 Lilly & imported Glass, 10 Transparent, 20 Motto, Scroll & engraved (in colors) in case, & 1 Love letter, name on all, 15c. West & Co, Westville, Ct. **40 Cards**, all Chromo, Glass and Motto, in case, name in gold and jet, 10c. West & Co, Westville, Ct. 189-c

A. & S. NORDHEIMER,

Piano Warerooms,

Oddfellows' Block,

LONDON, - ONTARIO.

Sole Agents for the world-renowned Pianos of Chickering, Steinway, Dunham, Haines and Gabler.

In addition to the above celebrated makers, we are manufacturing a fine Upright Piano, which for style of finish and beauty of tone cannot be surpassed.

PRICES MODERATE.