

# FARMER'S ADVOCATE

AND HOME MAGAZINE.

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## THE FARMER'S ADVOCATE & HOME MAGAZINE

WILLIAM WELD, EDITOR AND PROPRIETOR.

THE LEADING AGRICULTURAL JOURNAL PUBLISHED IN THE DOMINION.

The FARMER'S ADVOCATE is published on or about the 1st of each month, is impartial and independent of all classes or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for farmers, dairymen, gardeners and stockmen, of any publication in Canada.

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### Our Monthly Prize Essays.

#### CONDITIONS OF COMPETITION.

- 1.—No award will be made unless one essay at least comes up to the standard for publication.
- 2.—The essays will be judged by the ideas, arguments, conciseness and conformity with the subject, and not by the grammar, punctuation or spelling, our object being to encourage farmers who have enjoyed few educational advantages.
- 3.—Should one or more essays, in addition to the one receiving the first prize, present a different view of the question, a second prize will be awarded, but the payment will be in agricultural books. First prize essayists may choose books or money, or part of both. Selections of books from our advertised list must be sent in not later than the 15th of the month in which the essays appear. Second prize essayists may order books for any amount not exceeding \$3.00, but no balance will be remitted in cash. When first prize essayists mention nothing about books, we will remit the money.

A prize of \$5 has been awarded to Thomas McMillan for the best original essay on *The Best, Simplest and Easiest Form of Book-keeping for Farmers?*

A prize of \$5 will be given for the best original essay on *The most Economical and Profitable Management of Fowl?* Essays to be handed in not later than October 15th.

A prize of \$5 will be given for the best original essay: *Showing the Benefit Which has been Derived from the Various Specific Associations, Such as The Dairymen's, Horticultural, The Poultry Keepers', etc., etc. How Can These be Made Most Beneficial in the Future? Are Other Societies Needed?* Essays to be handed in not later than Nov. 15th.

In other columns will be found the names, etc., of the prize winners in the various departments at the Provincial Fair and Toronto Industrial, also a report of each fair.

## Why Every Farmer Should Subscribe to the Farmer's Advocate.

Because it is the farmers' organ, edited solely for their benefit and devoted entirely to their interests.

Because those who write in its columns are the foremost and most successful and practical agriculturists, dairymen, poultrymen and horticulturists in America and Europe.

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Because we make a specialty of introducing new varieties of grain and vegetables, distribute test packages free of charge to our readers, also stimulating the improving of live stock in every possible way.

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Because we publish the reports of our great fair associations together with the name and address of the prize winners free of charge.

Because we publish the doings of the various Associations—Horticultural, Dairymen's, Poultry Raisers' and all others.

Because we publish a live Canadian paper and should be supported.

## Why It Pays to Advertise in the Farmer's Advocate.

Because we have a circulation as large as all the other Canadian agricultural papers put together.

Because our circulation extends from Halifax on the Atlantic to Victoria on the Pacific, and the Gulf of Mexico in the south to Prince Albert and Edmonton in the extreme north-west.

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Because we can make our advertising pay our advertisers, and we are determined to do so.

Because we intend to greatly extend our circulation and influence, and will therefore benefit our advertisers.

Because we have hundreds of unsolicited testimonials from breeders, seedsmen and manufacturers, who say the ADVOCATE is the best advertising medium they have ever used.

## Editorial.

### On the Wing

We went to Toronto to give a cheer of welcome to Lord Stanley, (the Queen's representative,) our recently appointed Governor-General, on the occasion of his opening the Industrial Exhibition that day. It is our opinion that his plain, unostentatious manner and sound remarks (although he may not be as fluent an orator as many of his subjects) will make him very popular, also the unassuming yet dignified Lady Stanley and his niece will also become very popular. His encouraging remarks to visitors to agricultural exhibitions were very appropriate, as by a comparison it tends to prevent a person from living in a fool's paradise, and gave them an opportunity of picking up a wrinkle or two. After declaring the exhibition open, the York Pioneers were presented to him; he then visited the different exhibits.

The next morning we left for Buffalo to see the International Exhibition being held there. This is an enterprise gotten up by the Buffalonians, and it is astonishing how rapidly our American cousins do things, as it only took them a little over three months to erect the buildings and put the grounds in order. One of the buildings is larger than any exhibition building we have in Canada. Canadians may take many useful lessons from their plans. The stock buildings are constructed so that visitors can see the horses and animals at any time. Very liberal prizes were offered, and the few Canadians that exhibited were highly successful, most of them carrying off the first prizes and sweepstakes. The live stock, excepting a few classes, were not to be compared with what are exhibited at our exhibitions, although they have done wonders in holding such a fine exhibit, which we have no doubt will be greatly improved each year. Still it is necessary for the Americans to come to some of our exhibitions to pick up a wrinkle or two, particularly so in live stock.

The following were some of the Canadian prize winners:—Chas. Dalgleish, of Chesterfield, carried off the first prize for Clydesdale stallion, \$250; John Jackson, of Abingdon, carried off three first, two second, one third and the sweepstakes for Southdowns, \$135; J. C. Canon, of Galt, carried off two first, two second, one third and the sweepstakes for Berkshires, \$80; R. McEwen, of Byron, three first, one third and sweepstakes for Cooley dogs, \$65; John Mathews, of Acton, first prize for span of carriage horses, \$100; Harrison & Orr, of Milton, and Fuller, of Woodstock, carried off prizes for carriage horses; P. Grant, of Thornbury, carried

off the sweepstakes for collection of seed grain, over \$100. We believe every Canadian that exhibited was a prize winner, and had our stock men turned out the Americans would have been astonished at the small amount of money that would have been left in many classes.

#### RETALIATION.

When at dinner in Buffalo one of the delegates to the State Democratic Convention, which was being held in the city, sat by me. He informed me that at a suitable occasion the band had played "God Save the Queen" in the Convention.

At the exhibition Mr. P. Grant, of Thornbury, Ont., who had been awarded many first prizes and the sweepstakes prize for the best collection of seed grain, had on a sheaf of wheat in the centre of his exhibit two Union Jacks flying, the only ones on the grounds, and they stood unmolested during the entire exhibition. It is probable they might have been pulled down had they been in some localities, but which indicated a respect and friendly feeling from the Buffalonians and the inhabitants of the State of New York. It is a remarkable fact that wherever we have gone in the United States, from Maine to San Francisco, or from Dakota to Alabama, we have always met with the greatest courtesy and respect from the Americans, and have heard our Queen and our laws extolled to a much greater extent than we ever heard them in Canada or in England. The numerous bands and their gaudy attire, together with the uniform of the delegates to the Convention from the different counties, made quite an imposing sight. The fishery question was looked on as only a side dish, a more important one was the tariff question, but the most important one was which shall secure the offices and help the Democrats or Republicans to the cash that either party might secure, was freely admitted. The nation's honor appears to be of minor importance.

#### COMMERCIAL UNION.

When going to Toronto we met a prominent Reformer from near Stratford. He openly said he and other well known persons would prefer annexation to commercial union. Such retaliatory acts as those enacted in Buffalo will do more to put one band around Canada, the United States and Great Britain than all the noise that wind-bags can make or powder destroy.

#### Provincial Grain Display.

The quality of the grain shown at Kingston this year was very good. The Canadian Company's prize was won by Wm. Tuck, of Watertown. The White Winter wheat was good quality; the leading varieties shown were Clawson and White Star. The sample of the Red Winter was fair; the leading variety was Roger, exhibited by J. Duff and T. Manderson, Myrtle. The spring wheat was very good, the principal varieties being Fyfe, Russian and Red Lion; exhibitors, Messrs. Manderson, Duff and R. Wilson. The quality of the barley was extra good; the principal kinds being the Mansury and Two-rowed, shown by W. Tuck and G. A. Weese. Rye, fair samples; shown by John Duff and Wm. Pennock. In oats Messrs. Manderson, Wm. Wilson and G. Greenmans exhibited fine samples of Triumph and Champion. In large peas John Duff and Wm. Tuck exhibited some choice samples. Small peas were good quality; leading varieties, Multiplier and Blue Prussian, shown by J. Duff and G. A. Weese. In beans John Duff won 1st on large, also 1st on small. Mr. George Grant showed a fine collection of grain in the ear. J. D. Luty showed fine samples of white and yellow corn. Small field seeds were extra quality and large competition. Some choice samples were shown by Wm. Wilson, Jno. Duff and Joseph Mansolar.

#### The Provincial Fair.

The 42nd meeting of the Provincial Agricultural and Arts Association was held in Kingston, beginning Sept. 10th and continuing until the 15th. The entries of live stock were less than in some previous years, but the quality of those shown was very high; to have taken a prize in any of the live stock classes is an honor to any breeder. The Shorthorns were especially good; as were also the Galloways. All the milking breeds were well represented.

The show of agricultural implements was very small and incomplete.

Below are the entries in the different live stock classes:—

HORSES—ENTRIES.		
	1888.	1887.
Thoroughbreds	9	16
Roadsters	93	224
Carriage horses	78	96
Agricultural	20	39
Clydesdales and Shires	54	49
Cross-Bred Heavy Draughts	9	9
Suffolks	5	2
Percherons	2	18
CATTLE—ENTRIES.		
	1888.	1887.
Shorthorns	113	60
Herefords	51	56
Devons	29	26
Ayrshires	57	130
Galloways	37	25
Polled Angus	26	21
Jerseys	170	38
Holsteins	69	33
Grade Cattle	21	25
SHEEP—ENTRIES.		
	1888.	1887.
Cotswolds	38	23
Leicesters	43	63
Lincolns	33	50
Southdowns	44	49
Shropshires	58	59
Oxfords	24	13
Merinos	58	32
Dorset Horned	—	27
PIGS—ENTRIES.		
	1888.	1887.
Berkshires	29	41
Suffolks	32	37
Poland Chinas	18	22
Essex	16	16
Yorkshires	47	47

In the poultry department there were over 600 entries.

The total receipts were \$16,250, and total expenditures \$18,000, making a deficit of nearly \$2,000. When the stock of all kinds arrived at the grounds there was very inadequate accommodation; not half what was wanted, except in the horse stables. The breeders and exhibitors were put to very great inconvenience by having absolutely no shelter or facilities for feeding until they were built. Why the necessary stabling could not have been provided a week before it was needed instead of a week after, is a mystery to us. This we do know, that the committee entrusted with the preparation of the grounds are very much to blame. Surely, after holding 42 exhibitions, the Society must know what its requirements are, and, although the breeders are doubtless to blame for not making their entries at the proper time, nevertheless, the fact remains that the space and requirements have gradually increased as years went by, and no one expected that this show would be materially less than previous years. Who ever is at fault it is the duty of the Board to see that it does not again occur.

During the exhibition, the question whether the Provincial Exhibition should be continued or not was much discussed by the breeders attending the fair, and, as a result of the discussion, a petition was presented to the Agriculture and Arts Association petitioning them to present said petition to the Hon. Chas Drury, praying him to lay before the Legislature of Ontario the said petition, which prayed that the Agricultural and Arts Exhibition should be continued, and that the amount granted for exhibition purposes

should be doubled. Between one and two hundred exhibitors and farmers who were attending the fair signed this petition. Many suppose that \$10,000 is annually given to this institution, but in reality \$5,000 is the amount devoted to the exhibition. The other \$5,000 being variously expended in judging prize farms, educational examinations conducted by the Board, prizes for prize essays and other expenses.

Mr. McCrae, of Guelph, when presenting the aforesaid petition to the President, made a very earnest speech, of which the following is the substance:

MR. PRESIDENT AND GENTLEMEN:

In regard to the petition just presented, I would like to say a few words. There is one paper yet to be presented which will help to swell the number of names. I am heart and soul for the Provincial. This is the twenty-first exhibition of the Society that I have attended. I think I am old enough to speak now. The Provincial has taken only one new place since I started, and from that I can speak. In 1875, the first Provincial was held in the city of Ottawa. Twenty-two cars loaded with stock left Guelph for that city, and to have taken that stock out of the Ottawa Exhibition, you would not have had enough to have made a good township fair in the west. We went back in four years to find some competition, and in eight years to find more; and we went back in twelve years to be beaten in the particular line to which the farmers in that vicinity bend their energies. Then you see what the Provincial has done there; and I may say that I believe that when Canada bends her energies in any one direction, she does it to win. We are not afraid to meet the world in any line or branch of industry to which our country is adapted. Our Provincial has many things to contend with, such as having to move from place to place, and many objections are raised against it. Our agricultural press, of which we have only two that I read, the one is dead against it, and the other is silent, which is to be deplored. There is one other thing I would like to mention, and that is, the system of appointing judges. I would suggest to the Board the advisability of asking the various herd book associations to appoint their own judges. For example, take the Shorthorn Association, ask them to appoint their own judges, and see that they are on hand at the annual shows, and then, if there is anything wrong in the awards, you can simply say that they are the men you appointed yourselves. There are also some mistakes in the management. Last night I went to the Secretary's office at half past five and found no one there to transact any business, and I was there at two minutes to eight this evening with the same result; now, I must say, that if the Secretary can get through life with as short hours, he gets through a great deal easier than I can.

Mr. McCrae insisted that the farmers paid the bulk of the taxes, and yet they receive the least of all public expenditures; he asserted that the Provincial Association cost the Province less than .02c. per head of the population.

After considerable discussion by several of the gentlemen present, Mr. McCrae and two other gentlemen present were appointed a committee to confer with a committee to be appointed from the Legislative Assembly in reference to matters concerning the Association, especially concerning its continuation.

The Hon. Chas. Drury, who was in the audience, next addressed the meeting. He explained matters in a very practical and logical way, and said the "Provincial" had doubtless done good work in the past; next year, in accordance with arrangements made with the Western Fair Association of London, they would hold their meeting in that city. But how it could be held after next year he could not see. The various cities where it could be held profitably, did not want it, and would not receive it, to go to new sections would result in financial loss. The As-

sociation is already in debt through losses of this kind, and have had to mortgage their property to meet their losses, and to continue them would mean bankruptcy to the Association. He counselled all those who were in favor of continuing the "Provincial Fair," to bring pressure to bear on their local members before the next meeting of the Legislature.

Many who signed Mr. McCrae's petition did so because they thought, if the farmer gave up this grant, it would be lost to them entirely, and would be used by the Government for other purposes than agriculture. That is something the farmers should not tolerate, the money should still be spent for the benefit of agriculture. The question is, could it be more profitably spent in some other way, than in holding an annual exhibition; if the exhibition is discontinued, it is every farmer's duty to demand that the same or a greater amount shall be yearly expended solely for the farmers benefit. What is best to do is a debatable question.

Certain it is that the day is near at hand, when a radical change must be made in the Association and its management. It is a question to which every farmer should give careful attention. We hope to see it fully discussed before the meeting of the Ontario Parliament.

**The Western Fair.**

The Western Fair, at London, opened most auspiciously on the 20th Sept. On Monday, the 24th, and two following days the attendance of visitors was unprecedented and the display of stock, agricultural products and implements was complete. Some of the exhibits could nowhere be surpassed. Every stall and pen was filled, but a cold rain set in on Wednesday evening preventing the evening attendance and the carrying out of the programme. The rain continued at intervals throughout the remainder of the week preventing citizens and visitors attending and marring both pleasure and business. Many suggest the alteration of the time of holding this exhibition, as it is not the first time the equinoctial storms have marred its progress.

We were present at the time the Hon. John Carling, the Minister of Agriculture, pronounced the Western Fair opened. Subsequently we met him in front of the display made from the products of the Central Experimental Station, Ottawa. Here we shook hands with him and congratulated him on the fine display here made under his auspices, and hoped that his institution might do more good than the parent institution had done (meaning the Agricultural Emporium). We then suggested to him that it might be beneficial to procure a few grains of cereals from Lapland, as we remembered reading in a school book when a child that grain there was sown and reaped in two months. We also suggested that a few grains that could be sent in a letter might be sufficient to test them at little cost. The Government display consisted of 200 varieties of cereals and 180 varieties of potatoes. The cereals were shown in sections—the roots showing the number of stools from one grain, and the products of the one grain was shown in the bunch of heads raised from it. The potatoes were shown on separate plates. The name of each variety accompanied each sample. A great deal of care and pains had been taken to make this a useful and attractive exhibit. Fine as this exhibit may have been, a local seed firm (J. S. Pearce & Co.) made a display far more

varied and artistically arranged, and claiming to have tested seeds to double the extent of the Government exhibit, although the space occupied by them was not one quarter the size of the Government exhibit. Magnificent displays were sent from Manitoba, Algoma, the North-west Territories, etc., etc. Mr. Grant, of Thornbury, Ont., who carried off the sweepstakes and many first prizes, for cereals at the great International Fair, recently held in Buffalo, exhibited here, but despite these great professional exhibitors the superiority of the products exhibited individually by the unassuming surrounding farmers was such that, comparatively, but very few prizes could have been taken by the great exhibitors here. We may say, without fear of contradiction, that the cereal and root display made at the Western Fair this year exceeds anything of the kind that we have ever seen exhibited on this continent. Perhaps such a strong competitive display may never be seen again in Canada when quality is compared. Here, as at other large fairs, Algoma, Manitoba and the North-west Territories made extensive and highly creditable exhibits.

**Recent Purchases Made by the Ontario Agricultural College.**

We are glad to see that the professors of the Guelph College are at last taking a rational view of things, and selecting their breeding stock from the flocks and herds of Ontario, instead of importing second and third rate stock at long prices and a great expense from Europe. We think it a wise policy to let skilled importers do the importing. We can reap a benefit from their skill and experience by buying young animals from them, not necessarily by buying imported animals; Canadian bred ones are just as good, if they have been properly bred and have good pedigrees.

We would warn the professors to be careful in all their purchases to see that the animals they buy are either registered in the American herd or flock books, or are eligible to registry.

The following are some of the recent purchases:—

From Messrs. Hay & Patton, New Lowell, an Aberdeen-Angus bull calf, 1st prize winner at the leading fairs.

From John Campbell, jr., Woodville, 8 head of shearing Shropshire-down ewes and an imported shearing ram, winner of 1st prize at the Toronto Industrial.

From V. E. Fuller, Hamilton, two shearing ewes and ram lamb of the Horned Dorset breed.

From Mr. John Jackson, Abingdon, six shearing Southdown ewes and ram, all imported and prize winners at the leading shows of Ontario.

From Messrs. Laidlaw & Jackson, Wilton Grove, four head of shearing Cotswold ewes, prize winners at Toronto, London and St. Thomas.

From Wm. Murray, Clanbrassil, six head of shearing Leicesters.

From Peter Arkell, Teeswater, six head of Oxford Down shearing ewes and a two-shear imported ram, prize winners at the leading shows.

These animals, though good individually, in every instance, and bought mainly with a view to their breeding qualities, have been bought at commercial prices, only fair values being given in every instance.

A few more animals are yet to be bought, especially a few Ayrshire cows and heifers.

**The Industrial Exhibition.**

The Toronto Exhibition has been a grand financial success. The gate receipts were \$59,604; for exhibitors' tickets \$700, and for entrance fees, booth privileges, etc., etc., \$12,000, making a total of \$72,304. The expenditures were: \$25,000 given in prizes, and \$25,000 partly for expenses and partly given to special attractions, etc. The total number of visitors which attended was about 300,000, to this must be added about 3,000 each day to whom free tickets were given. The attendance and the receipts have been unprecedented, and the Exhibition on the whole has been the best ever held in Canada. The display of stock, machinery, cereals, roots, fruits, flowers, etc., has been such as to cause the admiration of all. The art departments were well represented, and the special attractions have proved a great success in drawing the people. The directors deserve great credit for their energy and management. The masses that have attended have gone away satisfied. Those of the American and European visitors who take any interest in agriculture must have returned home with most favorable impressions as to our capabilities. Amusements and recreations are necessary and beneficial. Whether the combination of the ludicrous with agricultural is beneficial to the latter is a debatable question, which will be discussed in the Dominion Farmers' Council—every farmer should see these reports.

The number of live stock entries were as follows:—

HORSES.	
Thoroughbreds.....	44
Roadsters.....	215
Carriage Horses.....	105
Hunters.....	77
General Purpose.....	18
Agricultural.....	157
Clydesdales.....	105
Shire Horses.....	35
Canadian Bred Heavy Draughts.....	61
Percherons, etc.....	14
Suffolk Punch.....	14
Dog Cart, Cob and Cavalry Horses.....	25
Ponies.....	40
CATTLE.	
Durhams.....	170
Herefords.....	45
Polled Angus.....	28
Galloways.....	46
Devons.....	30
Ayrshires.....	53
Jerseys.....	72
Guernseys.....	7
Holsteins.....	70
Grades.....	17
Fat.....	24
SHEEP.	
Cotswolds.....	31
Leicesters.....	52
Lincolns.....	24
Shropshires.....	71
Oxfords.....	40
Southdowns.....	26
Merinos.....	55
Horned Dorsets.....	19
PIGS.	
Berkshires.....	35
Suffolks.....	40
Essex.....	17
Polland China.....	21
Large White Breeds.....	52

The poultry is treated of in another column. A catalogue was issued by the association; it was an attempt in the right direction and proved very useful, yet it had its defects. It was quite difficult for a stranger to find any horse in the catalogue, because of the irregularity in which they were stabled. The breeds were promiscuously mixed up, not being placed in order or according to breed. Neither the pigs or sheep were numbered, therefore the catalogue rendered but little assistance to the visitors to these pens, but among the horses and cattle it was of great value and the society are to be congratulated for making the attempt.

**Remarks on the Prize Essay.**

In order that those who have not had the privilege of being acquainted with the form of book-keeping recommended by the essayist, we may say double entry requires the same transactions to be entered in the two different accounts which it affects. In the one it is entered on the credit side, and in the other on the debit side; *e. g.*, if a bull is sold for \$150 cash, the stock account is credited with "cash, \$150," and the cash is debited with "stock, \$150;" or, if the horses or cattle have consumed \$100 worth of grain, the grain or farm account is credited with "stock, \$100," and the stock account is debited in turn with "farm (or grain) \$100." A wise rule to remember is that everything going out, or disposed of, is credited to the account to which it belongs. The number of accounts opened depends upon the amount of information the book-keeper wishes to draw from the books. If he simply wants to know how much money he is making or losing without knowing what department of the farm is profitable, one account, known as personal account, will answer the purpose, and the process of keeping it will be very simple; but if he, as he should do, wants to know where the profits and losses arise, he will have to open several accounts, and the more perfectly he wishes to know this the more accounts he will have to have, and with the number of accounts the system becomes more complex; but with a little experience and common sense it will soon become an easy matter. If more than two or three accounts are opened it is well to have a profit and loss account in which, as the name indicates, profits and losses are entered; *e. g.*, if an animal dies the stock account is credited with it, and the profit and loss is debited with its value. It is well to open an account with all the persons with whom you have any other than cash dealings. The less credit is given or taken the easier and simpler the system of book-keeping.

One of our essayists recommends that the farmer's wife should keep the books, and in many instances this would be a good plan.

Keep all kinds of stock in a thrifty condition. It never pays to economize in the feeding of animals, especially young stock, for these, if once stunted, never recover from the effects of the neglect. See that they not only have plenty of water, but plenty of good water. Don't compel them to drink out of a stagnant pool.

Hoard's Dairyman says:—"All good dairymen will agree that it pays to feed a butter cow grain the year round, and it stands to good reason why it is so. It is not so much a 'craze' as a performance based on sound principles. The facts are, that milk-giving is a function unlike any other of the animal economy. The milk is now admitted to be simply elaborated blood, controlled by nerve power. The principle of feeding bran, shorts, oil meal, oats, etc., is one of direct blood supply and material out of which healthy and abundant blood can be made. The grasses furnish a better material than dry hay, out of which milk can be constructed, but protein foods contribute a most important point in the matter, even if the balance of the ration is of the succulent character, but they get all of the protein in green foods not apart as in dry rations. Big performances in cows never have been successful without abundant protein foods, nor can long milking periods be sustained without them. It's good milk, and long continued drawing at this fountain of supply, that makes dairying profitable, not feeding corn-meal to steery cows."

**The Farm.****Desirability of Providing Increased Accommodation for Farmers' Gatherings.**

BY J. DRYDEN.

It is now nearly a year since Alderman Frankland, of the city of Toronto, wrote a letter addressed to the Mayor and Council of that city—which was at the time published in pamphlet form—urging the necessity of providing a building having sufficient accommodation for public sales, exhibits of fat stock, &c., as well as affording a meeting place for the various Breeders' Associations, the Central Farmers' Institute, and kindred gatherings which are annually convened at some central point.

That there is need for such a building, no one, who has ever attended any of the meetings of the different organizations of the Province, will deny. Toronto is a large city and yet it is extremely difficult to obtain a suitable place near its centre in which to hold a farmers' gathering. Sometimes a large room in a hotel is used. Occasionally a hall on some back street, difficult to find, is engaged. At other times, what is known as the St. Lawrence Hall, a large barn-like room with no heating appliances, excepting a little fire-place in one end, is secured. None of these places have been, in all respects, satisfactory.

This, however, is not the only nor the chief need which is felt. There is really no place to be found in the city for the holding of a winter exhibition such as has been held under the auspices of the Agricultural and Arts Association, known as the Fat Stock Show.

These exhibitions ought to be among the most important of any which are held. They show the practical outcome of the thought and labor of the various breeders of our Province. It is not too much to say that the fat stock show held annually in Chicago is, to a great extent, revolutionizing the work of many of the breeders of that country. It is seen at these shows what animals produce the greatest quantity of the best quality at the least expense, and whether it be in mutton, pork or beef, the breed which produces these results ought to and will be sought after.

In addition to the fat stock exhibit it has been suggested that if the different Breeders' Associations could hold their gatherings about the same time it would not be an unwise thing to encourage the gathering together of young bulls, and perhaps horses, offered for sale. One of the difficulties experienced at present in the purchase of a male animal is that many persons, not knowing precisely where to find such as they want, are obliged to spend much time and money in what sometimes proves a fruitless search. If a number of these animals could be brought together in some central spot where they would be on exhibition for some days, an excellent opportunity would be afforded for buyer and seller to meet.

Herein, let me say, lies what I think to be the chief exhibition work of the Agricultural and Arts Association, the holding of a winter show of such importance as this would ultimately prove itself to be. It is a field not cultivated by other associations. The results of it would be more important and far-reaching than the holding of any other kind of exhibition now in existence.

If all were of my opinion no more fall exhibi-

tions under the auspices of this Association would be held. No matter what may be said in their favor, it is certain that the work they do is quite as well, and in many cases better accomplished by other associations which do not receive a large provincial grant. Now, if this be desirable, it can never be accomplished, except some suitable building be provided where such animals could be kept in comfort and at the least expense.

The farmers of this Province cannot be too loud in their praises of Alderman Frankland, in this behalf. He has worked with energy, and with a seeming desire to promote as far as may be their interests. He evidently holds the view, that while promoting the interest of the farmer, he is, in advocating this course, doing the very best thing possible for the prosperity of the city of Toronto.

But, it does not appear that that city is very anxious that such gatherings should be held there. Several meetings of various committees appointed by the different organizations have been held; but up to this time without—so far as I am able to learn—any practical result being reached. Perhaps I may be permitted to suggest that Toronto is not the only city where the farmers of this Province might gather together for the holding of their various meetings, exhibitions, etc.

I do not doubt, that if a movement was set on foot in some of the other centres of trade to provide suitable accommodations, that it would not be long until all the associations would hold their annual meetings at such a point. It would mean that the headquarters of these associations would be there, and that the Canadian Fat Stock Show would be permanently located where such accommodation could be provided.

If such accommodation were provided, it would only be fair that the parties using it for sales or exhibitions should pay a reasonable fee for the privilege.

We shall wait patiently to see what city desires to cultivate the presence and trade of the farmers.

**How to Oil Harness.**

Mr. E. Chambers, writing to the Boston Globe, urges as a first requisite avoidance of lampblack, or any mixture containing this smoke, of resinous substances, for the appended reason: "Lampblack" is not suitable for such kinds of leather which are to be blackened on the grain side, but only on those which are to be blackened on the flesh side, such as is used for shoes, because when applied to the grain side it will rub off on your hands every time there is a damp spell or the leather gets wet.

Instead, for proper treatment of parts that appear a little red or foxy after washing, make the following preparation: Take a small keg or half barrel, and put in it some iron filings from a machine shop, or old rusted stovepipes, wornout horseshoes, or any kind of iron; then pour on enough cider vinegar to cover the iron. Always keep it on hand, for the longer it stands the stronger it will get. After a few weeks draw off some of this color and put a little copperas in it. Now you have a complete grain color. I know of none better. Take a brush and apply this liquid to parts on the harness that show red, or you can go all over them with it. This must be done immediately after you have washed your harness, before oiling, because it will not take where there is any grease. These preliminary points disposed of, now comes the cleaning. Take the harness apart, wherever it can be

unbuckled; give each strap a good washing, using lukewarm water with a little washing soda in it. Scrub well with a scrubbing brush, and be sure that you get all the grease and dirt off. Work well in the hands until soft and pliant, for it is no use to apply oil on dry, stiff leather—it will never become soft. After this has been done, hang it in a room where it will not dry too rapidly, until about three-parts dry.

Then apply plentifully on both sides pure cod-oil—this has more body and lasting quality than any other grease I have ever tried on leather tanned with bark. Besides, if you use neatsfoot oil, rats and mice will eat your harness, while they will not touch that greased with cod-oil. After giving it a good coating with this oil, hang it up until dry. Then I would go over it again with the oil, giving it but a light coat this time. After that dries, wipe off with a dry, coarse cloth. For common work-harness nothing more is needed, but for carriage-harness go over with a sponge and castile soap, and wipe with a dry chamois skin, and you may depend upon it there will be no black rubbing off on your hands.

**Rats in Cellars.**

Henry Ives, of Batavia, N. Y., in a letter to the New York World, tells what every farmer will be glad to learn, namely, how to keep rats out of cellars. He says:

When a cellar is infested with rats it is always found that they obtain their entrance under the cellar walls, or at least they must have holes or passageways there to retreat to, and places there to burrow. If not they will very soon abandon the premises. It is said that in making an entrance they first dig down just outside of the walls and under the bottom of it into the cellar, and that the holes they dig in the cellar are always to make passages under these walls instead of into the earth of any other part of the cellar bottom. Knowing this habit of theirs, one can so build that they will not be able to get under these walls, and then they will be most effectually excluded from the cellar.

This is easily done by following what is also a most excellent practice in forming the foundations for these walls. After the cellar is dug and the lines where the wall is to stand marked, dig a trench twenty inches or two feet deep and a little broader than the wall is to be, directly under where it is to stand. Fill this with small broken stone, say as small as for a macadamized road; or, what is better, break up loose, shelly flint stones in the trench, enough to fill it. Either of these will make a good abutment to construct the walls on, will act as a drain for the cellar, if it is needed, and above all will prove impenetrable to the entrance of rats. They might dig down from the outside, as their custom is, but, finding at the bottom of the walls this loose, broken stone, which they are unable to make a passage through, they will be obliged to stay outside, and the cellar will be practically "rat proof."

But if the walls of a building are not made as above, and the cellars are already infested with rats, they may be made nearly "rat proof" in the following manner: Dig a trench fifteen inches wide and eight or ten inches deep just inside, at the bottom of the walls. Fill this two-thirds full of pounded stones, and then with water lime cement, enough to be even with the cellar bottom and plastered a little way up from the bottom of the walls. This will prove so much of a barrier to the rats, trying to get a passage under the walls again, that they will doubtless abandon the premises.

**Fertilizers.**

NO IV.  
APATITE.

This fertilizer is one which is extensively mined in Canada, and used by its farmers to a limited extent. By far the greater portion is, however, shipped to other countries; the unground rock as well as its products, ground apatite and mineral superphosphate, finding ready sale in the foreign market. The phosphoric acid, the only fertilizing material apatite contains, is in its most insoluble form, and is therefore of only inferior value, being at the present sold for about two cents per pound, or  $\frac{1}{4}$  of the price realized for the most soluble forms. Its returns are not nearly so rapid as those from superphosphate or bone; for, its phosphoric acid being insoluble, it must decompose before it can be taken up by the plant; and it being very hard, much harder than limestone, the decomposition is naturally slow. In fact on some soils poor in decomposing vegetable matter, viz., cold stiff clay or dry loose sand, its beneficial results are so slow that they are apparently lost. The finer the apatite has been ground the more valuable it is; for the surface exposed to the action of the decomposing agents of nature being increased with its fineness, the decomposition is more rapidly effected and therefore its value increased.

In order to obtain the most beneficial results, especially if the soil is of a cold nature or suffers from drought, it should be mixed with the barn manure or compost by sowing it broadcast on the heap as it accumulates; and as the barn manure is generally deficient in phosphate it is a very good plan to make it a practice to mix finely ground apatite or bone meal with the barn manure, which should then, if well taken care of, supply all the wants of a generally productive and well managed farm, especially if it receives an occasional dressing of ashes, which will be treated of later on.

The soils especially benefited by bone dust are those on which apatite will give its best returns; for it is the most insoluble member of that group in which bone dust holds an intermediate place and in which superphosphate forms the most soluble fertilizer. As these fertilizers have various grades of solubility depending upon their fineness, they form a complete chain, and the remarks made in one will, therefore, largely apply to the others.

Apatite, which is by some scientists supposed to be the petrified remains of the excrement of sea fowl, or, in other words, guano turned to stone, is a greenish crystalline rock found in various portions of the earth's crust; but that found in Canada is by far the richest deposit of any yet discovered. It contains fully  $\frac{1}{4}$  more phosphoric acid than that found in the States, generally known as "Carolina rock."

The Canadian deposit contains from 75% to 80% of phosphate of lime, or 32% to 34% of phosphoric acid, and should therefore not cost more than 70 cts. per cwt.

**GUANO—MANURES FROM FOWL.**

With the rise which our poultry industry has taken, and which it will likely continue to take, more fowl will be kept and, consequently, more of their excrements made and utilized as a fertilizer. As a commercial fertilizer the excrements of sea fowl, known as guano, have been used for a little over fifty years. It was the first commercial fertilizer used in England and was the means of opening the way for the various other

organic and mineral fertilizers now in use in the more progressive agricultural countries. It is more nearly related to farmyard manure than any of the other commercial fertilizers. Its main difference from the latter being that in addition to its nitrogen it has a larger percentage of phosphoric acid but is comparatively poor in potash, while the farmyard manure is poor in phosphoric acid but has a fair supply of potash. The guano is, however, much more concentrated, and for a clay loam, on which it gives the best results, is a better balanced fertilizer than farmyard manure. When first introduced it was much richer than it now is, for the most valuable deposits have since become exhausted, and it is likely owing to this fact that it is not more popular than it is.

It has the best effect on fall grain crops if applied a short time before they are sown; but on all other crops, save the legumens (peas, beans, clover, &c.,) it makes a marked improvement, if not applied in too large quantities—200 lbs. per acre is sufficient for any crop. Owing to its great concentration it should be very intimately mixed with the soil. The finely powdered fertilizer should be sown broadcast over the field, which should then be thoroughly cultivated or plowed. Some experimenters claim that to cover the fertilizer eight inches deep is not too deep, but we would prefer a covering of four inches. When applied to vegetables it has given very satisfactory results when steeped in water and the liquid applied in small quantities at short intervals. It should, however, never be used in this way during a dry season, care should be taken not to touch the leaves or stems with it, and the soil should be frequently stirred; but under ordinary circumstances the better way to apply it, to even these plants, is to sow it on broadcast as directed above. What has been said about guano applies also to the excrements of other fowl.

The following table gives the average composition of guano, as it is now sold in the market, and of the excrements of various domesticated animals and birds:—

TABLE OF ANALYSIS.

NAME OF FERTILIZER.	Water.	Nitrogen.	Potash.	Phosphoric Acid.	Value per cwt.
	%	%	%	%	
Peru Guano.....	15.0	7.0	3.3	14.0	\$2.28
Horse Manure.....	71.3	.58	.53	.28	13.8
Cattle ".....	77.5	.34	.40	.16	08.5
Sheep ".....	64.6	.53	.67	.23	13.3
Swine ".....	72.4	.45	.60	.19	11.3
Hen ".....	56.0	1.63	.85	1.54	41.5
Duck ".....	56.6	1.00	.62	1.40	23.0
Goose ".....	77.1	.55	.95	.54	17.0
Pigeon ".....	51.0	1.76	1.00	1.78	45.5

The values of the various manures has been calculated at the present market value of their constituents. The composition of these manures, especially those of the quadrupeds, varies materially in composition, depending upon its management and the food consumed by the animals.

[TO BE CONTINUED.]

The Drover's Journal says: "Dehorning is one of the barbarous acts of this age that should be condemned by every citizen, good and bad."

One of our Canadian exchanges, replying to a question, says that a gallon of milk weighs 8 6 lbs. This is a gross mistake, for the accurate weight of an average gallon of milk is 10.31 lbs; but for most purposes it will be accurate enough to call it 10 lbs., the same weight as water.

## PRIZE ESSAY.

**The Best, Simplest and Easiest form of Book-keeping for Farmers.**

BY THOS. M'MILLAN.

A glance at the subject-title of this essay would indicate, what upon afterthought appears to be true, that the outlining of an accurate system of book-keeping for farmers is in reality a difficult task. In endeavoring to keep an account of our transactions upon the farm, we are naturally led to ask ourselves—For what reason do we wish to do this? Simply to know if our occupation is really a paying one to us, and what department of that occupation is the most profitable.

Such an answer leads us to the belief that our calling is divided into different departments which we follow, according to our inclinations. For instance, as an average farmer, I may pursue a mixed system of farming, and follow grain-growing in connection with cattle raising and horse raising. I want to know if it pays me to grow grain and hay, raise cattle and horses, and which of these is the most profitable. I keep poultry and hogs and wish to know if it pays me to do so. I have my house to keep and wish to know what it costs annually. If I should engage in any other branch, treat it upon the same principles as the others, but, for convenience sake, let these suffice.

After consideration, I am of the belief (notwithstanding the ideas of many to the contrary), that in order to keep books satisfactorily, to be easily understood, we must adopt the system known as double entry. We must have a cash book to keep an account of all receipts and expenditures, in order to keep tally with the money in our purse at any time. We must have a day book, in which to record all transactions, and a ledger, in which to divide these transactions into their different departments, when the difference in the Dr. and Cr. sides will show whether we are making or losing in each department, and the balance sheet for all the departments will show whether we are making or losing upon the whole. At the beginning of each year take stock as the merchant says, by placing a value upon the farm, including building; value the horses, cattle, poultry and hogs, implements, harness, crops (the quantity of which we will have an idea from knowing how much was harvested and threshed the past year), cash on hand; if we have any bills to pay, mark them down as bills payable, and money owing us as bills receivable, and if we want to be accurate with household affairs, in order to know exactly what it costs for the year, value provisions on hand, clothing, etc. All these record in the day book, that it may be posted therefrom into the different accounts in the ledger. In the ledger, in the first place, have a capital account; upon the credit side enter the value of the farm, stock, implements, harness, cash, bills receivable, etc., and upon the debit side enter the bills payable. These entries must also, as any book-keeper knows, be entered upon the respective sides of the different accounts to which they belong. Open also, cash, horse, cattle, poultry, hog, crop, implement, bills payable, bills receivable and household accounts, for cost of repairs, etc., an expense account. I want to know at a glance what it cost for help, so must have a wage account; also, what improvements are made an-

nually, in the shape of draining, building, etc., so must have an account for these, the cost of which I would add to the value of my farm the next year. In the crop account we know what value we have in our possession grown from the ground harvested; grass lands value at so much per acre rental. What produce is marketed, credit by crop and debit to cash; what is used for gristing, for instance, debit to household; what fed to stock, debit to the stock to which it is fed; what seed grain is sown, credit by cash, and so on. In this way we can form a tolerably close estimate of the cost of each department. So far as the cost of help needed in the different departments is concerned; it becomes too intricate to try to divide it, so must let that alone; the same may be said of the different fields of the farm, as it would be too cumbersome to keep an account with each.

In keeping accounts in this manner, we are forcing ourselves to be accurate and particular in our work. In the hay harvest we must note the number of loads of hay; the same in hauling in the grain, that we may have a good idea of the quantity of fodder. At threshing time measure your granary bins, and ascertain the amount of grain; you must also note the extent of your pasture lands every year. With your stock you must note down the value of every addition to your herds, etc. In following such a system, we are obliged to note all our transactions during the year, thus furnishing a record to which we can refer with satisfaction at any future time, and know just what progress we have been making, as well as showing, in black and white, the pecuniary result of our operations through all the different departments in which we engage.

Some may say that such a practice would be a laborious one, but they must bear in mind that it will well repay the small amount of labor, and that there is many an idle spell which could be cheerfully and profitably filled in this way, because it is a mode of training of which Canadian farmers are greatly in need, and one which, if begun in earnest, I feel sure would be cheerfully continued by all who are bound to make farming a success.

**English Letter.**

(From our own Correspondent.)

Liverpool, Aug. 31st, 1888.

The present season will be remembered as one of the most disastrous of the century. The hay-time was a wet one; indeed, in many parts of the country it has not even at this date been carried. A farmer in Wales, to whom I was speaking last week, informed me that he had carried the produce of forty acres to the dung heap, and another had not secured his until it had been cut for several weeks. Both, however, may be able to save a crop of after-math should the weather prove favorable. Another friend put a gang of twenty men on a fortnight ago to cut his oats, and in consequence of agricultural labor being scarce he has been obliged to keep these men for ten days doing nothing, or next to nothing, for they have only as yet cut about five acres.

The roots, especially mangel wurtzels, sadly want sunshine and heat; potatoes, always an important crop, especially to those farmers situated near the large centres of population, are in great jeopardy, disease having already broken out in several districts.

I went to the Birkenhead lairages to see some 250 head of range cattle from the neighborhood of Calgary, N. W. T. They had just arrived by the S.S. Montreal. During the last few days of the passage they had suffered very severely,

being terribly bruised. They were a mixed lot—several very large bulls, a number of cows and the balance made up of some very good "rangy" steers, a good many of these showing strongly the Shorthorn cross. There were also a few Hereford crosses, and one or two polled Aberdeens. Some of them must have been grand animals when they left the ranch, but having been some thirty days *en route* they had shrunk a great deal. It was found better to kill them in the lairs, as they were so very wild that it would have been dangerous to take them to the markets. Most of them dressed remarkable well, and taking into consideration the hard usage they had experienced were very full of fat.

A very fine shipment of Aberdeen bulls was made the other day to the Canadian Agricultural Colonization and Coal Co., Balgonie. They are, I understand, establishing ten or a dozen farms, and to these they have already shipped 110 Polled Aberdeen and Galloway bulls, some of them of grand pedigree. They are now sending some 900 rams, principally Border Leicesters, Cheviots, and a number of really first-class Shropshire downs. The ewes, 45,000 in number, are being purchased in Montana.

The movement in the price of British mutton has put the New Zealand and South American exporters of frozen mutton in great spirit. For the first time for a long while prices have touched remunerative rates. For the last few weeks a very fair profit has been made on frozen mutton, but it is difficult to say how long this will last.

As you are aware great interest is being taken in this country in dairying, and it is a subject which will certainly command the attention of Canadians. From a report just made by the English Consul at Copenhagen, it appears that the Danes are still paying great attention to their butter interests, and they held a very fine exhibition of dairy products and machinery at Copenhagen a few weeks ago. It is stated that one Danish and Swedish butter agency made shipment in 1882 to the extent of \$1,195,000 and these rose last year to \$2,970,000. The trade of other leading firms has increased in a corresponding manner.

The Royal Agricultural Society is giving prizes for the best machinery suitable for the manufacture, by individual farmers, of tinned milk; whilst several landed proprietors, notably Lord Tollemahe, in Cheshire, is taking great interest in the development of the fancy cheese trade. Mr Rigby, a son of the secretary of the Royal Manchester, Liverpool and North Lancashire Agricultural Society, has just returned from Italy where he has been making exhaustive enquiries into the manufactures of Parmesan, Gorgonzola and other fancy cheeses. Professor Long has been for some years making these cheeses with considerable success. The experiments are to be extended and the results will no doubt be exhibited at the dairy show to be held in London in October next. Canadians have been urged to make this fancy cheese and I think they might do so. It would have an enormous sale in the United States amongst the many thousands of foreigners who are settled there.

The demand for horses, more especially for those of the Shire breed, has been unprecedented, in fact the country has been stripped of young stallions, with the exception of a few animals for which no price would be taken. A large number of very useful horses have been shipped to Canada and the United States, but the higher priced ones have been taken to Buenos Ayres and the Australian Colonies.

**Forestry and Tree Planting.**

BY REV. GEORGE BELL, LL.D.  
(Read before the Ontario Fruit Growers' Association.)

In the thoughts which I desire to present to the Association, I do not expect to offer anything new, but considering the immense importance of the subject, I shall be satisfied if I can awake attention by reiterating truths known to you all, but the force of which is overborne by the inertia of ordinary human nature, and other causes.

In its state of nature our Province was largely covered with thick forests, and the severe labor imposed on the first settlers of hewing out homes among these, and clearing the land for agriculture and the building of towns and villages, very naturally led to the belief that all trees were man's natural enemies, to be got rid of as speedily and completely as possible. The same process of cutting and burning went on in this country, as formerly in older ones, until we are beginning to find our rivers destructive torrents in spring, and so dried up in summer as to be in many cases worthless as water-powers or water-ways; our lands dried up and scorched with sweeping winds in summer, and our tender fruits damaged by the blasts of winter. At the same time our supply of valuable timber for building and other purposes is in many localities becoming scarce and expensive.

In many of the countries in Europe, large tracts of forests are owned or managed by the Government, and although involving heavy expense for management, furnish some return of revenue from their annual produce. Our country is younger, and the same necessity of careful attention to forestry is not so apparent, yet everyone who gives the matter much thought must be aware that it is none too soon that something very decisive should be done, and very widely done, if, as a people, we are not to suffer serious loss from the barrenness of the country turning it into a partial desert.

Let me refer for a moment to the ways in which the country is being denuded of trees.

1. *Cutting down in clearing.*—It has often been said that farmers should not make a clean sweep, but should leave some young trees to grow up. But some make that suggestion who do not know the difficulty in the way of carrying it out. It is extremely difficult to save small trees growing in dense forests during the process of clearing; and even if saved then they would die afterwards, or only prolong a sickly life in their new environment. The true remedy in this case is replanting. In open copse wood the case is different, and when small trees are growing where they can be easily preserved, and are likely to make a healthy growth, some should be saved.

2. *Wasteful lumbering.*—The incidental destruction of living timber, directly in connection with the getting out of square timber and saw-logs, and indirectly by increased danger of fires, is enormous.

3. *Fire.*—The annual loss from this cause is a fearful source of injury.

4. *The construction and maintenance of railways.*—Few have any idea of the extent of the consumption of timber by railways, or of the incidental destruction caused by providing this timber. I submit some statistics respecting American railways, from the United States Department of Agriculture, Forestry Division, on this subject (for the year 1886). Ties, 187,500 miles of track, at 2,640 ties per mile, 495,000,000

ties, containing 1,485,000,000 cubic feet of timber. *Bridge and trestle timber, etc.*, 2,000 feet per mile, 375,000,000 feet. For both 1,860,000,000 feet, or allowing 1½ foot of round timber for each cubic foot in use, 3,100,000,000 feet of round timber. *Telegraph poles*, 5,000,000 at 10 cubic feet each, 50,000,000 feet. For 5,000 miles annually of new construction, add 13,200,000 ties, 10,000,000 feet of bridge timber and 150,000 telegraph poles. As ties last about seven years, and the other timber about ten, the maintenance of the work involves an annual requirement of 254,643,000 feet. It is estimated that for the railways in existence in the United States, about 8,500,000 acres of timber land have been cut off; and for annual maintenance and new construction, 297,000 acres of heavily timbered land will be required. It is impossible to give an estimate of the consumption of timber for fencing, fuel, and other railway uses, but the amount must be very large. As only a few kinds of timber are suitable for ties and some other railway uses, it follows that the supply is being rapidly used up, and that the certainty of a famine can even be only mitigated by an immediate attention to economy in use, and extensive renewal of growth.

I have not at hand the information necessary to show in what ratio these figures will apply to Canadian railways; but as the consumption for equal lengths of track will not be very different, any one who has the figures of the comparative mileage (of track, not length of road,) in the two countries, can make the calculation for himself.

The question of lumber supply for buildings and other domestic purposes is a very important one, and in this the danger of famine and necessity of foresight are still greater than in the case of railways. Steel bridges and ties will in time supersede wooden ones in railway construction, but it is difficult to see what can take the place of sawed lumber for house building. Add to this the question of the supply of lumber for the manufacture of furniture, and the general question becomes a very serious one. Black walnut, our best cabinet wood, is already at famine price, and will soon cease to be obtainable at any price. Even basswood is becoming scarce. Cherry, white ash, whitewood, chestnut and butternut are not very abundant, and they can never fill the place of the walnut. In the absence of this, probably our best furniture woods are black birch and bird's-eye maple, but these also are not plentiful. Swamp elm will for a time fill a useful place in cheap furniture, but the outlook generally is discouraging. The serious nature of the case is in this, that many years must elapse before the evil can be undone, even if the most vigorous measures were taken for its removal. The inertia of human nature stands in the way of individuals making great efforts to secure a benefit of whatever value, if its enjoyment is to be long deferred, while with corporate bodies such as railway companies, the Directors have to show the best financial results annually, and their constituents would be very impatient of expenditures, the returns from which can only be realized in the next generation; yet, the importance of the matter is such that railways should certainly enter without delay on the work of planting groves and blocks of timber. It should occupy the attention of Dominion, Provincial, and Municipal authorities, and efforts should be made to wake up every owner of a farm or large tract of land to the pressing necessity of tree planting. It has been suggested that railways should have

rows of trees planted along their line, but the value of this may be doubtful, so far as their being snow-guards is concerned, the right-of-way being too narrow; but in exposed positions, if the land required can be procured, thick groves placed farther from the track would afford protection from snow-drifts.

Every farm should have a timber reserve for fuel and other purposes. Trees should be planted for shade and shelter near the farm buildings, and wind-breaks should be provided. In many cases the timber reserve may be made to serve as a wind-break also. I now venture to offer some recommendations to which I offer the earnest attention of the Association:—

1. I would not advise the scattering of trees over a farm to give it a park-like appearance; let those who have land and means to spare to do so, produce park scenery; but for farms generally, I suggest something more practical. I recommend that every farm should have a wide, thick belt of trees either reserved from natural growth, or planted on the side of the lot most exposed to the wind, and that, if fenced fields are to be continued in use, groups of trees to afford shade for cattle should be planted at the principal intersections of these.

2. I ask for the abolition of the present very expensive and unsightly system of fencing; it would be much better and cheaper for all to fence in their own cattle than to fence out those of everyone else; were fences banished, trees should be planted along the line of public roads, which would at once bound the lots, beautify the country, and make the roads more pleasant for travelling.

3. I would ask for the beautifying of the homestead by judicious planting of both fruit and forest trees. Of course, I do not mean to recommend (what I have sometimes seen done), an entire removal of every vestige of natural growth, and then planting two straight rows of such abominations as lombardy or balsam poplars from the gate by the roadside to the front door of the house.

4. The whole subject of forestry should be taken up and systematically studied by the Dominion and Provincial Governments; a careful survey of the whole country should be instituted, and those portions mapped in which the laws of nature require the existence of forest. Then, as far as possible, large tracts of the original forest should be reserved and settlement excluded from them. The principal purpose in view should be to make these reserves at the head waters of river basins so as to effect the flow of the water along with the general production and saving of timber. Many other desirable results would follow, which need not be discussed here. The Association might properly urge this matter on the attention of the Governments of the Dominion and of Ontario. The Dominion Experimental Farms should go into extensive testing of many varieties both of forest and fruit trees, to ascertain what sorts are best adapted to several localities as regards climate, soil, etc., so that the public may be guided to a correct selection.

5. Planting should be begun with well-known varieties of value. In the Lake Erie region, the walnut, chestnut, and tulip tree with others should be tried. In other localities groves of larch, spruce, maple, birch, hickory, ash, elm, cherry, beech, oak, pine, hemlock and cedar may be tried according to circumstances. Especially valuable it seems to me, would be larch, spruce, pine, maple, hickory and cedar for

this purpose. A belt four chains wide and a quarter of a mile long would cover eight acres; a half mile, sixteen acres. On every farm there should be a reserve of sufficient extent, probably not less than from twelve to twenty-four acres. The position of this should be determined by local circumstances. If entirely new planting it will be influenced by hill and valley, wet or dry land, stony or rough land, etc.; but wherever practicable, it should be so placed as to afford protection against strong winds. It should be planted very thickly to induce upright growth, and after some years a periodic thinning out would be a source of profit while the main harvest was being waited for. The cost of such plantations would no doubt be large in the cost of the trees, the preparation of the land, the planting and several years' cultivation, but it would be money well spent, and it would add to the value of farms much more than its cost. The work would of course usually be spread over several years. I cannot take up your time by dwelling on the resulting benefits; but if such planting became general, farms would be enhanced in value; protection would be afforded to animals, to gardens and orchards; more moisture would be retained in the soil and the air, and gradually timber would be provided for fuel, building and railway uses; and the whole country would be improved and beautified.

#### The Farmers and the Banks.

To the Editor of the Farmer's Advocate.

SIR,—Knowing that you are always desirous to advance the farmer's interest, I send you the accompanying paper, prepared by F. J. Bennest, a member of our Club, which please insert in the ADVOCATE. The question of banking is one which we, as agriculturists, should understand thoroughly, for all losses that the nation may sustain eventually fall upon us, the farmers.—D. M. ROBERTSON, President Plympton Farmers' Club.

"Every true reform always comes from the protests of victim and martyr."

We are living in an age of enquiry, and in a time when many false and unjust practices and systems, which have made the promoters thereof become wealthy at the expense of the farmer, are being examined in the superior light and education it affords. The most important question for the farmers of Canada to consider and discuss at the present time is our banking system. Recent bank failures and swindles have aroused public sentiment to the fact that there must be something very loose and unsafe connected with that which should be the safest and most trustworthy among all our institutions. As the banks are the great arteries, through which flows the commercial blood of the nation, upon their shoulders rest the interests of individuals and great corporations. It is a question in many minds whether such important trusts and responsibilities should be committed to private corporations.

Permit me, Mr. Editor, by the use of a simple illustration, to convey to the minds of your numerous readers the rudimentary principles of our banking system, and the relation it sustains to the farmer, producer and dependent classes of the community.

Let us suppose a number of men—each representing a class or community—settle in a new country, having for their object the development of its natural wealth and the building up of

homes for themselves and their families. A represents the farming interests; B., the mining; C., the oil interests; D., the lumbering; E., the manufacturing, and F., the mercantile. A applies himself to his vocation, and, as a result of his labor, he accumulates a large quantity of farm produce. B., C. and D. do likewise, and, as a result of their labor, the value of the country has been enhanced; but they have, as yet, no medium of exchange, to enable them to purchase from each other, or give E. and F. employment. At this juncture G. (*who represents our banking system*) appears among them, and, having determined to live on the labor and profits of others, proposes to furnish them a medium of exchange (*which will consist of his notes or debts*), on condition that he will get a tithe of 7 per cent. of all their earnings, but by a scheme which he does not reveal he will take from 14 to 20 per cent. of their earnings. By submitting to G.'s proposal they introduce among themselves and stain their adopted home with a deceptive system of serfdom (*a relic of barbarism*), for when G. takes the tithe of their earnings he takes that which is not his own, for he never gave them any value for it, but he lives in luxury and comfort and moves among the most fashionable society, and he occasionally applies the lash to those on whose earnings he is living if the tithes are not brought to him at the proper season. (G.'s scheme will be successful only so long as the community are ignorant of the fact that they are paying him interest on the issue of his notes or debts, *which are not value.*) In course of time A. or B. have been successful, and having sold their products to a foreign community, for which they have received money (*not G.'s notes or debts*), G. asks to be allowed to keep it safe (*or on deposit*) for A. or B., and promises to pay them 3 or 4 per cent. for his trouble; but he loans it C., D., E. or F., partly through his agents, who will take from 12 to 60 per cent. as their share of the people's earnings (*according to the need of the borrower and the greed of the agent*). When the tithes and money which G. has been taking from the people's earnings are not sufficient to support him and his numerous high-salaried servants, he spends the money which A. or B. had left with him for safe keeping, and when they enquire as to the safety of their money in many instances G. has left for parts unknown, and in this manner whole communities have paid for their first lesson on "OUR BANKING SYSTEM."

MORAL:—Let the farmers of this Dominion, the class upon whose shoulders fall the greater part of the losses resulting from loose and unjust practices, awake to their best interests, discuss this important question in their Clubs and other gatherings, and their influence on legislation will be felt in a manner which will be beneficial to the whole community.

Dr. Canniff, the Toronto Medical Health officer, has made a report to the authorities on the subject of yellows on peaches now very prevalent in the Niagara district. He states that the disease is parasitic and highly contagious, as being propagated through the agency of germs. While poverty of the soil may be an essential cause of the propagation of the yellows, the chief causes are supposed to be carrying off the pollen from tree to tree by birds and bees when the trees are in blossom. The trees should be destroyed.

#### European Crop Prospects.

From our English Correspondent.]

A TEDIIOUS HARVEST.

London, Sept. 12.

Harvest was begun in this country in the second week of August, fully three weeks later than usual for a start to be made in the earliest districts, and it is not half over yet. Indeed, it is only now beginning in about half the United Kingdom, though more progress has been made in a great deal more than half the area of the grain-growing districts, which preponderate in the east and north of England. The crops are bulky in straw, but not proportionately abundant in grain, for we have had a very cold and wet season since May, and crops have not matured properly. The wheat and pea crops are the worst of all, being much below an average yield, while barley is expected to give more than an average, and oats about an average. Out of nearly 300 reports on the crops published in the Agricultural Gazette last week, only 7 per cent. put the wheat crop above average, while 71½ per cent. represent it as 10 to 50 per cent. below average. The following summary shows at a glance the character of the principal crops as represented by the correspondents of the paper referred to:—

GRAIN CROP RETURNS PER CENT.					
1888.	Wheat.	Barley.	Oats.	Beans.	Peas.
Over average...	7.0	34.8	30	25.4	19.8
Average.....	21.5	44.1	40	31.1	29.9
Under average...	71.5	21.1	30	43.5	50.3
	100	100	100	100	100
HAY, POTATO AND ROOT CROP RETURNS PER CENT.					
1888.	Hay.	Potatoes.	Mangels.	Turnips.	
Over average...	53.6	54.6	51.6	37.6	
Average.....	26.1	22.3	32.9	36.3	
Under average...	20.3	23.3	15.5	26.1	
	100	100	100	100	

Although no attempt is here made to compute the produce in bushels, some idea of what may be expected can be gathered if readers see before them the acreage of the several crops and the official estimates of the "ordinary average" yield, as it is termed. This year's areas of beans, peas, hay and roots have not yet been issued; but the official figures for the other crops for Great Britain and Ireland are as follows, in acres:—Wheat, 2,663,436; barley, 2,256,287; oats, 4,162,726; potatoes, 1,394,631. The figures for the Isle of Man and the Channel Islands are not yet issued. The ordinary average yield per acre for the United Kingdom is as follows, in bushels, except where tons are named:—Wheat, 28.07; barley, 34.13; oats, 39.04; beans, 30.35; peas, 28.46; potatoes, 4.41 tons; turnips, 14.41 tons; mangels, 19.05 tons; hay, 1.5 tons. These averages were carefully worked out by me last year from the "ordinary averages" of the official returns for Great Britain, and the ten years' averages of the Irish statistics issued by the Registrar-General. We shall, probably, obtain fully the quantities per acre above given for all crops but wheat and peas; but the quality will be generally very poor, and unless the weather improves a great deal of grain will be badly injured. Nearly all the crops harvested at present have been stacked in a more or less damp state, and no new English wheat in good condition is likely to be in the markets for some time to come. In my opinion Canadian farmers who have good, dry wheat should stand out for high prices, for, although the advance which has already taken place is considerable, there is every reason to believe that it will be greater yet. The reasons for this belief will appear partly in estimates which I have compiled



from the official and other figures published for the several wheat-producing countries. First I give the figures for Europe, as compared with those of last year:—

THE EUROPEAN WHEAT CROP.		
	1888.	1887.
	Qrs.	Qrs.
United Kingdom	7,500,000	9,233,000
France	23,000,000	37,725,740
Russia (inc. Poland)	30,500,000	33,900,000
Austria-Hungary	22,000,000	23,630,000
Germany	11,000,000	12,323,700
Roumania	3,500,000	3,000,000
Serbia	750,000	850,000
Turkey	5,000,000	5,500,000
Holland	574,000	631,300
Belgium	2,025,500	2,470,000
Denmark	594,000	625,000
Sweden and Norway	465,500	490,000
Italy	12,850,000	14,552,000
Switzerland	700,000	750,000
Greece	600,000	620,000
Spain	12,000,000	11,300,000
Portugal	800,000	900,000
Europe	138,389,000	158,305,250

Here we have a deficiency of nearly 20,000,000 quarters, or 160,000,000 bushels, in Europe, as compared with last year's production. Of course the figures are only approximations; but it is worthy of notice that a similar compilation which appears in Beerbohm's Com. Trade List, of last Friday evening, made quite independently of my own, brings out almost precisely the same totals, as far as can be seen; some of the extra European countries being grouped with a few of the minor sources of supply named above. Allowing for a great decrease in the United States and South America, increases in India and Australia, and a production in Canada as a whole about equal to that of last year, the world's deficiency, comparing the produce in 1888 with that of 1887, comes out to about 22,000,000 quarters, or 176,000,000 bushels. Beerbohm makes it 12 million bushels less; but then he allows 8,000,000 bushels too much for the Indian crop, through a clear error in calculation of the official figures. In another estimate, comparing the supposed surpluses and requirements of the several countries, he shows a deficiency of 72,000,000 bushels. But this must be too little, unless the reserve stocks in the world have greatly increased since this time last year, of which I fail to see the evidence. If they have not increased, last year's wheat crop was not too great for a year's consumption, and whatever the decreased production is, that quantity will represent the difference between the total demand and the total surplus, and, to make it good, ordinary reserve stocks will have to be drawn upon very largely. This means a considerable advance in prices. The average price of wheat here last week was 37s. 9d. a quarter, or 6s. 5d. higher than it was in the last week of June, and 8s. 8d. higher than it was at this time last year. But the advance in top prices is much greater, as good samples have been sold at 45s. to 47s. a quarter, whereas at the last of June the top price was 35s. I expect to see 50s. reached as the average, and 60s. as the top price before the cereal year is over.

IS AGRICULTURE REVIVING?

This is a question which is now receiving some attention in England. An inquiry recently instituted by an agricultural paper shows that farms have lately been letting more readily than for some years before, and it is clear, therefore, that farmers have more hope of getting a living than they have enjoyed during a long period. Rents have been generally reduced from 10 to 50 per cent., and nearly all the other expenses of farming have also been diminished. Thus, even with low prices, farmers have a better chance

of making ends meet than they had two or three years ago. But now the prices of grain and live stock alike have risen, and dairy produce has sold well during the greater part of the present year, so that apart from the harvest, which is unsatisfactory in many respects, prospects have certainly brightened. It is likely, too, that more money will be made of damp and inferior grain than was obtained last year for the best qualities in excellent condition. The great abundance of feed keeps the prices of live stock high, and fat stock are selling much better than they sold a year ago. At all the great sales of cattle and sheep held during the last month or two prices have been much higher than for the last three years. I should say that lean cattle have sold at 30s. to 40s., and sheep at 5s. to 10s. a head above last year's prices, taking them all round.

EARLY MATURITY IN SHEEP.

A friend who has been inspecting some of the Hampshire flocks says that he has seen numbers of lambs seven months old weighing 140 lbs., live weight, and worth 55s. each. In one flock the average weight of all the lambs he estimates at 140 lbs., and their average age is about ten months. He values them at 55s. all round. That is remarkable for a whole lot of lambs, not picked.

DAIRYING IN GREAT BRITAIN.

We do not intend to be left behind much longer in this country in the production of first-class butter. Our best cheese has always been equal to any, only there has been too little of it. The same might be said of butter, with this difference, that the dairies which have turned out first-class butter regularly are much fewer in proportion than those which have sent out fine cheese. Now, however, butter factories and dairy schools are being established in various parts of England and Scotland. The foundation of which is stimulated by the promise of government grants. They are small in amount but sufficient to induce people to subscribe in many localities to establish these institutions. A factory at Glyside, Sussex, owned by Lord Hampden, which I visited lately, is turning out splendid butter, and getting good prices for it—from 1s. 2d. in the cheapest season of the year to 1s. 6d. per lb. in the winter half-year. A good business is also being done in the sale of cream in one-quarter and one-half pint earthenware pots, retailed at 9d. and 1s. each. Lord Hampden is now giving 7½d. per imperial gallon (spirits) for Shorthorn milk and 9d. for Jersey milk, so the farmers on his estate and others in the district do well with their cows. It was for their benefit that Lord Hampden established the factory. As Mr. Brand he was for many years Speaker of the House of Commons.

MARGARINE.

It is gratifying to observe that our imports of margarine (formerly called butterine) are falling off, while those of butter are increasing. During the eight months ended with August we imported 1,116,144 cwts. of butter and 728,778 of margarine, as compared with 1,070,423 cwt. of the former and 784,547 of the latter in the corresponding period of last year. Previous to the passing of the Margarine Act, which prohibits the sale of the spurious article for the real one, the imports of margarine had been constantly and rapidly increasing, therefore the decrease this year is a clear sign of the benefit of the act.

FRUIT GROWING.

Another subject which is attracting a good deal of attention here is the desirability of growing more first-class fruit, and storing and marketing it on a better system than the rough-and-ready one now prevailing. A conference of fruit growers has just been held at the Crystal Palace and an association has been formed to organize an improved system of dealing with fruit. High railway charges are among the most serious impediments to remunerative fruit-growing in this country. Hitherto the railway companies have given advantages to foreign fruit growers, but it is expected that our new Railway Act will prevent this injustice, and at the same time bring down all exorbitant charges.

A NEW DEPARTURE IN AGRICULTURE.

A bill has been introduced by the Government, to be discussed during the autumn session, establishing what is called the Board of Agriculture—a thoroughly organized department which will take the place of our present make-shift. A Cabinet Minister is to be at the head of it, and it is to have control of agricultural statistics, education and experiments, the prevention of cattle diseases and the dissemination of ample information of an agricultural character.

THE LONDON DAIRY SHOW.

The Dairy Show will be held in the Agricultural Hall, Islington, on October 9th to 12th, and in my next letter I shall report on its most important features. It may here be mentioned that the British Dairy Farmers' Association will next May visit Scotland for its annual conference and excursion. Any Canadian dairymen wishing to see what is best worth inspecting in Scotch dairying, which has of late made great advance, would do well to join this very pleasant party. Mr. Lynch, who represented Canada at our conference last May in the Eastern Counties, can tell his fellow-countrymen what a pleasant trip we had. But there is more to see in Scotland than there was in Norfolk and Suffolk, where dairying is very backward.

SIR JOHN LAWES ON ENSILAGE.

Sir John Lawes has contributed to the Agricultural Gazette of Monday last an article describing his experience of ensilage—experiments in relation to the system having been conducted on his farm at Rothamsted since 1884. He concludes that there is more waste of feeding material in converting grass or clover into silage than in converting it into hay, where the latter can be well made; but he admits the value of the system of ensilage in a wet season such as the last. In a dry climate, such as that at Rothamsted, where the average annual rainfall is 28 inches, he is not disposed to make ensilage part of the regular-farm system, because, he says, the produce of an acre in hay will go further in feeding live stock than the same produce made into silage.

Loose Tires.

We have noticed this paragraph in several of our American exchanges, it is said to answer well, try it and report to us. "When spokes and felloes shrink and the wagon tires become loose in consequence, it is the custom to have the tires reset, at the usual expense of fifty cents each. It is far cheaper and better for the wheels to saturate the entire woodwork with hot linseed oil. It can be applied with a rag tied to a stick. This fills the pores and causes the timber to swell and fill the tire as when new. With a coat of hot oil once in a year or two there will be no loose tires, and the wheels will last very much longer."

Do not graze your pastures too close this fall.

As prolonged darkness is detrimental to vegetable life so are dark stables injurious to the health of stock. Many stables are made to face the blank wall of the building and when the animal is in the stall it so darkens the manger that it must feed at random. After standing in a dark stable and then coming out into sunlight the eyes are dazzled, and this oft repeated impairs the sight and sometimes leads to blindness.

In the Fort Atkinson Centrifugal Creamery is kept what is called a Jersey vat, where is placed the milk of those patrons whose cows possess 50 per cent or more of Jersey or Guernsey blood. This milk is run separately from the other, and a separate account is kept with those who furnish it. A difference of 20 cents per hundred pounds of milk is found in favor of the Jersey vat. This provision the proprietors of the creamery were obliged to make in order to obtain the milk of the Jersey and Guernsey.

### Stock.

#### A Chatty Letter from the States.

From our Chicago Correspondent.

The receipts of cattle are not quite so heavy now compared with the corresponding time last year as they were two months ago, but are very large; indeed, the market for cattle has been steadily increasing—at least for all good kinds. Several thousand 1,300 to 1,420 lbs. Montana range cattle have lately sold at \$5.00 to \$5.30, and Texas and Indian grass cattle of good quality have sold at \$3.00 to \$4.50 for fair to fancy steers.

There has been an enormous run of native cows and heifers, which have been selling at \$1.50 to \$3.00 per cwt.

The condition of the Western range cattle men is greatly improved over last year, and they are not obliged to sacrifice so much unmarketable stock.

During September the very best 275 to 340 lb. hogs sold at \$6.60 to \$6.75, and the best 1,400 to 1,600 lb. cattle sold at \$6.50 to \$6.70. Considering all the croaking that has been done, about the cattle business especially, these figures must seem very encouraging to the business-like men who have stuck to the business and refused to believe that there was nothing but hard times in store for them.

Sheep have been marketed here from the west in very large numbers and rather poor quality, just as they came from the range, and the market has been overstocked with sheep that were just between butchering and feeding conditions. They have sold mainly at \$3.40 to \$3.55, with some lower, and now and then a choice lot of 115 lb. grass fat wethers at \$4.25.

Cattle and hogs have been selling freely, \$1 higher than a year ago, while sheep have hardly maintained prices of 1887.

Indications are that a large "crop" of sheep will be fed this winter. Farmers are looking for cattle to feed, and indications point to a large volume of business in this direction, though the severe lessons of the past two or three seasons will tend to make feeders more business-like in their methods and less willing to take chances.

Prosperity is again beginning to smile upon the business of the western stock ranchmen.

The writer recently had a talk with a gentleman who succeeded in getting into the Texas cattle business at the very lowest time and getting out of it when the great boom of 1883 was at its height. Mr. Robert Strahorn in 1875 bought a few thousand Texas cattle at Hoperhead, with the calves thrown in. The next year he bought 25,000 head on nearly as low terms. In 1883 he sold out the entire herd at the high figure of \$22.50 per head, counting the calves and all, besides reserving the privilege of a year to make the delivery. Cows that were forward were put aside until they calved so as to swell the number, and in not foreseeing this the purchasers made the first of a series of blunders which soon resulted in their failure, as the collapse of the great boom was at hand almost as soon as they had closed the bargain, which involved nearly two million dollars. The purchasers were New Yorkers, and the corporation was the Francklyn Land & Cattle Co. The herd had been handled at an annual cost of about \$20,000, but under the new and inexperienced management the cost was upwards of \$80,000 per

annum. These particulars are mentioned simply to show that the business management more than the business is usually to blame for failures, especially in this business.

Mr. Strahorn, who has been a close observer of the ups and downs of the cattle business, is of the opinion that the business will pay largely now with intelligent management.

Another man, Mr. D. P. Atwood, of Colorado City, Texas, went into the business just as it was at the top of the great boom, but he has made a success of the business by conducting it on business principles. He said that Texas cattle men when overtaken in their extravagance, which was the outgrowth of the disastrous boom of 1881-3, paid as high as 18 to 24 per cent. interest on loans, and only a few failed at that. He wants to know what other business could do that and live. He is an advocate of the idea of paying heifers that are not needed for breeding, and thinks that the true way to dispose of the surplus. Under the old system of "free grass" ten acres was enough to keep a steer a year, but now since the range in the South is fenced into pastures 15 to 20 acres are needed.

#### The Sittyton Shorthorns.

For many years the Sittyton herd was the largest collection of Shorthorns in the kingdom, and numbered about 300 head. At present it consists of 120 females and 5 bulls, having been largely reduced by sales. There are no less than 19 different families in the female line, and it may, perhaps, be said through the various sires occurring in the pedigrees, every leading strain of Shorthorn blood has at one time or another found admission.

The catalogue does not show that attention was paid at any time to what is known as "fashion" in breeding. There is not a single Booth tribe at Sittyton, and only one Bates, viz., the Secret, or, as more recently known, the Silence tribe, of which there are ten females. The Violet family of nine females are placed first in the list. They were formerly known as Roses, but those bred at Sittyton received the name of Violet. They inherit some fine old blood, and the name of Wiley's Grazier, 1085, and Whitacre's Wallace, 1560, are amongst those of the earliest sires exhibited in their pedigrees.

Mr. Bates' Secret tribe, named above, is placed second in the catalogue, and the pedigrees now show in many cases some four or five crosses of bulls bred by Mr. Cruickshank. It would be interesting to observe how far the Bates tribe still asserts itself in the appearance of these animals.

The next tribe is the "G" or Golden, not the well known Aylesby G, but a family which is descended from Pure Gold (bred at Eden), whose great grand dam was Mr. B. Wilson's Brawith Bud, by Mr. Crofton's Sir Walter, 2639, from a cow by Mr. Booth's Jerry, 4097. Further back there are five bulls in this pedigree in succession which were all bred by Major Rudd.

The celebrated Victorias (of Mason descent) have seven representatives, which all spring from Victoria 4th, bred by Mr. Robert Holmes, in Ireland, whose herd occupied so high a place. The late Mr. Barnes used to say that Robert Holmes had at one time the best lot of Mason cows he had ever seen together.

The Duchesses of Gloster, which run back to Lord Ducie's Chaff, by Duke of Cornwall, 5947, number only four. They are very well bred, and such noted bulls as the 650 guineas Duke of Gloster, 11882, and Usurer, 9763, figure in their coat of arms.

A numerous family of twenty-four come from

Kitty, by Lord Ducie's Somerset, 10858, and further back the blood of Messrs. Crofton and Chrisp. It may be presumed that this is a favorite sort of Sittyton, since it constitutes so large a portion of the herd.

From Mr. Mason's Old Lady there are twelve descendants, whose names all have the initial letter C. Mr. Cruickshank seems, indeed, at all times to have held Mason blood in high estimation.

The Lavender tribe comes next. It consists of fourteen females, all inheriting a lendid blood. Beyond the recent sires in the pedigrees, which are home-bred, there are Col. Kingscote's Count Bickerstaffe 2nd, 25838, of Bates blood, the late Mr. Barnes' Brian Boru, 17440, of the Booth sort, while further back the blood of Wilkinson, Mason, and Colling are strongly shown, and the earliest recorded sire is the 1,000 guinea Comet, 155.

The noted cow Spicy, by Mr. Tanqueray's Marmaduke, 14897, and full of first-rate blood from the herds of Lord Ducie, Mr. Crofton, Mr. Booth, and Lord Carlisle, has four female descendants in the catalogue, which are pretty sure to do credit to their lineage. Some other tribes are represented, but only by one or two animals of each.

Barmpton Lily is of the Barmpton Rose sort, so well known, as that from which the successful Butterflies sprang. Lady of the Forest represents Lord Spencer's herd, as she is descended from Jenny Lind by Jew's Harp, 8180, bred at Wiseton.

The bulls number only five, which shows the great demand for young sires from Sittyton. Several of them are for use at home. Cumberland, 46144, is in his 8th year, and descended from Mason's Old Lady. Feudal Chief, 51251, is over four years old, and belongs to the Lavenders. Gondolier, 52956, is three years old, and comes from Brawith Bud, as also does Gondomar, a yearling. Commodore, 54118, like Cumberland, is descended from Mason's Old Lady. All, save one, are red.

The herd at Sittyton is in many ways a remarkable one. There the tyranny of fashion never exerted its sway. The Messrs. Cruickshank, Amos and Anthony, bred according to their own lights. Startling prices were never paid for females and never received. No extraordinary risks were run; and if animals, either purchased or bred, should turn out unsatisfactory, they could be parted with at little loss. As to pedigree, there were no hard and fast lines laid down; so long as the blood was sound there was no objection to any name by which it may be distinguished.

The Messrs. Cruickshank were, therefore entirely unfettered in the matter of selection, and went on in their own even and safe course, quite regardless of the tumult among the wild partisans of the rival houses of Bates and Booth. Bulls bred at home from the best strains were chiefly used, and occasionally a sire of first-rate shape was purchased for the herd.

For many years the work patiently carried on at Sittyton did not meet with its due reward. The Shorthorns, no doubt, satisfactorily paid their way, but there was neither that great demand nor were there those high prices which the merits of the cattle would have warranted. In later years, however, a great change occurred. The sales to America especially have been very large and very remunerative. Mr. Cruickshank is wholly unable to satisfy the demand, and his brother breeders are now, too, reaping the reward of the good name which the Sittyton Shorthorns have gained for themselves and for Scotch Shorthorns generally in the new world and elsewhere.—[The English Farmer's Gazette.

**Premium Earl and Minnie Mayflower 2nd.**

Our illustration this month portrays two of the Shorthorns belonging to Mr. David Birrell, of Greenwood, Ont. Mr. Birrell's stud, herd and flock were fully described in our June number of this year, page 167. His Clydesdales, Shorthorns and Cotswolds are good, numerous and well bred. And his prices such as to put them within the reach of all our farmers. Their proprietor is a straightforward and honest man, and very generous in his dealings.

At the head of his herd is Premium Earl (48454), a Cruickshank bull, imported in 1883, bred by Amos Cruickshanks, Sittyton, Aberdeenshire, Scotland; he is of the celebrated Violet

**Dominion Sheep Breeders' Association.**

On the evening of September 20th, about forty of the leading sheep breeders of Ontario assembled at Albion House Toronto, to consider the advisability of establishing a Dominion Sheep Breeders' Association. After a good deal of discussion the following resolution was adopted: "That in the opinion of this meeting it would tend to the furthering of the interests of the sheep breeders of this country to form a Sheep Breeders' Association for the Dominion of Canada."

The next resolution passed was: "That a committee be appointed by this meeting representing the different lines of sheep-breeding to draw up a constitution and by-laws for this association, and to take what steps they may

of the other Provinces, by proper management and by giving it that attention which it deserves, this industry can be made very profitable indeed, but what it needs to foster and develop it is a good live Association, which will hold yearly or more frequent meetings at which good papers will be read and discussed, ways and means devised and brought forward to forward the interests of this special branch. Such an Association would do for the sheep breeders what the Fruit Growers' Association has done for the horticulturists, and what the Dairymen's Association has done for Canadian dairying. Such an Association would be entitled to a grant from the Legislature, such as the other Associations receive. Go ahead, gentlemen, the ADVOCATE is with you.



IMPORTED PREMIUM EARL AND MINNIE MAYFLOWER 2ND, THE PROPERTY OF MR. DAVID BIRRELL, GREENWOOD P. O., ONT.

tribe, a red roan in color, weighs about 2,600 lbs., and is very smooth and handsome, with short legs, neat head and horns, great depth and width of body, carrying a vast amount of flesh just in the right place to be of greatest value. He has been the valued stock bull, standing at the head of some of Canada's best herds. Mr. Arthur Johnston, of Greenwood, calls this bull the best stock getter in Canada; he certainly is the sire of a lot of very fine stock. Mr. Birrell's calves of 1883 are especially good.

Minnie Mayflower 2nd is of the Minnie family which Mr. Birrell has bred for a number of years, and which he values very highly; ten of these are now in his yard. All are solid red, finely fleshed, very even, smooth and handsome, with splendid skins and hair, all bearing a strong family resemblance, like peas in a pod. It would be hard to say just which is the best.

deem prudent to complete the work of organization subject to the approval of a public meeting to be called hereafter."

The following were then placed on the committee:—John Jackson to represent Southdowns; John Campbell, jr., Shropshires; J. C. Snell, Cotswolds; W. Oliver, Lincolns; A. Whitelaw, Leicesters; R. Bailey, Merinos; G. Harcourt, Oxford, and V. E. Fuller, Dorsets.

The meeting then adjourned.

We heartily endorse the action of the sheep breeders in the steps they have taken, and hope they will vigorously support the Association they have thus brought into being. Sheep raising is one of our most valuable industries, and must yearly become of greater importance. Over large areas of this Dominion sheep raising can be more profitably followed than any other branch of agriculture. In any part of Ontario, and in most

Where are the hog breeders on this question? Would they not be benefited by an association devoted to their interests? Look alive, gentlemen, your interests are at stake.

**A GOOD FRUIT LADDER.**—Take a long pole of some light wood—poplar is good for the purpose—peel it and bore the holes for the rounds. Now saw it lengthwise with a slit saw, starting a wedge as soon as you have sawed two feet; drive it till the pole begins to split, following with the saw or leading the crack with it, as it may be; this greatly diminishes the labor of sawing. Leave six feet or so at the smaller end without sawing; slide a strong iron ring or band down to the end of the saw cut; drive a thick wedge into the ring from below until the legs are wide enough apart; put in the rounds and nail them. Make it several feet longer than you need to, because your trees are taller than you think for.

## SECOND PRIZE ESSAY.

## Is Hog Raising Profitable in Canada?

BY H. E. SHENFIELD.

If judiciously managed I firmly believe hog raising to be one of the most profitable branches of the farm, but as a rule too little attention is given to this branch of stock raising by the average farmer, simply because the idea prevails that it does not pay to raise pork for the market, and, consequently, the rule is that only sufficient pork is raised to supply the farmer's table. It would be useless to say that to feed a number of pigs from birth to the time they are fit for market on grain, shut up in a pen—as would be the case during the winter—even if they received the refuse from the house (which is a considerable help in raising two or three pigs), would be profitable; on the contrary, I think it would result in loss if everything were charged at market prices to the pork. Therefore the summer is the time in which the pigs should be raised, and I will endeavor to show how it can be easily and profitably done during that time. A larger return can be realized on capital invested in pigs than in any other kind of stock.

My plan is to have two or more sows—Berkshires are, I find, the most profitable taking all things into consideration; their hardiness, early maturity, easy fattening qualities, and, above all, being the favorite of both butcher and consumer—to farrow in the middle of March, and to feed them well while the youngsters are sucking to give them a good start, and, consequently, the foundation for a rapid growth afterwards. This is one of the most essential points in stock raising.

A warm, comfortable place must of course be provided for the sows, to protect them against the cold, bleaching weather generally prevalent in March. If one has the good fortune to have stone stables this is a very easy matter, for a loose box in some quiet corner may soon be turned into a receptacle for them; but if one is not so fortunate, a comfortable place may be made with a little extra trouble. Warmth is most essential to young pigs on their arrival.

At six or seven weeks old they may be weaned. It is important to have the boar pigs castrated while on the sow, for I noticed that it affects them but little, if at all, if that operation is performed when they are about three weeks old. I do not intend figuring out the probable cost of keeping the pigs from birth to the time when they can be turned out, which, of course, depends on the season, but is generally about the middle of May. It is very essential that they be well kept during that time.

Their treatment after this stage is to ring them, and to turn them on three or more acres of young clover divided off into three equal parts. This may be done by making a temporary fence so that it can be moved with as little trouble as possible. This, no doubt, will be found by some to be the most troublesome part of the whole affair, but I think it pays well for the trouble, for by this means, while they are confined to one part, the rest of the field is making growth. By this means grass will be kept up during the summer, the pigs will thrive wonderfully on it, and if occasionally a little grain is sown broadcast on the land it will be a help to the porkers and be relished by them.

Water must, of course, be provided; but the most suitable means of supplying it must be determined individually.

Temporary shelter is also necessary to protect the pigs from the hot rays of the sun.

This may be done by putting in a few posts and placing scantlings on the top, and then covering them with brush.

If all has gone well these pigs should weigh from 70 to 100 lbs. a piece before they are six months old, which is heavy enough for local market, at least this is, I find, about the weight preferred by the Toronto buyers.

The sows should be bred as soon as possible, and if this be done they should have pigs again in July, and in this month little or no trouble is experienced in raising them, chiefly on account of the warm weather. As soon as they are able to stand it they may be turned on to the stubble, and as soon as this gets bare they should be shut up and fed on the refuse of the orchard, small potatoes, various roots and other things too often wasted about many farmhouses which might, with a little trouble, be turned to good and profitable account by boiling it for the pigs, adding thereto a small quantity of grain. On this food a rapid growth will be made, and at Christmas it will be found that this second lot is also fit for the knife. At least 3,000 lbs. of pork should be the result for the season, depending, of course, upon how largely the business has been gone into.

Pork has been selling in Toronto during the past seven months from \$6.50 to \$8.50 per cwt., and this is no exception to past years.

The clover land on which the first lot pastured will be found well manured and in good shape for the next year's root crop.

It will be found to pay well while dressing pigs for market to take as much pains as possible to make them look clean and nice, for by this means a readier sale may sometimes be made, and often an extra quarter per cwt.

The future outlook will, I think, be an ever increasing demand for home-fed pork for both the local and the Montreal markets; in Toronto, at least (and I noticed the same in the market reports of other centres), the demand often exceeds the supply; and, I think, I am safe in saying that if the requisite attention is given to this branch of stock raising none will have any cause to complain of either the cash returns or the market demands.

## A Tax on Stallions.

The English Central Chamber of Agriculture, is urging the English Government to place a yearly tax of £10 on stallions used for stud purposes. The said tax to be remitted, if the person liable for the same shall produce to the proper persons before a certain time each year a certificate, declaring the animal taxed to be free from any hereditary unsoundness. The certificate must be in the form to be approved by the Agricultural Department, and must be signed by two veterinary surgeons approved by any County Council. The certificate shall describe the horse, and if there be no conspicuous distinguishing marks upon him, the veterinary surgeons who sign the certificate shall brand him on the hoof, or otherwise mark him in some way not objectionable to the owner, and state in the certificate the nature of such brand or mark. The proper officer to whom the certificate is tendered in claim of remission of tax, shall call on the person so doing to declare under his hand that the horse for which the exemption is claimed is that described in the certificate, and shall thereupon stamp and

endorse the certificate. The County Council shall publish and advertise a list of approved veterinary surgeons. Penalties of £10 to be imposed for fraud and letting unlicensed horses cover.

The above is the substance of the bill as submitted, or as much of it as is of interest to our farmers. If such a bill as this were put in working shape and enacted in Ontario, it would be of great benefit. There are a great many worthless horses now kept for service, to the injury of the better sort. Although the service of an inferior horse can be had cheaply, in the long run the farmers who use them are the losers. It has been clearly proved in the experience of all our successful breeders, that it pays well to use good sires. It is not encouraging to find, after bringing a first class animal (which is always expensive), to Canada, to be compelled to compete with many cheap and inferior animals. In looking over the prize lists of several of our largest fairs, we find in several classes good prizes were given to grade stallions, while some of the most promising breeds, viz., the English Coach Horse and the Cleveland, have no class assigned them. Why, we ask, are grade stallions given a prize when the country has a superabundance of first class pure-bred animals.—[A Stock Breeder.]

We would like to hear the views of our interested readers on this subject.—[Ed.]

Testing your cows by guess is a poor way to do business. They must be tested by actual test, and then dispose of those that are not profitable.

The usual price for making butter at the factories is about three cents per pound. No man can afford to allow his wife or daughter to churn, work over, salt and market butter for that price.

Sir J. B. Lawes says: "That in an analysis of the subsoil to the depth of nine feet he found but a trifle less of the mineral plant-foods in the last three feet than in the first three feet below the surface. A knowledge and consideration of this fact will prove very valuable to those about to buy land. Land with a deep subsoil is of much more value than that which overlies rock or pure sand." In a recent article F. F. Roat says: "The theory that the fertility of the surface soil may to some extent be maintained by supplies brought up from below, is supported by an observation I once made on my own farm. Under a large part of a field of twenty-five acres the bed rock lies only six to eighteen inches below the surface. The soil is a strong clay loam intermixed with lime gravel overlying the lime rock. The field has been under cultivation upwards of sixty years, and at an early day there seemed to be little if any difference in the fertility of the soil where it was thin or deeper. I have seen the heavier growth of wheat in the thin soil, and I think as heavy as any that grew on my farm; but in later years this thin soil has become poor, and does not yield half the crop that the deeper soil does under the same treatment. The failure may be due in part to the effect of drouth in very dry seasons, but not wholly, for within the last fifteen years this land has not produced a full crop, while many of these seasons have been so wet that it could not suffer from this cause. Other portions of the field, where the subsoil is from three to six feet deep, will yield three or four times as much clover or wheat. There are lands of drift formation which contain but little more than silica or sand in the subsoil, which can afford but little plant-food, and such lands are in the state of nature poor, and will remain so until fertilized from the surface."

**The Dairy.****Dairy Farming.**

(Continued from page 269.)

## MANAGEMENT.

We now come to the question of how to manage the cows, in order that they may give the largest returns. This is a problem bristling with difficulties, and is open to as many opinions as there are tongues to express them. I have, for some years, tried to arrive at some definite conclusion; but will only give a few of my experiments conducted in this line. The first point to consider is, of course, what is the object of keeping the cows? Is it the keeping of a fine herd, pleasant to the eye and good for food? Or do you want to utilise all the milk at home for cheese-making or butter-making and calf-rearing? Or do you want to sell your milk, when the greatest quantity you can produce means the largest return in money? My method has been simply confined to selling milk, and, therefore, my remarks will only apply to this branch. The first thing you have to contend against is the pleasant remarks of your friends who prefer beef to milk, the best milkers, as a rule, being those that carry the least flesh. The first system that I tried for several years was the common one of milking and breeding, but the annual return of milk was not at all satisfactory. For, if you consider the time lost by the cow running over more than once, perhaps, from the bull; and the time lost by her being dried, from six weeks to two months before calving; and the reduction that takes place in the milk directly the fetus attains a certain size, I think I am within the mark when saying that you lose 25 per cent. in the yield of milk from these causes. There is another great drawback, in this system, viz., you cannot keep up a steady and regular supply of milk, and you must keep two herds—a dry herd and a milking one—which means that your farm cannot be kept up to its greatest return in milk, because of the necessity of keeping the dry cows. Last year I changed this system by getting rid of the bulls and all the in-calf cows, and brought in down-calvers or cows in milk, keeping them till the time when their yield of milk would only just pay the cost of their food. Then they were sold and replaced by others with a full flow of milk. The result on one of the farms, where fifty cows were kept, with an annual return of an average of 23,000 gallons of milk, was that the first six months after the change of system was carried out the return of milk exactly doubled itself. The quantity was, in round numbers, as much in the six months as in the yearly average of the previous three years. The cost of this increase was simply the difference between the selling price and the purchasing price of the cows. The cost of feeding and labor was practically the same with cows giving 30 lbs. of milk a day, and those giving only 10 lbs. Now if half the cows are changed every six months, and the difference in the purchase and the selling price is £6 a head, you find at the end of twelve months that the cost of changing the fifty cows has amounted to £300, and on the credit side of the balance-sheet will appear the increased yield of milk of 23,000 gallons as the result of this outlay; and if we take the selling price of this 23,000 gallons at only sixpence a gallon, it will amount to £575, leaving a very satisfactory margin

(\$1,292) for the expenditure. I have purposely taken the price of the milk at its lowest point, and have put the price between the purchase and the sale of the cows at as high a figure as I think is fair. Of course this difference of price between the purchase and sale of the cows will vary according to the condition of the cows when they are sold, and whether you expend much money in feeding stuffs and get them fat, and sell them to the butcher. But at present prices there is no profit in feeding cows; so, whether you take the first loss of £6 a head as the better, and let some one else feed, or whether you expend those £6 in feeding the cow yourself, seems to me only a question of six of one and half a dozen of the other, so this question must be settled according to market prices and local circumstances.

Now, I have often met men who say they can milk and feed at the same time, and I have often seen milking cows looking like fat beasts. But this, to my mind, proves nothing, because before the statement can be accurate it is necessary to know whether in milking all the milk has been taken from them, and this is the point that is nearly always overlooked. A milker will say he has got all the milk from the cow that he can get, but let him be ever so good a milker, there is always some left in the milk veins that requires a little time to flow into the bag, and this little that is left will contain 50 per cent. of fat, and on this fat depends the quality of your milk and the condition of your cow. Some years ago I could always keep my milking cows in blooming condition whilst they were milking; but one unlucky day I took into my confidence an analyst, and from that day to this my cows have deposited their fat in the bucket instead of on their backs. And with this condition of having the analyst behind me, I find it practically impossible to feed and milk at the same time without such an expenditure in artificial food as to render the expense unjustifiable. So that the proper course to adopt seems to resolve itself into this: to feed for milking in the first place—that is, with foods that give the proper proportion of albuminous compounds to carbo-hydrates, or non-albuminous, and are essentially milk producers—and when the yield of milk of any cow falls to the point fixed upon as the cost of feeding, then either sell her as she is, or at once commence to feed her; and to find out when the cows have arrived at this point, it is necessary to have the milk of each individual cow accurately weighed at least once a week. The expense and trouble of doing this is trifling, as compared with the information you gain from it. A Salter's spring balance, weighing up to 50 lbs., and an iron hook to hook into staples driven in at different parts of the shed is all the expense and enables the weigher to follow the milkers. The number of each cow, and the gross weight of the morning's and evening's milk is entered in a book, and a note made of the weight of the bucket. The net result is then marked out at any spare moment, and is entered in a book ruled for the purpose, so that each weighing follows one after the other. At the bottom of the column is entered the weight of the strippings. I always arrange for one man to strip all the cows, and be responsible for the cows being milked clean. The information given by this simple dairy record is simply invaluable; you not only see at a glance when the cow ceases to be profitable, but also if any cow is sick, from the difference in the weight of milk. Then the amount of strippings tells you whether either the cowman or milkers are neglecting their duty. And, moreover, if the farmer's wife had this record of the weight of milk sent into her dairy

to refer to, she would at once see whether she got the proper amount of butter from the milk. I have dwelt, perhaps, rather longer than I should on this weighing of the milk, because I am convinced it is one of the most necessary and most profitable work connected with the dairy, whether there is only 1 or 100 cows kept.

Where the milk is dealt with at home the separator is a necessity. I should as soon think of going back to thrashing grain with a flail as dealing with the milk in any other way than skimming it with a separator as it comes from the cow. You then have your milk and your cream ready to be dealt with at once in any way your business may require. The question how to dispose of your produce profitably opens up questions that are beyond the scope of this paper to discuss, and I will merely indicate that the getting into direct contact with the consumer is perhaps the most important thing of all, and next to this may be the establishment of creameries, where the proprietors are those who will send their milk to be dealt with at a central dairy, sending their milk to be separated and taking back the skim to be used on the farm, leaving the cream only to be dealt with. The great difficulty in competing in the butter market is caused by the butter made in farm houses being not only small in quantity but variable in quality and color, I am convinced that if we combined and formed butter factories we should be in a much better position to compete with foreigners who now cut us out in our own markets."

**Notes on the Exhibits of Butter and Cheese.**

BY DAIRYMAN.

The exhibit of dairy produce at Toronto was, perhaps, the finest display of its kind ever shown in Canada. A review of a few of the points of excellence, and a few of the weak points in the cheese and the butter exhibited, will interest many of the dairymen and be of benefit to the readers of these columns.

1st. The lots of cheese exhibited were more uniform in quality than ever before.

2nd. The most of the lots were really fine, clean flavored goods; a few of them were tainted from some foulness of flavor in the milk, which shows the necessity of constant vigilance on the part of makers in watching the milk, and the necessity to keep hammering at patrons who are not careful to keep their milk perfectly pure and sweet.

3rd. The quality, texture and body were good, rich, firm and meaty, coming well nigh perfection, save some lots which had ragged holes in them. These holes have been common this season, and it is a matter of enquiry and discussion with cheese makers what causes them. Some think it is from insufficient pressure; and others, that the cheese are not kept long enough in the press. These causes may have some influence; but I don't think they are the principal ones. For in some of the cheese I have examined, this defect was, I think, principally due to allowing the curd to lie too long exposed to the air after it was ground and salted, before putting it into the hoops and the press. When closely examining some ragged holes, I found that the pieces of curd were covered with a thin membrane (somewhat similar to a wound healed over). When getting too cold and hard, the particles of curd do not come closely together, and do not join properly so as to form a perfectly close and solid mass when pressed; and not having joined, we have these ragged holes, which are certainly a fault in an otherwise perfect cheese. Do not let curd lie exposed to cold after salting, and get it into the hoops warm (say 80° F.), then no ragged holes will appear if pressing is properly attended to.

4th. The color of the cheese was fairly uniform, a few were rather high in color; most of them were finished in a workman-like manner. The prize white cheese were considered a little superior to the colored lots in quality.

A new departure in judging cheese has been observed at Toronto. A standard of points prepared by Prof. J. W. Robertson, was used by the judges in giving their decisions—a most decided improvement. The following values were given to the various points: Flavor, 35; quality, 25; texture, 15; color, 15; finish, 10.

The values in the scale of points used for butter were as follows: Flavor, 40; grain, 30; color, 15; salting, 10; finish, 5.

The educational value of these points are very important, showing the maker both the strong and the weak points in his goods, which will lead him to think over matters, and this is a good point gained.

The butter exhibit was fair. In the creamery lots, no very noticeable improvement on former exhibits. Some of the lots were weak in body and inclined to be greasy, which showed either too high a temperature when churning, or too much working after being churned. It was lacking a bright, clear body, and deficient in grain.

The dairy butter was a very decided improvement over former exhibits. Most of the lots were really fine in flavor and texture. The care and interest taken in its making, and the tasteful preparation for exhibition reflects with credit on the farmers wives and daughters. Their display proves the benefit they have been receiving from the education of your valuable paper and other sources put within their reach.

The dairy exhibit at London, though not so large as at Toronto, did credit to the exhibitors. The prize lots of cheese were especially fine. The lot which gained the silver medal was about as near perfection as could be expected at this season of the year. A few lots not named had had flavor, and were weak in body; leaving for the makers considerable room for improvement. But by comparing their products with the prize lots, and by perseverance in the study of the science of handling and manufacturing the products of milk, improvement will likely be made. It is to be hoped that these exhibitions will have stimulated the unsuccessful competitors to continue their efforts and studies till they reach the front rank of dairymen.

The butter exhibit, though not large, was very fine. It is pleasing to see that progress is being made all along the butter lines, and may the time soon come when the reproach that now stands against Canadian butter will be removed, and our butter come up to the level of our Canadian cheese; may the two stand side by side (one equal to the other), in the market of the world. A good deal of our butter is faulty in one point, which could very easily be remedied, viz., salt. Some continue to use common coarse salt, and too much of it. Only fine salt should be used, and it should always be weighed, from half an ounce to three-quarters of an ounce to the pound of butter for home or local use, and one ounce if packing for winter use is quite sufficient. I would say to butter makers, look out for turnips! Never allow a cow to taste a turnip top. In feeding turnips (if they must be fed), give them immediately after milking, as they do the least harm then. Give your cows some bran or chopped grain, and keep the turnips to feed when the cows are dry.

**Milch Cow Competition at the Provincial Exhibition, Kingston.**

In accordance with arrangements made to conduct the milch cow competition, the fourteen animals entered in the test were milked out on Wednesday evening preparatory to commencing the test on Thursday. The tests were from the two milkings on the 13th, which indicate the awards made in each class as follows: In Short-horns no animals were presented on Wednesday evening. There were four Ayrshires, six Jerseys, three Holsteins and one Devon. "I have used," said Mr. Cheesman, in his report, "the same method of chemical analysis as last year, by which each animal received eight points for each pound of solids in twenty-four hours; thirty points for each pound of butter fat; one point for each twenty days from calving, and one point for each twenty days of gestation counting from date of last service." His awards were:

Ayrshires—Joseph Yuill, "Partu Lacca," silver medal; Joseph Yuill, "Nellie Gray," bronze medal.

Jerseys—W. A. Reburn, "Jolie, of St. Lambert," silver medal; W. A. Reburn, "Jolie, of St. Lambert 3rd," bronze medal.

Holsteins—F. H. McCrae, "Merrie," silver medal; B. W. Folger, "Nixie L," bronze medal.

Devons—S. Harper, "Rose, of Cobourg," silver medal.

Sweepstakes cow, silver medal; W. A. Reburn, St. Annes, Que., with "Jolie of St. Lambert."

The subjoined table gives the order of merit in which the cows stood in the competition from the Sweepstakes cow down:—

EXHIBITOR.	COW.	BREED.	Years.	Milk per day.	Solids—Per Cent.	Solids—lbs.	Wt. of Fat—Per Cent.	Wt. of Fat—24 hours.	Days Calved.	Days of Gestation.	Scores.
W. A. Reburn.	Jolie St. Lambert.	Jersey.	14	28.17	4.1	117.61	22.2	539.28	187	321	113.88
Joseph Yuill.	Nellie Gray.	Ayrshire.	6	23.15	3.8	88.17	18.4	423.31	253	337	105.08
W. A. Reburn.	Jolie St. Lambert 3rd.	Jersey.	6	23.15	3.8	88.17	18.4	423.31	199	282	94.16
S. Harper.	Rose of Cobourg.	Devon.	6	23.15	3.8	88.17	18.4	423.31	187	267	84.65
F. H. McCrae.	Merrie.	Holstein.	6	23.15	3.8	88.17	18.4	423.31	187	267	84.65
Joseph Yuill.	Nellie Gray.	Ayrshire.	12	23.15	3.8	88.17	18.4	423.31	187	267	84.65
Wm. Stewart.	Lady Minnie.	Holstein.	6	23.15	3.8	88.17	18.4	423.31	187	267	84.65
W. W. Folger.	Nixie L.	Holstein.	6	23.15	3.8	88.17	18.4	423.31	187	267	84.65
W. A. Reburn.	Lady St. Anne.	Jersey.	6	23.15	3.8	88.17	18.4	423.31	187	267	84.65
W. W. Folger.	Lady Bann St. Anne.	Jersey.	6	23.15	3.8	88.17	18.4	423.31	187	267	84.65
B. W. Jones.	Mulberry.	Holstein.	6	23.15	3.8	88.17	18.4	423.31	187	267	84.65
Wm. Stewart.	Princess Minnie.	Ayrshire.	9	15.43	2.3	63.88	11.0	247.56	145	178	61.08
E. M. Jones.	Daisy Dell.	Jersey.	3	9.14	1.3	36.68	5.1	113.13	13	13	22.15

Get your stables all ready now and put your stock in them during the cold nights and wet, disagreeable weather. Cold rain or melting snow reduces the flow of milk.

An idea of the heavy winter losses of cattle by starvation or freezing in Texas can be obtained from the statement in 'The Drovers' Journal,' that "the shipment of hides from three stations (in Jackson County) amounted to 8,000."

**Dairy Influence in Agriculture.**

BY JAMES CHEESMAN.

Grass is the basis of all economic husbandry. From early Roman history down through the Middle Ages of Europe this fact is emphasized. In all the states of Western Europe to-day there is a rivalry as to which can make the most progress in the production of grass. By grass is meant not merely those few plants which are usually found on Canadian pastures, but all those plants grown above ground which are cut in the green state for dry fodder or ensilage. History does not record any instance of permanent farming in which grass is without a place, and in those countries where civilization has made the greatest advances it is a very prominent feature of the rotation of crops. One seldom hears of rotation of cropping apart from grass as the primary factor in the whole course.

Whenever we hear of increased areas of land being laid down to grass we know that live stock has created the demand, and dairy cattle usually predominate over all others. In all English speaking countries it requires at least four pounds of milk per capita to supply the daily consumption of milk, cream, butter and cheese. This means about six ounces of dry matter, whereas, if we estimate the average consumption of meat at one pound, we have only four ounces of dry matter. As we can raise from twelve to fifteen times as much milk from the same quantity of food per day from a cow, and count her number of working years as ten, as we can of beef from a beef animal of two and a half years old, and are obliged to close up the operation at thirty months to make any profit, I think we need not stop to ask ourselves which animal will have most influence on the agriculture of the future. As population increases, the demand for more dairy goods will increase in a higher, rather than a lower ratio. Such has been the case during the last century, and the rate of increase gets higher every year. The reason is obvious. Milk costs less to produce than meat of any kind. It is rare that five hundred pounds of meat can be made from a single acre, and yet good dairy practice has made it possible to raise twelve to fifteen times as many pounds of milk. Reduced to dry solid matter, we can raise seven or eight times as much milk solids as we can of dry meat solids. The appreciation of this fact by the people of England has literally created the great cheese industries of the Northern States and Canada during the last thirty years.

While all this is true, for it has been verified by the foremost dairymen of two continents, who get their living by the business, it is a painful fact that in Canada the acre and the cow have been practically stationary during that period for which we have reliable annual returns.

In speaking of grass, let it not be understood as any special or limited form of grass culture, but all forms and kinds which have been found profitable by successful farmers. The maximum of profit is realised from crops containing a relatively large number of plants rather than few, and hence it will be found that mixtures containing a liberal proportion of clovers, and the more nitrogenous of the grasses will yield the best results. There is no finality in a ton and a half of hay to the acre, and certainly no limit to the improvement in the quality of the hay crop. This is not an argument for laying down land to grass permanently, a practice which may be useful in a very large area of country, and very suit-

able on some farms. The choice of permanent pasture will depend on soil, drainage, altitude and rainfall, and also very largely on the previous mode of cultivation on the farm. The value of grass is best illustrated by reference to primitive condition, such as we may find in the far northern counties of Ontario and Quebec, and also in the North-west. After feeding to stock, and obtaining the value of the manurial residue, we still have something of greater relative value than either, and that is the accumulated store of soluble plant food which generations of nitrification have stored up for the pioneer farmer. The comprehension of this great fact has induced both Manitoba and Dakota to raise live stock hand in hand with grain farming, and thus to preserve this great heritage of fertility as the true basis of modern economical husbandry. The permanent fertility of soils depends primarily on the grass as the best crop for controlling evaporation and retaining the moisture and heat necessary to feed and nourish the plants, and to elaborate for successive crops food for their growth and maturity. This clothing of the earth's surface with the great variety of plant life found upon it provides the first and cheapest condition of plant food, and therefore the best and strongest guarantee of nutrition for the succession of crops which may follow in a rational rotation. The rotation of crops is based on the necessity of plant food supplies for succeeding crops, varying in structure, form, root and leaf systems, and their general habits of feeding. The adaptability of a soil and the climate, together with its previous crops and general treatment will determine the succession. The whole practice of agriculture implies food, feeding and nutrition, and to fail in food is failure to nourish the farm crops. Such a condition in plants, as in animals, lays the foundation for disease; indeed when nutrition is arrested disease is a natural consequence. According to every law of biology disease is malnutrition, and hence if we are to avoid disease it is only by complete nutrition, which is the product of rational feeding of plants and animals. It naturally follows that every thought and every act of the husbandman must be bent to this end, because the more food he can provide, the larger will be his crops. Chemistry teaches us that matter is indestructible, and that we can create nothing, but only transform, sometimes cheaply, but often very dearly. The great lesson agriculture teaches is to place ourselves in harmony with nature, and to learn her chief laws carefully and well, that we may reap bountifully what she provides, a provision which we so often labor to dissipate and fritter away.

(TO BE CONTINUED.)

#### What the Members of the Ontario Creameries Association say of Ensilage.

MR. JNO. SPRAGUE,

of Ameliasburg, when opening the discussion said, first, that in past discussions our attention has been largely occupied with the best methods of getting cream, of making butter, best breeds of cattle for the dairy, etc. Those subjects, although of great importance, are not the foundation of success in our branch of industry. Without cheap, good feed, and plenty of it, we cannot expect to receive a profitable return from our labor. Ensilage for feeding has now passed the experimental stage, and has been adopted by so many farmers, that it may now be considered an established fact. The rapid growth of this system, and my own experience proves, to me at least, most conclusively that the silo is destined soon to replace the old unsatisfactory method of feeding. The growth of this system in England and America has been marked with rapid development. In 1880, ten silos were in use in these two countries. In 1885, the number had increased to 3,190, and I now estimate from the

best information attainable that the number has increased to 10,000 in practical use. There is one fact I desire to keep before the minds of my readers, that is, the future success of our industry in this country more largely depends on a good, cheap and abundant food supply than any other subject under our consideration. By the use of properly constructed, properly filled silos, it is no longer necessary that our cattle should be allowed to lose in condition during the winter, to come out so thin and emaciated in the spring that one half of the following summer is required to get them in condition again. To my own mind, ensilage is sure to revolutionize dairying and become a necessity to the farmers of this country, and here I strongly urge your careful consideration and early adoption of this and other improved systems of feeding. My observations lead me to believe that we, in the older counties of Ontario, are on the eve of a mighty change. That change will be in the ownership of our farms, or in a rapid change in our method of farming. The West, with its new virgin soil and easy tillage, has now driven us far from growing grain at a profit. To the business man the day of wooden ships and stage coaches has passed; we too, as practical farmers, should be quick to abandon that which has not been a paying system in the past and be ready to adopt something better. That something better is, in my opinion, corn feed and the silo, aided by permanent pasture. By the use of this system of storing and feeding ensilage, the capacity of our farms can be largely increased. We can make our best butter and beef in the winter when both are in best demand and bring the highest price. I suppose the most of you have given this subject more or less attention; in a word, you have the theory. After carefully studying the method, I decided last spring to grow corn and construct silos. We selected a field of thirteen acres near our barn building, for growing the corn; planted three acres of this field to field-corn as usually planted; also planted ten acres with southern red cob sweet, or silo corn. Planted the latter with two-horse drill, in rows 3½ feet apart; used on 3½ acres 1½ bushels to an acre; on 3½ acres, 1 bushel to an acre; on 2½ acres, ¾ bushel to an acre. Planted 1st June; as soon as the corn was nicely up I cultivated once, and in ten days cultivated again. Used a two-horse cultivator; time used in planting and cultivating (man and team), three days—one day planting and two days cultivating. We harvested about the 15th of September; cut the corn with a Royce reaper, doing one row at a time. We estimate the yield from the thirteen acres at 130 tons green feed. We fed our stock from the field as needed, the balance was put in silos. We found, after the siloed feed had cured and settled, we had, by actual measurement, 81 tons, allowing 45 feet to the ton. Last winter we fed it to ten milch cows, fourteen young cattle and two colts. We were more than pleased with it; our cows gave a good flow of milk, and the other stock did well. We valued this feed as worth to us \$7 per ton. To construct a silo for convenience and cheapness we used the ground or hay-mow of barn, excavated five feet below floor, built up with stone wall fifteen feet high, and plastered inside and bottom with water-lime. The inside measure of our silo is 13 feet and 4 inches by 14 feet, 15 feet deep, with doors to enter at a level with barn floor. We find our silo convenient to fill, also convenient for feeding. There has been much said about construction, filling and weighting the silo. I need not comment on the different constructions or the best kinds of silo; I will only say, that in my opinion, good

silos can be made with any kind of building material; can be built above ground, underground or partly both. The main point in construction is the exclusion of air and frost. The feed used to fill silos, if grass, Indian corn or clover, should be well matured—at extremity of growth when cut.

MR. V. E. FULLER,

of Hamilton, said Mr. Sprague must have had a very unfortunate year, or else he could not have had the ground that produces the best results, otherwise, I don't think, he would have estimated the return at ten tons to the acre, and if he will put it at twenty tons to the acre he will be more in accord with our experience. We carry at our place 250 head of stock, outside of sheep or horses. I speak of cows and calves, and if we had not had ensilage to depend on, the cost of maintenance would have exceeded the production of these animals at the pail and in the churn. It would take at least a ton or a ton and a half of hay per day to keep our stock, yet the product of forty-five acres last year kept our entire cattle stock from the frosts until the pastures in the spring. I must correct Mr Sprague in his estimate that two tons of ensilage are worth a ton of hay. The experience of most people is against that, but I have heard it so, that three tons of ensilage are worth two tons of hay. It is certainly a most economical food when you consider that it increases the flow of milk and gives it a better color. I have heard it contended that it will give a taste to the cream and butter, but I don't believe there is any justification for that statement, and it is against our experience. It is true we don't cut our ensilage just previous to the time of feeding, but earlier in the day, and we never found any difficulty from this source. Our practice is, in place of planting corn in rows thirty-six inches apart, we plant it at eighteen, and even then we are taking off two crops a year; rye in the fall; pastured that down with cattle; cut it early in the spring, early enough to be put away for use during the period of dry weather in August and September; manured the land in the winter; manured it again in the spring, and have planted that same ground with ensilage corn, and taken off a crop in the fall. Last summer we took off a large quantity of rye, intending that as food during the drought. Finding that the drought continued during the whole year, we retained it and are using it to-day with good results. We have also had some experience in using clover, and have found it very satisfactory. It is unnecessary to go to the great expense, which is advocated by some, in the building of silos. In one we built we went to a lot of unnecessary expense—stone wall, concreted the bottom floor, and, as usual, when fancy farmers undertake anything of that kind, spent piles of money we need not have spent. It is necessary that spaces should be left to be filled with sawdust or earth. It is also necessary to exclude water. At one time it used to be very heavily weighted by placing upon it planks ranged crossways, and putting over them heavy weights. The idea was to keep out the air, because air causes putrefaction. Now in place of that we have found that if we merely spread the planks over the top and cover it over with earth, it is just as beneficial as heavy weighting. Now I can only add to what Mr. Sprague has said, that I also believe that ensilage is bound to become an important factor in the economic production of milk throughout this Province at no distant day. We must recognize and remember the value of fodder corn as fodder.

MR. D. DERBYSHIRE,

of Brockville, the President, said there is no doubt that the "B and W" is the kind you should sow. Now, for the benefit of any farmers who think it is going to be a terrible expense to build a silo, I will give you a little history of how to build one cheaply. Commence by selecting a site somewhere convenient to your other buildings. Make your foundation. The proper shape is about twelve by thirty-six feet, that is the most economical size, the easiest handled and the best. Build a stone wall two feet deep all the way around, a solid mortar wall just as if you were going to build a house on it. Put on the slide and have it dropped right down level with the wall. Commence and dig clay and fill in one

foot, so that it will be a foot higher on the inside than on the outside. This is the simplest plan to keep the water out. Take two by twelve-inch plank, and put them in, say they go right to the bottom of the silo. Put these twelve inches apart. Commence and board it up with rough lumber. Then take tar paper, and put it on, letting it lap over each time about four inches. Commence with inch floor lumber or tongue and groove lumber, and put on top of the paper. Fill up to the top and put the plate on top of that. Now you divide that into three partitions of twelve feet each. When they commenced silos, they used to get the whole neighborhood to work and make a bee to get the fodder into the silo quickly after it had been cut. Now we go to work leisurely, without hiring any extra help. Run your corn, say into number one to-day, four feet deep; into number two to-morrow, number three the next day. By that time number one is heated up to 140°. Drop the cold ensilage on to that, and keep on in that way until the silo is full. We find that plank on top of the silo doesn't work. You know that the hay in a hay mow doesn't settle in all points alike. Wherever the plank doesn't fit tight down the ensilage will spoil. Tar paper will settle down to the fodder and keep out the air. The tar paper should be put on each twelve feet separately. It will fit down tight and keep the ensilage just like canned pears. It is the most economic food in the world. It is a food that is adapted for cattle—a grand food. It is the proper thing to do, and we, as farmers, must look more carefully to our interest than we have done in the past. We must cheapen the production of butter. We can never hope to get much more than from thirty to thirty-five cents for our butter, and any increase of profit that we may get must come from a decrease in the cost of production. We want to get twice as much milk with the same outlay, and we can get it with this ensilage corn. Mr. Fuller has told you that the estimate of Mr. Sprague is a very low one. There is no reason why, if you plant this southern corn, you can't raise twenty or twenty-five tons to the acre just as easily as not. Put manure on it enough, that the corn will never hear a word about dry weather, so that the richness of the soil will make it get right up and grow. Plant half an acre to try it, right in your garden where you will get the ground rich. There are 515 silos in Wisconsin, and if it hadn't been for that they would have starved their cattle last winter.

PROF. ROBERTSON,

of Guelph, Ont., said, I consider ensilage about the best adapted food for butter making that I know of. The dairy cow is the best contrivance the farmer can get for putting money into his pocket and putting good clothes on his back. The cow is the farmer's best friend, and ensilage corn is the best feed for the cow. It costs the least and gives the best results on the cow's digestive organs. It is cheap food. This has been demonstrated. Well cultivated land will yield twenty tons of it to the acre, and this will feed the cows better than six or eight tons of the best hay in this country. It is a very healthy food. There was a contention a while ago that the cows fed on ensilage were not healthy. I dare say there was some truth in the statement in those particular cases, because the ensilage was not made well. Cows would not be healthy if fed on rotten hay, and neither would they be healthy if fed on rotten ensilage. Last year the British Government tried to get a report from all the farmers of England regarding silos. Out of 279 reports as to the health of the cows fed on it, only eleven farmers reported unfavorably, and only twenty-two said they did not see any good results. All the rest said it improved the quantity and quality of the milk, and the ensilage is not nearly as good there as here. Ensilage is more easily digested as to the solids it contains. There is as much digestible in 900 lbs. of ensilage as in 1,800 lbs. of hay, and it is a great deal to get solids that are easily digested. It is a well flavored food. The history of the Oaklands Dairy proves this conclusively. If we could get the same prices that Mr. Fuller gets we would be delighted. And if Mr. Fuller can satisfy the taste of the Toronto epicures as regards flavor of butter made from ensilage, we don't want any higher proof. Let us feed ensilage, and reduce the cost of production.

## Garden and Orchard.

### The Farmer's Fruit Garden.

BY L. WOOLVERTON, M. A., SECRETARY OF THE FRUIT GROWERS' ASSOCIATION OF ONTARIO.

(Read before their last meeting.)

[CONCLUDED.]

For an ordinary family from one-third to one-half an acre of ground will be sufficient. Let it be the very choicest on the farm, and if possible, near the house, at the side or rear. Of course it must be safe from cows, pigs, sheep, fowls, etc., but if in the situation described, it will be a portion of the houseyard, and so needs no separate fence, but only to be screened from the lawn by a hedge of arbor vitae, privet, or ornamental shrubs and roses. No pains must be spared to have the ground in the best possible condition, else, of course, there will be a waste of time and money—I mean it must be well drained and well manured; I do not mean a thin top dressing of manure, but heavily coated with good manure at the rate of say thirty or forty loads to the acre, unless the soil is already better than that of most farms I know of.

In shape it should be longer than broad, admitting of rows at least two hundred feet in length for convenience in cultivation with the horse. The time is gone by for doing with the spade and hoe what can be so much more quickly done with a horse, little plow and cultivator.

And for the kinds of fruits to plant and the number of each for the home garden, we want a succession. We want our tables furnished with fresh small fruits all summer. Then we will begin with strawberries, which, in this district, begin ripening in June. Planting them one foot apart in the rows, 200 plants would be required for each row, and three or four rows, three feet apart, would not furnish too large a quantity of this the first and one of the most luscious fruits of the season. For varieties we would suggest Crescent, Wilson, Sharpless and Manchester, in about equal quantities. For best results constant cultivation should be given the strawberry right through the season, and a mulching of straw or coarse manure should be applied before the time of freezing nights and thawing days of early spring. All runners should be kept cut off after the ground is once sufficiently covered with plants.

Raspberries follow closely upon the heels of the strawberry, and are almost equally delicious in their three colors of black, red and yellow. To our taste black caps are the most desirable for canning and for pies, and the red for preserves and for jam, while some varieties of the yellow are beyond comparison for eating fresh. They may be planted about three feet apart in rows six feet apart. A half row of each variety suggested would be a sufficient quantity. In black caps I would suggest Doolittle or Souhegan for early, and Mammoth Cluster or Gregg for late. These need to be on soil that does not dry out, crack or bake, else the fruit will dry up in the hot July sun. A deep, rich sandy loam is best, and this kept well cultivated and stirred up even during fruiting season, unless the weather is wet. The pruning shears should be freely used to keep the canes within bounds, unless it is necessary to layer the tips for propagation. The old canes may be removed and burned either in the autumn or in early spring,

and only four or five new canes be permitted to grow in each stool. In the planting of these and of the other plants a stout garden line is, of course, indispensable. In red raspberries I would recommend Highland Hardy and Marlboro' for early, Turner for medium and Cuthbert for late, and these will extend over a period of about six weeks. Last year my raspberries began with the 16th June and ended about the first of August. In white raspberries the best varieties are Brinckle's Orange and Golden Queen. This year the first were not ready until July 6th.

Currants and gooseberries will also come during the months of June and July, and no one need be discouraged about growing these fruits because of the currant worm, when an occasional sprinkling with hebebores and water, in the proportion of an ounce to a pailful, will so easily keep them in check. One row of currants and gooseberries, planted about three feet apart in rows six feet apart, would, perhaps, suffice. In kinds I would recommend the following currants, viz.: Red, the Cherry and Fay's; white, the White Grape; black, Black Naples and Lee's Prolific. In gooseberries I know of none so reliable as Smith, Downing and Industry. The latter, however, is said to mildew in some locations.

The currant bush needs to have the new growth cut back early every spring one-half, and kept somewhat thinned out; while the gooseberry needs only the annual thinning out of old wood. There is a great satisfaction in a row of bushes thus kept in good shape and well cultivated, but if neglected they are neither useful nor ornamental.

Heavier soil may be used for the currant and the gooseberry than for the raspberry. Indeed, in my experience the Cherry currant bears much more freely on clayey loam than upon sandy loam.

The large blackberry comes next in order, and is a most valuable substitute for peaches for table use in the month of August, if peaches fail. If properly ripened the blackberry makes an excellent sauce for the table, being just acid enough to suit many people's taste, and for pies it is not excelled in the writer's estimation by even the Kentish cherry. One row of these will suffice, and the following kinds will be suitable for the Niagara district, viz.: The Early Harvest, the Kittatinny and the Taylor. I add the latter because it is more hardy than the others and will often produce a crop when the others might fail on account of the severity of the season. For convenience in cultivation it will be necessary to cut back the canes at a height of two and a half or three feet in the summer. By this means they may be made to stand firmly upright without support, and there will be no sprawling canes to obstruct passage between the rows.

I will close this first part of my subject with some reference to the grape. This can be planted in many places, otherwise waste. It may be trained along the side of a building or up a fence that is intended to screen unsightly objects. It is an ornamental vine along the side of a back verandah, or trained to cover an arbor in the corner of the garden or retired part of the lawn, or it may be trained upon a trellis in rows.

Grapes should be planted about ten feet apart in rows about the same distance. Thirty or forty vines of several of the best varieties of each color will not come amiss. The time of grapes



for family use can be extended over a very long season by packing away such varieties as Salem or Vergennes, which can be kept until spring. Thus, for at least six months of the year, the medicinal and agreeable virtues of fresh grapes may be utilized by the family. In varieties I would recommend the following, viz.: Red, Delaware, Lindley and Brighton; black, Moore's, Worden, Wilder; white, Lady, Jessica and Niagara, to these I would add Salem and Vergennes for their keeping qualities, although the former is very subject to the mildew.

Too much barn manure is not good for the grape. A surplus of nitrogen produces too much wood at the expense of the fruit. Phosphates and potash are specific manures for this fruit, the former is found in bone meal or in the mineral apatite, which is now being so extensively worked in the vicinity of Ottawa, while the latter is a constituent part of wood ashes.

I have thus given a general view of what should, in my opinion, constitute the farmer's small fruit garden. Such a garden will yield him more pleasure and profit than any other equal portion of the farm, not excepting the orchard, which I shall have to leave over to be treated of on another occasion. I hope that these few hints may help to increase the general interest in the home garden, and result in the more abundant supply of fruit for the farmer's family and in the freer use of the same in all out country homes.

#### Provincial Fair Notes.

##### HORTICULTURAL PRODUCTS.

This department was not large, but the various products, turnips, mangolds, carrots, parsnips, potatoes, kohlrabi, salsify, radishes and egg plant, all were very fine, while squashes seemed to have set out early in the season to break the record, and continued of the same mind up to the time of exhibition. Pumpkins ditto, though perhaps not quite as successful in the effort. Tomatoes fine, large and smooth, and from the size of currants up to that of teasauers. Cauliflowers, like miniature snowbanks. Cabbage, fair, but seemed to have felt the effects of drouth. Onions in great variety, from the small silver skinned pickling kind, of the size of cherries, up to the yellow Danvers, the size of teasauers, furnishing sufficient variety to supply the ever increasing wants of man. The exhibit of the Central Experimental Farm at Ottawa, was very interesting, as well as instructive; it consisted of eighty varieties of oats, fifty of barley, and one hundred and sixty-five of potatoes. Twenty different kinds of fertilizers have been used this year, but the season has not been such as to make immediate use of them or pronounce as to their respective value. The Ladoga spring wheat is considered by the experimenters to be of special value, in the Northwest, where only spring wheat can be grown, and where the season is short, it ripens fully ten days earlier than the red Fyfe wheat so generally grown there, and is more productive. There has been forty-eight acres grown on the Central Experimental Farm this season. Several samples of the product of a single grain of wheat are shown, from which it would seem that in most cases more seed is used than is advisable. In potatoes the Sharpe's Seedling is the most productive of any variety grown, but owing to the small amount of seed planted of this variety this season, they cannot speak advisably as to quality.

The exhibit of flowers was very fine in many varieties; roses extra fine, considering the season

of the year, while the display of gladiolus were the finest collection shown for some time.

##### FRUIT.

In view of the recent drought in Central Ontario, we were very much surprised indeed to see such a magnificent display of fruit at the above fair. Some of the later varieties lacked color, but all were of fair to good size. The different varieties were in most cases properly named, something unusual in so large an exhibit. King Tomkins and Northern Spy were very fine in size, but lacked in color, probably from being picked so early in the season. The Wealthy, which is a comparatively new variety, was well represented; it is certainly the greatest acquisition of late years, in the apple line, especially when we remember that it begins to bear at two years, and in some cases one year after planting the nursery tree; in fact, we have been informed by reliable nurserymen that they very often bear in the nursery row at three years from the bud; they are of fine quality, and will keep about equal to the King Tomkins. Several plates of the Grimes Golden were shown, all inferior in size; in fact there is very few sections of the country in which it will attain any size; those who are in a position to know, claim that it will only succeed on a high, dry, rocky soil. The Newtown Pippin is another variety requiring a soil and situation peculiarly its own, and should not be planted in Ontario. The Cayuga Red Streak does not seem to attain perfection in this section of the country, being inferior both in size and color. Duchess of Oldenburg was very fine indeed, both as to size and color; this apple seems to be well suited to all sections of the country, as while it is a success in Western and Southern Ontario, it is also a success in the eastern and northern parts; it also fetches the highest price of any soft apple grown. There was also a great variety of crab apples on exhibition of all sizes and varieties. In pears the exhibit was good, some of the finest specimens of Souvenir du Congers that have ever been exhibited at the large shows—some of them closely approaching the magnificent plates which were sent out to represent them when they were first introduced. It is unfortunate that this tree requires to be top grafted. Clapp's Favorite can be described in one word, "magnificent," nothing more, nothing less; this fine variety is very popular. A gentleman remarked to the writer a few days ago that he planted a few trees some eight or ten years ago, and regretted that he had not planted them in hundreds, as they had yielded him twenty dollars per tree, or five dollars per annum, although very young yet, and not bearing more than four years. While the Bartletts, as a class, were not good, there were a few very fine specimens; in other varieties there was no special feature. Peaches were shown in fair quantities, and temptingly fine in quality; the exhibit being largely from the Niagara district. Plums of almost endless variety, of all sizes and colors, graced the tables; some seedlings were shown which were well worthy of a place in the catalogues of our nurserymen, if they are as prolific and hardy as required for our climate, and we are led to believe they are. Gen. Hand and Pond's Seedling were the largest varieties on exhibition. Grapes, as usual, in such quantities and of such a quality as to make judging a very difficult matter; it is to be regretted that there is not more attention generally given to growing this beautiful and healthful fruit; they may be grown in any locality where corn will grow, and two or three good vines will supply a large family if given fair treatment. After a vine is once established it will return dollars in fruit for dimes in treatment, besides its health-giving value which cannot be counted in dollars and cents.

### The Apiary.

#### Disposing of Honey.

One who has anything to sell must watch his chance and take every advantage of the market. I have a brother who carries the mail between the Wenham Station and a summer resort. The idea struck me that that would be a good place to dispose of some of my honey. One day I gave him a package to show the people, and the result was I found quite a sale for honey. He gets twenty-five cents per pound for it, and I allow five cents commission for selling it. You see we both make a good thing out of it, as it requires no extra time or labor to do the selling.

You who have honey for sale should take a sample package when going "to town" or wherever you go, provided the honey can be taken as well as not. In this way you can do your own advertising, and at the same time take orders to fill when going that way again. If there is much passing of teams by your residence, just stick up a "shingle," stating that you have pure honey for sale, and you will be surprised to know how many and how well people love honey.—[American Agriculturist.]

#### The Exhibit of Honey and Bee-keepers' Appliances at Toronto.

The very unfavorable season has told upon the exhibits of honey at Toronto. There was not a single entry in the 1,000 lb. lot of comb honey, and the quantity of extracted honey upon the grounds was not more than one-tenth of last year's. The displays were more tastily arranged than previously, and made up for what was lacking in quantity. Messrs. McKnight, R. H. Smith, and R. F. Holtermann were the chief exhibitors in honey. E. L. Gould & Co. and Will Ellis in bee-keepers' appliances. In the former Mr. McKnight takes four firsts and two thirds; Mr. Smith, two firsts, two seconds and one third. In supplies, E. L. Gould & Co. take eight firsts, and one second; Will Ellis, one first and one second, and Messrs. McKnight and Smith a first and second respectively.

In looking at the prize list it will be found that the Ontario Bee-keepers' Association offer a special prize of \$25 for the neatest display of honey. Does the Government give a grant to this Association to boom Toronto in particular, or is it the intention next year to offer a special prize of \$25 at all the other exhibitions and fairs in the Province? When Provincial money is expended, all parts of the Province and all exhibitors should have a chance to receive the same treatment.

Then a prize is given on mode of securing the largest yield of comb honey, and another upon section super for top story. The two are almost the same thing, and the latter might well be struck from the list and a prize given for something else, say a honey extractor.

It is to be hoped that bee-keepers will see that their colonies have enough stores for winter. The price of honey is going up, and bee-keepers may look for better returns for their produce for some years.

It is somewhat interesting to note what some countries are doing for the advancement of bee-keeping and to increase the resources of their country by gathering honey. Germany has for years taught apiculture in its schools, and has

lecturers going about to advance bee-keeping. The United States has apicultural departments at several of its agricultural colleges, and one apicultural station to experiment in this line alone. Norway, besides other things, sent to America Ivar S. Young, last year, to get what he could from us in the way of new ideas. New Zealand and Australia has also recognized bee-keeping. The North American Bee-Keepers' Association meet at Columbus, Ohio, October 3rd, 4th, and 5th.

#### Getting Bees Out of Sections.

Several cases of sections were removed from the hive just before sunset and placed in the bee-house. A cage containing a queen was nailed in a box and the box was then inverted on the cases which were standing on one end. In the morning every bee had left the sections and most of them were quietly clustered on the queen cage; the box was then placed out of doors, the queen cage removed and the bees returned to their respective hives. Had it been convenient or desirable to form a new colony just then, the bees could have been utilized for that purpose.

I find the bee-house, having but one room and so built that no bees can enter or get out through cracks in the door or window, one of the best places to put the sections when removed from the hive. I have a window in the door of my bee-house; the bees leave the sections, and cluster thereon; to get rid of them, and at the same time let no robbers in, the door is opened and the bees take wing with a rush. Any room arranged as above will do as well as a house for that special purpose. The best methods for keeping comb honey is, I think, to get it all in the hands of the consumer as soon as possible after it is removed from the hives.—[American Apiculturist.]

#### Veterinary.

##### Vaccination and Cow-pox.

BY C. H. SWEETAPPLE, V. S.

In view of the prevalence of that much-dreaded disease, small-pox, in the city of Buffalo, its appearance in Toronto, and the danger of its extension, a short account of both vaccination and cow-pox—the disease of the cow from which vaccine is procured—may probably, just at the present time, be of interest to the readers of the *ADVOCATE*.

Previous to the discovery of the benefits of vaccination, inoculation with the actual virus of small-pox was extensively practiced in civilized countries, and has been adopted in India and China for ages, as it was known that when the disease was introduced into the system of a healthy person by inoculation, he almost invariably had it in a milder form than if he acquired it in the ordinary course of infection. Therefore, though beneficial to the person inoculated, the disease spread amongst those not protected, and the general mortality was probably increased rather than diminished.

The actual reason why one attack of a disease should give future immunity from the disease, or why vaccination should confer future immunity from the disease for which it is used as a preventative, is a question to which no satisfactory reply has yet been given. But there cannot be a doubt that vaccination will confer immunity from small-pox for a length of time. This period of immunity no doubt varies in different individuals, and also in different states of the system. It often lasts for many years, or perhaps for life, but in times of danger, it is considered best for re-vaccination to be adopted at

the expiration of five or six years, and if the immunity from small-pox still exists, there will also be immunity from the "vaccine." In common parlance the vaccination "will not take."

The discovery of the protective power of vaccination is due to Dr. Jenner, who, when inoculating for small-pox in some of the dairy districts in the south of England, in the latter part of the last century, met with a number of persons on whom his inoculations had no effect, although they had never had small-pox. On investigating he found that these persons had previously had eruptions on their hands that they had contracted from milking the cow, and which they called cow-pox. He instituted a series of experiments and investigations, and found that the preventive effect could not be doubted.

The disease in the cow—cow-pox, technically (*Variola vaccina*) is not a severe affection. In the early stages there will probably be slight, feverish symptoms, with loss of appetite, etc.; the milk will be lessened in quantity, and its quality will be altered, it will be more watery, and will be apt to coagulate readily; the udder and teats hot and swollen, also painful on milking. In two or three days small, hard tumors about the size of peas, and of a reddish color, appear on the udder and teats, these increase in size for a few days, and may become as large as a copper; a sticky, yellowish fluid appears in them beneath the skin, and the tumors have usually a depression in the centre. It is at this stage that the vaccine lymph should be obtained for the purpose of vaccination, as it should be free from blood or pus. The fluid, at first clear and sticky, gradually becomes thicker and of the nature of pus, this soon dries and forms a crust or scab, which will remain on the part for some time, unless accidentally removed.

An attack of cow-pox, even in its usually mild form, may linger some weeks, and exceptional cases occur in which the symptoms are quite severe. In collecting "vaccine" from the cow for the purpose of human vaccination, proper care must be exercised, as there are several diseases in which eruptions of different characters appear on the udder and teats. There is also a spurious form of cow-pox that appears to be very uncertain in its transmission to mankind; its symptoms are very similar to the true form, but there is some difference in the character of the eruptions. The spurious form is apt to occur soon after calving, and if one animal is affected it is liable to go through the herd. This form has been technically called "vaccinella" to distinguish it from the true "vaccina."

It has sometimes been erroneously stated that the bull is exempt from "variola." No doubt he is less exposed to contagion, also the disease not being a severe one it may in him easily pass unobserved, but it is an established fact that both the bull and the steer are liable to the disease. Bulls have been used extensively in vaccination experiments on the continent of Europe, and vaccine lymph has acted as quickly and certainly on them as on the cow. A continental veterinarian for a long time furnished vaccinators with "vaccine" cultivated on the bull.

It is often difficult to trace the origin of *Variola vaccina* in a herd of cattle. Cases occasionally spring up which appear to be solitary, and then again it may appear as an epizootic and prevail on a number of farms at the same time, but in temperate climates it seldom appears in a severe form. When once the disease breaks out

in a herd, it is apt to spread through the whole of them unless special precautions are observed, such as the isolation of affected animals, the employment of separate attendants, etc., most special care being taken that the person milking an affected cow should scrupulously avoid contact with a healthy one.

The contagium is believed to be transmissible only by actual contact, and not carried in the atmosphere, but the virus, if introduced into the digestive organs, is said to produce the disease with as much certainty as if placed beneath the skin, or inserted into the blood vessels.

#### Poultry.

##### Poultry at the Provincial Fair.

The exhibit, although not as large as at some of the Western Ontario fairs, was moderately large, and very much beyond the accommodation provided; in fact, this department had the poorest provision made for it of any, and the best was not too good.

It is high time the Board rectified the mistake they made in putting Dimon Creepers on the prize list. They are at best an inferior looking bird, and so far as we can learn have no claims over the ordinary mongrel fowl. There are not more than two flocks in Canada, that we know of. We cannot but regret the apathy shown by the Boards of Management of many of our best shows, as to poultry matters. It cannot be denied that poultry ranks very high in the products of Ontario, and have reached that position with very little encouragement. This Board made a move in the right direction in offering a medal for the best model of a poultry house.

##### Poultry at the Industrial.

As usual at this show, the exhibit was large and fine, perhaps both larger and finer than was ever seen before in Ontario. In light Brahmans, there were over sixty entries, and a finer lot we never saw together; the first and second prize hens (bred by Mr. Wm. Hodgson, of Brooklyn, from whose flocks the *ADVOCATE* prizes are offered), were unusually fine, also the first prize dark Brahma cock and hen, but the young dark Brahmans were very inferior, the whole exhibit not being of the value of the prizes on one section. In Plymouth Rocks the exhibit was fine, and in Wyandottes also. The new white Wyandottes were out in goodly numbers and are a promising breed. The Golden variety put in their appearance for the first time here, and certainly one must be prejudiced in their favor to see anything in them to admire. It is a great mistake to suppose, as many do, that because the silver laced variety are prolific, healthy and meaty, that the golden variety most needs be so, as the two breeds are in no way related whatever. That the whites should be of the same value as the silver laced is not strange, as it is with them, they have their origin, being a spurt from that variety. Partridge, buff, black and white Cochins were out in goodly numbers, and fine in quality. Hamburgs of all varieties, very fine in quality; Polish Hamburgs, one pair. Black Minorcas, representing one hundred dollars, graced the coops, and beauties they were. White Minorcas seem to have lost their prestige, as the number was small indeed. Black Spanish, the best we have seen, grand in face, station, in color and comb, in fact, all that goes to make a good bird of that breed. Black red Games, that won at the Royal in England, and many fine ones bred in the land of the maple. Mammoth bronze Turkeys, so large as to tax the

capacity of the largest coop to its fullest extent. Ducks, the largest exhibit ever seen in Ontario, but alas, for the accommodations shipping coops were utilized, and all sorts of corners used to stow away the exhibits in.

It is to be hoped the Association may be able to build a new house for this exhibit next season, as the present building is a disgrace to the grounds and the Association. But as usual, it is poultry last after everything else has been done, and plenty of money on hand. It is doubtful if any other department of this show gives as great a percentage of the prize money in entries as this. The exhibit was universally good.

An account of the London Show or Western Fair, will appear in November issue, as it is too late for this number.

**Raising Ducks.**

Before another season of raising young fowl comes, it would be well to give some thought to the culture of ducks. There are, we know, hundreds of poulterers, farmers and cottagers throughout this country who have facilities for establishing "duck ranches," or raising them in large or small numbers for market or private use, if they but tried the experiment. Nowadays, the table merits of well fattened ducks are beginning to be appreciated by the consumers of poultry, and we notice the demand for them is increasing and the prospect of making them pay is cheering.

The small farmer who has some waste land and depends mainly on his grain crop to give him a permanent footing on the high road to comfort and independence, has yet to learn a better philosophy of farming. If he turned a share of his attention to stock raising, particularly the culture of ducks, geese and turkeys, for the food market, much of his waste land could be put to good use and more realized from the outlay than from any other nameable kind of stock, for they can be raised with larger stock and thus he secures profits on all.

It is a great mistake to suppose that ducks cannot be raised without an unlimited sheet of water. It is true, they do better and can be more advantageously raised by having a stream near by. But it is also true that our large and improved ducks, such as the Rouen, Pekin, Aylesbury or Cayuga, can get along nicely with a pond or large bathing place, if regularly supplied from a well or spring. Of course, it is best to restrict ducklings from a pond until they are four or five weeks old, for by this time they will have acquired strength, hardiness, endurance and feathering to "paddle their own canoe" on a small and shallow sheet of water which is free from minks, muskrats and turtles. Ducks want water, but a pond or small creek will suffice for all purposes.

There is no absolute necessity of having expensive and elaborate houses for poultry, for very cheap and inexpensive ones will answer equally as well, provided they are commodious, comfortable, and kept clean, free from filth, bad odors, etc. In fact, more choice fowls come from just such establishments as the latter than from those on which all the care, pains and money is expended on "appearances," and scarcely any on the poultry themselves, except the original outlay for the breeding stock, which may or may not have been large.—[Poultry Monthly.

Secure some clover rowen for winter use. It will be found useful when green stuff is scarce, and will greatly aid your laying hens to be more productive, and secure a greater percentage of chickens from winter laid eggs.

**Correspondence.**

**NOTICE TO CORRESPONDENTS.**—1. Please write on one side of the paper only. 2. Give full name, Post Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. If an answer is specially requested by mail, a stamp must be enclosed. Unless of general interest, no questions will be answered through the ADVOCATE, as our space is very limited. 3. Do not expect anonymous communications to be noticed. 4. Matter for publication should be marked "Printers' MS." on the cover, the ends being open, in which case the postage will only be 1c per 4 ounces. 5. Non-subscribers should not expect their communications to be noticed. 6. No questions will be answered except those pertaining purely to agriculture or agricultural matters.

Correspondents wanting reliable information relating to diseases of stock must not only give the symptoms as fully as possible, but also how the animal has been fed and otherwise treated or managed. In case of suspicion of hereditary diseases, it is necessary also to state whether or not the ancestors of the affected animal have had the disease or any predisposition to it.

In asking questions relating to manures, it is necessary to describe the nature of the soil on which the intended manures are to be applied; also the nature of the crop.

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

**Prof. Brown's Misleading Statements in Scotland.**—I am not in the way of writing to the press, but having seen the article given below in the Toronto Globe I could not let it pass without a denial. In the said article Prof. Brown, late of the Ontario Agricultural College, says that there is not a farmer in Ontario who uses the Aberdeen Angus Polled bull for his own use. Now that is not true, for I own one myself, and myself and neighbors use him, and have done so for the last two years. Everyone who has seen him thinks he is a fine animal, and he leaves very fine stock. I have also a cow, being harder and easier kept. Prof. Brown says they are only bred by three men, specially for the Americans. Now, if they are good for the Americans they are also good for the Canadians. The Aberdeen Polled cattle have carried off the sweepstakes at the great Smithfield show for the last five years against all comers. He also said that a man with £1,000 in his pocket and not afraid to face difficulties might do well in Canada. Now, Mr. Editor, I am one of many who came here without one dollar in my pocket, and now have my farm well stocked and paid for; everything comfortable, and money to spare. Thanking you for the space I have taken, I am, yours, etc., WILLIAM STEWART.

**PROF. BROWN ON AGRICULTURE IN ONTARIO.**

The Edinburgh Scotsman, of August 1st, says that—Prof. Brown, late of the Ontario Agricultural College, who is about to settle in Australia, met a number of gentlemen interested in agriculture in the Imperial Hotel, Edinburgh, on the previous night, for the purpose of placing before them the position of agriculture in Ontario, in view of a meeting which he is to address in the city next week. Prof. Wallace, Mr. James Swan and Mr. James Bowman, St. Monans, were included amongst the company. After giving an account of the College and its work, he spoke of the creamery in connection with it. He considered there was a magnificent future in Ontario for the production of butter in winter, either through silo, or mangel, or some other succulent form of food. At present the establishment obtained cream from 900 cows within a radius of ten miles from it. With regard to store cattle, he should say, speaking for Ontario, that the supply of store cattle was not increasing. The farmers were going in more for the dairy system than raising bullocks, partly on account of the market. In connection with the idea that the Ontario farmers were very strong on black polls for a little, he said that there was not a farmer in Ontario who used the Aberdeen Angus polled bull. That was altogether in the hands of three men, who bred them especially for the Americans. He went on to say that one of the failings of the farmers of Canada was in not fully appreciating the value of wool and mutton. Clipping had been done twice a year by himself, and he did not see why it might not be done here. The first time of clipping was about the end of April or beginning of August. As to the question of emigration, he would be cautious in recommending anyone to go to Ontario without being fully conversant with the whole state of matters. He had no hesitation in saying, at the same time, that there was plenty of room for the man who was willing to face some difficulties. A man who had capital of even £1,000 would do very well in Canada if he was careful in going about his work. The climate was remarkably good and the soil fertile, and if they did well in making a proper class of farm-yard manure, the question of fertilizers did not need to give farmers any trouble. As it was, rough slipshod farming in Ontario did well. It would necessarily do much better with the skill and application usually given to it by Scottish farmers.

**Notes from Stephenson Township.**—I have often thought it would not be out of place for me to write you a few lines on the merits of this country. Muskoka, like all other new places, has its good and bad qualities, but for stock-raising, for which it is most adapted, I doubt very much if it can be surpassed by any other locality in the Dominion. Several years ago the farmers here were almost at a standstill, as they had become disheartened by the non-appearance of the much-talked-of and expected railroad. But, thanks to time and progress, they have made rapid strides since the completion of the N. & P. J. R. R. in 1885, now in the hands of the Grand Trunk. Since then we have experienced no difficulty in finding ready market for all kinds of farm produce, and cattle buyers are met in nearly all parts of Muskoka paying fair prices for good beef cattle. As a grain-growing country Muskoka rivals or excels, I think, all other portions of Canada. Those who visited the exhibition in Toronto last year and saw the Muskoka exhibit will surely vouch for the truth of the above. If some of the hard-working farmers all over Canada, who are struggling for their scanty sustenance on rented farms, were living here they would, no doubt, soon be owners of comfortable and independent homes. The grain crop this year is equal to that of last year, and in some localities better, but the hay crop is a little below the average. Turnips will be scarce, owing to the dry season. Potatoes promise to yield abundantly. Any person visiting this country for the purpose of viewing its productiveness will do well to come during the fall fairs, as they will then have a good chance to see what it is capable of producing. I will be pleased to give information to any person relating to improved farms for sale or any vacant lots free for location that I know of in Stephenson Township.—T. J. BROWN, Lancelot, Ont.

**Transplanting Trees.**—Please let me know through the columns of your valuable paper the most suitable time and the best way to remove some cherry and apple trees which have been bearing for two or three years. As the trees are valuable I would like you to give as full an answer as possible.—P. S., Commercial Cross, P. E. I.

[On well-drained loam trees may be transplanted with about equal success in fall after the leaves have fallen or in spring before growth has commenced. As many of the roots should be preserved as possible, say all inside a circle of two to three feet from the trunk, and if the distance to be moved admits of it, the earth attached to the roots should be transported with them. The tips of the roots cut when digging up the tree should be cut off with a sharp knife to facilitate their healing over, and they should be protected from frost while out of the ground. When replanting the tree well pulverized loam should be firmly packed about the carefully spread out roots. Wetting the soil while it is filled in will assist in establishing the growth of the tree. Puddling the roots before planting has also been found advantageous. The top of the tree should be shortened before or immediately after planting, and watering the tree should not be too frequently done before the tree has leafed out; moistening the branches has been claimed to be advantageous by promoting an earlier development of the leaf. The earth should always be kept loose and mellow on the surface. Mulching the trees has been frequently found advantageous. Shortening the roots and the branches the spring previous to transplanting is a good plan, as it causes a large number of roots to grow near the trunk. This shortening may be done by either digging a trench around the tree, or by simply cutting a circle the depth of the spade around it about two or three feet from the trunk.

**Unproductive Soil.**—Three years ago I bought a farm. On it is a field of 12 acres, which was then covered with water. The first spring I drained it at considerable expense, and summer followed it the same season; then sowed it with oats and barley, and seeded with red clover, alsike and timothy. The grain came up and looked beautifully for a short time, but turned yellow shortly after this. The straw was fine and light, with hardly any grain. The grass and clover failed to catch. I then sowed it with timothy in the fall and again in the spring, which also failed. It now lies as bare as a summer fallow. The soil is composed mostly of rotten wood, about 2½ ft. deep, with a blue clay sub-soil. What shall I do with it?—J. H. R., Adolphustown, Ont.

[From the above description we are led to suppose that the soil contains some substance injurious to the growth of plants; as well as lacking, perhaps, in some one or more essential constituents of plant food. The injurious substance is probably an excess of some one or more of the numerous organic acids likely to develop in wet organic soils, and a dressing of air-slaked lime would be one of the best substances to counter-balance this. We would, therefore, recommend to you to sow on a spot of this field air-slaked lime, on another superphos-









but that was mild compared to the blizzard that raged in my cousin's kitchen, Mrs. De Flammers cast about her with a will. Pie plates, pot covers, tureens, pokers, shovels, everything that the wild Hibernian could lay her hands on, went flying through the air. Mary, frightened almost out of her wits, ran to the door for a policeman, and found one. His arrival only added fury to the fire, but a firm grasp on her arm brought her to terms, and fifteen minutes later Mrs. De Flammers had turned her broad back upon the establishment that I had some reason to believe would know her no more forever.

When I took my aunt up some boiled custard not long after this crowning melee a little flushed and and very tired from my encounter, I did not meet with the praise and encouragement I had the right to expect.

"Flora'll say it's all you," she said, between her tastings and swallowings.

"Well, so it is," I replied, almost ready to cry.

"And if De Flammers, Jammers, or whatever her name is"—Dammers, I felt like suggesting—"is anywhere on the American continent when Tom and Flora return, she'll be coupe'd back to Park avenue, and you mark my words."

"You talk as if Flora were an out-and-out fool," I remarked in my wrath.

"Well, so she is," was the cool response. "I wonder you hadn't spoiled that custard, Hannah, in all your excitement, but it is the best yet. You see Flora and Tom are two to tie doves," the aggravating invalid went on, "and Flora thinks money grows on trees. Tom lets her. She can't shake the tree fast enough; hence the De Jammers and that ilk. Of course I am glad the octopus is removed, but the worst of it is, Hannah, you may get something just as bad."

The next day Henry gave warning. He had anticipated mine by only a few hours. I had fathomed the whole plot, and I knew it. The cook and the butler had ordered as they pleased, and divided the spoils among their kindred. How many families Tom Guernsey supported none of us will ever know.

The bills for the second week of my housekeeping were so small comparatively that I found myself speculating whether or not we had all had enough to eat.

Mary stepped into the cook's place, and did good work. It was a home now in every sense of the word, and not a boarding-house kept by servants.

I thought best to write the whole story to the travelers. Tom's answer was characteristic:

"Dear Hannah! I knew we were being gouged, but argued that one gouger was as good—or as bad—as another, and there was no use in worrying Flora. Flo sends love, and says she'll never return unless you'll promise to keep at the helm. (Private). This change has come none to soon, bless your dear heart! I can see my way through all right now."

"I guess Flora has cut a wisdom tooth," said my aunt. "Are you going to stay, Hannah?"

"Yes; till she cuts the other three," I answered. And I am still here.—Harper's Bazar.

A SWOP.—An Irish clergyman, meeting Denny Cooley riding a horse, said, "Good morning, Denny; where did you get the horse?" "Well, I'll tell your riverence," answered Denny. "Some time ago I went to the fair of Ross—not with this horse, but another horse. Well, sorra a wan said to me, 'Dinny, do you come from the aist, or do you come from the wesht?' and when I left the fair there wasn't wan to say, 'Dinny are you going to the aist, or are you going to the wesht?' Well, your riverence, I rode home, and was near Kilnagross, when I met a man riding along the road forninst me. 'Good evening, friend,' said he. 'Good evening, friend,' said I. 'Were you at the fair of Ross?' says he. 'I was,' says I. 'Did you sell?' says he. 'No,' says I. 'Would you sell?' says he. 'Would you buy?' says I. 'Would you make a clane swop,' says he—'horse, bridle, and saddle and all?' says he. 'Done!' says I. Well, your riverence, I got down off av me horse—not this horse, but the other horse—and the man got off av his horse—that's this horse, not the other horse—and we swopped and rode away. But, when we had gone about twenty yards, he turned around and called after me. 'There niver was a man from Ross,' says he, 'but could put his finger in the eye av a man from Kilnagross,' says he; 'and that horse,' says he, 'that I swopped with you,' says he, 'is blind av an eye!' says he. Well, then, your riverence, I turned upon him, and I called out to him, 'There niver was a man from Kilnagross,' says I, 'but could put his two fingers in both the eyes av a man from Ross,' says I; 'and that horse that I swopped with you,' says I, 'is blind of both his eyes!' says I."

## The Sewing Machine.

### Dressmaking at Home.

#### CUTTING AND FITTING THE BASQUE.

The first requisite is a good pattern. If you have no system of cutting and fitting, get your dressmaker to cut you a pattern, or buy one of Butterick's.

Cut your lining first, then lay the different parts on the dress goods and cut the outside by them. Cut the fronts, backs, sleeves, and lastly the side forms, as they may be cut from the pieces left. Each piece of the basque should be so cut that the waist line will be exactly on the grain of the goods. In the sleeve, the grain of the goods should run straight around the top of the arm.

Each piece of the basque having been carefully cut out, we are ready for the basting. First carefully baste each piece of goods to its respective piece of lining. Now baste each seam, beginning at the waist line in every case, except the front darts; begin these at the top. Begin at the neck to base the shoulder seams. Now baste down the front hems and sleeves and the basque will be ready for the fitting process. With a good pattern and careful basting, this should not be difficult.

Try on the basque wrong side out first. Pin the fronts together, allowing the same lap you will have when the buttons are on. If it is too large take up the under-arm seams. If too long-waisted, take up the shoulder seams. Trim out the armholes till they fit smoothly. A great mistake is made by having them extend too far on the arms. The neck should be cut low enough to prevent wrinkling and secure an easy fit. Try on the sleeves, and if they are too large, take up the outer and inner seams correspondingly. Place the sleeve on the arm smoothly and notch where it meets the shoulder seam.

Now sew all seams well. Sew in the sleeves and try on again, this time right side out. If the sleeves are too long, trim them off to the right length. The finishing work should all be done by hand. Not a stitch must show on the right side. I prefer old silk the same shade of the good for facings. The collar should be interlined with wigan, the cuffs with crinoline. Buttonholes must be cut straight with the grain of the goods. Cut a few threads out of the outer end of each to allow room for the button. Work around this end but put a bar across the inner end. Press the seams, collar, cuffs, buttonholes and facings on the wrong side, with a warm iron. Velvet should never be pressed but drawn across the heel of the iron. Now sew in the stays. The covered ones are the best. Sew one in each dart and under-arm seam, beginning at the bottom of the basque. Sew one also in the back seam allowing it to extend from the waist line upward the length of the covered stay. Overcast or buttonhole all seams finely with colored silk or bind with narrow ribbon, and finish the basque with hanging loops at back of the armholes.

#### CUTTING AND MAKING THE SKIRT.

With a tape line, measure the length from the waist down to the instep, when standing with one foot a little advanced, allowing three inches on the back for dress steels or improver, and one inch on the front and sides for making. Fold the lining down the centre and measure straight down the fold the requisite number of inches and mark. Measure across the top of the folded

width seven inches. Then measure diagonally from the last mark down to the outside edge of the folded width; then across the bottom to the first mark, drawing the pencil or the chalk lines between the marks. This completes the front lining. Take two straight widths of lining and measure straight down their edges the required length. Measure across the top ten inches, then diagonally down about two-thirds the width of the goods, then across the bottom to the first mark again. This completes the side widths. Take two straight widths for the back, and sew three straight strips of the lining across them at four, seven, and ten inches from the top for casings for the steels. Now cut duplicate pieces from the dress goods, and baste each piece carefully on to the lining. Join the straight edges of the side gores to the bias edges of the front, and join the straight widths at the back. Cut one yard of dress canvas or fleeced facing into four pieces; join the selvedges, notching one edge of the strip like saw teeth. Baste the straight edge to the skirt, with the right sides together and stitch. Remove the basting, turn over on the wrong side, and baste flat for a facing. Then sew carefully to the lining, allowing no stitches to show on the right side.

Fit the front and side gores to the belt by taking darts in them at the top, and gather the back widths across the top, leaving the opening in the left side-back seam, which you must face neatly, allowing an extension on the back width to fold under the side. The steels can now be put in their casings and tapes sewed to their ends to tie them into position. You are now ready for the drapery. A pretty and easily adjusted drapery is made by taking one and a half widths of double-fold goods, joining together and running across the bottom, and up the left side. Lay three pleats at the left edge all the way down, and press. Fit the top of the belt by pleats, and pleat the right side up to within a few inches of the belt. The back is made like the front only reverse the looping, which gives a pointed effect both back and front. [The House-keeper.]

### Social Chit-Chat.

To know how to cook economically is an art; it is also a science and one that every house-keeper should understand. People speak of money-making as an art; and there is, comparatively speaking, more money made and lost in the kitchen than almost anywhere else. Many a hard-working man's money is lost in the kitchen, and many an idle man's head is kept above water by the practice of economy in the same department. It is not what we earn, but what we save that makes us well off in this world's goods. Wastefulness and idleness are crimes against humanity; but frugality and industry insure happiness and national prosperity. One need not be ashamed because forced to practice economy. To be economical is one of the laws of the Bible. "Gather up the fragments, that nothing be lost"—what could be plainer than that? Some people put dimes into pies and puddings where others only put in cents. The "cent" dishes are often most healthful, and can be made quite as appetizing. Any woman can cook well if she has plenty with which to do it; but the real science of cooking is to be able to serve a good dish when materials for making it are scarce. As for the principles of cooking, it should be remembered that water can not be made more than boiling hot, and that no matter how much you endeavor to hasten the fire, you cannot hasten the cooking. All fuel used, besides that actually needed to make the water boiling hot, is wasted, and the same principle holds good in baking; you are liable not only to waste your wood, but to waste by scorching whatever you try to bake.



**Hindoo Temples, Ellora.**

The renowned excavations of Ellora, in the western face of the hill of Ramzah, derive their name from a little village, half concealed beneath the trees at the foot of a high wall of rocks, forming an enormous crescent. Thirty or forty caves constitute the Ellora group. There are four temples or chaityas, twenty-four monasteries, and likewise caves of the Jain order, combining nearly all the characteristics of the other two classes. The great importance of Ellora centres in the fact that we are enabled here to study the subterranean architecture of the Hindoos. Proceeding along the mountain side to the height of the excavations, we pass in review temples of indescribable richness, and monasteries of grand proportions. On all sides the rock is excavated, cut into steps, hollowed out into gigantic apartments, or sculptured with colossal figures of Sphinx. Nature unites with the labors of man to aid the fantastic effects of the scene.

Cascades fall in front of the caves; ravines, covered with brushwood, cover the base of the mountains; and the deep gorges are full of trees that have lived a hundred years. But the marvel of Ellora is the monolithic temple of Kailas, which, in place of sombre and mysterious caves, displays itself as a grand edifice carved entirely out of a single rock, with domes, spires, columns and obelisks. In the centre of a spacious court rises the principal pagoda, attaining with its belfries and towers, a height of one hundred feet. All its proportions are on a gigantic scale, and the ornaments are in

perfect accordance with the grandeur of the whole. A handsome portico over a double staircase leads to a vast hall, the roof of which is supported by several rows of columns, and into which opens the doors of five chapels. Balconies on light pilasters project over the court, and the walls are covered with bas-reliefs representing a thousand figures. At the back of the temple, elephants and lions, placed side by side, seem to support on their backs the entire structure. Long colonnades, adorning the base of this marvellous temple, contain, in a series of sculptures in relief, all the deities of the Hindoo mythology.

Your daily work, the dishes washed or the floor swept, are homely things, and count for nothing in themselves; but it is the anger, or the sweet patience, or zeal, or high thoughts that you put into them that shall last. These make your life. No strain is harder upon the young than to be forced to do work which they feel is beneath their faculties, yet no discipline is more helpful.—Youths' Companion.

**Hints for the Housewife.**

A clothes-pin bag is a good article to have about the house, but a clothes-pin apron is a better.

Two ounces of glycerine and two tablespoonfuls of borax dissolved in water makes a healing wash for chapped hands.

Everyone should have eight hour's sleep, and pale, thin, nervous persons require ten, which should be taken regularly, in a well-ventilated room.

A good way to distinguish mushrooms is to sprinkle salt on the spongy or under side. If it turns yellow the specimen is poisonous; if black, it is wholesome.

Charcoal is recommended as an absorber of gases in the milk room where foul gases are present. It should be freshly powdered and kept there continually.

Save all the brown meat paper, for it is very

every time you sweep you will find the dust will not fly so badly.

Deep-seated inflammations, as inflammation of the liver, chronic gastritis and inflammation of the bladder and other pelvic organs are often relieved by poultices thoroughly applied.

To cure warts take an Irish potato and cut a piece off the end and rub on the wart two or three times a day, cutting a slice from the potato each time used. Very often one potato is sufficient for the cure.

The best wash for the hair is:—One cupful of salt, one quart soft water; after it stands for twelve hours commence to use. Take a cupful of the brine and a cupful of hot water, wash well with that, rinse once, and rub dry as possible with a towel.

In putting away wash dresses, every vestige of starch should be removed, and they should be left unironed. White dresses of any fabric are

improved by placing sheets of blue tissue paper between the folds, and then wrapping the whole dress in the same paper.

When the feet are swollen from walking or long standing, the soreness may be relieved by soaking them in the following:—Take some wood ashes and cover with water; let it stand for two of three hours; strain off the water and place the feet in it. The soreness will disappear almost immediately.

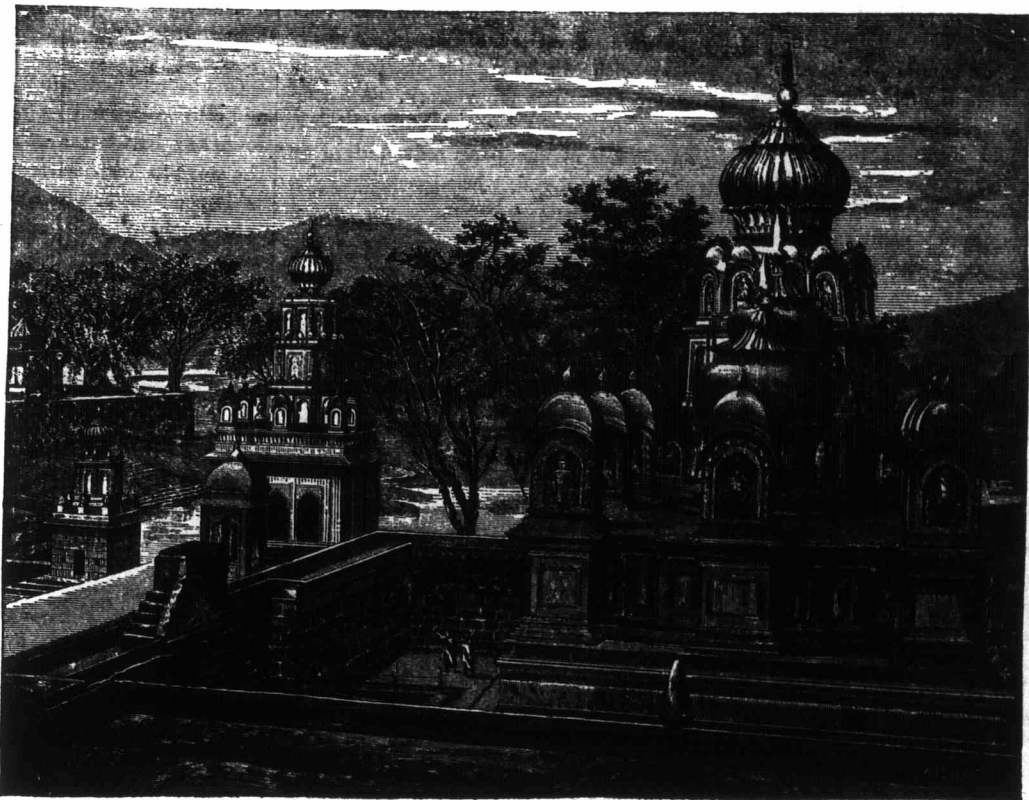
When your canary droops and seems ill, particularly if he shows signs of asthma or a cold by a wheezing sound, feed him for a week on boiled bread and milk. Mix bird seed and flax seed and give it; also

strew red pepper plentifully on a piece of salt pork and tie it up in the cage within reach. Give it also a little saffron in its water now and then.

**The Ills of Life.**

Most of them are not real troubles, but rather the dimness of our spectacles through which they are viewed. Have you not observed time and again the disposition of things to go wrong when you feel nervous or tired? And do we weep over the unkindness of friends? Ten to one, our own irritability provoked the unpleasantness, or distorted into a fancied slight some little thing that was never intended as such. When you begin to think that all your friends have deserted you and that all the world is a weariness and vexation, it is time for you to take a rest. If we would only cultivate health and good spirits, three-fourths of our troubles would vanish like mist before the sun.

Some wag has asserted that "Old Maid's Wedding" would be a good name for a new shoe button, because it never comes off.



HINDOO TEMPLES, ELLORA.

useful for wiping out greasy kettles and pans; it absorbs the grease, saves the dishcloth, and can be burned when through with it.

The best thing for a burn is, wet the burn with cold water, then cover the burn with wheat flour so thick that it will keep out the air; keep it on, it will prevent blistering.

Turpentine and black varnish, put with any good stove polish, is the blacking used by hardware dealers for polishing heating stoves. If properly put on it will last throughout a season.

The water in which codfish has been soaked is very good for washing the zinc under the stove.

Dyspeptics who use coffee will do well to take it in small quantities, black and strong, without milk.

Kerosene will soften boots and shoes that have been hardened by water, and render them pliable as new.

If you moisten your broom in warm water

### Minnie May's Dep't.

MY DEAR NIECES:—October, with its sweet, golden sunshine and soft, misty days, is again here; and what housekeeper does not feel it a very busy month: for each month has its own peculiar work—woman's work. It may be unskilled labor, but it is work all the same. Not merely head and hands, but heart as well, is enlisted; so much to be done, trifling in itself, but to what a large extent the comfort, health and happiness of our homes depend upon its being properly performed. Not that we have been idle during the long, warm, sunshiny days of summer. Our well-filled preserve closets will show that we have kept the material comforts of our family well to the front in spite of extra work, which extra help for farm work rendered necessary. The hurry is over and our cares are somewhat lessened, but our thoughts turn now to colder weather and needful preparations for the comfort of our dear ones. The winter clothing that has lain securely all summer in its big chest, with camphor between the folds, must be overlooked, hung in the sunshine to air, repaired where needed, brushed and hung in their respective places, ready for the wearers when needed. The little cotton-clad legs must be covered more warmly, thus saving many a sore throat or troublesome cough. It is best to look over all the woollen wearing apparel, and stockings requiring new feet may be laid in the mending basket, ready to knit these long evenings, for our fingers must not be idle. Others can be neatly mended and laid ready to put on when demanded. As a rule, my dear nieces, women are not methodical enough in performing their work. 'Tis true, she is called upon to perform such a diversity of things that it would be difficult to perform all methodically; but we would accomplish far more and with greater ease to ourselves if we thought more. Make the head do much, or, rather, make the head simplify the duties of feet and hands. Little garments have to be repaired or made over for wee sisters or brothers, winter quilts and blankets inspected, and such a number of other things to do, and only one pair of hands, perhaps, to do all. So we will leave the mother, busy as usual, and look up some sport for the young people, for all work and no play is not good for any one, more than poor Jack. Who has not gone for a long ramble over meadow and marsh, and returned laden with leaves of every shade, from russet brown to vivid scarlet? Those can be pressed between the leaves of old books, and they will be just the thing to decorate our homes in winter. Or beautify a Christmas tree, whether it be for home or Sunday school feast. It is early to be thinking about Christmas, but the lovely red berries of the mountain ash, and bitter-sweet, or woodbine, must be secured this month and hung in a dark place to dry, heads down. Ferns can be gathered and dried between sheets of paper, ready for winter bouquets; and tufts of lovely grass may be found in any low meadow land to mix with them. Nuts must be gathered to celebrate Hallowe'en. And the mention of this ancient Scottish festival reminds me of some of the frolics that are perpetrated on that night. Every license is allowed, for are not all the saints abroad, and sanction all we do? A cake baked with a ring, piece of money or thimble: the unfortunate one who finds the thimble will never

be married; the lucky one who gets the money will be rich, and the finder of the ring will be married first. Ducking for apples is favorite sport with children, but not with children of a larger growth. Sitting at your neighbor's door with your mouth full of water and hands full of salt, to hear the name of your husband and pulling cabbage stalks to ascertain whether he will be tall or short, straight or crooked, is one infallible way of finding out this important question. Burning nuts, after giving each a name—one name must be your own; if they burn with a steady flame there is happiness in store for you; if they fly apart with a bang you have not selected the right name.

"To love, to bliss their blended souls were given,  
And each, too happy, ask'd no brighter heaven."

I think, my dear girls, I have made this letter almost too long; but if I have made one of you happier by it by furnishing amusement for you, I am well repaid. — MINNIE MAY.

Minnie May offers a prize of a beautiful silver brooch for the best variety of suitable presents for Xmas, with directions for making if in knitting, crochet or any fancy work. All communications to be in by the 25th October. Write on one side of the paper only, put in an envelope, but do not seal, when 1 cent is all the necessary postage.

#### Recipes and Mode of Making Bread, Currant Loaf, Rolls, Buns, Etc.

[Prize Awarded to Mrs. C. J. Evans, St. William, Ont.]

To have good bread one essential thing is to have good yeast. This is the way I make mine: Take a handful of hops; put them in an agate-ware saucepan, with one quart of water; let boil 15 minutes; have ready three large, boiled potatoes, mashed fine, mixed with two tablespoonfuls of flour, one teaspoonful ginger, one-half cup sugar, and a dessert spoon of salt; mix to a thin batter; then strain the hop water into it; set back on the fire to boil; take off, and when just warm add your yeast to rise.

#### BREAD.

1st. Pare and slice about one pound of potatoes; boil in two quarts of water; mash fine and put through a colander; add flour enough to make a paste; when milk-warm add a cup of yeast.

2nd. In the morning knead into warm flour, adding salt; set near the fire to rise; when light, knead down; when light again, put into loaves; when light, bake one hour and ten minutes.

#### BOSTON BROWN BREAD.

Three cups cornmeal; stir into two cups of boiling, sweet milk; when cold add one cup molasses, one cup of wheat flour, one cup sour milk, one teaspoonful soda, and one half teaspoonful salt; steam three hours.

#### PARKER HOUSE ROLLS.

Two quarts of flour and one pint of milk boiled; one spoon butter, one spoon sugar, one-half cup yeast, and a little salt; make a hole in the flour; put in the other ingredients in the following order:—Sugar, butter, milk, and yeast; do not stir them at all; arrange this at ten o'clock at night; if light in the morning, mix it and set it by in a cool place; if they should get light, knead down again; about three-quarters of an hour before tea roll out; cut into cakes; butter one-half; double over and put in a pan to rise, set near the fire; bake 15 minutes.

#### BUTTERMILK BISCUIT.

One pint buttermilk, four tablespoons thick cream, one teaspoon soda, half a teaspoon salt, and flour to make a soft dough; roll out; cut and bake in a quick oven.

#### CURRANT LOAF.

Take enough bread dough for moderately size loaf, one cup of sugar, a little butter, and one-half cup of currants; mix well, without adding any more flour than can be helped; let it rise; mix down, and put in a pan to rise again; bake with same heat as for bread.

#### BUNS.

Take one pound of hop yeast bread dough, one tablespoon butter, one of sugar, and one cup of currants; mix well together and roll out; cut into cakes; set to rise; bake in a quick oven.

#### GRAHAM BREAD.

Set a sponge the same as for white bread, all but potatoes; when light, mix brown flour in it till it is quite thick; put in a little salt; stir with a spoon; put in a deep bake pan to rise; bake one hour.

#### FRENCH ROLLS.

One tea cup new milk,—have it quite warm—add a little salt and a pinch of soda; stir in flour to make a batter, set on a brick on the back of the stove to keep warm; when light, put in a tablespoon butter add a little more milk and mix into dough; roll into balls; when light, bake from 15 to 20 minutes.

#### Gentlemen's Knitted Gloves.

These gloves will fit either hand. This is desirable for longer wear; but, if preferred, the usual finger outlines on the back of the hand can be marked with silk, in chain or feather stitch, and they are then worn like other gloves.

Take two ounces of three-ply saxony and four No. 16 knitting needles. Cast on 72 stitches, (24 on each needle), and knit once around plain. Knit forty rounds ribbed (k 2, p 2). Now 6 rounds plain; then begin to increase or widen for the thumb, thus:—At the beginning of the first needle, over k 3, over; knit the rest plain. In the same place at the next round: over k 5, over; knit the rest plain. Continue to widen for the thumb in this way until there are 33 stitches between the increased stitches, thus forming the outside thumb gore. Now six rounds plain. Slip the 35 thumb stitches on a thread, and cast on 9 stitches in the place of those slipped off. Complete this and the next round plain.

In the third round from the thumb, narrow twice the first two of the nine stitches cast on and the last two. Narrow in the same place every alternate round until there are but 72 stitches left, or 24 for each needle. Knit 20 rounds plain. Now begin the fingers.

For the first one, take 10 stitches from the first needle and 10 from the last; then slip all the remaining stitches on to a thread. Cast 9 stitches on to a third needle, join the finger stitches and knit around plain until as long as the finger; then narrow off quickly thus: 1st round, knit 2, narrow, all around. 2nd round, plain. 3rd round, k 1, narrow; repeat all around. 4th round, plain. Now narrow all the stitches until one is left. Leave a length of wool and fasten neatly with a needle.

For the second finger, take 9 stitches from the front of the glove and 9 from the back; pick up 9 stitches where they were cast on to make a gore for the first finger; knit these 27 stitches, then

cast on 9 more and join together; arrange these stitches on 3 needles and knit one round plain. In every alternate round narrow the first two and the last two stitches of the gores until there are only 29 stitches left for the finger. Continue and finish this finger like the first.

Third finger is worked like the second.

For the fourth finger, the rest of the stitches are used, and this finger is knit like the others, except that you cast on 9 stitches and pick up 9 from the gore and narrow until there are 25 stitches left for the finger.

For the thumb, take the 35 stitches from the thread and pick up 9 from the gore; work exactly like the fingers, narrowing to 35 stitches.

These gloves are handsome, knitted in black silk.

JENNIE LAWRENCE.

#### How to Dress on \$60 Per Annum.

(Prize awarded to Miss May Ancient, Rawdon, Nova Scotia.)

To many, I have no doubt, this will appear quite an extravagant sum to spend upon dress, for there are those who have not more than half that amount; while others will shake their heads and say emphatically, I could not do it.

Of course the amount required for dress depends entirely upon the position of the individual. There are persons whose occupation makes very little strain upon the clothes; and others whose work occasions a constant wear and tear.

But for the average individual, I think sixty dollars is amply sufficient if—and this is an important consideration—it is properly managed. For where, with order and system, one person could dress well on sixty dollars, another, without that order and system, would require twice sixty.

It is exceedingly unwise to spend money recklessly, buying things just as they strike our fancy, never thinking for a moment whether we could do without the article or not; and having not the least knowledge of how we stand financially.

The wiser plan is to find out exactly what we require for each season; and when going shopping to decide beforehand what we wish to purchase; by doing so we save ourselves and others much unnecessary trouble, and keep within our income.

To manage properly we should keep an account of all our expenditures; by referring to this, we see how many things we could have done without, and are wise in the future.

I shall divide our articles of clothing into four sections:—(1) Undergarments, with shoes and hosiery; (2) Headdress, with laces, aprons and other small articles; (3) Sacque Ulster, or other outer garment; (4) The dress itself.

Undergarments, etc.—To manage the undergarments economically the supply for summer wear should be replenished one year, and that for winter another year; the strain upon the purse will then not be so great as when both supplies make the demand in one year. I would say here that these articles, with the hosiery, should be made if possible, by the wearer, it is much the cheaper and wiser way. I think that the articles under this head would require about one-quarter of the income, namely, fifteen dollars.

Headdress, with laces, aprons, etc.—How much is often spent under this head it is hard to say; those *et ceteras* make such a demand

upon our purse, and we take so little account of them.

For these I would allow seventeen dollars, and probably that sum would be found inadequate, for the name of the articles included in this section is legion; and it is the one which requires the most careful management.

Ulster, Sacque or other outer garment.—For this I would allow ten dollars of the sixty. This would be quite sufficient in some cases; but when very expensive articles are required, such as will last for many years, ten dollars may be put by each year until the sum required is obtained, or we may deny ourselves other articles of dress for one year in order to obtain this one.

The dress itself.—The dress, which to many is the most important article of all, I have left till last, and have left eighteen dollars to be expended upon it.

In the present age, when pretty woollen dress materials are so cheap, when beautiful cambrics, zephyr, prints and similar materials can be had at such reasonable prices, I think eighteen dollars quite sufficient. Two dresses are all that we need buy each year, and two cotton wrappers, supposing, of course, that we have house work to do. One year buying a best winter's dress, the next year a best summer's dress, woollen, and each year lighter summer dress, muslin, zephyr, or whatever may suit our taste. The woollen materials now sold, if treated properly, can be turned and remade, coming in nicely as second dresses.

It is one thing to dress on our sixty dollars, another thing to dress becomingly, to look lady-like. When we have only one or two new dresses a year, we should never have anything striking, which will attract attention either by its design or color. The greatest compliment that can be paid to a lady's dress is when it is said of her, (especially when a gentleman is the speaker,) she looked very nice, but I did not notice what she had on. It means this, the style of dress suited her figure, the colors suited her complexion, and all the colors blended well.

Now that women are becoming more sensible, and we are governed not by what is fashionable, but by what suits us individually, it is a woman's own fault if she does not dress becomingly.

Every woman should study the art of dressing, and learn what styles and colors suits her face and figure. When she has become master of this art and not its slave, dress will not occupy much of her time; and she will then understand rightly its all-importance and its non-importance.

REST.—Few women know what rest means. To throw oneself upon a sofa or chair, with a book or a paper, is not rest, only change of occupation. Rest the mind as well. Sit or lie, and do nothing. Lie flat on the back on a hard surface, close the eyes and try not to think while you rest.

This easy way of keeping sweet corn can be readily tried: When the corn is not too old cut it from the cob and put into a stone jar with one-eighth measure of salt, or more—it cannot be made too salt. Cover and weight. It must always be covered with brine. But a lady found that even her cow wouldn't eat corn thus treated. But later she learned that after being drained out of the brine it must be put at once into plenty of boiling water, boiled ten minutes then drained and put into fresh water for a short time, repeating this the third time, when it is excellent seasoned with butter, pepper and milk or cream with a spoonful of sugar to each quart of corn. Just scald this and then serve.

#### Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES:—October, strikingly suggestive of the possibility of growing old gracefully, in a moral sense, is here yet once again. The forest trees so beautiful in decay, always typify to me of what advancing life may be to those whose spring and summer have been lived under the refreshing and invigorating influences of Divine leading, and are nature's commentary on that scripture which says, "The hoary head is a crown of glory." Without indulging further however in prefatory remarks, I shall at once proceed to give to my nephews and nieces some thoughts over which I have been ruminating for the last few days.

Fairs—International, Industrial, Provincial, Western and Central—have been thronged with visitors since I wrote to you, but I fancy by far the largest percentage of my nephews and nieces have not attended any of these—their day, that of the annual Township Show, being still in reserve. Now it is about this wonderful day that I want to talk. There is a saying that where bees find honey, spiders suck poison; and I think we can apply this saying to the Township or any other show. You see Uncle Tom does not forget what a day that was in the history of his youth, and can speak from experience.

The first great big penny he ever remembers of spending, or in fact of owning, (for in his young days the "weans" did not have money to spend uselessly, and a wise plan it was,) was given him on a "show day," and it was exchanged for about a dozen hard looking specimens of "mixed candies." But let us see about this honey and poison. To begin then, one of the treats of the day is some pocket-money, "all for myself, just to do what I like with it." Now this doing as one likes with money, with those whose ages range from five to fifteen, is one of the most probable ways in which to find poison instead of honey, and let me just tell you that many older people who ought to know better, get the poison too. There is a wheel-of-fortune vagrant—how he does bellow! Just five, or ten, or twenty-five cents to try, and you have a chance of making ten times the amount spent. Now, my boys, there is the poison; supposing you did win, the money would be "ill-gotten gains" obtained by gambling—nothing more or less, call it by what name you may. Turn away from it then, not only for your own sake now, but with the resolve that when you are men and directors of such institutions, no such vagrants shall be allowed on or near the grounds to tempt those who are young and unsuspecting. Boys like to try "just for the fun of the thing," you know—but let my nephews be true to their colors and boldly stamp on all such dishonest ways and means.

No sooner is the wheel-of-fortune out of sight than the cheap counter of some publican, who wants to palm off his poisons—literal poison this time—as respectable drinks, stands in the way. Now if there is a good refreshment stand provided by some reliable parties, I have not a word to say against you refreshing yourselves, but do not for the sake of a good cause, spend even the smallest amount to countenance that which leads men to be the slaves of self—in plain words do not spend your money at the counter where in addition to so called "temperance drinks," sold beer, wine, brandy or any other intoxicat-

ing liquors. Seek the honey my boys, shun the poison, be men every inch of you and boldly "keep to the right," as true Canadians should. To both my nieces and nephews I would say leave untouched the poison that lurks around cheap jewelry stands and others of that class. 'Tis only throwing away money which might be used to better purposes. I cannot turn to the "honey" side of the question without a special word of warning to my nieces. I was at a picnic not long ago at which two maidens, really bright, clever, and in some ways attractive girls, of the respective ages of fourteen and fifteen, drew my attention. Instead of behaving as two sensible school girls should, they assumed all that not a very modest young lady of twenty might—the great aim and object of each apparently being to have a "fellow" (I use their phraseology) for the day. Now, Uncle Tom is willing to allow a great deal for the waywardness of little maidens, especially those from thirteen to seventeen, for his heart, fatherly, turns to them—after that they are young ladies and lose much of the beauty of the unfolding bud; but just why mothers should sit and look with undisturbed mind at their blooming daughters developing into pert, precocious, "young ladyfied" specimens of their sex is more than he can understand. Now to apply this. The annual Township Show is just the place for maidens, whose ages range from thirteen to sixteen or seventeen, to show their good sense by not going around hunting beaux. I tell you, my nieces, by such conduct as is described above you lose in the estimation of all right-minded people—then keep your maiden modesty, not of course to a prudish extent, just be free, and natural, but do not, I beg of you, let your conduct savor of poison rather than of honey.

And now for the honey side of the question. Boys, go around amongst the sheep, cattle, horses, pigs, poultry and implements, everything in your line of work. Seek to ascertain why such an animal or bird is superior to others of its class. If you ask questions respectfully, you will usually get a civil answer. Then go home with the resolve that some day your stock, or poultry, or fruit, will stand second to none in the particular line of farming your inclination leads you. As for you, girls, it is a worthy aim to seek to be extra good butter-makers, or bread-bakers, to pickle most tempting vegetables, or can fruit in such a way that the mouth waters to taste it; to use skilfully the brush of the amateur artist, or manufacture some of those (to me) wondrous combinations known as "fancy work" for home adornment: therefore it is worth your while to take careful notice of your special department.

And now, my bees, with the honey collected you may start homeward, adding at the last your purest, sweetest drop—even that distilled of unselfishness—in the form of some of the finest peaches, pears, grapes, or similar dainties you can find, for the mother, sister, brother, or

aged grand-parent, who has stayed at home that all the rest might go and enjoy themselves.

UNCLE TOM.

On His Wedding Tour.

The following incident recently occurred at a New York up-town hotel. A young man, with the newly-conferred title of husband shining in face and manner, was bargaining for a room. "I expect prices to be none too low," he said. "Pa was here forty years ago, and put up at the United States Hotel, and paid a \$1 a day for nearly a week. He told me I would most likely find that rates haven't dropped much, so I expect to pay pretty steep, you see. But we are just married, and want everything nice. Give us a first-class room—the best you've got. Be sure there's light and a fire and everything comfortable in it. Oh, yes, and a place to wash! No goin' to the pump to wash to-morrow morning for me."

A Landlady's Mistake.

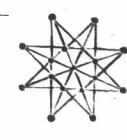
Dumley—(who has been asked to carve the duck, and is meeting with poor success), "Whew!"

Landlady—"Isn't the knife sharp, Mr. Dumley, I had it ground to-day."

Dumley—"The knife is all right, Mrs. Hendricks; you ought to have had the duck ground."

Puzzles.

1-ILLUSTRATED REBUS.



V  
AM  
PALADIN  
SECURE  
TAPIS  
WEST

3-1. Rake. 2. Drill.  
3. Reaper. 4. Fork. 5.  
Axe.

2-STAIR PUZZLE.

\*\*\*\*\*  
\*\*\*\*\* The steps form five  
\*\*\*\*\* half squares.  
\*\*\*\*\*  
1. Quick. 2. A city in  
\*\*\*\*\* Italy. 3. Offspring. 4.  
\*\*\*\*\* To blot out. 5. To  
\*\*\*\*\* oscillate. 6. To work.  
\*\*\*\*\* 7. A bottle. 8. To load.  
\*\*\*\*\* 9. A girl's name. 10. A  
\*\*\*\*\* kind of herb. 11. Part  
\*\*\*\*\* of the body. 12. Frozen  
\*\*\*\*\* water. 13. To jump.  
\*\*\*\*\* 14. Scarce. 15. Temper.  
\*\*\*\*\* 16. A prefix. 17. In  
\*\*\*\*\* cricket.

HENRY REEVE.

3-TRANSPPOSITION.

Cines doG sah sletb oyu twith teh snema  
Fo pinbleg steoh ni dene,  
Vidre ton eht reredanw mofr eht rodo,  
Tub meth tobb lethoc dan defe.

HENRY REEVE.

4-BURIED RIVERS.

1. Frank got a yacht last night.  
2. The sloop Ottawa arrived in port.  
3. Our butcher comes round on Monday.  
4. The seats and desks in our school are painted.  
5. Will did win a prize at school.  
6. Oh! ma, kitty caught a mouse just now.

SNOWBIRD.

5-CROSSWORD ENIGMA.

My first is in dismal, not in bright.  
My second is in citron, not in melon.  
My third is in melancholy, not in sad.  
My fourth is in tardy, not in slow.  
My fifth is in honey, not in wax.  
My sixth is in cent, not in dollar.  
My whole will name three poets.

A. T. REEVE.

6-DROP VOWEL PUZZLE.

Th-nk -f s-m-th-ng k-nd t-d-  
N-v-r m-nd -f -t-s sm-ll  
L-ll- th-ngs -r- l-st -n v-w  
B-t G-d s-s -nd bl-ss-s -ll.

No. 7-Not original.

Cut off my head, I am singular.  
Cut of my tail, I am plural.  
Cut off my head and tail,  
And though my middle's left,  
There is nothing there.  
My head is a sea.  
My tail is a river.  
My whole is good to eat.

A. HOWKINS.

8-CRYPTOGRAM.

Geb lrxpbx nk geb mlkb gn ab,  
Hb hbryb hlcc jumnox rmm npo nhe;  
Res le geb klbms nk sbxglez,  
Hb obrw rx hb cryb xhbe.

FAIRBROTHER.

9-DOUBLE LETTER ENIGMA.

In sabre, but not in gun.  
In daughter, but not in son;  
In care, in dare, in snare,  
In embrace, but not in squeeze.  
In worry, but not in tease.

If you would solve this puzzle,  
To a fruit store go in spring,  
And you will find this somewhat red  
And sour little thing.

FAIRBROTHER.

10-NUMERICAL ENIGMA.

My 11, 10, 8, 7, 6, 1, is thick wood.  
My 2, 3, 13, 4, is part of a fish.  
My 16, 15, 9, is a small animal.  
My 14, 17, 12, 1, 5, means quickly.  
My 17 letters compose a large tract of land in the  
eastern hemisphere.

SNOWBIRD.

Answers to September Puzzles.

1-INDR F 2 6 I O K  
2-1. Rake. 2. Drill.  
3. Reaper. 4. Fork. 5.  
Axe.  
BLACK  
LACK  
ACT  
SLACK  
LARK  
ART  
SMACK  
MARK.  
ARC  
CRACK  
RANK  
ANT  
BLOCK  
LANK  
ONE  
CK  
K  
9-Canary, Parrot, Carrot.  
10-Piety, piet, pie, pi.  
5-One by one the flowers decay,  
Scentless leaves bestrew the way;  
All the beauty of the bowers  
Fading with the passing hours.  
6-He who gathers roses must not fear thorns.  
7- We look along the shining ways,  
To see the angel's faces;  
They come to us on darkest days,  
And in the bleakest places.  
8- A small thing well finished,  
Will please those that see,  
But a large one half blundered,  
Brings sorrow to thee.  
11- Men's evil actions live i brass,  
Their virtues are writ in water.  
12-1. Herring. 2. Cat. 3. Trout. 4. Salmon. 5.  
Pike. 6. Bass.

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

Helen Connell, Frank Riddle, A. Howkins, Leith Cowan, Robert Wilson, Carrie Sheeres, Emma Dennee, Libbie Hindley, A. Russell Boss, W. B. Anderson, A. T. Reeve, Cecelia Fairbrother, L. McCagert, Lila G. Edwards, Henry Reeve, Jessie Stuart, Geo. Green, Emily Orde, Chas. Pierce, T. H. Murray.

Its Usefulness Ended.

"Hi there, sir," shouted a Florida landlord to a departing guest who was rushing for the train, "you've dropped your pocket-book."

A Natural Born Politician.

Mother—"Johnny, don't you hear me? Go and bring me an armful of wood this instant. What are you and Agnes doing?"

Varieties.

What is harder to beat than a boy you can't catch? "Here we come," exclaimed the farmer who undertook to train a young steer by yoking himself up with it, "here we come, blame our fool souls. Won't somebody head us off?"

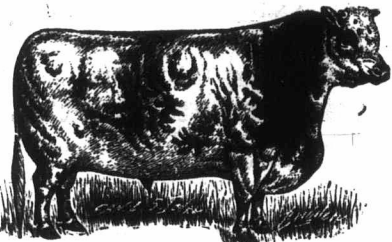
NEW ADVERTISEMENTS.

SPECIAL NOTICE.

THE FARMER'S ADVOCATE refuses hundreds of dollars offered for advertisements suspected of being of a swindling character. Nevertheless, we cannot undertake to relieve our readers from the need of exercising common prudence on their own behalf.

Auction Sale of Shorthorn Cattle

On Thursday, the 1st of November.



The Jessamine sire, large in frame, heavy fleshed, short legs and excel. lent milkers.

That celebrated bull Invincible, aged three years, also five bull calves and four yearling heifers, his get, also five Shorthorn cows, etc., etc.

J. R. MARTIN'S GREAT ANNUAL AUCTION SALE

Durham and Grade Shorthorn Cattle SHEEP AND PIGS, HORSES of ALL KINDS

THURSDAY, 18th DAY of OCTOBER, and the following day if necessary. Catalogues and Breeding List furnished at Sale.

Breeders' Great Fall Sale

WESTERN FAIR GROUNDS, LONDON, - - - - CANADA, October 9th, 10th, 11th, 12th.

ALL CLASSES OF HORSES.

Spring sale pronounced by all a success in every particular. Breeders and farmers enter at once to be early on catalogue.

IMPORTANT PUBLIC SALE Hereford and Shorthorn Cattle

GUELPH, ONT., CANADA, Wednesday, Thursday and Friday, November 7-9 during the week preceding the Chicago Fat Stock Show.

MR. F. W. STONE proposes to offer for sale on the above dates about 150 to 180 head of his pedigreed Herefords and Shorthorns.

SALE OF CATTLE AND HORSES.

ON THE 18TH OF OCTOBER, Will be sold about 70 head of Shorthorns, registered in D. H. B., equal in pedigree to those registered in England, and 17 horses, preparatory to the owners leaving for China.

DOUGLAS H. GRAND, AUCTIONEER. Pedigreed Live Stock a specialty. Sales held any part of the country.

ONLY \$2000 For 150 Acres of Good Farming Lands within gun shot of the flourishing village of Newbury and the Grand Trunk Railway; all fenced, well drained, 30 acres cleared, balance bush land.

The Chatham Mfg. Co. (Limited), CHATHAM, ONT.

THE DAISY CHURN was awarded the Silver Medal and First Prize over all competitors. AGENTS WANTED in every town in the Dominion.

9 Cords in 10 HOURS Runs Easy NO BACKACHE. ROLLED BY ONE MAN. Greatly improved. Also TOOL for filing saws whereby those least experienced can not make a mistake.

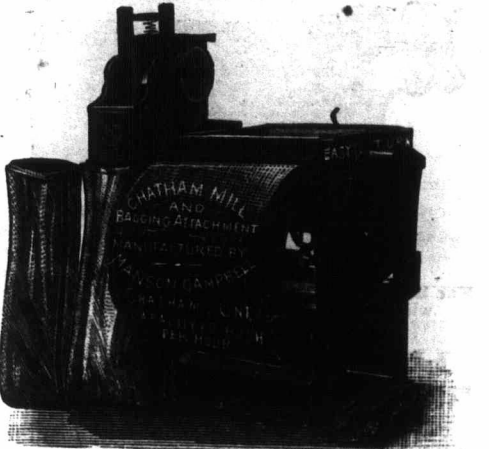
2,300 SOLD IN 1887. The Improvements for 1888 are as follows: To the large number of screens and riddles furnished last year I have added four zinc screens, making 17 in all.

FOR SALE, One of the Best Farms in Canada

Two Miles from Norwich Station, Being composed of the north parts of lots 8 and 9, 3rd concession of North Norwich, 104 acres; soil, rich clay and sandy loam; 40 acres underdrained, with drains 4 rods apart; well watered, highly manured and under the highest state of cultivation.

THE ROSS Celebrated ENSILAGE -AND- Fodder Cutters. Send for our Illustrated Catalogue and Treatise on Ensilage and Silos. E. W. ROSS & CO., SPRINGFIELD, OHIO, U. S. A.

THE CHATHAM FANNING MILL



The above cut represents a new machine which is an attachment for bagging the grain as it comes from the Fanning Mill. It is complete in every respect, and will give the best of satisfaction to those who use it.

MANSON CAMPBELL, Chatham, Ont. MASSEY MFG. CO. of Toronto, 66 McGill St., Montreal, Sole Agents for the Province of Quebec. VAN ALLEN & AGUR, Winnipeg, Man., Sole Agents of Manitoba and N. W. T.

## PRIZES.

### \$1,500 WORTH of STOCK GIVEN AWAY!

For Procuring New Subscribers to  
the FARMER'S ADVOCATE.

### The Most Liberal Premiums Ever Offered

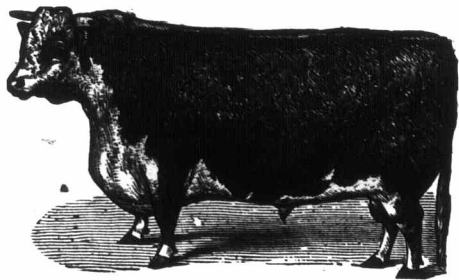
BY ANY PUBLISHER IN CANADA.

#### CONDITIONS:

- 1st. Cash must accompany all lists of names.
- 2nd. In all cases to secure these prizes the names sent in must be new subscribers. Renewals will not count.
- 3rd. Competitors may send in their lists weekly if they so desire. The party who first sends in the full number of names will secure the prize.
- 4th. A Cash Commission will be allowed to all who are not prize winners: From 10 to 20 names, 25cts. each; 20 to 50 names, 35cts. each; 50 to 100 names, 45cts. each; 100 to 200 names, 50cts. each.

All the animals we offer are of good quality, and are registered or capable of being registered. All are of good families and have good ancestors. The Poultry will be equally good.

#### Hereford Bull---Value \$150.



For 200 New Names, accompanied with \$200, we will give a pure-bred Hereford Bull, of fine breeding and quality, bred by

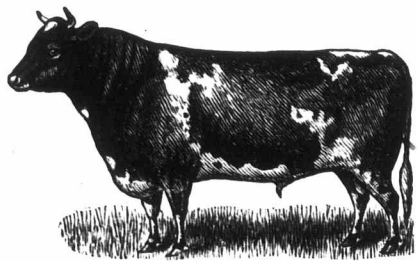
#### R. J. MACKIE.

Springdale Farm, Oshawa, Ont., who is an extensive breeder and importer of

HIGH QUALITY AND FASHIONABLY BRED  
HEREFORDS.

For a description of his herd see June number of the FARMER'S ADVOCATE, page 106. The bull given will be one of Mr. Mackie's finest young animals, and will be fit for service when shipped.

#### Ayrshire Bull---Value \$100.



For 150 New Names, accompanied by \$150, we will give a first-class Ayrshire Bull from the noted prize-winning herd of

#### THOMAS GUY,

—BREEDER OF—

Ayrshire Cattle, Leicester and Southdown Sheep,  
and BERKSHIRE PIGS.

SYDENHAM FARM, OSHAWA, ONT.

A review of his herd will be found in the September number.

#### Shorthorn Bull---Value \$150.



For 200 New Names, accompanied with \$200, we will give a pure-bred Shorthorn Bull, bred by

#### JAMES GRAHAM,

Port Perry, Ont., a very extensive breeder of

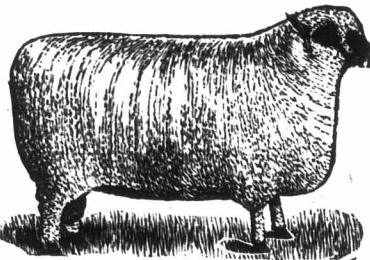
SHORTHORNS and COTSWOLDS

His herd now numbers upwards of 100 head.

Highly bred milking strains are his specialty

The bull we will give will be one of his best young animals, and will be highly bred, of good quality and fit for service when sent out. For particulars of this herd see September number of the FARMER'S ADVOCATE.

#### Shropshire Ram and Ewe Lamb---Value \$40



For 80 New Names, accompanied with \$80, we will give a first-class pure-bred Shropshire Ram and Ewe Lamb, bred by

MESSRS. JOHN MILLER & SONS, BROUGHAM, ONT.

the extensive Breeders and Importers of

CLYDESDALES, SHORTHORNS, SHROPSHIRE.

For many years Mr. Miller, sr., has been one of the most famous breeders in America.

#### Shropshire Ram Lamb---Value \$25

For 50 New Names, accompanied with \$50, we will give a good pure-bred Shropshire Ram Lamb from the famous flock of

John Dryden, M.P.P., Brooklin, Ont

Importer and Breeder of

Cruickshank Shorthorns, Clydesdales, Shropshire Sheep

and Black Minorca Fowls. Show animals always on hand. See May ADVOCATE, page 128 for description of this herd.

#### Yearling Cotswold Ram---Value \$40.



For 80 New Names, accompanied with \$80, we will give a show Yearling Cotswold Ram, or a first-class pair of Lambs as the winner may wish, from the well known Cotswold flock, the property of

JOSEPH WARD, MARSH HILL P. O., ONT.,

Breeder and Importer of first class

SHORTHORNS, COTSWOLDS, SHROPSHIRE

For many years Mr. Ward's flock has been one of the best in Ontario.

#### Cotswold Ram Lamb---Value \$15.

For 30 New Names, accompanied with \$30, we will give a good pure-bred Cotswold Ram Lamb, bred by

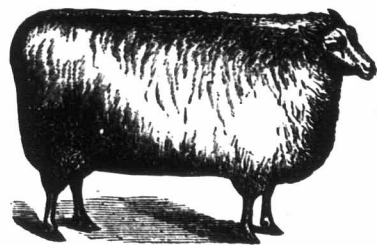
David Birrell, Greenwood, Ont.,

Breeder and Importer of

CLYDESDALES, SHORTHORNS, COTSWOLDS

For description of herd and stud see June number of the FARMER'S ADVOCATE, page 107.

#### Leicester Ram Lamb---Value \$15.



For 30 New Names, accompanied with \$30, we will give a first-class pure-bred Leicester Ram Lamb, descended from imported stock; bred by

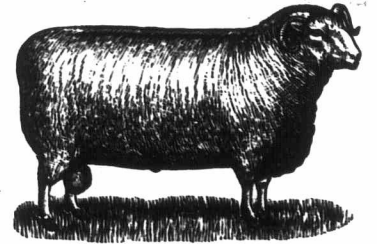
ALEXANDER JEFFREY, WHITBY, ONTARIO.

—BREEDER OF—

Clydesdales, Shetlands, Shorthorns  
and Leicester Sheep.

For description of stock see September number.

#### Dorset Horned Ram Lamb---Value \$30.



For 60 New Names, accompanied with \$60, we will give a pure-bred Dorset Horned Ram Lamb, bred by

Capt. Wm. Rolph, Markham, Ont.,

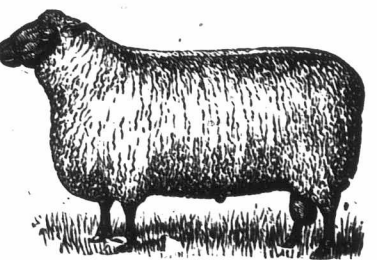
BREEDER AND IMPORTER OF

#### JERSEYS

OF THE MOST NOTED FAMILIES; also breeder of  
Clydesdales, Shetlands and Dorset Horned Sheep.

For description of his herd see July number of the ADVOCATE, page 202

#### Hampshire Ram Lamb---Value \$30.



For 60 New Names, accompanied with \$60, we will give a pure Hampshire Ram Lamb of good quality, bred by

MR. JOHN ADAMS, PORT PERRY, ONT.,

—BREEDER OF—

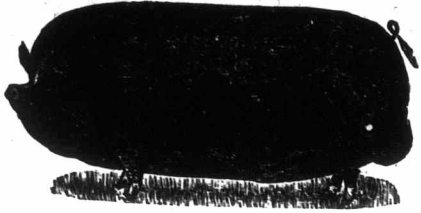
Shorthorns, Clydesdales, Shropshire & Hampshire Sheep  
and BERKSHIRE SWINE.

See sketch of Ambleside Farm in July number, page 202.

#### Black Minorcas---Value \$7.

For 10 New Subscribers we will give a pair of Black Minorcas, bred by Mr. John Dryden, M. P. P.

**Berkshire Boar--Value \$30.**



For 60 New Names, accompanied by \$60, we will give a Berkshire Boar, fit for service, bred by

**J. G. SNELL & BRO., EDMONTON, ONT.**

They have for sale a good lot of young pigs from two to three months old by the prize-winning boars

- ARE SOVEREIGN (490),**
- LORD DERBY (486),**
- BARON VON BISMARCK (496),**

and out of first-class recorded sows. Prices right. In the last six years their Berkshires have won three-fourths of the first prizes offered at the leading shows in Ontario.

**BERKSHIRE SOW--VALUE \$30**

six months old, or a pair of Berkshire Pigs, eight weeks old, same value, presented by

**J. C. SNELL, EDMONTON, ONT.,**

Importer and Breeder of

**Shorthorns, Cotswolds and Berkshires**

whose motto is "A good beast with a good pedigree." Mr. Snell ships stock to order and guarantees satisfaction. See August number of the **ADVOCATE** for a description of Willow Lodge.

**Pair of Pure Berkshire Pigs--Value \$40.**

For 80 New Names, accompanied by \$80, we will give a pair of pure Berkshire Pigs bred by

**WM. LINTON, AURORA, ONT.**

BREEDER AND IMPORTER OF HIGH-CLASS

**Shorthorns, Berkshires and Cotswolds.**

Also for 10 New Names, we will give a pair of Black-breasted Red Game, from Imported Stock.

See illustration of bull and history of his herd in August number.

**POULTRY.**



For 10 New Names we will give a pair, and for 6 New Names one Cock, of any of the following varieties:

- Light Brahmas, Dark Brahmas, Langshans, W. F. B. Spanish, Colored Dorkings, Golden Sebright Bantams, Houdans, Rouen Ducks, Pekin Ducks. Valued at \$7 per pair.

For 20 New Names, we will give a pair, and for 12 New Names, one Cock.

**Mammoth Bronze Turkeys--Value \$9.**

ALL BRED BY

**WM. HODSON, BROOKLIN, ONT.,**

for twenty years a successful breeder of the popular varieties of land and water fowls. Send to him for prize and price lists.

**White Fantail Pigeons--Value \$7.**

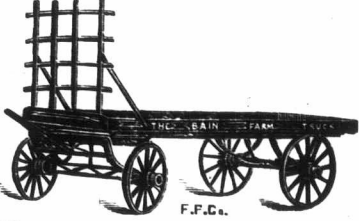
For 12 New Subscribers.

We will send to any boy or girl a beautiful pair of White Fantail Pigeons directly descended from Mr. Hodson's pair which took the Silver Medal at the American Centennial of 1876.

**ADDITIONAL STOCK PRIZES.**

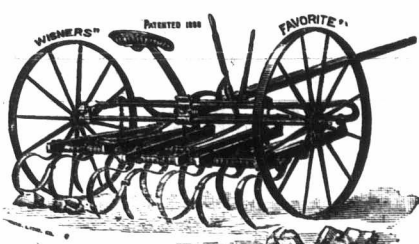
We will give as subscription prizes young animals, either male or female, of any of the following breeds: Shorthorns, Herefords, Galloways, Ayrshires, Jerseys, a bull or heifer (of fair quality), purely bred, for 100 new subscribers, accompanied by \$100. We can also supply home-bred or imported stock of any desired breed, age or quality. In all cases we will guarantee satisfaction as to the quality, breeding and value of the animal. We will give very liberal terms to agricultural and other societies, and farmers in new sections; special inducements in sheep and poultry. Write for particulars. We intend distributing large quantities of new varieties of seed grain among our subscribers. Special notice of this will be given during the winter months.

**BAIN FARM TRUCK--VALUE \$65.**



For 110 new names, accompanied by \$110, we will give one of the celebrated Farm Trucks manufactured by the Bain Wagon Co., Woodstock, Ont. This Truck gives universal satisfaction and should be on every farm.

**Patent "Favorite" Iron Frame Section Cultivator--Value \$36.**



For 65 new names, accompanied by \$65, we will give one of the above cultivators manufactured by J. O. Wisner, Son & Co., Brantford, Ont., manufacturers of Grain Drills and Seeders, Hay Rakes and Tedders, Spring Tooth Harrows and Cultivators.

**CHATHAM WAGON--VALUE \$65.**



For 110 new names, accompanied by \$110, we will give a Wagon manufactured by the Chatham Mfg. Co., of Chatham, Ont. This is a very popular Wagon and is known all over Canada.

**SULKY PLOW--VALUE \$40.**

For 75 New Names, accompanied by \$75, we will give the Western Sulky Plow, manufactured by

**COPP BROS., Hamilton, Ont.**  
Send for cuts and information.

**FANNING MILL--VALUE \$35.**

For 65 New Names, accompanied by \$65, we will give one of the Famous Fanning Mills, with Bagging Attachment, manufactured by

**MANSON CAMPBELL, of Chatham.**

**STOCK SCALES--VALUE \$50.**



For 90 new names, accompanied by \$90, we will give one of Osborne & Co.'s Standard Portable Stock Scales; capacity 4,000 lbs. Osborne & Co., Hamilton, manufacturers of all styles of Standard Scales. Send for Illustrated Price List.

**Improved Halliday Standard Wind Mill, VALUE \$75.**



For 125 New Names, accompanied by \$125, we will give a 10 Foot Improved Halliday Standard Wind Mill manufactured by the

**ONTARIO PUMP CO., TORONTO,**

Manufacturers of Pumping and Geared Wind Mills, 1 to 4 horse power, also I. X. L. Feed Mills, Haying Tools, and Iron and Wood Pumps. Send for Illustrated Catalogue.

**Winchester Repeating Rifle--Value \$25.**

For 40 New Names, accompanied by \$40, we will give a Model Winchester Repeating Rifle or an Imported English Erench-loading Shot Gun of first-class pattern and make, clamated steel barrels, left barrel choked, top snap, pistol grip, rebounding locks and rubber butt.

**A GRAND GUN--VALUE \$40.**

For 60 New Names, accompanied by \$60, we will give a very fine English Erench-loading Shot Gun, called the New Model; it has fine Damascus barrels, left barrel full choked, right half choked, very finely finished throughout.

Those winning the Guns may have any size of bore they desire. All the Guns are of fine quality and finely finished.

**A GRAND REVOLVER--VALUE \$12.**

For 20 New Names, accompanied by \$20, we will give a Smith & Wesson Double Action, Self-cocking, Full Silver-plated, 32 Calibre Revolver.



**PROVIDENT LIFE & LIVE STOCK ASSOCIATION**

Chief Office 47 Arcade, Toronto.

**INCORPORATED--A MUTUAL BENEFIT ASSOCIATION**

In the Live Stock Department, two-thirds the loss by death of the live stock of its members through disease or accident; also for depreciation in value for accidental injury. Those interested send for prospectuses, claims paid, etc. Reliable Agents wanted.

**WILLIAM JONES, SECRETARY.**

**The Dominion Farmers' Council.**

This organization will re-open its meetings--which are held monthly from October to June on every third Thursday of the respective months--on Thursday, the 18th of this month, at 1 p. m. The programme for this meeting will be extremely interesting, comprising, among other things, the report of the committee sent by the Council to the Ontario Agricultural College.

The Council, an entirely independent organization, is composed of the most progressive farmers residing within reasonable distance to the city of London (some members coming in regularly on the train), and forms the head of numerous amalgamated clubs in various portions of the Dominion. Its object is to advance the interests of the farmers without Government assistance, claiming that their perfect freedom and independence is of more value to them than any Government grant.

Persons desiring to benefit by the information disseminated by the Council, or wishing to assist it in its noble work, can become members at any time. Those wishing to organize new clubs will be furnished with pamphlets to guide them in this work on application to the Secretary of the Council, A. Lehmann, London.

**STOCK GOSSIP.**

The proprietor of the FARMER'S ADVOCATE has done more, privately, by telegram and correspondence, to prevent the introduction and spread of contagious diseases than has appeared in the ADVOCATE. He has, so far as practicable, endeavored to check the spread of tuberculosis as well as all other stock diseases.

H. J. Davis, Woodstock, Ont., has now a herd of 16 Scotch Shorthorns. At the head of his herd stands Roan Prince, one of those grand show bulls imported by Mr. Arthur Johnston, Greenwood. Mr. Davis has recently been very successful in making sales, especially of Berkshires.

Mr. Peter Arkell, Teeswater, Ont., has sold within the last month 26 Oxforddowns, as mentioned below: Six go to the "Model Farm," Mr. Frank Wilson, of Jackson, Michigan, bought 16, with which he was very successful at the recent Buffalo Show. The remainder were bought by Canadians.

Mr. D. DeCoursey, Blenheim, Ont., showed this year for the first time at the large fairs, and, considering the strong opposition, did very well. His specialty is Chester Whites—a very popular breed in many of the great pork packing states of the American Union. His prices for young pigs are very reasonable.

Notwithstanding the dry weather my cattle are all doing well. One of my cows, Minnie, has just dropped a fine bull calf, sired by Sir Charles. He is a promising youngster. My cows are all supposed to be in calf to him. They will all be sold at my sale on October 17th, of which notice was given in the advertising columns of the ADVOCATE.—HUGH THOMSON, St. Mary's.

**Sale of Stock at the Ontario Experimental Farm.**

The tenth annual sale of purebred and grade stock was conducted at the College Farm, Guelph, on September the 5th. There was a very fair attendance considering the small number of stock advertised. Less than thirty cattle, composed of representatives of nine breeds, and about sixty-three sheep, divided into nine different breeds, also nine Berkshire pigs of various ages, were sold.

The cattle and pigs were in good condition, but not fat; none of the animals were specially fitted for sale. The sheep were in too low condition to sell well, and were in no way prepared for sale, not being washed or trimmed. Several of them were old, and but few of them were of first-rate quality. The lambs were small. The pigs were a fair lot.

The first animal sold was a Shorthorn bull calf nearly seven months old. He was rather promising. Got by Rob Roy (45484), dam Lady Belle 5th. He brought \$101.

The next was the large imported roan cow, Mademoiselle, bred by Wm. Duthie, Collynie, Scotland. She is a fine fleshy cow, but a doubtful breeder; now in her eleventh year. She brought \$70.

Lady Belle 5th, bred by F. W. Stone, Guelph, a rather nice white cow but small. She is nearly ten years old, and is affected by growth on her face. Was well sold at \$72.

Three Herefords came next—two young bulls and the imported cow, Bloomer. The three brought \$214, only a price for one of the bulls. They were in good flesh, a nice lot and well fed, but Prof. Brown, for some unaccountable reason, had never recorded them, and the time has now passed when the society will receive them, therefore they were of no more value to the breeders of Herefords than grades. Prof. Mills will hereafter promptly register all eligible animals.

The imported Devon cow, Emerald [928], was sold for \$49.

An imported Angus Poll cow, bred by John Grant, Auldie, Scotland, and selected by Prof. Brown, was sold for \$63. Mr. Brown also made a blunder in buying and importing this cow. She was red instead of black, and was, therefore, not eligible to record, and was only worth beef price. She was a fairly good cow, in good condition, weighing 1,400, and at \$63 brought 4½¢ per lb. If she had been of the right color and properly recorded she should have brought \$100 more than she did.

The imported Galloway bull, Stanley 3rd of Drumlaugh, (1799), now 6 years old, was sold for \$62. He was of fair quality but small.

Three other Galloways were sold, a yearling bull, a heifer calf and an imported cow, for \$104, making an average for the Galloways of \$41.50.

Three Ayrshires were sold, a yearling bull, an imported cow and a calf. The lot brought \$122.

Four purebred Holsteins, viz., the imported bull Advance, and the imported cow Mahala and two young animals, bred at the Experimental Farm, brought \$83.

An imported Guernsey bull and cow was sold for \$35 and \$46 respectively.

The imported Jersey bull, St. Mary's Boy, was sold next for \$29, and a heifer got by the above bull and out of the imported cow Rosie, brought \$44.

The Jerseys, like many of the other animals, had not been recorded at the proper time, therefore they sold at grade prices. If they could have been recorded they would have sold well.

The sheep ranged in price as follows:—5 Leicesters from \$7 to \$14; 8 Cotswolds, \$11 to \$19; 2 Lincolns, \$3 to \$4; 5 Cheviots, \$4.50 to \$5.50; 18 Oxford, \$9 to \$20; 13 Shropshires, \$15 to \$45; 2 Hampshires, \$11 to \$11.50; 7 Southdowns, \$4.50 to \$16; 2 Merinos, \$3 each.

Six young Berkshire pigs from \$4.50 to \$9.50. Two young sows, one in pig, \$14 and \$26 respectively. The stock bear, Shamrock [187], sold for \$14.



KINGSTON, ONT.

Graduating courses in Commercial Science, Shorthand, Typewriting and Telegraphy. School of Penmanship in connection. Particulars sent free.

McKAY &amp; WOOD,

274-d PRINCIPALS.

**Money-Making Positions**

secured by taking a course at the

ST. CATHARINE'S

**BUSINESS COLLEGE**

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Fellow of the Chartered Accountants  
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THE DIRECT ROUTE BETWEEN THE WEST AND ALL POINTS ON THE LOWER ST. LAWRENCE AND BAIE DE CHATELAIN, PROVINCE OF QUEBEC.

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NEW AND ELEGANT BUFFET SLEEPING AND DAY CARS RUN ON THROUGH EXPRESS TRAINS BETWEEN MONTREAL, HALIFAX AND ST. JOHN.

All the Popular Summer Sea Bathing and Fishing Resorts are along this Line.

CANADIAN-EUROPEAN MAIL AND PASSENGER ROUTE.

Passengers for Great Britain or the Continent, leaving Montreal on Thursday morning, will join outward mail steamer at Rimouski the same evening.

The attention of shippers is directed to the superior facilities offered by this route for transport of flour and general merchandise intended for the Eastern Provinces and Newfoundland, also for shipments of grain and produce intended for the European market.

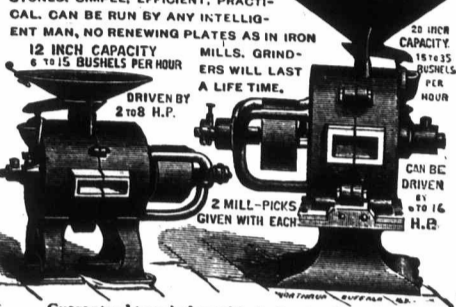
Tickets may be obtained and all information about the Route, Freight and Passenger Rates on application to ROBERT B. MOODIE, Western Freight and Passenger Agent, 93 Rossin House Block, York Street, Toronto.

D. POTTINGER,  
Railway Office, Chief Superintendent.  
Moncton, N.B., 28th May, 1887. 267-y



# KEEP YOUR ENGINE AT WORK, INCREASE YOUR EARNINGS

## STANDARD CHOPPING MILLS,



Guaranteed to grind any kind of grain, fine or coarse, equally as well, as a four foot mill stone. WATEROUS ENGINE WORKS CO., BRANTFORD, CANADA.

## STANDARD CHOPPER

(earning \$8 to \$10 per day grinding at farmers' barns as you would thresh),  
A SHINGLE MILL,  
LATH MILL,  
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for basket stuff, etc., or our

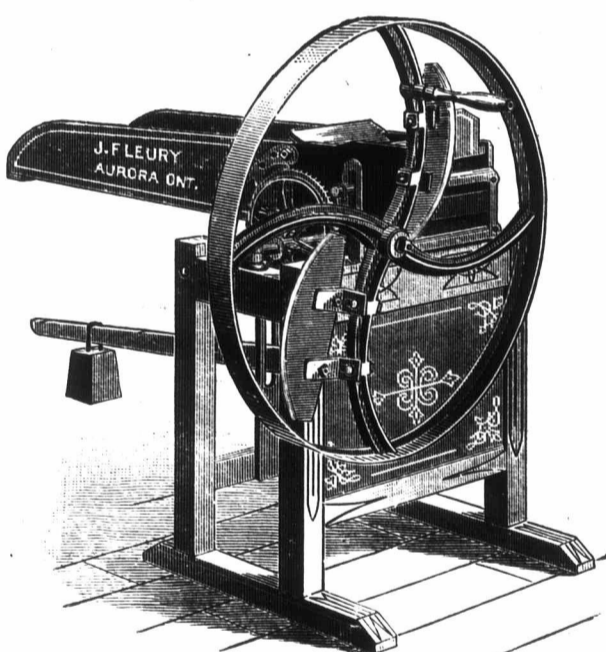
## No. 0 SAW IRONS

the cheapest practical saw mill built.

All easy of management, requiring small capital when you have your engine.  
SEND FOR CIRCULARS.

### Waterous Engine Works Co., Brantford, Canada.

# FARMERS, CUT THIS OUT.



OUR 10-INCH MOUTH  
(NO. 2)  
**STRAW CUTTER**

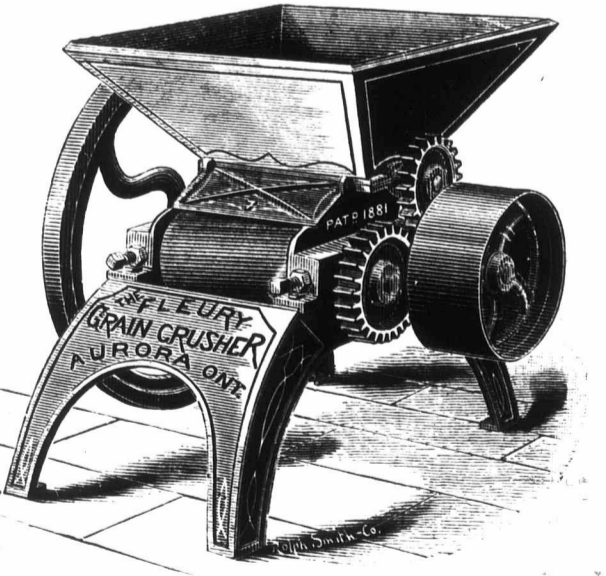
used chiefly by hand but equally satisfactory by power.

PRICE, . . . . \$25.

12-inch mouth Cutter (No. 3), \$30, or with four knives, \$34.  
Power Cutters, ungeared, \$46, or geared, \$50.

These machines all run by hand, rod or belt; cut four lengths; are simple, strong and well fitted and finished in every way, and do more work with same power than any other style of cutter.

This cut represents our  
"Roller Process" Grain Crusher.



Same in principle as rollers now used in the best equipped and most modern grist mills. Will crush from 25 to 60 bushels per hour, according to the sort of grain and power used. Is CHEAPER in first cost and to keep in running order THAN ANY OTHER sort of crusher or grinder. No plates to renew every two weeks. NOTHING about it to WEAR OUT within ten years. PERFECTLY built of BEST material. No farmer who has one would be without it, or exchange for any more expensive machine. Save cost of grinding at mill and toll.

Price, single geared (like cut), \$40; do., jack geared, \$50.

## J. Fleury's Sons,

AURORA, ONT.

Correspondence solicited. Good agents (only) wanted.

Patent Reversible Root Cutter.

### STOCK GOSSIP.

Don't forget Hugh Thomson's sale of Durhams on October 17th.

Wm. Major & Son, of Whitevale, Ont., have this year imported fifty-six Shropshire sheep—twenty ewes from the flock of J. Everell. Thirty-four ewes and two rams were selected from Mr. A. Mansell's flock. Included in this lot was the first prize ram at Bourmouth. They also imported two Clydesdale stallions and three fillies.

Mr. Thos. McCrse has recently imported thirty Galloways—five bulls and twenty-five heifers. A draft of them was shown at Kingston, Toronto and London exhibitions and were much admired. Ten of the heifers are from the celebrated herd of the Duke of Buccleuch, Drumlaig Castle; others are from the herds of Capt. F. E. Villiers, Closeburn Hall; R. & J. Shennan, Balig; Thos. Biggar & Sons, Dalbattie; Jas. Cunningham, Farbreoch, and others. Dr. McEachran, V. S., of Montreal, says this is the best lot of Galloways that ever came through quarantine.

Before attending the "Kingston Show," and since the fall trade has commenced, Messrs. John Miller & Sons, of Brougham, Ont., had sold 207 Shropshires and one car of Cotswolds; also, two stallions to go to Pennsylvania. All the sheep were Canadian bred, and were sold to go to the United States, except one. On the 30th of August Mr. Miller arrived from England with 117 Shropshires—eleven yearling rams and four ram lambs; the balance were ewes. There were no less than 35 English show ewes among the lot; three of the ram lambs were Royal winners. The ram they are now using stood 4th at the royal. Nine of the animals imported were got by him.

### NOTICES.

We would call the attention of our readers to the very liberal inducements we offer for obtaining new subscribers. (See pages 322 and 323.)

Notice is directed to the advertisement of J. R. Martin's annual sale of Durham and grade cattle, also horses, sheep and pigs, which will take place on Clareville Stock Farm, Cayuga, 18th inst.

We desire to call the attention of our readers to Mr. F. W. Stone's extensive auction sale of Hereford and Shorthorn cattle. Mr. Stone is one of our oldest breeders. We would be pleased to see a large attendance at this sale.

The Agricultural Loan & Savings Society, in this city, we have found very satisfactory whenever we have to borrow money or to invest in all the transactions we have had with them. The directors are good, sound business men.

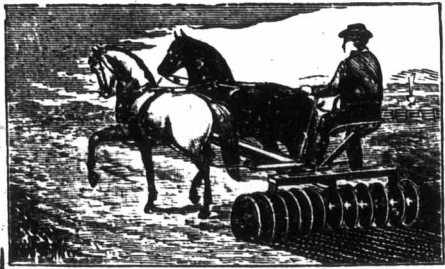
In this issue you will find the advertisement of the London Mutual Fire Insurance Co. They now have between forty and fifty thousand policies in force. This is the oldest and most extensive agricultural insurance company in the Dominion.

Barbados, in the West Indies, has now two representatives at Ontario Business College, Belleville. Two sons of Mr. Edward T. Grannum, a member of the Legislature of Barbados, representing the city of Bridgetown, arrived last week. The voyage to New York, occupied over seven days. They are the first of a stream of students expected from Barbados, such as the College has had from Bermuda for the past few years.

As evidence of the fact that the Cotswolds are holding their own in the race for early maturity and heavy-weights, the Messrs. Snell of Edmonton, Ont., write us that their imported shearing ram "Champion," after making the round of the English shows, winning 1st at the Royal and championship over all breeds at Oxfordshire, weighed on arrival at Willow Lodge 380 lbs., while three of the imported ram lambs weighed respectively 190, 196 and 201 lbs., a record we judge that will be hard to beat by any breed.

THE CANADA BUSINESS COLLEGE, HAMILTON.  
—This institution has had an attendance of 300 students during the past year. It is one of the oldest and most successful schools of its kind in the country. There are many young men and women who would be much benefited by a winter's course at this college. The instruction is practical and cannot fail to be of great advantage to any one, and to those who desire business positions it affords excellent advantages. All information regarding the college may be obtained by writing to the principal, Mr. R. E. Gallagher.

THE  
"CORBIN" DISK HARROW



In Over 30 Field Trials with Other Disk Harrows the Past Year the "Corbin" was Sold and Settled For. Every Farmer Should Insist on a Trial with the "Corbin" Before Buying any Other.

Read What the Best Farmers Say:

Mr. Thomas Shaw, Ed. Live Stock Journal:  
"No farmer will make a mistake in investing in this harrow."

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"I put in a crop of wheat a year ago on pea stubble, going over the ground three times, and secured as good a crop this fall as I ever raised."

C. H. Osborne, Esq., Concession, P. I. Co., Ont.:  
"Have cultivated about 50 acres with my harrow (two years), and am sure it is good for a thousand acres more without repairs. Have discarded my gang plow, as the harrow does the work much better, easier and faster."

Thaddeus Smith, Esq., Prop. Vin Villa Vineyards, Pelee Island, Lake Erie:  
"This harrow is invaluable in a large vineyard."  
SEND FOR CIRCULAR.

THE ST. LAWRENCE MFG. CO.,  
PRESCOTT, - - ONTARIO.

Sold by Van Allen & Agur, Winnipeg, Man.; all agents of the Massey Mfg. Co. in the North-west; R. J. Latimer, Montreal, Que.; Johnston & Co., Fredericton, N. B.; Nicholles & Renouf, Victoria, B. C., and 200 local agents in Ontario. 272-1f

1859--FARMERS--1888

THE OLD-ESTABLISHED, SOUND  
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LONDON MUTUAL

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HEAD OFFICE:--LONDON, ONT.

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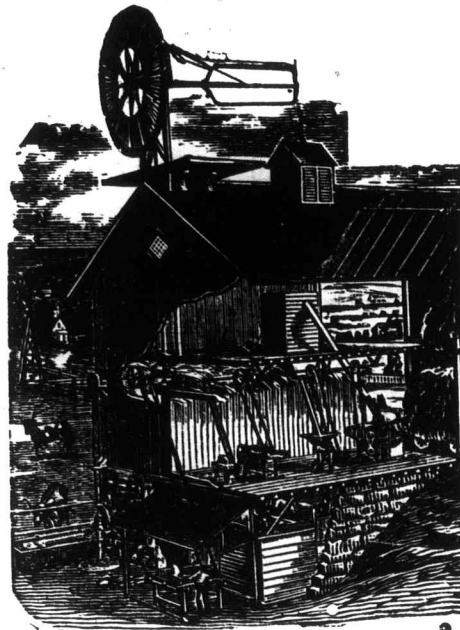
Continues to do as it has Done for Nearly 30  
Years--the Largest Farmers' Busi-  
ness in Canada.

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ASSETS 1ST JANUARY, 1888--\$389,547.27.

This Company insures farm property and private residences, and confines its business to entirely non-hazardous risks. It has distributed nearly a million and a-half of dollars amongst the farmers of Ontario, and scarcely a township in the Province but has felt the benefit of its work. The rates are as low as insurance can be obtained at with any degree of security. It has never joined any combine for raising of rates, and gives the most liberal policies covering live stock in the fields and everywhere else when in charge of the owner. For insurance apply to any of the agents or address the Secretary, London, Ontario. 273-a

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(LIMITED),  
TORONTO, ONT.



MANUFACTURERS OF  
WIND MILLS, FEED GRINDERS, HAYING TOOLS,  
IRON AND WOOD PUMPS.

And a full line of railway, town, farm and ornamental water supply materials. Geared Windmills for driving machinery, pumping water, etc., from 1 to 40 horse-power. Send for Descriptive Catalogue. 273-y

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1840 ROCHESTER, N. Y. 1888

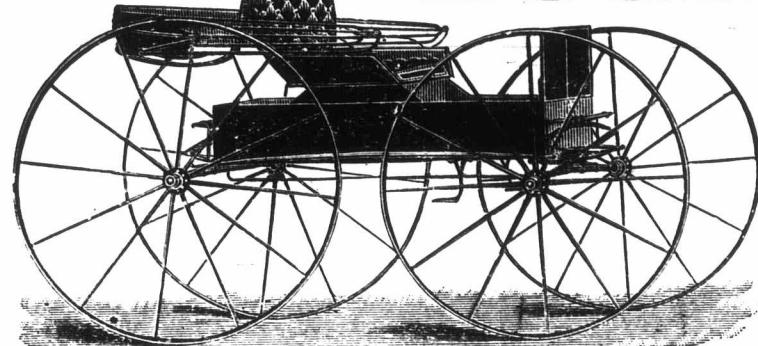
We offer for FALL PLANTING the largest, most complete and carefully cultivated collections in the United States of:  
**FRUIT TREES.** Standard and Dwarf.  
**GRAPES.** All the best old and new sorts, including the fine new grape "Mills."  
**SMALL FRUITS.** All the best, embracing the new Gooseberry "Industry."  
**ORNAMENTAL TREES AND SHRUBS.**  
**ROSES** of every class, the finest in cultivation. Catalogues sent to all regular customers, Free. To others: No. 1, Fruits, 10c.; No. 2, Ornamental Trees, etc., illustrated, 15c.; No. 3, Strawberries; No. 4, Wholesale; No. 5, Roses, free.  
**ELL WANGER & BARRY.**

WONDERFUL PEACH

Awarded FIRST PREMIUM and Special Prize of SILVER MEDAL at St. Holly Fair.  
Extremely large, very late, exquisitely beautiful (bright yellow and carmine), a heavy and sure cropper; the only large, late, handsome Free Stone Peach. Flesh yellow, superb quality, very free and small pit--the most profitable for market, invaluable for the home garden, and unsurpassed for canning or evaporating--just what everybody wants. Descriptive circular with testimonials of practical fruit-growers and colored plate free.  
30,000 trees standard varieties of Peaches--a large stock of Apple, Pear, Plum, Cherry, Quince and other Orchard Fruits, and an immense stock of Blackberries, Strawberries, Raspberries, Grapes and other Small Fruits. Headquarters for MONMOUTH and GANDY (the best early and late) STRAWBERRIES, ERIE BLACKBERRY, GOLDEN QUEEN RASPBERRY, SPAULDING and ABUNDANCE (caneless-proof) PLUMS, MEECH'S QUINCE, LAWSON (Columb) PEAR, DELAWARE WINTER APPLE and NUT-BEARING TREES. Lovett's Catalogue for Fall of 1888, giving plain and practical instructions for culture and management, with honest descriptions (telling the defects as well as the merits) of all worthy varieties of Orchard and Small Fruits, both new and old, gratis.  
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TOP BUGGIES

specially adapted for  
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Agricultural Agents will  
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BAIN WAGON CO.'S

Farm Truck



THIS cut represents the most convenient Wagon ever put on a farm, because it is suitable for all kinds of work, and always ready, no changes being necessary.

THIS WAGON was invented and first introduced in Michigan, U. S., and is now very extensively used by leading farmers in the United States.

AND EVERY WAGON made and sold by us in Canada is giving entire satisfaction. For further particulars and prices

Address BAIN WAGON CO., Woodstock, Ont.

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LONDON, - - - ONTARIO.  
 THE Forest City Business College was awarded First Prize for Business and Ornamental Penmanship at St. Thomas Exhibition, and Diploma at the Western Fair. Book-keeping, Business Arithmetic, Correspondence, Business Papers and Business Practice receive as much attention in the school as penmanship. Handsome Catalogue free.  
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**WESTERVELT & YORK.**

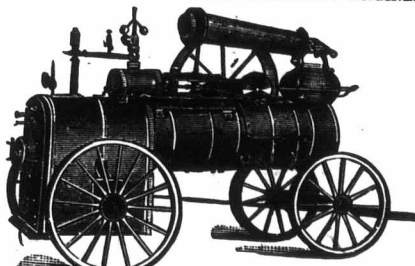
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 STEAM and HORSE-POWER THRESHING OUTFITS, STRAW-BURNING, PLAIN and TRACTION PORTABLE ENGINES



"THE TORONTO ADVANCE,"  
 IS THE MOST PERFECT THRESHING  
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THE SIMPLEST.  
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"THE TRIUMPH ENGINE,"  
 THE WINNER OF 13 GOLD MEDALS.

VALUABLE IMPROVEMENTS FOR 1888.

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The Platform of this Scale is 6 feet by 4 feet.

No Farmer, Stock Raiser or Produce Dealer should be without one.

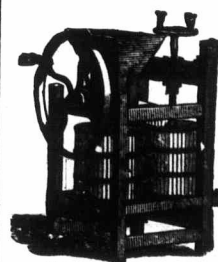
It weighs Accurately from half pound to 4,000 pounds.

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 SPECIAL FAMILY SCALES,  
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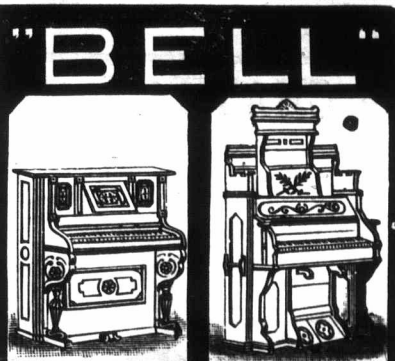
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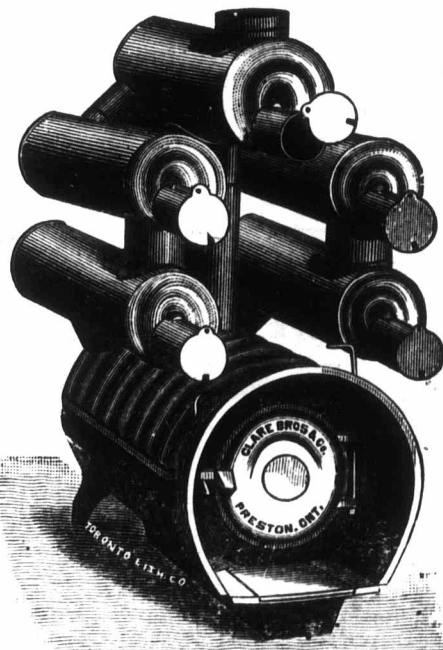
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This Furnace, made in six sizes, is unequalled for Efficiency, Economy, Ease of Management and Durability. Is corrugated and made very heavy. The Drums are of Sheet Steel. Will save first cost within a few years, as the roughest kind of wood may be utilized. This is the only Furnace made that can be cleaned out at any time satisfactorily. Its heating capacity is enormous, there being more radiating surface than in any other wood-burning furnace made. Write for illustrated catalogue of the largest and best variety of Hot Air Furnaces and Registers manufactured in Canada.

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Mention this paper.

270-c



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### GENUINE WHITE THRESHING ENGINE,

Special 20-horse power Portable Saw Mill Engine, (same pattern and style), Light and Heavy Traction Engine, and is licensed by all Insurance Co's, and has proved itself to be the most durable. The Engine for the Northwest is made to burn either coal, wood or straw. A thorough warranty given with all Machines and Engines. Call and examine our Machinery, or correspond with us before purchasing elsewhere.

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C. J. BRYDGES, Land Commissioner.

Winnipeg, 1st Dec., 1887. 266-a

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