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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. It is impartial and independent of all classes of 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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Editorial.

A Protest Against the Increased Rate of Postage on Periodicals.

maintain in efficiency these periodicals is proportionately far greater than that necessary to maintain publications issued more frequently. So that the proposed impost will affect injuriously those publications which are not only most deserving of public bounty but which also at the same time are least able to exist without it.

5. Should the proposed postal rate become law there can only be one result: the deterioration of the educational quality and hence the deterioration of the educational value of the publications. It will be impossible to increase the subscription price. Every publisher knows this cannot be done. And the profits now made are, as has been said before, in many instances merely hypothetical. Hence the publications will be either decreased in size or cheapened in respect to their editorial and contributory production, and hence, too, their influence for good upon the nation at large will be greatly lessened.

6. One class of periodicals which would be most injuriously affected by the proposed rate would be those prepared for the use of Sunday school children and teachers. These publications have to compete with the publications of the immense denominational publishing houses of New York, Philadelphia and Chicago. The imposition of a postal rate on our Sunday school publications would not affect the transmission of American Sunday school literature through the Canadian mails, since this would still be carried free of cost. The result would be that the proposed rate would act as a prohibitory tax, detrimental alike to our own established industries, our naturally conservative ideas of morality and religion, and the growth of our own national patriotic sentiment.

7. Another class which would be most injuriously affected would be those periodicals which appeal to the critical, literary and artistic tastes of the people. We have few of such publications in Canada, and they have all to compete with the magazines, reviews and general periodical literature of the United States. These latter would still be carried through our Canadian mails, without revenue to our own Post Office department, and our own periodicals of similar character would have to pay the bill. When it is remembered how few the periodicals are which appeal to Canadian general culture, and how disastrous have been the failures of many such that have been started and run for a while, it may reasonably be asked: Is our Government doing a patriotic thing when it places still further hindrances on their production and allows foreign periodicals that inculcate foreign ideas and promote the growth of a foreign sentiment, to pass our Customs line free of duty and be carried on our own postal routes free of charge?

8. Furthermore, should this rate be imposed the effect would be that such periodicals as did not go to the wall because of it would try to evade it by issuance weekly, thus putting the Post Office department to extra expense and trouble without compensating gain.

9. Lastly, your petitioners would respectfully call your attention to the manifest injustice of this proposed clause. Every argument that can possibly be adduced in behalf of the free transmission of daily and weekly periodicals can be advanced with increased weight in favor of the free transmission of periodicals published less frequently. The one class is as essential to the interests of the state as the other. If the one class educates so does the other; if the one class conveys news so does the other, and news of much greater value to the intellectual, social, material and moral well-being of the nation. If the one class is capable of being abused by large private advertising houses, so is the other, and the remedy in either case would rightly lie in maintaining a discretionary clause, as in the present act.

For these considerations, and for others, especially that vested interests would be jeopardized and a blow struck to an important part of the great publishing industry of the nation, they respectfully urge upon the Postmaster-General the removal of the clause.

After the deputation had stated their case Mr. Peter White, M. P. for Renfrew, remarked that in the first place the Governor-in-Council should not be authorized to fix the rate of registration; it should be done by act of Parliament. He objected to the increase in the rate of registration on the ground that it would bear heavily on the farmer and small merchant, they having frequent remittances of small sums to make. He suggested that if the rate of postage was increased to two cents on drop letters it should apply only to places where

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 will be given for the best essay showing the relative profits of Soiling Cattle, Partial Soiling, or Grazing. The subject to be considered from the standpoint of the older and richer provinces. All essays to be in by the 15th of April.

Prof. Saunders, of the Central Experimental Station, at Ottawa, is distributing, gratuitously, packages of the Ladoga Wheat to all who ask for it. He claims that from the reports he has received, that it is ten days earlier than the Red Fife Wheat, and considers it will be of inestimable value to farmers in the north, and even in the eastern parts of this Dominion. Should any of our readers send for it, we have no doubt but they will receive a package.

there is a postal delivery, and in other places it should remain as it is at present.

Mr. Davin strongly supported the contentions of the deputation, and said that the FARMER'S ADVOCATE was a publication which did great good in the North-west, and it would be a serious thing if it would be anyways crippled. He contended that literature was a great factor in the progress of any country, and its wide dissemination should be encouraged.

The Hon. Mr. Reed said he would like to see fair play, that he had taken the FARMER'S ADVOCATE from its commencement, that it contained much valuable information, and was highly prized by the farmers and their families. Continuing, he said that he took many publications, but the ADVOCATE was the only one that was not destroyed. Every farmer should be encouraged to take it; it is patriotic—if it were not so it would not be in his house.

As we said in our last article, and again repeat, the time has come when the farmers must act independently, and demand measures which will be a benefit to themselves, and therefore to the country. The government and the parliament should exist for the people, not the people for the government, which is always the case where party politics are blindly followed. It is the privilege and duty of every elector to support only honest men who are loyal to the people and the country, and not merely party politicians. It is in the hands of our farmers to compel any measure they desire if they will study their own interests and act unitedly, judging for themselves, and not allow themselves to be misled by political claptrap.

Dr. Barnardo's Home.

We have read various attacks on the immigration work which is being done by Dr. Barnardo and his associates. We have carefully looked into this question, and have had considerable experience with the boys which they send to Canada, and must say we consider it laudable work when conducted as is being done by the Dr. No boys are sent to America from any of the various training homes but those who are physically and otherwise suitable to become thrifty and useful farm servants. About one year ago we saw 180 of these lads on a C. P. R. train, on their way to Toronto, and we are bound to say they were the most likely lot of emigrants we ever saw together. After these boys arrive they are placed with farmers on such terms as are advantageous to both master and servant. Should any boy or girl turn out other than they should, they are at once taken charge of by the Canadian officials of the Home, who make a thorough investigation of the case, and when the protege is in fault and incorrigible, they are at once returned to England. In no case are they allowed to become a tax on this country. A direct and close oversight and constant communication is maintained by special officials with all who are placed out by the Institution. At the present time they have 1,600 boys in the Dominion (nearly all of whom are on farms). They are all young, and most of them will, in a short time, become useful citizens, and their presence will tend to make good farm help more easily procured than at present; for we all know that excessive wages is one of the heaviest burdens the Canadian farmer has to bear, and especially is this true in the newer provinces.

We recently received a call from Mr. E. A. Struthers, the Superintendent of Dr. Barnardo's Farm Home, near Russell, Manitoba. This Farm was established last year in connection with Dr. B.'s Homes in England. A number of big lads who have been under training in the English Homes have been brought to this farm, where they will remain in residence for a year, so as to become accustomed to the country and Canadian farm work before being placed in situations. The intention is to keep as many as 200 lads on the farm, which consists of over 8000 acres, situated in the most fertile district of Manitoba. Considerable attention will be devoted to dairying and stock-raising; a creamery is to be estab-

lished early in the present year. Under the able and experienced management of Mr. Struthers, the enterprise bids fair to be a success and a benefit to the country by supplying Manitoba's farmers with just such help as they require, and in training up a useful and industrious class to avail themselves of the exceptional facilities that the great North-west offers toward obtaining homes of their own, and an honest and respectable independence.

Education of Farmers.

In view of the close competition between different agricultural countries, the increased, and seemingly ever increasing cost of living, the many commodities once called luxuries but now considered necessities, the constantly decreasing fertility of the soil, is it not of the utmost importance that the farmer, as well as the druggist, the doctor, or the lawyer, be a liberally educated and thoroughly progressive man. Farming in Canada has, in the past, been in many instances profitable in spite of bad management. With a virgin soil, protected in winter by forests, there was almost a certainty of a good yield of wheat or other crops. Some of the best wheat crops ever grown in Ontario, (not the best, as some good farmers have their land in better condition than when it was cleared), yielding thirty-five to forty-five bushels per acre, were grown on land that had never been plowed. The timber burned off during the summer, and wheat sown on the ground among the stumps, and harrowed with a heavy three cornered drag in the fall. But the circumstances are now vastly different. The plant food taken up by the large crops of earlier years, has in most instances been partially restored; and the crops consequently are growing smaller and smaller. Now where will this end? The dull, slow going farmer says, crops are bad, and regards it as bad luck. The educated progressive farmer knows there is a cause existing somewhere, and sets to work to ascertain what it is, and what the remedy. The uneducated farmer is always strongly prejudiced against book-farming, as he is usually pleased to term it (and there is no obstacle so hard to overcome as deep-seated prejudice). The educated farmer studies the growth of crops, the different manures required, best methods of obtaining, and most economical methods of applying them, and many other things from time to time, that the uneducated man will think unworthy of his attention. When shipping cattle to the English market first became profitable, some men saw the opening in the distance, and bred large cattle for the trade. Now, that it has become less profitable, we find many of our best men turning their attention to dairying, and most of them are finding it very profitable. The Hon. Chas. Drury stated a short time ago, "Education is useful to a man, even in digging a ditch;" and there is no question but that education lifts a man to a higher sphere of life, and makes him more useful to himself, and to the country in which he lives.

The department of education is about to issue an agricultural text book for our common schools. In conversation with an advanced farmer a short time ago, as to the wisdom of their use being optional, he said it should be compulsory, as in more than half the sections the ratepayers would vote against their use. It is to be hoped that such will not be the case, however, as never has there been as great necessity for a farmer to be an educated man as to-day, and this necessity will doubtless become greater in the near future.

Norway Spruce as Premiums.

For twenty-four new subscribers prepaid for one year, or twelve prepaid for two years, we will give 100 trees; for twelve new subscribers prepaid for one year, or for six prepaid for two years, we will give 50 trees, and for six new subscribers we will give 25 trees. These trees will be twenty to twenty-four inches high, transplanted three times. Express charges will be paid to any part of Ontario.

If some prefer smaller trees and more of them, to such we offer by mail, postage paid, for 20 new subscribers prepaid for one year, or 10 for two years, 140 trees of the same variety, 12 to 14 inches high. For 10 new subscribers prepaid for one year, or 5 for two years, 70 trees. For 5 new subscribers prepaid for one year, 35 trees.

A Successful Farmer and Stock-breeders.

In all lines of life, liberality of thought and adaptability and persistency of purpose will accomplish much. It was forcibly impressed on our mind recently when visiting the farm and home of Mr. Edward Jeffs, half a mile east of Bond Head village, and five miles west of Bradford station, on the Northern Railway. The subject of our sketch began life on the farm on which he now resides, which is pleasantly situated on the gravel road from Bradford to Bond Head. The farm contains two hundred and forty-five acres of excellent land. The residence is a handsome and commodious brick house. Mr. Jeffs has been a member of the Municipal Council of West Gwillimbury for ten or twelve years, at present in the capacity of Deputy Reeve. He was one of the first members of the Advisory Board of the Agricultural College Farm, Guelph, which position he still holds. He began breeding thoroughbred stock twenty-three years ago. At the head of the present herd stands Prince Arthur =3682=, now five years old, good in all points and finely bred. He was bred by Mr. Caldwell, Crown Hill, and was got by Honest Tom from the cow Sheriff Hutton Rose, imported by Mr. Wm. Linton, of Aurora, she by Sir Arthur Ingram. A pair of beautiful red yearlings attracted our attention. Mr. Jeffs informed us they had won prizes at several shows last fall, sometimes one winning first and sometimes the other. Zora 15th, the mother of one, is of the Zora family of known merit. The other is a direct descendant of imported Margaret, by Snowball. Myra, by Fillagree Duke, of the Mara family, Mr. Jeffs assures us, will under favorable circumstances make fifteen pounds of butter per week. A few very nice Leicesters and Southdowns grace the yards, also some Berkshires, among which was one exceptionally fine young sow. This gentleman and his family make one realize the fact that farming is second in dignity to no other calling, and one son, who is studying medicine, expressed regret that he could not be at home to push the promising young stock. If more of our farmer's sons had this sentiment inculcated in their early years, and were taught to study their calling intelligently, the cities would have fewer charms for them than at present.

The London Agricultural Gazette says:—There is no more useful reading than honest narrations of successes won, unless it be equally honest descriptions of good intentions which, for some cause or other, have ended, in at least temporary or apparent failure. There is an almost insatiable appetite for facts about farming.

The Evil of Dogs in Regard to the Sheep-Raising Industry.

BY D. NICHOL, CATARAQUI.

There are in Ontario many farms peculiarly adapted to sheep raising, and on which no other branch of husbandry could possibly be made as remunerative, but the recent great destruction of sheep by dogs in some localities has created a serious, deterring tendency in regard to this industry. In fact, sheep-raising in some districts has now become utterly impossible until better protection from dogs is secured. Our present existing laws regarding dogs is very inefficient, and it is now high time for the landowners to be endeavoring to procure some legislative enactment that will better their position in this respect. As the law at present exists, municipalities are authorized to tax dogs, and pay damages done by them. This law is only optional; but one great trouble with the carrying out of this law has been that unscrupulous persons in many cases have managed to collect payment for all sheep found dead on their premises, whether they were killed by dogs or otherwise; consequently, most of the municipalities have rendered the law inactive, allowing sufferers to have recourse only to the owners of depredating dogs. This law is only optional; it should be made compulsory. This is a very unsatisfactory state of matters, because, in the first place, sheep-killing dogs operate chiefly during the night, when farmers and their servants are supposed to be in bed, therefore seldom have an opportunity of detecting the predators; and then, even if they are detected, there is often very great difficulty in finding the owners; and when the owners are found it frequently occurs that the dogs are about the only property they possess. The sufferer can, of course, demand the execution of the dogs, and it affords one some satisfaction to know that the same dogs will not repeat the carnage. True, in such cases, when the ownership of the dogs is clearly proven and the inability of the owner to pay is certified, the loser can, by an expensive and troublesome process of law, collect damages from the municipalities; but on account of the great difficulty in proving the ownership of the dogs, justice is not obtained in more than one out of ten such cases, and in no case is the loser allowed more than the price of common sheep, even if the animals may have been of great value. I am a lover and admirer of dogs, yet I believe that if all the dogs in the country were hanged on suspicion, the people generally would not be less prosperous.

It may be that one in a hundred earns his board, yet it is safe to say that by far the greater majority of dogs are utterly useless; and when we compare the evil of dogs with all the good they may have done, it does seem surprising that the nuisance has been so long tolerated. A much heavier tax on dogs would certainly have a tendency to reduce their number, because then, perhaps, only those who could afford to feed them would keep dogs, but this would only be a partial remedy for the evil; it is a well-known fact that even well-fed dogs kill sheep, merely for the fun of it.

There are thousands of mongrel curs kept by persons who wholly or in part depend on charity; hence, their dogs are fed at the expense of a charitable public.

I can keep my dog from killing my neigh-

bors' sheep, but I cannot prevent my neighbors' dogs from killing my sheep. Herein lies the whole trouble.

The first argument we are met with in favor of dogs is their usefulness; but with those who know how easily a dog is coaxed with a mutton bone, the argument has but little weight. Practical thieves, who understand the effects of prussic acid or strichnine, laugh at the idea of being frightened by dogs. I would keep a dog in my orchard when apples are ripening, were it not that I know apple thieves first form an acquaintance with watch-dogs. Ingenious thieves rather prefer the company of watch dogs, because then they do not need to suspect they are being otherwise watched. The greatest trouble about watch-dogs is, that when they are expected to be watching your own property they are very apt to be visiting some of your neighbors' dogs, or chasing sheep in another township. In fact, dogs, generally speaking, are of very little use as watchers unless they are chained; when under such circumstances they will, like an old gander, give an alarm when strangers approach. If all owners were required to keep their dogs chained or kennelled, or otherwise yarded, they would not be subjected to any great hardship.

Sportsmen who keep well-trained dogs almost invariably keep them kennelled when not in use, and find it an advantage to do so; they also know that their dogs cannot be blamed for the depredations of night prowlers. In some of the eastern countries dogs are raised for food, but in this country they are the only kind of live stock that are of no real value; therefore they should not be allowed to hinder the agricultural progress of this country to such an extent as they do at present. It is generally acknowledged that whatever benefits the producer of the nation's food benefits the whole community.

If there is any one kind of protection more than another that would benefit a large class of farmers in Ontario, it is protection from marauding sheep-killing dogs. Asking for such protection is surely not unreasonable; and I am persuaded that, through the influence of the Farmers' Institute, it might be procured.

[Mr. John Dryden now has a bill before the House, which we had hoped would have had the hearty support of the government, and every honest member, no matter what his politics; but we learn Mr. Dryden's bill has been stoutly opposed by dog fanciers, and for fear of losing votes some of the members are opposing it. Every sheep-breeder should rally to Mr. Dryden's support, and work that this bill may pass. The Dominion Sheep Breeders' Association will not be idle in this matter. They want more protection and must have it.]—ED.

Each farm, each barn, each dairyroom, in the province should be an experiment station under the direction of its intelligent owner.

If farmers will try to stand together, support the press that supports them, and set their faces, influence and votes sternly against the wrongs of the age, equity will be established, and the industries will have a chance. There is no other way out of the night.

A man engaged in any kind of business is entitled to more than interest on his money. He can get interest on his money without going into business. He is entitled to good pay for his time, a reserve or surplus fund to cover contingencies and depreciation as the outcome of the happenings of time, and beyond that interest upon the cost value of his investment.

The Scotch Clydesdale Stud Book.

We have just received from the Secretary, Mr. Archibald McNeilage, 46 Gordon street, Glasgow, Scotland, eleven volumes of the Clydesdale Stud Book, issued by the Clydesdale Horse Society of the United Kingdom of Great Britain and Ireland. They contain, among other things, a History of the Clydesdale Horse; a long article on Horse Breeding in Scotland, with chapters on the Ancient Scottish Breeds; Modern and Agricultural Period of Horse Breeding; Horses other than for Dray Purposes; Progressive History of the Clydesdale Breed; Future Draft Horse Breeding, &c., &c. The volumes also contain the full pedigrees of (7414) stallions and (7998) mares, whose produce is given under each pedigree up to date of publication.

The various appendixes contain a fund of information, such as: The list of stallions that have travelled and been used in the various years up to 1888, in which the district each travelled is specified; a list of the winners of the Societies' Premiums from its commencement until January, 1889; obituaries and dates of exportation of horses that have travelled at least one season previous to January, 1889; a list of the officers, life governors, and members and yearly members, besides a fund of useful information which every Clydesdale breeder should have. The books are well bound, and nicely illustrated with the portraits of noted horses. The articles are ably written, and the work throughout is a most creditable production. Every Canadian and American Clydesdale breeder should possess these books; in fact he cannot intelligently follow breeding unless he does. The price at which they are sold is extremely low.

Farmers' Clubs.

Dominion Farmers' Council.

[The Dominion Farmers' Council meets in the city of London, Ont., on the third Thursday of every month, at 1 o'clock p.m. All communications should be addressed to the Secretary, F.W. HODSON, LONDON, ONT. This Council has now on hand pamphlets containing its Constitution and By-laws, with an account of its origin, objects, etc.; Constitution and By-laws suitable for Farmers' Clubs, and notes on how to organize a club. These will, on application to the Secretary, be sent free to all parties having in contemplation the organization of clubs.

The Dominion Farmers' Council assembled, Vice-President J. R. Little in the chair. After routine business Mr. John S. Pearce read the following paper:—

DAIRYING IN CONNECTION WITH CORN FODDER AND ENsilAGE.

The cost of the food for the dairy cow is an important factor in the management and profits of dairying. The question of fodder corn has come up in a new form within the last three or four years. We are just now beginning to realize the value of fodder corn. For years we have been acting on the supposition that the most important part of the corn crop was the ears, and paid little attention to the value of the stalks as feed for cattle. The silo has changed this theory, and given us a value in fodder corn that we have never had before; and farmers are now turning their attention to this important crop, and are finding out what it can do for them in the way of giving cheaper and better rations for their cattle. They are beginning to realize that they are taking two to two and a-half acres of meadow land to get sufficient to winter a cow or steer. But if they will put in fodder corn and take care of it, in the new way, they will get the feed on an acre that is ample to winter two or three head of cattle or cows. This brings us to the question of the silo and ensilage in connection with dairying. What cans and bottles and the vast amount of fruits, meats, vegetables, etc., now preserved in them are to our domestic animals, ensilage and silos are to our domestic animals. It is now a pretty well conceded point that the silo and ensilage "has come to stay," and the dairy man who stands back and says to himself, "I guess I'll wait and see how Brother Smith will get along with fodder corn and his silo before I try," will most assuredly be left behind in the race, and will either have to step down and out of the business, or sow corn, whether he builds a silo or not. Competition is becoming quite as keen between the farmers and

dairymen of different counties, and even sections of the same county, as it is in commercial and business circles, so that the farmer and dairyman who is not wide awake and keeping himself well up and even abreast of the times, will soon be crowded to the wall. To my mind, these remarks apply more especially to the dairymen during the next few years. There seems to be a good deal of doubt and prejudice with regard to both fodder corn and ensilage, from the fact that there have been many failures. We often get a good or even bad cup of tea because the cook carelessly or ignorantly stews all the goodness out of it. We often see poor crops, even total failures, because the farmer did not take the trouble to prepare his land properly, or for some other cause. We could mention, and you could think of, bad jobs and total failures without number in every department of life, when "any way to get it done," and "almost right," was made to do, instead of "just right."

Nothing is said against ensilage by those who have given it a fair test, and all who have given it a careful trial are enthusiastic on the subject. The only opposition now-a-days is occasionally from a scientific or theoretical point of view, and not from the practical; but while the chemist finds no more nutriment in ensilage than in dry feed, it is an undeniable fact that cattle, horses, sheep, hogs and poultry do. And then, what is the use of going on the old way, buying hay—producing scarcely any milk in winter—owing what little butter is made, bring herds out in the spring so thin and emaciated that they take half the summer to get them in proper condition again—taking so much of this short life to determine whether a corn stalk dried in an oven is equal in feeding value to a corn stalk siloed, when practical experience shows that it is not; and even if it were, you could not dry a large number of acres of corn in an oven, when you can put it in a silo and save it, have plenty of green feed all winter at small cost, plenty of rich, good milk and butter, and herds of cattle as round and sleek in the spring as in the fall. Read up all you can on this subject, and if your faith is small, build a small silo, and when your faith grows stronger, build a larger silo.

The rapid growth of silos not only in the United States but even in old Conservative England, proves most conclusively that this system is destined to eventually replace the old and unsatisfactory methods of feeding. In the U. S. in 1880 there were six silos. In 1885 they had increased to nearly 2,000, in 1888 to about 5,500, in 1887 to 9,000, and in 1888 to the very large number of 14,000. In England there were but 4 silos in 1880; in 1885 there were 1,183, and in 1887 over 6,000. The growth has been very rapid and regular every succeeding year since its introduction, and although the spirit of hostility which is always opposed to new things has been more than usually active, still, some of its former most active opposers are to-day among its most enthusiastic users and advocates. Because a few people every year are unfortunate in raising wheat, potatoes, or something else, is no satisfactory proof that these crops cannot be raised with success. So it is with ensilage. Science and experience with ensilage have made many improvements in its preparation and keeping since its introduction.

The discovery of the system of ensilage is just as certain to revolutionize feeding and become a necessity to the farmer, as that the telegraph and telephone have revolutionized the slower ways of business and become necessities to the business man. Do not say you will wait to see how "A's" or "B's" ensilage comes out. If intelligently prepared it can only come out one way, a perfect success. You will waste one or two valuable years, and life is too short and the years too few. Take a good agricultural paper treating on ensilage and read it. The cheaper and better you can keep your cows during the fall and winter the more money you are going to make out of them. The day for feeding hay to cows has gone by. It was never a profitable investment; but certainly it is not so now. All thinking and far-seeing dairymen will have come to the conclusion that unless you can find some way to increase production, and that, too, in a way that will cheapen as well as increase it, unless this can be done farming and dairying in Ontario is somewhat in danger of losing its prestige. With from six to seven months feeding time in the year and competition with cheaper lands and milder climates, dairymen will have to wake up to the fact that they will have to meet this competition or go out of the business. The possibilities of this food (ensilage), in the present and future no man can tell. Just think of a man wintering his stock cheaper than he can pasture them in the summer. Ensilage has revolutionized the dairy business in Wisconsin and it is going to do the same in Ontario, and the beef interest will come in for a share of this change also, so that we may yet be able to compete in cheapness of food with the western ranches. We are advised by our physicians to raise and can fruit and vegetables for our families and I think it is good advice. In the silo we have a great canning institution or factory for getting good and cheap food for our stock.

The Kansas Board of Agriculture appointed a committee to investigate the claims of ensilage. The committee reported as follows:

1. That the time has arrived when the more progressive and economic methods of conducting the dairy and beef producing interests should command the thoughtful consideration of Western farmers.
2. That the method of preserving green crops, by means of silos, now common in the older states, is generally recommended as practical and profitable by those having the largest experience in the business.
3. That ensilage, if intelligently prepared, is a good, wholesome article of food for cattle, and when fed

as it should be, in connection with dry feed, will materially increase profit of the dairy; make the production of beef more remunerative, and enable the farmer and stock grower to realize profits not promised by the methods now common in Ontario.

4. That corn is the most profitable crop for ensilage, and for this purpose, the seed should be drilled at from eight to ten inches, in rows three and one half feet apart. Good cultivation is required, and the crop should be cut just before or about the time the ears begin to glaze.

5. That corn planted, cultivated, and cut as above indicated, will average not less than twenty tons of ensilage per acre; that in feeding value, three tons of corn ensilage will equal one ton of tame hay, or that one acre of corn when made into ensilage, will equal about seven tons of hay; that the feeding capacity of a given amount of land can be at least doubled by the method proposed, and without adding materially, if at all, to the cost per head of the animals fed.

The following is a fair estimate of the yield of ensilage corn and a comparison of the difference between the cost of hay and ensilage:

A fair average yield of ensilage corn would be at a fair estimate, 15 tons or 30,000 lbs. per acre. The average feed per day for a cow is 50 lbs. Now fifty pounds per day for a season—say of 200 days—would produce enough to feed three cows for a season of 200 days. This same cow, if fed upon well-cured hay, would consume at the least calculation, two and one-half tons being 25 lbs. per day. Thus to keep a cow on hay would require the product of one and one-fourth acres of hay. This estimate is based upon the product of 2 tons of well-cured hay per acre. Thus an acre of fodder corn of fifteen tons, green weight would, if well preserved in the silo, keep one cow 600 days, giving her 50 lbs. per day. Thus you have one acre of corn feeding a cow 600 days, while the acre of hay would only feed her 160 days or about $\frac{1}{4}$ the time. These may be rather startling figures to some of you, but they are not strained or extravagant in the least degree, but are fair, fairer indeed to the acre of hay than to the acre of corn, for the acre of ensilage corn can be made to weigh oftener weighs 15 tons, than the acre of hay does two tons.

A leading Wisconsin farmer says—Fifty pounds per day is an average ration for a cow, with the usual meal ration; \$6.50 will feed a cow ensilage for six months. It will cost \$18.00 to feed cow hay six months, leaving a balance of \$11.50 in favor of ensilage.

Now, then, you can easily know what size silo you have to build by reckoning the size that would hold a hundred tons. You can very easily get at it by figuring—fifty feet make a ton. That depends somewhat, however, on the depth of the silo. In a silo 25 feet deep, 40 feet will make a ton; but the average is about 50 feet to the ton.

A farmer in the Elgin District, Ills., says that he would not swap the ensilage he has made the past two years, two tons for any ton of hay, and he grew on the average 20 tons per acre, which, if he is correct, gave him the value of ten tons of hay to the acre, feed value.

To sum up, the silo and ensilage furnishes a food for the cow that is largely similar to the pasture grasses of June and October, and that it will give almost or quite as good results in the milk and butter products as they do. It prepares the farmer to laugh at the drought and to feed his cows as well when the pastures are all dried up as when they are at full productivity and keep the flow of milk at its full. It enables him to make a uniform quality of butter the year round if he so desire. It enables him to keep twice or three times the amount of stock that he formerly could, and he can keep his cows and young cattle growing and thriving all through the winter months as in the summer, the better preparing him to meet the keen competition that is evidently before him, and that not very far distant. I believe the silo is destined to play a very important part in the farm economy of the future, and that it will be utilized to preserve all of our forage crops not only for winter, but for year round feeding. I think that the days of pasturing on high priced lands are numbered. We have got to face low prices for all kinds of farm produce; and as with the manufacturer, so with the dairyman, the only way to meet this is to cheapen and increase production. The silo opens the way for the dairyman and stock feeders to do this.

In referring to soiling, the Secretary said farmers do not pay enough attention to this important question. Thousands of dollars could be saved every year to the province if our farmers would soil more and pasture less. He instanced the case of Mr. John Geary, a very intelligent man and an extensive dairyman and breeder, who kept 160 milch cows on 50 acres of pasture, 10 acres of which was woods and steep side hills, the whole of which was not worth over \$3 rent per acre, a total of \$150 for the season's pasturage. In this field he fed the following additional green feed: two acres of rye, 13 acres of peas and oats, and 11 acres of corn, which were produced at an average cost of not more than \$15.00 per acre for the rye and peas and oats, and \$20 per acre for the corn, which would together amount to \$405, to this must be added the rent before mentioned, making a total of \$555, the total food cost of 160 cows during the summer months. Mr. Geary wholesales milk to city dealers, besides converting considerable into cheese. His profits for the 160 cows, over labor and feed not grown on the farm, were over \$6,000 for the past year, and he expects a better margin this year.

Mr. McD. Allen, Goderich, the well-known authority on all matters pertaining to fruit, also gave a very entertaining address, which we will publish at an early date.

The meeting adjourned to meet again on Thursday, April 11th.

Stock.

Chatty Letter from the States.

[From our Chicago Correspondent.]

Mr. John Dunn, the Toronto cattle exporter, recently bought here one lot of 170 head, 1545-lb. steers, at an average cost of \$4.11; another lot of 142 head, averaging 1551 lbs., at \$3.98, and some fat bulls, 1600@1778 lbs., at \$2.94@ \$2.98. These are about the lowest prices at which good export cattle were ever bought in Chicago. At the same time a few carloads of very fancy 1600-lb. steers sold at \$4.50@\$4.85 to New York and other eastern purchasers.

This spring there is quite a wide range in prices of poor to prime beevies, at least \$1.00 per hundred, while one year ago there was not more than 15c. Then, ripe fat cattle were more than abundant, but this spring there seems to be a scarcity of finely-finished beevies, but no end of rough, fairly fat 1400 to 1600-lb. steers.

One thing against an early improvement in the cattle market is the rush of farmers and feeders to clear their feed lots in time for the spring work.

Indications point to higher prices for good cattle late in the summer.

There are some who think that unless there is a speedy improvement in the cattle trade, that fewer cattle will be fed this winter than ever before. Experience has taught that when people generally think one way concerning the future, they are disappointed because they act as they think, and, naturally, bring about the defeat of their own well-laid prophecies.

The dressed beef war waxes warm. Thousands of men unreasonably think the dressed beef system is at the bottom of the cattle depression, and act as if they thought the cattle millennium would come with the return to the old system of handling cattle and meats.

The St. Louis convention of State legislative committees, which met at St. Louis, voted in favor of the adoption of State or local inspection—all animals to be inspected on the hoof in the State where the meat is consumed. This means that a State adopting the law will refuse to receive meats from any other State; and there is talk that the big packing concerns will refuse to buy cattle from States adopting such laws. It is simply the "protection" theory run mad. People have become so attached to "protection" (?) from foreign goods that the States now naturally take to the idea of protecting themselves against each other. It is very generally conceded that the State inspection laws are not constitutional; but it will take a long time to decide the question.

The dressed beef men are anxious to have the most rigid government inspection at place of slaughter. That they are sincere in this is evidenced by the fact that it often happens that Swift and Armour refuse to accept animals which the local inspectors and State Veterinarian pronounce to be perfectly sound.

The hogs are selling 50c. @ 80c. lower than last year. Old hogs are pretty well marketed, but every pig and brood sow is being carefully saved, and there is a crop of hogs coming that will look like old times.

Sheep are considerably lower than last year. Corn-fed westerns have been bringing \$4.40@ \$4.85; native muttons, \$4.00@\$5.25.

The cattle and general stock raising business

is on such an enlarged scale now that men who could formerly make close estimates of the supplies of choice stock for any given season are now entirely at sea. No wonder. I have just happened across a record of all the Christmas cattle sold in Chicago in 1869, twenty years ago. Seven Durham steers, raised by C. C. Blish, of Kewanee, Ill., averaged 1970 lbs., and sold at \$10 per hundred; one nearly full blooded heifer, 1290 lbs., sold at \$9, fed by Huckins, of Nepooset, Ill.; E. Stookey, of Alton, and J. Howell, of Nekoma, marketed two steers, 2010 lbs. and 2020 lbs., respectively, at \$9; George Hooker, Malta, Ill., marketed a full blood 2710-lbs. Durham steer, at \$275 for the steer; A. Mitchell, of Sa Salle, Ill., two 1925-lbs. steers at \$8.50; S. W. Jacobs fed one Devon steer, 1350 lbs., at \$10; S. H. Jones, Springfield, Ill., twelve nearly full-blooded Durham steers, three years old past, 1936 lbs., \$10; eleven two and three-years-old Durhams, fed by J. H. Spear, 1640 lbs., at \$10; Jeff. Johnson, Greenview, Ill., three premium Durham steers, averaging 2400 lbs., at \$12, and one cow, 720 lbs., at \$9. Dr. Requier, Monmouth, Ill., sold one four-year-old, 2130-lbs. Durham, at \$15; two three-year-olds, ranging 2060 lbs., at \$10.50; two five-year-old Devons, averaging 2060 lbs., fed by Thomas Hicks, sold at \$10. Some eighteen other cattle were retailed at about \$9@\$10. In all about sixty head of cattle constituted the Christmas supply for 1869. These cattle were fed by sixteen different men, or an average of three or four steers each. Cattle feeders now-a-days would never think of preparing less than a carload, and we have seen Col. John D. Gillette at market with a train load of three-year-old cattle, averaging over 2000 lbs. per head. The sixteen Christmas cattle feeders have given way to at least 1600; the three or four head of aged, mountains of fat in the guise of cattle, have given way to the thirty or forty head of two-year-old-1500 @ 2000-lb. beefeves carrying richly-marbled beef. And so the world moves onward more rapidly than we are aware of, unless we occasionally stop and take a long and careful retrospective view.

Young Pigs.

The thrift and profit of the coming spring's crop of pigs depends largely on the condition and care of the sows in farrow, and we wish to protest against the prevailing idea that in order to produce a strong, healthy litter of pigs, the sow should be kept in a thin condition. This is a serious mistake, and is the cause of much disease among pigs. Eight or ten pigs are more than a sow can raise properly if she is too thin at farrowing time, as the pigs must have more nourishment than can be furnished from the food consumed by the sow, for she cannot eat enough to develop her pigs; but if in proper condition she has a certain amount of flesh to draw upon and the pigs will make the best possible growth. Many persons complain of indifferent success in attempting to raise pigs from fat sows. While we want them in good flesh, we do not want them fat; but we do not think there is much danger of farmers feeding too much oats, bran, or middlings to sows in farrow, as feed of this kind makes a fine growth of flesh and muscle—elements so necessary to the sow in order that she may care properly for her young. In our experience the best pigs have been raised by the sows in the first condition, and we are convinced that more sows are injured by feeding too little than too much.

Kinnoul Park, New Lowell, Ont. is one of the largest and best ordered breeding establishments we have seen. The buildings are magnificent, and the proprietors, Messrs. Hay & Patton, must have great faith in stock breeding to invest so much money in buildings, machinery, etc. The barns form a square 215 feet from corner to corner, and forty-five feet in width. On the north of this square is an extension, making the length from north to south 315 feet. The walls consist of six feet of stone work beneath the ground, (the floors are above ground,) ten feet of brick wall, and fourteen foot post on top of the wall; the roof is of metallic shingles. There are two capacious root cellars at each end, forty-five feet square. The floors are chiefly block pavement, all of which is grouted. Water is supplied from elevated tanks of 12,000 gallons capacity, through 1½ inch gas pipes to drinking troughs in the mangers. The water is pumped, and all the usual machinery driven by a twenty-two foot windmill, put up by the Toronto Pump Co. By an ingenious arrangement of a bar at the proper height, the animals can look over the manger into the hall, from which they can be seen to advantage, and yet cannot put their heads out past the mangers.

The noted bull Chivalry 2691, imported, heads the herd. This bull has won many first prizes, among which we note the following, at Industrial, Toronto, in 1883, 1884 and 1888, also first at Western Fair, London, besides many others at smaller shows. He is a magnificent representative of the breed, good top and bottom in front and behind, fine in head and limbs, and although nine years old, is as lithe as a yearling. He is sired by Challenger, dam Caressa, of the Ballin-dalloch Sybil family.

Emma of K. P. 8174 (Kinnoul Park,) is a very fine five year old, by Chivalry, dam Flower of Knockiemill, of the Monthleton young Charlotte family. She has been a winner in every instance from a calf up.

Amelia of K. P. 8594, is a two year old, of grand form and size, second only to Emma, and will doubtless surpass her by another season. She has a front unsurpassed.

Morlich Isabel 2745, by Marshal Var, dam Isabel of Morlich, of the Windsor branch of the Queen tribe, which, as a family, are probably at the head of the Angus breed.

Lucy of K. P. has a calf thirteen months old as tall as her mother, well proportioned, and very promising. She is now two months in calf and is not yet weaned, having run with her dam constantly.

Alice, the winner in the grade class over any animal of any breed, is very fine and thrifty, but will be surpassed next season by Mabel, a red and white grade by Black Judge. She is now three years old.

Runnymede 2nd 5220, will be used largely as a stock bull. He is of excellent breeding, being a Tillyfour Ruth on both sides. He was imported by Hiram Walker & Sons, of Walkerville, Ont., and is claimed to be one of the best bred Angus cattle in existence.

To leave this sketch of Kinnoul Park and its stock, without mention of the manager, Mr. J. G. Davidson, would, in the minds of all who enjoy his acquaintance, be a decided mistake. He is certainly the man for the position, quiet and unassuming, of undoubted ability.

A love for well-bred animals should be encouraged, for it will surely work about an improvement in our farm animals.

Shire Horse Association of Breeders and Importers.

A meeting of the Shire horse breeders and importers was held at the Albion Hotel, Toronto, March 15th, when the following were present:—Messrs. Jno. Goodhouse, Highfield; D. D. Norton, Aldershot; R. Mackness, Tullamore; J. Blanchard, Appleby; G. Chapman, Springfield-on-the-Credit; E. M. Jarvis, Oakville; J. G. Ormsby, Springfield-on-the-Credit; W. Wellington, Welland; W. H. Milman, Woodstock; H. Wade, Toronto; J. Craig, Hamilton; F. Green, jr., Innerkip; Jas. Addison, Malton; E. Morris and John Paisley, Richview, and others.

Mr. Wellington was moved into the chair, after which the Secretary read a short statement of the object of the meeting. It was unanimously resolved that an association be formed, to be called the Shire Horse Association of Canada. The constitution adopted was very similar to that of the Clydesdale Association.

The following officers were elected:—President, F. Green, jr.; Vice-President for Ontario, W. E. Wellington; Vice-President for Manitoba, C. B. Cotton. Directors—James Addison, J. G. Ormsby, E. Morris, W. H. Millman, Robt. Macniss, John Goodhouse and W. D. Norton. Auditor, E. Jarvis; Secretary, H. Wade.

The standard adopted was identical with that of the second volume of the American Shire Stud Book, with the addition of a rule to admit horses imported previously, which are proved to the Revising Committee to be of pure Shire blood.

The following gentlemen were named as judges:—John Hendrie, Hamilton; John Kemp, Toronto; Jas. Runtry, Carlton West; James Addison, Walton, and Samuel Heysey.

The meeting then adjourned till the Tuesday evening of the week of the Provincial Show, when it is hoped all the Shire breeders of the West will turn out in force.

Shorthorn Breeders' Association.

The annual meeting of this association was held Feb. 26th in Shaftesbury Hall, Toronto. The chair was occupied by the President, Mr. John Dryden, M. P. P., and there were present a large number of representative men from all over the province.

The annual report of the Executive Committee, presented by the Secretary, Mr. Henry Wade, showed that in 1888 2,816 registrations were paid, 2,812 certificates given, and 296 changes of ownership. From these, 113 registrations were rejected, the fees of 124 certificates and 15 changes of ownership were returned. This left 2,703 registrations, 2,688 certificates, and 381 transfers, against in 1887, 2,624 registrations, 3,078 certificates, and 625 transfers, a slight falling off of which may be partly accounted for by members waiting to sell before recording, a proceeding which grants but a temporary saving to the individual member, and, by causing a fluctuation in the revenue, is injurious to the association. The pedigree now recorded number 27,021. If the same rate of progress is maintained, volume 7, issued by December, 1890, will be abreast of the times, and thereafter one volume per year will keep the record complete. The total paid membership of the association up to date is 434. Four thousand letters and cards were sent out from the Secretary's office and also a large number of circulars. The committee urged upon the members to record their calves when young, not waiting to make sales first. This would tend to prevent mistakes in dates, and help to

strengthen the association financially. The financial statement shows a balance of \$514 to be on hand. The report was adopted.

The election of officers was then proceeded with, and resulted as follows:—President, John Dryden, M. P. P., Brooklin. Vice Presidents—Richard Gibson, Delaware, Ont.; J. S. Williams, Knowlton, Quebec; Prof. Geo. Lawson, Halifax, N. S.; Hon. D. Ferguson, M. P. P., Charlottetown, P. E. I.; J. E. Fairweather, New Brunswick; G. L. Smellie, Bincarthe, Man.; J. H. Ladner, Ladner's Landing, B. C. Executive Committee—Edward Jeffs, Bondhead; Francis Green, sr., Innerkip; James Hunter, Alma; T. C. Patterson, Eastwood; John L. Hobson, Mosborough; David Rea, Speedside; A. R. Gordon, Cooksville; J. L. Cowan, Galt; J. Tolton, Walkerton; Arthur Johnston, Greenwood; James Russell, Richmond Hill; James I. Davidson, Balsam; Thos. Shaw, Woodburn; C. M. Simmons, R. Vance, Ida; James Rowland, M. P., Dunblane; L. E. Shipley, Greystead; A. Rawlings, Wm. Dawson, Vittoria; J. C. Snell, Edmonton. Delegates to the Toronto Industrial Exhibition—John Dryden and James Russell. Revising Committee—J. C. Snell, Edmonton; Arthur Johnston, Greenwood; T. C. Patterson, Eastwood; James Hunter, Alma; James I. Davidson, Balsam; A. R. Gordon, Cooksville; Francis Green, sr., Innerkip. Delegates to the Central Farmers' Institute—Arthur Johnston, Greenwood; John Morgan, Kerwood. Auditors—Jas. Laidlaw, Guelph; Wm. Whitelaw, Guelph.

On the completion of the election, the President read a letter from the President of the Massey Manufacturing Company which stated that sleighs were at the disposal of any of the members of the association for the purpose of giving them a chance to inspect their large establishment. The offer was taken advantage of by a number of the members.

The following motion, moved by Mr. Green, and seconded by Mr. Russell, was carried:—That all calves dropped after January 1, 1889, shall in future be registered within 18 months of birth, and if not so registered, double fees shall be charged for their registration.

The meeting's attention was next taken up with the following notices of motion, which were brought up by Mr. Martin:—1. That the name of the Secretary be changed to Secretary-Treasurer. 2. That section 14 of the By-laws be changed so as to make the same conform to the American standard, so as to admit animals possessing ten or more pure crosses in themselves and animals of merit; also as to the admission of imported animals, and generally to alter and amend the standard of admission. The first part of the motion was voted down, but the second part underwent a long discussion, and was finally referred to the Executive Committee.

During the afternoon two capital papers were read by Messrs. J. Gibson and J. C. Snell on "The Future of Shorthorns" and "Milking Properties of Shorthorns and How to Improve Them," respectively. Both gentlemen received hearty votes of thanks for their able efforts, and the meeting decided to have the two papers printed in the different agricultural papers in Ontario.

The following gentlemen were named by a committee as competent judges of Shorthorns for the different shows next fall:—Messrs. John Hunter, J. I. Davidson, R. Gibson, John Isaac, John Miller, Wm. Linton, Hugh Thompson, Geo. Thompson, Francis Green, sr., J. C. Snell and E. Jeffs.

The Spring Stallion Show.

The Clydesdale Association of Canada held its third spring stallion show in the Drill Shed, Toronto, March 14th. The details were well arranged and the attendance good. Secretary Wade and the Executive deserve much praise for the excellent manner in which the show was conducted. A very neat and well arranged catalogue was printed and distributed, which gave the owner's address, age and breeding of each horse shown. When the animals were brought into the ring, each horse wore a number corresponding to the number given him in the catalogue; thus the visitors—by consulting their catalogues—knew the horses at a glance, whose they were and how bred. The first class brought in were Canadian-bred stallions, foaled in 1886. There were two entries, but one failed to appear. The one which was present was shown by his breeder, Wm. J. Gregg, Claremont, Ont., Glenlee [1039], chestnut, foaled June 5th, 1886; sire, Mount Annan (imp.) [471] (3851); dam, Jess Netherby [341], by Netherby (imp.) [126] (1494), etc. This was a very good horse, perhaps a little small, but full of quality; his legs, pasterns and feet were very good. He was an easy winner of the sweepstakes for best Canadian-bred horse, any age. He was bought by Hendrie & Co., St. Mary's, for \$600; they have since shipped him to Iowa, U. S.

In the Canadian-bred class, foaled since January 1st, 1887, there were two entries, the first prize going to O'Connor (1029), bred by Mr. John Bell, L'Amaroux, Ont.; second to Merry Boy (621), bred by Mr. Alex. Doherty, Ellesmere, Ont.

Imported horses and those descended from imported mares next competed. In the class foaled previous to January 1st, 1886, there were fifteen entries, twelve of which were present. This was a grand class, composed largely of noted horses. Messrs. Robert Beith & Co., of Bowmanville, Ont., won first with St. Gatien (3988), second with Bounding Willow (5580), and sixth with Gay Prince (5796). Beattie & Middleton, Atha, won third with Lord Lieutenant (4529), brown, foaled July 7th, 1884; bred by James Sutor, Fochabers, Scotland; imported in 1886 by Arthur Johnston, Greenwood, Ont.; sire, Lord Derby (485); dam, Rosebud (657), by Conqueror (197), etc. This is a big, rangy horse, not very noticeable in his class, but good enough to win third place. The fourth place was won by Tyrwhitt & Innes, Bradford, Ont., with Grand Times (imp.) [363] (3670), bay, three white legs, white face, foaled 1883; bred by R. Alexander, Auchendae, Kilwinning, Scotland; imported August, 1884, by Graham Bros., Claremont; sire, Old Times (579); dam, Maggie (95), by Prince Alfred (618), etc. This is a wonderfully thick, massive horse, on good and short legs; he is active and handles his feet well, but travels a little wide; is very stylish and spirited. We expected to see him take a somewhat higher place than he did. The fifth place was won by Dunbarton Jock (5728), owned by Thomas Meagher, Doncaster, Ont. He is brown, with black points, foaled June, 1885; bred by R. Ralston, Westfield, Aberdeen, Scotland; imported in October, 1887, by R. Ralston; sire, His Royal Highness (2165); dam, Rosie of Westfield (6645), by Ivanhoe (396), etc. This is a smooth, neat horse, possessing a good deal of substance.

In the class for stallions foaled in 1886, Messrs. Graham Bros., Claremont, Ont., won first with Macbean (6030), and fourth with Fitzjames (5763), a brown with white face, foaled

May, 1886; bred by Wm. Little & Son, Twynholm, Scotland; imported August, 1888, by exhibitors; sire, Lord Marmon (2620); dam, Bet 2nd of High Borgue, by Strathclyde (1538), etc. This horse is much like Macmath, described on page 68 of our March number, though he is somewhat stronger-boned and deeper in the rib, and, like him, possesses excellent feet and legs. Messrs. R. Beith & Co. won second with Invader (6854) and fifth with McRaw (6057). Mr. Alexander Cameron, Ashburn, Ont., won third with Macindoe [538], a dark bay, foaled April 26th, 1886; bred by John Elliott, the Flatt, Carlisle, England; imported in August, 1887, by Graham Bros., Claremont, Ont.; sire, McGregor (1487); dam, May Bloom (5367), by Pride of Galloway (601), etc. This is a large, strong colt; he is good in the rib, back, legs, feet and pasterns, and has an extra good front end. The sixth place was taken by James Torrance, Markham, with Major of Carlyle (6080), a brown, foaled in 1886; bred by W. Maxwell & Son, Carlisle, Eng.; imported in 1888, by exhibitor; sire, Prince Henry (1257); dam, Pear Blossom (6509), by Superior (888), etc. This is a very showy, strong-boned, good-colored horse.

In the class for stallions foaled since January 1st, 1887, Messrs. Graham Bros. won first on Maccluskie (6996), and fourth on Macrae (7020); Messrs. R. Beith & Co. coming second, with Pride of Eastfield (7113), and Mr. John Davidson, third, with Prince of Gourock (624), foaled May 12, 1887; bred by D. & O. Sorby, Guelph, Ont.; sire, Gallant Boy (imp.) [303] (4387); dam, Jane Eyre (imp.) [217], by Prince of Kilbride (661), etc. He is a very thick, good-bodied colt, with good, short legs and good pasterns; his muscles are well developed and his style and action are good. The fifth place was won by Mr. John Rosch, North Toronto, with Belford [518].

The sweepstakes for best horse, any age, was won by Graham Bros., with Macbean (6030).

It has been truly said that this was the finest exhibition of Clydesdale stallions ever seen at any Canadian show, or perhaps any show this side of the Atlantic. The competition was keen throughout, and a lively interest was taken in each class by the large number of spectators present. When the decision of the judge became known the crowd frequently cheered lustily. Mr. Alex. B. McLaren was the judge, and a difficult task he had; but he performed his duty well. His ideal Clydesdale seems to be a thick, well-ribbed, short-legged, hard, flat-boned horse, which must have good feet; and to this type he kept pretty close in making his awards. As a rule, the breeders were well satisfied. Mr. McLaren, who is of Scotch parentage, was born in the township of Pickering, within about five miles of the town of Whitby. From an early age he was engaged in the handling and management of horses. He was then considered a fair judge, for one of his age and experience. About ten years ago he moved out to Illinois, and finally settled at Blandinsville, Ill., where he has been one of the most successful salesmen in the Western States as manager for the Messrs. J. & C. Huston, of that place. Mr. McLaren not only manages the business at Blandinsville (one of the largest Clydesdale trades in the U. S.) but he does the firm's importations from Scotland, where he is looked upon as one of the best buyers, as well as one of the best judges that go there from the U. S. There is probably no breeder in the United States to-day who commands more respect for his judgment of Clydesdales, as well as his business capacity. Though we did not agree with him in some instances, we congratulate him on the capable and straightforward way in which he discharged his duty at Toronto.

We have not given the pedigrees of all the winning horses, because their pedigrees were published in our March number in the review which we gave of Messrs. Graham's and Beith's stables.

A horse may be broken off pulling the halter in his stall by, instead of fastening him in the manager direct, slipping the strap end through the tie ring or hole and back to his front leg, fastening it here just above the knee joint. By this course he'll never do much pulling.

Havering Nonpareil 2nd.

Our illustration this month portrays a celebrated prize winner on two continents—Havering Nonpareil 2nd, one of the breeding cows in the Bow Park Herd. In 1884 she was 1st prize yearling at the Shrewsbury Royal Show; 1885, 1st prize two-year-old at the Preston Royal Show; 1886, 1st and sweepstakes three-year-old throughout Canada; 1887, 1st and sweepstakes at the Iowa State Fair, and one of the herd that won the grand herd prize for beef breeds; 1888, 1st prize cow throughout Canada. Nonpareil has never been beaten except by Lady Isabel, also in this herd. She has produced three calves—first, October 7th, 1886, the last, November 5th, 1888.

ers to cross the native breed with the improved large Yorkshire. This produces exactly what is wanted, that is a long lean pig, light in the head and shoulders, deep body and having good hams. Denmark, as is well known, owing to the great increase in dairying, has largely increased the number of swine fed, which are converted into bacon for the London market, and as the price of this commodity depends quite as much upon its being lean as upon excellence of cure, and as the bacon curers discriminate in buying hogs, paying much less for thick fat ones, scores of Yorkshire boars have been imported into Denmark, Sweden and Germany, where the native hog is very inferior, but the infusion of this new blood has in a very short time produced an animal

that the sows should be bred to a pure bred boar. We would further recommend that sows should not be bred till they are at least eight months old, and to any farmer who has a large sow, that gives large litters, we would say keep her and take care of her till she ceases to be of value. She is of greater value, and will make you more money than any ordinary cow you have on your farm.

Now, having got a litter of pigs, we would say anything that is worth doing is worth doing well, hence, if it is worth while to breed them, it is worth while to take care of them, that is give them comfortable quarters, keep them clean, feed the sow well with suitable food, and continue the same course with the pigs when



HAVERING NONPAREIL 2ND., ONE OF THE FAMOUS BOW PARK HERD, BRANTFORD, ONTARIO.

Leaner Hogs Wanted.

BY WM. DAVIES.

In our last we promised to give our views as to the sort of hogs that will be most profitable to the farmer and the pork packer. The taste of consumers has completely changed within the last few years. Formerly everyone wanted fat pork, bacon and hams; but now the cry is "We must have lean meat," and this is the case everywhere.

The old fashioned improved breeds, that is Suffolk, Essex, Berkshires and some others have a tendency to lay on fat, while the Yorkshires and Tamworths are longer and carry more bone, consequently have more muscle, or in other words lean flesh. In Ireland, which is the greatest hog producing and bacon curing country in Europe, the bacon curers have induced the farm-

that fills the bill exactly. In Wiltshire, England, which county is famous for its bacon curing establishments, the hogs are all received alive, and killed at the factories, but paid for dressed weight, the farmers and dealers going there to see them weighed and receive payment.

In the largest of these establishments they have recently offered a *bonus* of 2s. 6d., say sixty cents, per hog for each carcass where the fat on the back does not exceed above one and a-half inches, and this firm have been the means of distributing among the farmers and dairymen of that district boars of the Tamworth breed.

To sum up, our advice is, raise long, lean pigs, light at the front end where the meat is of little value, with good ribs and hams. It is not necessary that the pigs for fattening should be pure bred, but it is desirable in the highest sense

weaned; then at from six to eight months old you will have a crop that will bring you a lot of money.

One word more. Don't run away with the idea that by lean pigs we mean thin, with sides like inch boards. No, we mean well fed, thick, fleshy animals. With your permission we will in your next issue say something more on feeding, treatment and marketing.

It is cheaper in the end to keep the flesh on the stock through the winter than to put it on again in the spring.

The team that is most steadily worked during the winter, will be in the best shape for hard and steady spring work.

Train the colt to walk for its first lesson. Do not spoil this by making it trot till it gets out of breath and then whip it because it does not keep up with the strong horse by its side. Use horse sense.

Dominion Sheep Breeders' Association.

On March 13th a large and influential delegation of Canadian sheep breeders met at the Albion Hotel, Toronto, Mr. J. C. Snell was elected Chairman and F. W. Hodson Secretary. It was resolved to form a Dominion Sheep Breeders' Association. The following constitution and by-laws were then adopted :

PREAMBLE.

The object of the association shall be to encourage the interest and improvement in the breeding and management of sheep, by the dissemination of reliable and practical information on the subject; also to co-operate with the officers of the various fair boards in making large and attractive shows of sheep; also to present to the fair boards the names of such men as are competent to act as judges of the various breeds of sheep, and in every other way to forward the interests of the sheep breeders, and to endeavor to instruct and interest the farmers of Canada in sheep husbandry—which is, when properly conducted, the most pleasant and profitable branch of stock farming.

CONSTITUTION.

ARTICLE I.—This Association shall be called the Dominion Sheep Breeders' Association.

ARTICLE II.—The officers of this Association shall consist of a President, Vice-President, Secretary, Treasurer and nine Directors, one to represent each of the recognized breeds. The Executive Committee shall consist of the President, Secretary and Directors. Five members of said committee shall constitute a quorum to do business at any meeting, when all the officers have been previously notified by mail that said meeting would take place.

ARTICLE III.—This Association shall hold its meetings annually, previous to the first of April each year, on such dates as the Executive shall decide, suitable notice of which shall be given to all members and the election of officers shall be held at the said annual meeting.

ARTICLE IV.—Any person may become a member of this Association by signing the Constitution and the payment of one dollar. The dues shall be one dollar per year. Assessments of not more than one dollar on each member, in any one year, may be made by the Executive Committee if the expenses should require the same. Each member shall be entitled to a copy of all papers or circulars issued by the Association.

ARTICLE V.—All amendments to this Constitution must be presented in writing, and at a regular meeting previous to the adoption of the same, and must be supported by a majority of the members present.

BY-LAWS.**DUTIES OF OFFICERS.**

Section 1.—It shall be the duty of the President to preside at all meetings of the Association, decide all questions of order, and make any suggestions that he may deem in the interest of the Association; and also to meet with the committee when required, and to fill all vacancies in the offices that may occur, and appoint all committees, unless otherwise ordered by the Association.

Section 2.—It shall be the duty of the Vice-President to aid and assist the President. In the absence of the President the powers and duties of the President shall devolve on the Vice-President.

SECRETARY.

Section 3.—It shall be the duty of the Secretary to attend the meetings of the Association; keep correct minutes of the same; conduct all of the correspondence, and receive all monies belonging to the Association, and immediately pay them over to the Treasurer, and his book shall be open for the inspection of the Association, either through its officers or committees appointed for that purpose.

TREASURER.

Section 4.—It shall be the duty of the Treasurer to receive all monies belonging to the Association, giving his receipt for the same, and pay

all bills and accounts that have been approved by the Association, and signed by the President and Secretary.

Before entering upon the duties of his office he shall enter into a bond with security when required, which shall be approved by the Executive Committee.

DIRECTORS.

Section 5.—The Board of Directors shall make such suggestions as they may deem necessary for the benefit of the Association, and look after the general interest of the same, and to attend to such duties as the Association may require.

SPECIAL MEETINGS.

Section 6.—Special meetings may be called by the President and Secretary, due notice being given to all members as to time and place of meeting.

DEBATE.

Section 7.—No member shall be allowed to speak more than once on any subject until all have had a chance to speak; and in no case shall more than ten minutes be allowed for any one speech, unless by permission of the meeting.

ADDITIONS AND AMENDMENTS.

Section 8.—Any additions or amendments to these by-laws must be presented in writing, and at a meeting previous to the adoption of the same, and shall require a two-thirds' vote of the members present to pass.

QUORUM.

Section 9.—Not less than seven members shall constitute a quorum to do business for the Association.

MISREPRESENTATIONS.

Section 10.—Any member being charged with willful misrepresentation or dishonest or unfair dealing in connection with the sheep interest, shall have a fair investigation before the Executive Committee, and if said charges be sustained he shall be expelled from the Association, and it shall be the duty of any member knowing of any violation of the rules of the Association to report the same immediately to the Executive Committee in writing.

AUDITING COMMITTEE.

Section 11.—The President shall appoint a committee of three, whose duty shall be to audit and examine the accounts of the Association, and make a report at the meeting.

ORDER OF BUSINESS.

Section 12.—The order of business shall be as follows :—

1. Reading minutes of previous meeting.
2. Address and report of officers.
3. Report of committees.
4. Unfinished business.
5. New business.
6. Election of officers.
7. Addresses, discussions, &c.
8. Deciding upon the place of holding next annual meeting.
9. Adjournment.

After considerable discussion on various subjects, Messrs. Dryden, Russell, Hawkshaw, Campbell and Jeffs were appointed a committee on nominations, and after due consideration they presented the following report, which after some discussion was adopted by the Association :—

President, Robert Miller, Brougham, Ont.; Vice-President, James Russell, Richmond Hill, Ont.; Treasurer, Frank Shore, White Oak, Ont.; Secretary, F. W. Hodson, London, Ont. Directors—John Campbell, Jr., Woodville, Ont.; John Jackson, Abingdon, Ont.; W. Whitlaw, Guelph, Ont.; J. C. Snell, Edmonton, Ont.; Capt. Wm. Rolph, Markham, Ont.; Rock Bailey, Union, Ont.; Peter Arkell, Teeswater, Ont.; Wm. Walker, Ilderton, Ont.; Thos. Palmer, Richmond Hill, Ont.

The following Vice-Presidents were appointed for the distant provinces:—Nova Scotia, A. C. Bell, New Glasgow; P. E. I., Benj. Wright, Charlottetown; Manitoba, Wm. Thompson, Miami; British Columbia, Mr. Kirkland, Lander's Landing; Quebec, E. Casgrain, L'Islet.

Mr. John Dryden's bill, now before the Legislative Assembly, to amend the Act to Impose a Tax on Dogs and for the Protection of Sheep, was taken up and discussed. A resolution endorsing the same was unanimously adopted.

The President, Messrs. Dryden, Wade and Snell were appointed a committee to wait on the proper officials of the railroad companies, and endeavor to secure better rates and report the result of said interview to the Secretary at an early date.

Messrs. Dryden, Miller and Hodson were appointed a Committee to confer with the Executives of all other Canadian Live Stock Associations in order to hold the annual meetings consecutively, so that farmers may attend several such meetings at the same expense for travelling as is now incurred to attend each singly.

It was resolved that the Association petition the Directors of the Provincial Fair and the Toronto Industrial to give a special prize in the leading classes, to a flock composed of three yearling ewes and three ewe lambs, all to be bred and owned by the exhibitor.

Ald. Hallam, Toronto, and F. L. Fowke, Oshawa, each gave instructive addresses on the Canadian wool trade, in which they showed many thousand dollars were lost by Canadian farmers by not properly caring for their sheep and thus injuring the wool. At the close of his address Mr. Hallam invited the members of the association to a supper which he had ordered. The invitation was accepted, and a vote of thanks tendered to him for his excellent address and for his hospitality.

The following papers were then read :—

1. The Flocks of Ontario; Can they be Profitably Increased? By Mr. John Dryden, M. P. P.

2. Can the System of Judging at Fairs be Improved? By Mr. John Jackson.

3. The Value of the Merino Sheep. By Mr. R. Bailey.

4. Management of Breeding Ewes from September to June. By Mr. J. C. Snell.

5. How to Grow Large and Well-matured Lambs. By Mr. John Campbell, Jr.

6. Canadian Records for Sheep. By Mr. John Jackson.

As the Association as yet receives no government grant, and therefore did not employ a stenographer, much of the discussion, which was of a very instructive nature, cannot be properly reported; but in a future issue we will print as much of the papers as space will permit.

Mr. John Dryden, M. P. P., Hon. Chas. Drury and Prof. Shaw were elected honorary directors.

The following gentlemen were recommended to the Fair Boards as suitable judges in the classes mentioned :—

SHROPSHIRE—Jas. Russell, Richmond Hill; Wm. Bain, Foley; John Lander, Launton; Simon Lemon, Kettleby; J. F. Rundel, Birmingham, Mich.; W. J. Garlock, Howell, Mich.; Frank Shore, Oak Ridge; D. Dyer, Columbus; Robt. Collacutt, Tyrone; W. M. Grant, Woodville; H. H. Spencer, Brooklin; Prof. Shaw, Guelph; John Brown, Springville; John Consworth, Powis; J. P. Phin, Hespeler; G. P. Everett, Mount Vernon.

SOUTHDOWN—Thos. Wilkinson, Hamilton; James Smith, Mount Vernon; Simon Lemon, Kettleby; H. H. Julian, Colchester; A. R. Kidd, Warsaw; W. D. Metler, North Pelham; Wm. Martin, Binbrook; A. Telfer, Paris; D. G. Hanmer, Mount Vernon; T. C. Douglass, Galt; R. Rivers, Walkerton; E. J. York, Wardsville.

LEICESTER AND LINCOLN—Geo. Weeks, Glanworth; Bilton Snary, Dawn Mills; Wm. Cowan,

Galt; Mr. Allan, Bowmanville; John Miller, Brougham; Wm. McKay, Elm Bank; Jos. Pearson, Whitby; Jos. Snell, Edmonton; J. C. Snell, Edmonton; H. B. Jeffs, Bond Head; Thos. Clarkson, Kettleby; W. E. Swain, Valenia; Robt. Miller, Brougham; Andrew Telfer, Paris; John Mason, Princeton.

COTSWOLDS—Thomas Teasdale, Concord; Simon Lemon, Kettleby; Thomas Colley, Castlederg; Thomas Waters, Rockwood; Arthur Johnston, Greenwood; John Thompson, Uxbridge; Robert Miller, Brougham; Wm. Bowes, Concord; Joseph G. Snell, Edmonton; Wm. Hodgson, Brooklin.

MERINOS—Louis Lapier, Paris; George Weeks, Glanworth; C. Buchanan, Branchton; Wm. Farr, Aylmer.

It was resolved that the next annual meeting be held in the city of Toronto. The association then adjourned, subject to the call of the executive.

The Future of Shorthorns.

(Read by Mr. R. Gibson before the Dominion Short-horn Breeders' Association.)

At your President's suggestion I offer you a paper on "The future of Shorthorns." Believing as I do that it is the duty of every member of this association to do what he can to make the annual meeting more interesting, to that end I have consented to prepare a paper on the above subject, and so add my mite, promising however, that I do not wish to pose as a prophet, or that I am able to see further into the future than my brother breeders. I do not pretend as much, but this I do know, that a great many breeders are feeling discouraged, and also that there is but little money to be made out of them now, or prospectively. It is to such I wish to address myself, and I trust I can give them some little encouragement.

In the first place, let us cast back for four or five years, and notice the change in prices that has taken place in that time amongst the various other breeds of cattle. Herefords were booming; as much as \$500, \$600, or \$700 were being paid for bulls for ranche purposes. That trade is gone. As milkers they are not a success, hence of but little value in the thickly populated States, where milk, butter, cheese and cream are required as well as beef, and are only of value on the rich black soils within the corn belt of the Prairie States, and their worth has depreciated so much that they are now of less value than the Shorthorn, the breed they maligned so much, and that notwithstanding the amount of money in advertising and helping the boom, in every way that money, tact and organization could accomplish. To stop importations they even went so far as to impose a fee of \$100 on each imported animal offered for entry in their herd book. While the Shorthorn breeder fought against every breed unassisted, he had also to fight those who should have been his friends, viz., other Shorthorn breeders; that is, breeders of other strains of blood besides his own, and they were often his worst foes. Whereas the Hereford breeders were thoroughly organized and disciplined, and pooled their cattle and fought as one man, hence the secret of so many triumphs in the show-rings.

What of the Angus? Notwithstanding the successes at the fat cattle shows their star is set, except in the corn belt of the Prairie States. Have they not been worked for all they are worth? I venture to predict that within a very few months there will scarcely be a respectable herd left in Ontario; they are not wanted here, and the boom in the States is broken—no marching through the city streets with herdsmen

dressed in kilts, leading the "Bonnie Doddes," with pipers at the head of a procession. No importations are being made. Last year the first for some time, at the annual spring sales in Scotland, the Shorthorns were not only in most demand, but actually realized the higher figures. I will not detain you continuing the parallel with Holsteins, Jerseys, etc. You all know they have depreciated in value more than the Shorthorn.

But I would not have you assume that I predict a brighter future for the Shorthorn because of the depreciation in value of the other breeds; but only in as much as so many young breeders were coaxed away to seek after false gods in the shape of antagonistic breeds; and as these breeds have been tried and found wanting, in the future we may expect an exodus of young breeders who have of late years been persuaded to invest in anything but Shorthorns. But there are signs that would indicate we are now nearing the morn of a bright and prosperous day, and I think the golden rays can now be seen—instanced by the sale in Chicago last November, when 79 head sold for \$43,320—average over \$548—and 12 head of one family sold for \$29,050, an average of \$2,420.

Again, there is the fact that Shorthorns are thoroughly useful. They are not a fancy article, like a piece of old china, but intensely practical, and of every day utility. That they the more nearly approach the general purpose cow than any other pure breed is unquestionable, and if any doubters could only see the good cows now used in the large dairies in the vicinity of London they would no longer be in doubt as to their value as milkers; and my firm belief is that even if the Hereford or Angus could take their place as beef manufacturers, their influence in the dairy economy could not be filled elsewhere, and they would be wanted for that purpose.

It may be objected I am saying too much on this subject, but I feel it is one of the most important questions in connection with the breed to-day. You can have good milkers and good feeders. I have had them and so can others.

Though prices are not as high nor the demand as great as we might wish for, Shorthorns can yet be bred profitably, and I wish you not to forget that in the natural course of events there must be times of depression. There never has been a business or industry of any magnitude that has been continued for a length of time but what has met with reverses, and why should we expect the breeding of stock to be an exception? There have been periods in the history of the breed on this continent when the situation was gloomy indeed. Mr. Allan, in his history of the Shorthorn, writes: "With the year, 1840, under the continued depression of the financial interests of the country at large, the spirit so active during several periods in cultivating the Shorthorns waned, and further importations ceased. There

are little or no encouragement for breeding Shorthorns. Under this depressed condition of affairs hundreds of well-bred bull calves were castrated for steers, and many cow-calves spayed and reared for the shambles. Prices for the best blooded animals were merely nominal; public sales were scarcely made at all as in the past years, and private sales infrequent; nor was the depression for a few years only, but continuous or nearly so to the year 1850. In Kentucky, New York and New England, Shorthorn values were no better, and many breeders who had begun rearing them

but a few years before, became disgusted with their stock, turned their choice bred cows into the dairies, put them to common bulls and sold off their calves remorselessly to the butcher. During this depressing period numerous good pedigrees were lost as not being worth preserving, and many valuable families of this lordly race became almost if not wholly extinct."

What a picture! And yet in the year mentioned, viz., 1850, we find a small bevy of American gentlemen crossing the Atlantic and attending a sale held at Kirklevington in May, where they succeeded in purchasing three females. And again, three years later at the Tortworth sale, the same, with other Americans, laid the foundation for a herd whence a single cow realized very much more than the whole 68 animals brought at Kirklevington—herd that at public auction realized \$380,490 for 108 head.

Then let us take heart; let us not be discouraged. The signs are right and the good times are coming. There never has been, within my memory, a time when a breeder could so easily set himself right if on the wrong track. Never a time when a foundation for a herd could be procured at such a small cost, and never a time when money invested in well-bred animals at current prices seemed so certain of being safe and profitable. Just as sure as summer follows winter, as sure will depression be followed by buoyancy. And just as sure as Ontario is worth farming, stock must be the leading feature; and if so, the Shorthorns must take that high position to which they are entitled, both by their lineage, prepotency and intrinsic worth.

First Prize Essay.

WHAT PROFIT IS DERIVED FROM THE AVERAGE CANADIAN DAIRY COW? HOW CAN THIS PROFIT BE INCREASED?

(Continued from last month.)

Any farmer that keeps five or six head of cattle can, by feeding silage, easily save during one winter enough in the cost of feeding to more than pay for the silo. We have tried it, and can speak very strongly in favor of the silo, and it is our intention to build another for next winter. We have found that the milk and butter from cows fed on ensilage is most satisfactory, and the best results have been obtained.

2nd.—FORM IN WHICH FOOD SHOULD BE GIVEN.

It is not economy to feed fine meals, as peas, corn, etc., dry, for these form into a mass in the stomach and lead to serious results, but if mixed with cut hay or straw they become porous and are good for cattle. Food to be healthy must be porous, and a cow must have a certain quantity of coarse food, but too much coarse food is not good if a large quantity of milk and butter are required. If too much coarse food is given, it requires too much time for the cow to chew it properly, whereas if she had more concentrated food, she could get more milk and butter from it in the same time. Whatever man does that saves the cow from doing, is a benefit, and that cow will show better returns. Therefore it is well to grind the grains, cut the hay and straw, thus saving waste, and assisting the cow. The greater the mixture the better.

3rd.—BETTER CLASS OF STOCK.

There are too many inferior cows throughout Canada to make the average dairy cow a profitable one. Some have inferior cows and do not know that there are any better, for there is no way of reaching them. They neither go to exhibitions or Farmers' Institutes, nor read the very valuable stock papers of our country, so they remain at home, and feed their stock \$40 worth of food, to produce \$30 worth of butter, and are seemingly satisfied. However, they are rapidly falling behind in the race, and will soon pass off the scenes. Others hang on to the little

scrub cow, and accordingly they make farming a hard and unprofitable life in so doing, and their sons having no stock they can take a pride in, leave the farm as soon as possible.

A feeling is spreading over our fair provinces that the "scrub must go," and as proof of this we could cite instances in which thorough-breds of the dairy breeds are being introduced. The crossing of thorough-bred bulls of the dairy breeds is proving most satisfactory, and the future of the Canadian dairy cow is beginning to look much brighter. Ontario is virtually a dairy province, although the beef interest still has an important hold. Creameries, cheese factories and private dairies are demanding a better dairy cow, and the Holstein, the Ayrshire and the Jersey are coming to the front. Experience shows that the dairy cow should be large, have strong constitutions, and be persistent milkers.

4th.—COMFORTABLE STABLES.

Milch cows should be kept in good warm stables and have comfortable stalls; stanchions do not give cows enough liberty of motion, and should not be used. Whatever takes away comfort from a cow, takes away milk. Cold stables, or cows allowed to stand around stacks, lessens the flow of milk, and the cow makes a poorer quality. It requires food to keep up the animal heat, and if the food is consumed in this way it cannot go to produce milk and butter. She should be free from all causes of worry or excitement, should be given pure water, and in severest weather the chill should be taken off of it. It costs milk to raise the temperature of water in a cow.

Farmers would make more profit from cows if their cows came in late in the autumn, because then they would receive, during the winter months, the highest price for butter, and in the spring the flow would again be increased. Besides this, the farmer could take better care of the calves, for he has little to do during the winter, whereas if they came in in the spring the farmer would have to spend time with cows which could be better employed. So that he could work in winter to advantage, and save time in summer.

The Science and Practice of Stock Feeding.

BY PROFESSOR G. H. WHITCHER,
Of the New Hampshire Agricultural Experiment Station.

(Continued from last issue.)

PRACTICAL USE OF FEEDING TABLES.

Two questions cover the whole field. 1st: How much food does an animal require? 2nd: How can a ration, which will furnish this amount, be decided upon?

The answer to both comes from the tables that are given in another column, and, therefore, I will explain what the tables are, and how they were prepared.

The knowledge which we have concerning the requirements of various animals under varying circumstances, comes largely from German scientists, who have devoted much time and money to agricultural investigations. Their methods of working out the results that have been obtained may be best explained by giving the actual records. The first step is to determine the amount of food actually required to keep a given animal, without gain or loss; this is called a "maintenance ration." From "Armsby's Manual of Cattle Feeding," I select an experiment made by Henneberg and Stohmann. Oxen weighing one thousand pounds were fed on the following rations daily:

Experiment.	Pounds.	Pounds.	Pounds.
1. 19.5 clover hay.	13.0	oat straw,	0.6 rape cake
2. 3.7 "	14.2 "	0.5 "	
3. 2.6 "	13.3 rye straw,	0.6 "	
4. 3.8 "	12.6 oat straw,	1.0 "	
5. 25.6 mangels,			

This rape cake is of about the same composition as the linseed found in the markets of the United States.

All of these, except the first, kept the animals in good health, of a constant live weight, or nearly so. Let us take the third experiment and study it. We have a ration that will keep a one thousand pound ox without loss. This question comes up: What amount of albuminoids, carbohydrates and fat, does this furnish? The experimenters analysed the foods and determined the digestibility of each constituent. The following table shows the digestible matter per one hundred pounds of each article used in the test:

100 lbs. of the following materials contain.	Albuminoids.	Carbo-hydrates.	Fat.
Clover contains.....	6.00	39.5	1.0
Oat straw contains.....	.87	45.5	0.30
Linseed contains....	27.00	28.3	9.00

With this table we can compute the exact amount of digestible matter that the ox received in that ration. This is given below:

Furnished Digestible. lbs.	Albumin- oids. lbs.	Carbo- hydrates. lbs.	Fat. lbs.
Clover.....	2.6	0.156	1.02
Oat straw.....	14.2	0.123	6.46
Linseed.....	0.5	0.135	0.14

Total digestible matter daily..... 0.414 7.62 0.113

Here we have a definite quantity of nutritive matter, that was found capable of supporting an ox. Now, if from any combination of food we are able to supply this amount of digestible matter we may be tolerably certain that the results will be satisfactory for an animal that is standing still in a warm stall. A majority of farmers, however, do not care to feed simply for maintenance, but want growth, or milk, or wool. The same method of investigation has been applied to all cases. Cows giving milk were fed on various combinations of such fodders as the German farmers produce. After many trials, these rations, which seemed to be best adapted, were taken as standard, and when value was established by enough trials, the food was analysed and the same method of computation applied, as in the case above tabulated. In the same way fattening cattle, horses at work and resting, cows not in milk, growing cattle, swine, etc., have been experimented on and *standard rations* established.

Two tables are necessary in computing rations, one showing what quantity of *albuminoids* and *non-nitrogenous material* is required daily by various animals for each one thousand pounds of live weight, the other showing the composition of the digestible part of all the foods that the farmer is likely to have at hand.

TABLE B.—FEEDING STANDARD.
Showing digestible substances required daily by the following animals per 1,000 pounds of live weight:

1000 lbs. of live weight require daily.	Albuminoids. lbs.	Carbo-hydrate. equivalence. lbs.	Nutritive ratio.
Oxen, at rest.....	0.7	8.37	1:12
Oxen, moderately worked.....	1.6	12.05	1:7.5
Oxen, heavily worked.....	2.4	14.45	1:6
Oxen, fattening.....	3.0	16.35	1:5.5
Cows, giving milk.....	2.5	13.50	1:5.4
Horses, light driving.....	1.8	12.70	1:7
Horses, heavily worked.....	2.8	15.4	1:5.5
Growing cattle.....	2.5	15.0	1:6
Sheep, for wool.....	1.2	10.8	1:9
Sheep, fattening.....	3.0	16.45	1:5.5
Swine, fattening.....	4.0	24.0	1:6

TABLE C.—FEEDING STUFFS.

100 lbs. of the following materials contain.	Albuminoids.	Carbo-hydrate equivalence.	Nutritive ratio.
Herdgrass (timothy) hay.....	3.45	48.71	1:14
Redtop hay.....	4.74	48.19	1:10
Mixed hay.....	3.71	47.61	1:12.8
Mixed hay and clover.....	4.85	46.40	1:9.5
Salt marsh hay.....	2.27	45.83	1:20
Clover hay.....	7.58	48.00	1:5.7
Vetch hay.....	9.20	37.67	1:4
Oat hay.....	4.86	44.83	1:9.2
Winter rye hay.....	10.3	51.7	1:5
Millet hay.....	4.07	45.43	1:9.7
Raven.....	6.81	41.74	1:6.1
Oat straw.....	1.45	43.31	1:30
Bean vines.....	5.00	36.45	1:7.3
Corn stover.....	2.15	41.38	1:19
Ensilage (northern corn).....	1.47	14.80	1:10
Ensilage (southern corn).....	1.82	12.75	1:9.6
Ensilage (sweet corn).....	1.84	14.92	1:8
Pasture grass.....	2.5	10.9	1:4.4
Green rye.....	2.00	12.87	1:6.4
Potatoes.....	1.42	17.70	1:12.4
Sugar beets.....	1.5	7.81	1:6.5
Corn and cob meal.....	7.18	66.52	1:9.3
Corn meal.....	7.78	71.00	1:9.2
Barley meal.....	9.64	65.95	1:6.9
Oats, ground.....	9.90	58.16	1:5.9
Buckwheat, ground.....	7.7	66.71	1:8.7
Linseed (old process).....	28.12	68.21	1:1.9
Linseed (new process).....	28.57	44.30	1:1.5
Cottonseed meal.....	31.36	42.26	1:1.3
Shorts.....	18.26	62.70	1:4
Middlings.....	13.35	57.72	1:4.3
Gluten.....	25.14	61.90	1:2.4
Brewer's grains (wet).....	4.78	16.22	1:3.4
Malt sprouts.....	15.36	62.18	1:2.8
Cow's milk (whole).....	3.00	14.0	1:4.6
Skim milk.....	3.23	6.94	1:2.1
Butter milk.....	2.9	4.50	1:1.5

With these two tables any farmer can gain a tolerably correct idea of what his live stock require, and also can compound rations which will satisfy these requirements; and if from the variety of fodders which are to be found on most farms, together with such grains as are to be had in the market, a daily ration can be formed which will contain the digestible albuminoids and carbo-hydrate equivalence, shown by table B, to be necessary for a given animal under given conditions, it may reasonably be expected that such a ration will be very satisfactory. I do not, however, wish to be understood as claiming that these tables are absolutely exact, for they evidently cannot be, but they are *guides* to good and economical feeding, and when supplemented by good judgment and close observation are sure to give much better results than can be obtained by good judgment alone. No man can afford to disregard the experience of careful men, who have spent a life time in searching for laws which govern the nutrition of animals, and the man who regards his own limited experience as superior to that of scores who have spent their whole time in studying this difficult problem, stands in his own light, because certainly no evil can result from accuracy in feeding, and the chances all favor an improvement by such exactness.

[TO BE CONTINUED.]

Let there be one hundred horses bred as trotters by an experienced breeder; the same number of coachers by one of equal experience, and so on of heavy draught. When all are sold, the breeder of heavy draughts will have far the most money. In breeding trotters and coachers there are so few that are up to the high standard required in these classes.

The most disastrous "trust" that ever enveloped a farmer is "to trust to luck" to grow a crop from poor seed and half cultivated and impoverished land, while he talks politics and bewails the grasping cupidity of the rich, and concludes that all the folks not inside of some "trust ring" of thieves, are to be incontinently "chawed up," and that the monopolists are soon to own "the earth."

Veterinary.**The Milk of the Cow and its Disorders.**

BY C. H. SWEETAPPLE, V. S.

It is well known that the milk of the cow varies much, both in quantity and quality, in different breeds, and in different individuals, also it is much influenced by the nature of the diet. Still though under healthy conditions the variations are extensive, they are more so as a result of disease. It is the only substance completely prepared by nature as an article of diet, and so constituted as to furnish materials for the development of all the various organs and tissues of the young animal. It contains saccharine and oleaginous matters for the production of heat and formation of fat, caseine for the formation of flesh, earthy salts for the development of the bones, common salt to furnish by its decomposition the necessary acids and soda of the system, and the large proportion of water it contains supplies this essential element to the body.

The mammary gland, or udder, by which organ the milk is secreted from the blood, is largely developed in the cow, having been much increased in size and activity by artificial selection. It consists of four distinct quarters, each with a teat. These quarters of the udder are separated from each other by fibrous divisions, so that practically there are four distinct glands, and disease or injury may exist in one or more quarters without the rest being affected. Changes in the quality of the milk are due to excess or deficiency of its natural components. As some milk gives scarcely any cream, while in other cases the quantity is scanty but the cream abundant. Bluish, watery milk is given sometimes by debilitated animals in the usual quantity. These and similar conditions are in a great measure dependent on feeding and general management. It is also frequently found that the milk of one cow gives little butter, also that the milk of another is not valuable for cheese. These variations frequently depend on breeding and individual characteristics.

But the subject that is certainly of equal importance to the dairyman is, the changes that take place in the milk consequent on disease. Thus we may have disease or derangement of the whole system, by which the secretion of milk is altered both in quantity and quality to a greater or less extent according to the severity of the disease, and it may be well to remark that the products of disease and disease germs may be carried in the milk, also that medicinal agents administered to the cow may pass off in the milk and seriously affect those who partake of it as a diet.

Inflammation of the udder itself may arise from a variety of causes, such as wounds, bruises, etc., or the result of lying in cold, wet places when the system is especially susceptible of such influences by reason of recent parturition, and, as before remarked, the inflammation may be confined to one or more quarters, or the whole udder may be affected. In severe cases the swelling, hardness, and pain may be excessive, and the secretion of milk perhaps completely arrested, or what can be extracted is watery and curdled, and frequently contains blood. The treatment of cases of this nature should consist in the administration of a good saline purgative,

about a pound to a pound and a-half of epsom salts, with a spoonful of ground ginger in a quart of warm water. The milk should be frequently and gently abstracted by the hand, or should that give pain the teat syphon, well oiled, should be used. Warm fomentations or warm poultices to the udder constantly applied usually give great relief, and appear to be most grateful to the animal—a poultice of linseed meal, containing a little of the extract of belladonna is an excellent application. Poultices and other applications of this kind are best retained by a wide and tailed bandage, in which are holes for the teats, and which passing upwards on each side at the flanks, and back between the thighs, is secured over the loins and croup. The warmth and moisture may be retained much longer by covering the poultice outside with a piece of oil cloth or rubber.

A rheumatic inflammation of the udder is also not uncommon. This, though often not very acute, is apt to recur at intervals, and like other rheumatic affections is frequently troublesome. Here a saline laxative and the warm fomentations to the udder as before, followed by the salicylate of soda internally, and a stimulating liniment well rubbed into the udder would be advisable. It must be remembered that the skin of the udder is quite thin and sensitive, therefore care must be observed that the applications are not too hot, but merely warm, soothing and comfortable to the animal, or they may prove injurious.

A congestive state of the udder is very frequent, particularly after the first calving in young, highly-fed heifers; it also may occur from sympathetic excitement at the time of the periodical "heat." In cases of this character the milk is often thin and watery, alsoropy and curdled, and traces of blood may frequently be observed in it. This condition is usually speedily relieved by the administration of a laxative combined with warm fomentations and gentle hand-rubbing to the udder. But acute inflammation of the gland, in which considerable pain may be evinced, with the skin tense and shining, perhaps reddened, the teat or teats enlarged, hard and sensitive, with the secretion of milk completely arrested or changed in character, and containing clots of blood or pus, is a more serious affair. With proper treatment and attention, careful and frequent milking, constant fomentations or poultices, and good nursing, complete recovery may take place in a few days, but if neglected or improperly treated serious results may ensue, as abscesses may form in the udder, or changes may take place in the gland, that may destroy the powers of secretion. Cases occasionally occur in which "gangrene" (mortification) of the udder results, also in long standing cases when not relieved the death of the animal may ensue.

It not unfrequently happens that slight changes in the quality of the milk may be observed, such as it beingropy or curdled, or containing traces of blood, with the general system in a state of health, and no apparent swelling, hardness, pain or disease in the udder itself. In these casesropy or curdled milk may be produced by some temporary excitement, by neglect in not milking the animal dry, or by obstructions in the teats, or possibly by disease in the udder of a rheumatic character. A tinge of blood in the milk with the animal in a perfectly healthy state would probably proceed from an escape of a small quantity of blood from the lining membrane of the teat itself or from some of the minute deep-seated capillaries that have been distended by congestion. Tumours of different characters, cancerous, tubercular, etc., may also cause the admixture of foreign matters in the milk such as blood or pus, and in some cases these tumours may be so deeply seated in the udder as to be difficult to discover.

The Dairy.**Rye as Spring Feed.**

Few dairymen who have once fed rye to their cattle in the spring will be willing to do without it, says the Philadelphia Press. We have observed in actual practice that when the feed of milk cows was changed in spring from the ration of good hay, with fair addition of wheat bran, cornmeal and cottonseed, to green rye with no grain whatever, the milk product was not diminished. This could hardly be accounted for by the tables which give the analysis of the feed and its digestibility. Professor Ferar, of the Pennsylvania station, has been making some experiments, from which he concludes that rye for soiling has a higher degree of digestibility than has been claimed for it, that is, there is less waste in feeding it. Besides this it yields a larger actual amount of nutritive matter and a larger proportion of nitrogenous matter which is essential to milk production. This accounts for the fact that when rye is taken from good soil just as the head is forming it makes a very complete ration, and does not need to be helped out with concentrated foods.

The Milking Properties of Shorthorns and How to Improve Them.

(Read before the Canadian Shorthorn Breeders' Association by J. C. Snell.)

It has been justly claimed by the friends of the breed that the Shorthorns combine all the desirable qualities we need to look for in the bovine race, and we may safely say that they cover all the ground more completely than does any other breed in existence.

For the production of the largest quantity of the best quality of beef at the least cost, the records of public tests in England and America unmistakably show that the Shorthorns and their grades have grandly held their own, while as an improver of other breeds and of native cattle no other breed has shown such splendid results, as is seen in the fine grade cattle of this and other countries.

These assertions which the few who are interested in cattle of the rival beef-breeds may dispute, but it is clear that the concensus of public opinion in this country, after a fair trial of the different breeds for the last 25 or 30 years, is overwhelmingly in favor of the Shorthorns, as is evidenced by the large and increasing number of breeders of these, as compared with a few who have adopted the other breeds, and the very limited extent to which they or their grades have spread in the country.

But we have evidently arrived at a point in the history of agriculture in the Dominion, and especially in Ontario, where the cultivation of grain for sale can no longer hold the prominent place in the plans and resources of the general farmer that they formerly held, and when the rapid growth of our towns and cities, and the consequent demand for dairy products clearly point to the wisdom of providing for the supply of these requirements, and to the necessity of breeders of Shorthorns giving more attention to the milking properties of their cattle.

Fortunately for us we have no cause to be ashamed of the past record of the breed, for among the unchallenged facts of history none stand out more clearly than that in the early days of the breed Shorthorns were undoubtedly milkers, but it is a matter of regret that in our day we are too often compelled, in order to keep

faith with conscience, to cite the performances of the grand-dam, the great grand-dam, or even some more remote ancestors, to make out a presentable case in favor of the milking qualities of our present herds. Yet I claim that it is matter for congratulation and pride that if this is the rule, there are many fine exceptions, in spite of the general practice of a system of treatment which has been calculated to deteriorate rather than to build up or improve the milking tendencies in our cows. I refer to the practice of high feeding from calf-hood to maturity, with a view only to developing the beef producing properties, with little or no attention being given to the milking qualities.

I venture to say that if the same system of feeding and training were for a few years applied to any of the so-called milking breeds they would make even a worse showing in this regard than do the Shorthorns of to-day.

Not only has the treatment of our heifers prior to maturity been generally adverse to their milking qualities, but their experience after becoming mothers has been largely of the same nature. Being required to breed rapidly and to give milk only for a short term of from six to eight months, when their calves are weaned, as a rule, has not been calculated to establish a habit of persistence in the direction of milk production, and worse than this is the custom practiced by some breeders of having their heifers produce their first calf at two years old, putting their calves with a foster-mother and drying the heifer off in a few weeks in order to allow her to complete her growth, a system which is manifestly ruinous to the milking propensities of the cow, checking and stifling the natural tendencies and turning the energies of nature in an entirely foreign direction.

When we think of the extent to which such treatment as I have described has been practiced, the wonder is not that the breed is not famed for milking qualities, but that the cows are able to support their own calves. Yet they are doing this and doing it so well, as a rule, that no one can fairly say they are failures as milkers.

Now if my premises so far are correct; if the demand for milking Shorthorns and for bulls bred from milking families is increasing, and likely to increase, is it not wise to prepare to meet the demand? and if so, how can it be best accomplished?

Personally I have no hesitation in saying I have the most unbounded faith in the capability of the Shorthorn, if properly selected, bred, fed, and trained, to make the most successful dairy cow in the world. Then how can it be done? I answer, just in the same way that such wonderful results have been obtained in the case of the phenomenal cows of other breeds, of which we read. Given as a basis a good Shorthorn cow, known to be a good milker, with the proper conformation for milking tendencies, a well-formed udder and prominent milking-veins, soft skin and hair, and a good constitution, breed her to a pure Shorthorn bull known to be the son of a deep milker, the grandson of a deep milker, and the great, great grandson of a deep milker. If you cannot get all this, get as near to it as you can. The produce, if a heifer, should not be allowed to suck its dam, or any other calf's dam; it should be raised upon skim-milk, and an abundance of such food as will have a tendency to furnish bone and muscle, with abundant exercise and fresh air. Let her produce her first calf at thirty months old, and with kind treatment, regular milking and liberal feeding, you will have laid the foundation, broad and deep, of a good milking family upon which you may safely and successfully build. Then by milking for a long time after the first calf, before she is allowed to have her second, you will have established a habit of persistent milking which is of immense value in a dairy cow, for it is not the cow which gives a large flow for a few weeks in the flush season that makes the astonishing

yearly records we read of, but the one that with good treatment keeps at it for 365 days, if required, and does it well to the last day.

By perseverance in this line, careful selection of sires, and a faithful application of the principle of the "survival of the fittest" weeding out such as fail to reach a fair standard of merit, there is a reasonable certainty that deep milking families can soon be established and confirmed. And I am firmly of the opinion that in a system of mixed farming such as is generally adopted in Canada, there is no class of cattle which can be made so profitable as the Shorthorns and their grades. The "general purpose" farmer is overwhelmingly in the majority, and he demands a "general purpose" cow, and for the supply of his demands he instinctively and reasonably looks to the Shorthorn and its grades; but the wise general farmer properly enough insists upon having a cow that is a generous milker, as well as one that will feed rapidly into beef after she has served her purpose as a milker, and the wise breeder knows he cannot afford to disregard the preferences of so large a constituency of customers.

The cow which will raise a good calf on her skimmed milk to be profitably fed on the farm into a high class beef animal at two years old, and at the same time produce a good quantity of butter to pay for her keep and enough over to provide groceries for the family and help to keep up the bank account, and when she fails to breed, can be rapidly fed into a beef animal that will bring a high price, is surely a profitable animal, and she is one which the average farmer can afford to have.

These are the cows the large dairymen are looking for—large cows which they can feed off to advantage at the end of their milking term. These are the cows which bring the highest prices at public sales, and these are the cows which produce the fine steers which have built up our great export trade in prime butcher's beasts which has added so immensely to our agricultural sources of wealth.

Then what is the duty and the interest of breeders of Shorthorn cattle, and of this association, in view of the present aspects and future prospects of business? It seems to be to encourage farmers and breeders to earnest efforts to improve and develop the milking properties of their cattle. And how can this be done? It can be done (1) by individual breeders making tests of the capabilities of their best milking cows and publishing them; (2) by the association offering prizes for the best authenticated records of milk and butter production of Shorthorn cows; (3) by supplementing, as the American Shorthorn Breeders' Association has so wisely and liberally done, such premiums as the leading fair associations can be induced to offer for dairy Shorthorns and for grade Shorthorns, and allow them to compete for sweepstakes with other breeds; and if such action is taken, then breeders must prepare for the fray. It will not do to trust to the chances of a "corporal's guard;" going up to the battle of the breeds, but concerted action should be insured, and the friends of the Shorthorns need have no fears about the results so far as their cows are concerned in public tests, if they go about it earnestly, intelligently and unitedly.

The records, where they have come into competition with other breeds, are largely in favor of the Shorthorns. In England, the home of the breed, it is well known that for many years past, and not only in the remote but in the recent past, at the leading exhibitions where such prizes have been offered, and open to all breeds, the highest honors have almost invariably gone to a Shorthorn cow, and in Canada, in the only instance we have on record where a grade Shorthorn competed with the milking breeds, at the Provincial Fair at London in 1885, under a careful test made by the professors of the Agricultural College, the Shorthorn grade won the highest honors easily, both for quantity and quality, though the only one of her class in the competition, and she by no means an extraordinary cow, while the milking breeds were largely represented by choice cows from the most famous herds in the Dominion.

These facts surely ought to encourage us to go on and to demonstrate, as I firmly believe we can, by the logic of pounds and ounces, that the

Shorthorn is not only the best beef breed, but also the best for the production of milk and butter.

Thus may we go on to perpetuate and intensify and extend the well-earned reputation of the cosmopolitan Shorthorn, the acme of bovine excellence in all that is beautiful, symmetrical and useful, accommodating itself to all climates, circumstances and conditions of life, and yielding to man all the profit, pleasure and satisfaction he can reasonably expect from the handling of any class of cattle.

The Farm.

The Oat Crop.

BY J. CAMPBELL.

This cereal, which is so universally grown, ranks in importance next to grass in connection with stock-raising in Canada. Not only is the grain used with benefit as a part of the daily allowance of all kinds of farm animals, but the straw, when properly saved, is valuable as food for horses and cattle, forming an excellent substitute for hay, when it is scarce and expensive. It is somewhat similar to grass, in that it can be successfully produced on nearly every variety of soil, and in localities where the less hardy cereals prove failures. But just because of its being so easily grown, adapting itself to many various conditions of soil and culture, we find it worse treated and more carelessly managed than any other crop. It is very generally recognized, and the practice is in accordance, that to ensure a paying crop of wheat, the soil must be clean, fertile, and carefully prepared. Likewise with barley-growing, thorough fall cultivation, and the making of a good fine seed bed in spring, are well known essentials to the securing of a large return.

The oat crop, however, might very well be called "the neglected" on many farms. Do we not often hear farmers say regarding some portions of their farms, "Oh, well, that field will give a crop of oats anyway," referring to land which has been cropped and re-cropped, until weeds have taken such possession, and the soil so mismanaged, that it is not "fit to grow white beans," as the common saying is. A deficient crop of inferior grain, greatly lacking in nutritive quality, is the usual result. It may be an absolute necessity at times to crop land which is not in a satisfactory state, though naturally good. In that case, it is surprising what good results may be had by good tillage. But we find that many who pass for good practical farmers, whose wheat and barley land will be carefully prepared in the fall, leave that intended for oats frequently untouched till spring, let the condition of the soil be what it may. This should not be so. If we seek the cause, it will be found in the fact of the former giving more cash returns, and therefore commands more immediate attention, but at the expense of the grains grown for stock use. But any person who carefully considers what real and genuine success in mixed farming is, cannot avoid arriving at the conclusion that the production of feeding materials of good quality to be fed, and so returned to the soil, is one of the strong points in the foundation underlying the superstructure of successful agriculture.

The mode of culture necessarily varies, according to the kind and condition of soil. That which is free from obnoxious weeds, and in which plant food is most abundant, should be so prepared in the fall that the making of a mellow

seed bed sufficient to cover grain, is all the spring cultivation required previous to the sowing. If worked to a greater depth, strong land with a moist season is apt to produce too much straw, resulting in laid grain and decreased yield. When grown on land somewhat low in condition, and weedy, which is not likely to grow heavy straw, very satisfactory returns have been got from surface cultivation in the fall, with gang plow or broad shear cultivator to the depth of three or four inches, going over once if clean, twice if weedy, followed each time with the harrow, then giving a thorough plowing immediately before sowing. With a favorable season there is rapid growth, and, even should it be late in the season, a profitable crop may be expected, unless rust should appear, which is the most dreaded enemy of the late wheat crop, except early frosts in some localities. Experience in growing oats after any other grain has been, that invariably fall plowing gave less straw but more grain than spring plowing. Those farmers who grow their crops in systematic rotation, usually have oats follow grass. In that case the sod should be plowed early in spring, sowed immediately, harrowed well and repeatedly, and rolled at once. By finishing the different operations as speedily as possible, the newly turned furrows are easier compacted, and the seed is given a better chance to begin its work of reproduction, also there is less danger of injury by drought. Late fall-turned sod can, all conditions being favorable, with due care be prepared in spring so as to be a good seed bed, but more or less grass is sure to grow, and if thistles are present in the soil they will outgrow the grain.

There are different opinions regarding the manner of sowing, as to whether drilled in, or sown with the broadcast seeder, is the most economical and productive. When drilled, the spouts certainly distribute the grain at a more uniform depth. It is also all covered, and during continued dry weather, the growth is more regular. For the first few weeks after the plants appear above ground it shows to better advantage, but from some cause, for which I cannot account, the broadcast sown grain towards earing time very often appears to be developing into the better crop. Some are of the opinion that the crowding together of the plants in the row is the cause, but may it not be caused by that which is claimed as an advantage for drilling, and really is, if not missed, viz.: Covering the seed so well, ensuring the growth of nearly all the grain, so that later on the plants have not sufficient nourishment to fully develop, according to the early appearance. We do not expect a score of animals to grow and fatten on a pasture field which produces sufficient grass for fifteen only.

Deciding from my own experience, and what I have observed of my neighbor's doings, I am still in favor of the broadcast seeder to scatter and cover the grain for early sowing, followed soon by the harrow, and rolled as soon as convenient. Late in spring, with ground wanting in moisture, and dry weather indicated, the drilling is advisable.

Some years ago, when Burpee's Welcome oat was introduced, I planted a two-ounce package in drills two feet apart, each grain at intervals of six inches in the row, and had it hand hoed. Though somewhat rusted, owing I believe to the rank growth and adjoining wheat, which was

struck with rust, yet the yield was over two bushels, and at the rate of sixty bushel per acre. The next season it was sowed broadcast, on low, rich, fall-plowed land, following fall wheat, at the rate of one bushel per acre. Passers by, early in the season, frequently inquired how that portion of the field was missed, as but a blade here and there appeared. For a time it was quite easy to walk over the ground without touching a plant, yet when harvested it was laid in all directions, but gave over sixty bushels per acre. Still I would not advise, nor do I practice such thin sowing, but at the same time have no doubt of much grain being wasted, and the yield reduced in many instances by too liberal a supply of seed. Two bushels per acre on good, strong land, and two and a-half on light soils, are the largest quantities to be sown with profit. Many varieties of this useful grain are grown, and new ones are introduced by enterprising and reliable seedsmen, but it is wise to make haste slowly in exchanging a variety which has been found satisfactory, for one which may have been very productive on a different kind of soil. Some which yielded largely on the clays have been comparative failures on the sandy loams. Also there are some kinds, as the Egyptian, Welcome and Surprise, which have the fault of retaining their vitality in the ground during the winter, and growing up in the succeeding crop, which, in the case of wheat and barley, would be a serious objection. These varieties are supposed by many farmers to be difficult for horses to properly masticate, because of their tough hull, so that when fed whole a percentage is passed undigested, which, besides being a loss, direct proves troublesome by growing in the droppings where not wanted. Then there are the swindler's varieties, Bohemian, Hulless, etc., which, however productive of profit for the sharp venders, are sources of vexatious loss and bitter bewailings to the luckless purchasers.

What Our Seedsmen Write Us.

John A. Bruce & Co., seed merchants, Hamilton, write us as follows:—In reply to yours, requesting information as to which varieties of corn, potatoes, turnips, carrots and mangel wurzels succeeded best in this vicinity the past season, and from all the information we can gather, beg to report as follows:—

Corn for Fodder or Ensilage ("Red Cob Ensilage.")—This is a mammoth white corn, and is considered by the largest growers the best fodder corn in use to-day. Forty tons per acre is a common yield.

Corn for Feeding.—The leading and best-known varieties in this district, and we may add, the corn-growing sections of Ontario, are Compton's Early Yellow, 12-rowed; The Angel of Midnight, very prolific and large grained; 8-rowed Yellow Flint; the ordinary 8-rowed Yellow Flint, and the Golden Dewdrop. This is a new variety from the New England States, and is strongly recommended for Ontario. It is early and very productive, and quite distinct in color from any other sort. The 8-rowed White Flint is also a favorite in this locality.

Potatoes.—The leading varieties are Early Rose, Beauty of Hebron, White Elephant, Early Sunrise, Empire State, Queen of the Valley, Early Ohio, Dakota Red. The Thorburn is one of the more recent introductions, and is a seedling of the Beauty of Hebron, and is remarkable for earliness, productiveness, and dry, mealy flavor. Rural New Yorker No. 2, now offered for the first time, and said to be the nearest to perfection of any potato yet introduced, exceeding all other first-class sorts in yield; the skin is white, as

is also the flesh which is of superior quality, and in earliness, an intermediate variety.

Turnips (Swede).—The varieties mostly in demand are Selected East Lothian, Hall's Westbury, Marquis of Lorne, Royal Norfolk, Skerving's Improved, Shamrock and Bangholm. For late sowing and early feeding Aberdeen Yellow, Grey Stone, White Globe and Mammoth Purple Top.

Mangel Wurzel (Long Varieties).—The Gatz Post, Mammoth Long Red and Norbiton Giant are the leading varieties. (Globe and Intermediate Shaped Varieties)—Yellow and Red Intermediate, Yellow and Red Globe, Golden Fleshed Tankard and Red Fleshed Tankard.

Field Carrots (Large).—White Belgian Green Top Orthe, roots shorter and thicker than ordinary White Belgian; Large White Vorges, a very superior white carrot, roots large, thick and short, and better adapted for shallow soils than the longer-rooted sorts.

Messrs. Steel Bros. & Co., Toronto, in a communication to us say: Since the introduction of our Improved Short White Carrot, the demand for the seed has constantly increased. Every grower who has used it acknowledges it to be the largest and heaviest cropper known, and unequalled in feeding or keeping qualities. The roots are short, very heavy at the shoulder, regularly tapering to a point of uniform shape, and smooth, and are very easily harvested. No other new variety of field roots has gained in such favor and demand in so short a time. It has now been tested in nearly every section of the Dominion, and from every quarter it has received the very highest recommendations. We know of no other variety that will give the same unqualified satisfaction, or that has received so many flattering testimonials.

Among the mangel wurzels we favor our Selected Mammoth Long Red, and among the turnips, after many carefully conducted tests, we prefer our Selected Purple Top Swede. There is no other sort which we have ever grown that yields a more uniform size and handsome crop, or that will produce a greater weight, if as much, to the acre, which fact has been repeatedly proven on actual trials.

At the last Toronto Industrial Exhibition this variety was awarded first prize, also in several recent field exhibits. Although we offer a larger number of varieties of corn, for a field crop we prefer Compton's Early and Self-Husking. The first mentioned, when properly cultivated on suitable soil, is exceedingly prolific. It grows about ten feet high, and produces from two to five good ears on each stalk. The Self-Husking is a new variety, of dwarf habit, and very early. The ears are large, while the cob is small; grain of an amber color; it often produces three ears on a stalk. The main feature of this corn is its habit to strip itself clean of its husk when ripe, which is of great advantage to those growing large quantities.

For soiling and ensilage we favor the Great Prolific Sweet Ensilage corn; it is especially valuable in having less stalk and more leaf than any other sort we have tried, one acre is worth four acres of ordinary pasture. Where pasture is scarce and expensive, it is the best and cheapest food that can be grown for feeding in a green state to stock of all kinds. It keeps them in good flesh, and is a great milk producer. Every farmer should provide an acre or more for feeding when the pasture grows short. It grows twelve to sixteen feet high under good cultivation, and the stalks are sweet, juicy, tender, and covered with long leaves. Silo owners, dairy farmers and stock-growers should give this corn a trial the present season. To obtain the heaviest crop, plant in hills from two and a-half to three feet apart each way, leaving four strong plants to each hill, and keep thoroughly cultivated.

Corn as a Farm Crop.BY ROBERT J. MACKIE,
Springdale Farm, Oshawa, Ontario.

For a country which is becoming largely devoted to stock raising in its various branches, such as Ontario, the question naturally arises, what is our best and most economical feed. I came to the conclusion some time since that corn fills the bill, and I believe it can be grown profitably in almost any part of Ontario. While sharp, gravelly soil, when well manured, is generally considered the best, it will grow and give good results upon any soil that is not wet or cold. The general average of the corn crop of Canada is in my estimation much less than half what it should be, and for various reasons, viz.: Farmers as a rule use all or nearly all their manure upon the turnip ground, and the corn ground (often a piece of land that has become so dirty and poor, that it will not grow anything,) with little or no manure, is not plowed till planting time, and as a natural result a poor crop is obtained. I have been very successful with this crop, and have been asked to give my method of culture, which is as follows: The field should be plowed in the fall a good depth, and in the spring should be again plowed and well harrowed some time before planting, which will give the ground a chance to get dry and warm, and the weeds to sprout. Manure may be applied before or after plowing in the fall, or before plowing in the spring; the main thing is to be sure it is applied sometime. When ready to plant, which should be from 15th to 20th of May, cultivate or harrow well, to kill all weeds, and mark off three and one-half feet each way, then drop five or six kernels in the mark, cover with the foot and step upon it, which will help to retain the moisture in the hill, and it will come up sooner. I put a little tar on the corn, and dry with plaster, to prevent the crows from taking it, and for that reason cannot use a planter. In cultivating, I have discarded hand hoeing altogether, using the harrows instead. I harrow once before it comes up, just when it begins to sprout; again, when about three inches high, and again in two or three days crossing it with harrow. This will kill all small weeds. If the ground is rough and lumpy, it is a good plan to roll just before first harrowing, which will prevent covering corn with lumps. To harrow corn sufficiently requires a good deal of courage. A Yankee once said to me, "You must shut your eyes and go ahead, and your corn will come out all right." After I had harrowed my corn a few years, I sent a new man to harrow. When he came in from the field and said he was taking the corn all out, I told him without going to see, to go on and finish harrowing that way and then harrow it across, and I would risk the corn, and the result proved satisfactory. Harrowing not only kills the weeds, but seems to give the corn a start, which you can give it in no other way. After harrowing the last time, the cultivator should be kept going as much as possible, the first time throwing soil away from the corn, but as soon as high enough, turn it to the corn, not to hill up much, but just enough to cover small weeds. The cultivator should be used every week, until the corn is too high to use a horse. It should at least be cultivated twice each way, and more would be better. As regards the kind of corn to plant, with generous treatment any of the kinds will give good results. I can safely recommend King Philip, Compton's Early, and I had a great crop of Angel of Mid-

night last year for the first time upon five acres. I don't think it is quite as early as some kinds, but it was ripe with me about 15th Sept., and I like the stalks better than any variety I have tried, they grow tall but fine, and not so woody as some others. I have grown as high as two hundred bushels of ears per acre, and seldom less than one hundred, and while I think the most of corn, I like a few turnips to feed with it, but I would rather have a good deal of corn, and less turnips, than a good deal of turnips and less corn.

Corn for Soiling and Winter Feed.

BY R. GIBSON, DELAWARE, ONT.

I have just been cutting chaff, and while doing so, could not but help admiring the beautiful color and smell of the corn fodder, which reminded me that I had promised to give you a line on the cultivation and means adopted to keep it bright and sweet for winter use.

The preparation is simple: we usually spread the manure, as drawn from the barn, in early winter; this is plowed in spring, and the ground well worked, the Acme harrow proving a very suitable tool for the purpose. Just here I would like to say a word of praise for that implement, especially for preparing a piece of tough sod for corn, potatoes, etc., as it cuts, levels, and pulverizes the surface without disturbing the sod. After rolling, we plant with the ordinary grain drill, using the two centre tubes and stopping the three on each side of the two centre, this leaves the one next to each wheel in a ten tube drill; also, in work after turning at headland, run wheel in last coulter mark, and you will have a double row eight inches apart every two feet, thus allowing plenty of space for the cultivator. The harrow is put at work as soon as the corn shows, and kept going as often as necessary until the plants are four to six inches high; the one-horse cultivator follows, and level cultivation is adopted. Plant early enough so that the crop may be cut and safely stooked before frost, it will then cure and the juices ripen or undergo the same chemical operation or change that they would if they were growing, and, we all know how sour and unpalatable winter apples are in September, but if preserved from frost and kept properly, how the juices change and become pleasant.

We endeavor to have the crop ready to cut in September, before frost; the proper time for cutting is as soon as the tassel has shed its pollen. We cut in the old fashioned way with hooks, laying in bundles which are allowed to wilt a day, then bound and set in shocks around a fence rail set perpendicularly in the ground—pains being taken to set the bundles up as straight as possible, using a short rope with ring in centre to draw the shock tightly together and hold it so until the bands, binding twine, and rye straw for top, are all well and snugly put on. It may be said "too much trouble;" the old answer would be, "what is worth doing is worth well doing." I venture to say that, if corn fodder is properly grown and care taken of it afterwards, but little would be heard of the silo in this part of Canada where roots can be so easily grown. This year we had some three acres near the barn, which was planted for summer soiling; yet, notwithstanding the drought and the extra call made upon it, not over one-third was used for that purpose, so the remainder was cured for winter; it averaged about fourteen feet high, and though there were about six to eight stalks to the foot

in the double row, it is too strong and the butts are not eaten up. I may say the bundles of this lot had each to be bound with two bands—some trouble—but it is satisfaction to see the bright golden bundles now, and to know the trouble has not been in vain. I forgot to say we set the drill to plant eight to ten kernels every twelve inches of the double row; I have grown it thicker, also thinner. If to put in silo, no doubt it should be planted nearly as you would for a corn crop, *but that is not fodder*. We like to have it so that the cattle will eat it up clean, not merely eating the leaves and upper part, leaving fully two-thirds; it can be grown so that all is eaten with avidity, often in preference to hay; to accomplish which, it must be planted early enough to be fit to cut and nicely cured before frost. To-day the juices are as sweet as in last October, not so much, certainly, but we believe richer and of more value as feed—the starch being converted into sugar, and, bear in mind, there is a lot of glucose in these corn canes. Take wheat or oats in from three to four weeks after flowering, the grain is fully ripe and the straw is mostly woody fibre. All the various elements that are now in the grain, were in the straw at time of flowering, distributed from root to panicle, but now concentrated in the head. So with corn fodder, the nutritive elements to form the grain are in the stalks, not to the same extent, I admit, as they would be were the stalks thinner and more exposed to the sun, but to a greater extent than generally believed.

While on this subject, I wish to urge every dairyman, and even all who own a cow, to plant a little for next summer, and when the pastures get brown and bare see if you are not repaid twice over for the little trouble you may have been at; once in increased milk and butter, and once in the pleasure you will have in witnessing your stock filling themselves with the succulent food and testifying their gratitude by looking for you to come and feed them, and expressing their thanks unmistakably.

[On every summer visit to Mr. Gibson's farm we have been astonished by the quantity of corn he grows per acre, both in the ear and for fodder purposes; his mode of keeping his fodder corn is explained by the preceding. The Canadian corn, grown for fodder and grain, is treated much in the same way until husked, when the stalks are stacked in small round stacks containing about five loads each; in this way they are kept in splendid condition until they are used.—ED.]

If you lack the "get there" quality, the whole farm will show it, from the hired men to the chickens.

The different ingredients of the soil must be returned in the form of manures as largely as they are removed by the crop, or the supply will eventually become too small for the purposes of vegetation.

The North York Farmers' Institute numbers two hundred and fifty members, and holds semi-monthly meetings. It has the most life of any farmers' organization we know of; even some of the manufacturers attend and take part in the discussions.

Prof. Robertson, in a recent speech, presented a tabulated statement showing the amount of fertility taken from the farm in \$200 worth of produce at the average prices. This table will represent the idea:

Product.	Value.	Fertility represented.	Profit or Skill sold.
Wheat	\$20,000	\$48.00	\$152.00
Beef	20,000	17.00	183.00
Milk	200.00	22.00	178.00
Pork	200.00	13.00	177.00
Horse	200.00	7.00	193.00
Butter	20,000	0.25	199.7

Experimental Work for Farmers.

The members of the Experimental Union are endeavoring to introduce a system of practical experiments, in which they solicit the co-operation of the farming community. The object is to inaugurate such experimental work as will be valuable to every farmer in the province. These experiments are intended to be such as can be carried out by almost every farmer, with but little trouble or expense. The following are the experiments chosen for this year, and the systems for carrying them on:—

1. A continuation of the experiments of 1888 on the same plots, without further application of fertilizers.
 2. A test of superphosphate, dried blood, farm-yard manure, and no manure with oats.
 3. A comparison of the different systems of raising fodder corn.

Raising Fodder Corn.

The first is only to be undertaken by those who experimented with fertilizers in 1888; the second is to ascertain the value of some of our quick-acting and best known fertilizers. This experiment will prove especially valuable to small farms, grain and truck farms. The third, the shortage of pasture and increased use of supplemental crops impresses upon us the need of the best methods of raising fodder for summer and winter use. With this object in view the experiment with corn was planned. Other experiments are being arranged in stock feeding, dairying, horticulture, and bee-keeping by different committees. We solicit the help of farmers in this work, and would ask them to apply to Mr. C. A. Zavitz, secretary of experiments, O. A. C., Guelph, for further information. Our means being limited, those who apply first will be supplied with experimental material. The result of the work should well repay each one who takes part in it.—[Experimental Committee on Crops and Fertilizers.]

fertilizer for this crop. Bulletin No. 13, of the Agricultural College of Michigan, says:—"We have been testing several of the newer varieties for some years. The Beauty of Hebron and Burbank's Seedling are our main sorts for field culture. They yield well, and are of excellent quality. The Early Ohio, Clark's No. 1, the Rural Blush and the White Star, are good yielding sorts, but with us they have not proved equal in smoothness, uniform size and quality to the two varieties first named. * * * * I am of the opinion, however, that most of the tests indicate that when potatoes are cut to about three eyes to the piece, and one piece planted in the hill, the yield and quality will be better than with a greater or less amount of seed." This view was confirmed by an experiment of the college farm.

We append a list of varieties and results given by the Indiana Agricultural Experiment Station:—

Potatoes

F^{irst} Chapter.

Few if any crops yield greater profit per acre than potatoes, or respond as promptly to liberal, intelligent cultivation, notwithstanding the irrepressible Colorado beetle. And while it is not only possible, but comparatively easy to grow two to three hundred bushels per acre, (the Americans have frequently grown one thousand,) the average of Ontario for 1887 was 76.1 bushels per acre. And although the drought of that season was to a certain extent the cause of the failure, we find that in 1886 the average was only 114.3 bushels. We have known instances of 380 and 400 bushels of merchantable potatoes being grown to the acre in Ontario, exclusive of the small ones fed to pigs ; these, however, should be very few, as good varieties and liberal treatment produces a very small percentage of small potatoes.

In the annual report of the Bureau of Industries for 1887, page 54, we read, "Those of our correspondents who had good crops, attribute their success largely to better cultivation than is usually given by farmers." It is a sad commentary on Canadian potato culture, that for five years, 1882 to 1886 inclusive, the average yield per acre was but 125 bushels. In potato exports and imports, we find the balance of trade is decidedly in our favor. In 1886 we exported to the United States 1,848,462 bushels; value \$37,4122. In 1887, 1,276,809 bushels; value \$328,602. In 1886 we imported from them 43,872; value \$16,754. In 1887, 46,208; value \$28,465. It

would seem that our imports were chiefly for seed, as while in 1886 we received but about $20\frac{1}{2}$ cents per bushel, we paid about $33\frac{1}{2}$ cents, and again in 1887, while we received but about $25\frac{1}{2}$, we paid almost $61\frac{1}{2}$ cents. It is safe to say 200 bushels should be the minimum crop for Ontario. A farmer's wife of considerable originality recently remarked : "Raise plenty of potatoes, if they are too cheap to sell, they will be cheap enough to feed." There is a good deal of sense in this. A few quarts of potatoes per day to a horse is far superior to a dose of conditioning powders as a medicine, besides the feeding value. For cows giving milk they are of equal value, and in fact for any animal that will eat them. We should consider cultivation of the first importance, and variety next. As our prize essay goes into detail in cultivation, we will dwell especially on the varieties, and the best fertilizer for this crop. Bulletin No. 13, of the Agricultural College of Michigan, says :— "We have been testing several of the newer varieties for some years. The Beauty of Hebron and Burbank's Seedling are our main sorts for field culture. They yield well, and are of excellent quality. The Early Ohio, Clark's No. 1, the Rural Blush and the White Star, are good yielding sorts, but with us they have not proved equal in smoothness, uniform size and quality to the two varieties first named. * * * * I am of the opinion, however, that most of the tests indicate that when potatoes are cut to about three eyes to the piece, and one piece planted in the hill, the yield and quality will be better than with a greater or less amount of seed." This view was confirmed by an experiment of the college farm.

We append a list of varieties and results given by the Indiana Agricultural Experiment Station:—

	Bushes. per Acre.	Bushes. per Acre.	
Advance.	86	Fearnaught.	176
California Rose.	165	Gold Flake.	176
Red Star.	153	Clarke's No. 1.	256
Farina.	88	Charter Oak.	196
Late Ohio.	139	Queen of the Valley.	104
Superb Beauty.	239	Early Sunrise.	196
New Queen.	204	Perfect Peachblow.	100
Scotch Grey.	149	White Prolific.	124
La Fayette.	83	Steuben Beauty.	96
Beauty of Hebron.	245	Beauty of Beauties.	236
Watson's Seedling.	143	Seek No Further.	136
Beauty of Sheba.	170	Early Albino.	116
Thorburn.	182	Vermont Champion.	236
Breeze.	340	Bliss' Triumph.	116
Putnam's Choice.	158	Junkie.	156
White Sport.	254	Sunlit Star.	124
Early Queen.	168	Pootatuck.	236
Early King.	254	Eureka.	96
Dunmore.	208	White Whipple.	144
Early Ohio.	172	Agnetha's Favorite.	144
Red Jacket.	76	Dakota Seedling.	76
Rose's Beauty.	130	June Eating.	104
Wild Rose.	164	Extra Keeper.	54
Rose's Seedling No.		Summer Sun.	324
74.	173	Polaris.	184
Early Peruvian.	150	Pearl of Savoy.	116
Rural New Yorker.		White Elephant.	264
No. 2.	153	Green Mountain.	76
Chicago Market.	170	O K. Mammoth.	184
Red King.	138	American Giant.	196
Vanguard.	143	Early Pearl.	176
Mammoth Pearl.	142	Lee's Favorite.	196
Morrill's Seedling.	75	Everitt.	208
Charles Downing.	85	White Prize.	184
Magnum Bonum.	136	Early Standard.	184
State of Maine.	141	Empire State.	236
Gilead Red.	60	Mayflower.	124
Snow Drop.	153	Monroe Co. Prize.	76
Dakota Red.	178	Potentate.	84
	68		

We also append a table showing the results from different fertilizers. This is from Bulletin No. 16, of the Kentucky Agricultural Experiment Station. The results here obtained show that potash is one of the fertilizers most required for the potato crop, but it must be borne in mind that at the usual price in Canada, viz. from five to ten cents per bushel, wood ashes are the cheapest source of potash :—

These results show: 1. That the yield of merchantable potatoes, and also the total yield, was largely increased on those plots containing potash. 2. That potash sulphate when applied alone produced as large a yield of potatoes as when combined with acid phosphate or ammonia sulphate, or both. 3. That the acid phosphate when applied alone or in combination with ammonia sulphate, produced no material increase in the yield of potatoes. 4. That the yield of potatoes was not increased by the application of ammonia sulphate. 5. That 200 pounds of sulphate of potash produced an increased yield slightly exceeding that produced by the application of 80 loads of stable manure. 6. That the results were the same, as to the yield, whether muriate or sulphate of potash was used. 7. To sum up: Potash is what is needed on our soil for the potato crop. The effect of the potash was shown upon the growth of the potatoes as well as the yield. The vines were much more thrifty and stood the drought better. The potatoes on plots containing potash were larger and more even in size than those on other plots.

For immediate fertilizing effect, well rotted manure should be spread, and harrowed near the surface.

The men who refuse to believe that anything can be valuable because it is in conflict with old ideas and methods are the men who "get left" in this world and go before their time to try another.

At the meeting of the association of Fairs and Exhibitions, Secretary Hill, of the Toronto Industrial, expressed his disapproval of allowing vendors of cheap jewelry and similar wares to do business on the grounds. He considered the visitors to a certain extent blamed the association for the frauds these dealers practised upon them.

"I got into the way of using ashes from running a 'potash.' There was no sale for leached ashes, therefore they were put very liberally to the land. That was more than forty years ago, yet my fields and pastures show the benefit to this day. After I had learned their value I purchased lots of 'whole' ashes for crops and orchards, feeling certain that the use of them would paid well. Thousands of bushels of ashes are sold yearly for less than half what they are actually worth to put on farms at home."

Colonel D. D. T. Moore, quotes the following in favor of covering barnyards: "It is the only device for saving all the manure in good condition until needed, and all other methods are faulty. When a cow giving milk is turned out of a warm stable into a blizzard, even for ten minutes, it interrupts the machine, checking milk production for two or three hours. Compelling a cow to stand in mud and snow all day for health and profit is as good sense as it would be for a man to do the same thing for the same purpose."

Garden and Orchard.

Horticultural Specialties for the Canadian Farmer.

BY L. WOOLVERTON, M. A., GRIMSBY.

(Read before the late meeting of the Ontario Fruit Growers' Association)

The aim of the writer of this paper is to indicate the pathway to practical success for the agriculturist who wishes to take up some horticultural specialty, and to engage for profit, more or less, according to his means, in the culture of some kind of fruit, flower or vegetable in addition to his ordinary round of farm work. This he may do judiciously and make it serve his best interests; and in like manner might the fruit grower do a certain amount of farming, and make it serve to advance the profits of his proper business. But it is by no means necessary that the fruit grower should be also a farmer, nor that the farmer should also be a fruit grower, any more than it is essential to his success that he be a shoemaker, or a blacksmith. The day is passed when a man can profitably engage in many lines. Each of the sub-divisions named above has grown into a science. Books and papers innumerable, written by men of practical experience, are now published on stock-breeding, bee-culture, horticulture, etc. Men are finding out in this year of 1889 that they must make a special study of that line of avocation which they intend to pursue, or others will surely surpass them in it. It has now become just as necessary for the gardener, or the fruit grower, to be trained to his profession if he would succeed, as it is for the doctor, or for the lawyer. I do not mean that he should be trained by the study of books alone, but by the study of books and journals relating to his life-work, united with constant, daily, practical experience, under the guidance, if possible, of one who is himself a professional. In this way only can a man hope speedily to gain the acquisitions needed for success. If it is too late in life for a man to become thus equipped himself, by all means have the boys thus prepared for their life-work. The plan of living out for a year or two with a gardener, or a fruit-grower, a stock-breeder, or, if he can afford it, at such a place as the Ontario Agricultural College, until the young man has learned the best methods of doing each thing, cannot be too highly commended.

At all events, the time has come when our Canadian farmers must leave the old ruts if they would prosper, and turn their attention, and thoughts, and study to some one special branch. I do not say that horticulture surpasses every other, and that it is the most profitable of any, but to me it is a charming pursuit, and I have faith in it as a reliable source of income, provided it is pursued with the same determination as that which characterizes men in other lines of business.

A good apple orchard pays the farmer. But, says one, I know a farmer right there at Grimsby, who cut down a good apple orchard only last winter. True enough, but did you never know of a man giving up stock-breeding, or bee-farming in disgust? There are always men to be found who grow impatient, and give up just at the point where they are within reach of success.

I do not think that we, as members of this Association, should go about the country advising farmers generally to plant out their farms to apple orchards, or even to plant large commercial

orchards. The expense connected with raising a large apple orchard to bearing size is far greater than some people are willing to admit. A writer in "Popular Gardening" figures out very carefully on paper the cost and value of an apple orchard, and makes out that one acre would bring \$318.15 over expenses during the first ten years. He plants 100 trees per acre, and by seeding down to clover estimates his expense for cultivation during the ten years at about \$10. He places the cost of the annual pruning at 50c., and the rent at \$50 per annum, considering that three-quarters of the acre may be profitably cropped. Now, if anyone here has cleared \$300 per acre from his apple orchard during the first ten years, I think he is a notable exception. My apple trees may be stubborn, but they seldom bear any fruit worth gathering before they reach the age of ten years, and my Northern Spy orchard is seventeen years old, and it is only during the last two years that it has yielded me any returns worth speaking of. Baldwins and Greenings may, under exceptional circumstances, yield some returns within ten years, but even these varieties do not as a rule, and indeed should not, because for the first ten years after planting, the orchard should be encouraged by frequent cultivation and manuring to make as much wood as possible, and not be expected to bear fruit. Neither do I think that we are wise, as members of this organization, which holds so high a position in our land, and whose utterances are looked upon as worthy of public confidence, in following the habit of many who now-a-days picture only the bright side of fruit culture—giving glowing statements of its profits, and concealing its losses. I am prepared to make free confessions here to-day of both sides, with regard to my apples. I can show fancy figures received from my shipments as good as anybody's. I have here account sales of my apples sold in 1887 and 1888, from which you can see that my choice Gravenstein Kings have sold in London, England, as high as \$5 and \$6 per barrel. And I can tell you of further fine sales that so encouraged me that last season I shipped my whole crop, some twelve hundred barrels, to that market. But the last sales took all the gilt off the season's business, for they reached the metropolis when the market was glutted, and one carload was sold for the freight; another, containing Russets and other fine varieties sold so badly that a claim was made upon me from my English salesman of \$85. The provoking part of all was, that a week after mine were sold at \$1.50 to \$2, or about the amount of the charges, prices suddenly jumped to \$3 and \$4. Now, I have no doubt many others here present can relate a story of similar unfortunate experiences. Mr. J. B. Osborne, of Beamsville, once shipped 1,300 barrels of apples to England, and lost \$1,300 on them; and a neighbor of mine, Mr. C. S. Nelles, shipped all of his prime winter apples to London, England, last December, packed carefully and well, and might as well have tossed them over the bank in Lake Ontario. Let us speak out gentlemen on these points; confess our failures. Men in other lines of business do not talk constantly about their enormous profits, it would not be politic; and if we are found constantly magnifying the profits of fruit culture, we will be placing ourselves in a false position before the public; they will get the idea that we are nurserymen who have fruit trees to sell, instead of fruit growers who have fruit to sell.

[TO BE CONTINUED.]

The Juniper.

Josiah Hoopes says: "The class of shrubs most needed in this country at present is that with evergreen leaves. The broadleaved section, although succeeding well abroad, will never be popular with us, owing to their unreliability in many places, and the difficulty in establishing them. Among available species, the junipers hold the foremost place in landscape gardening. No other genus combines so great diversity of form and color. But it is to the very dwarf and creeping varieties that we are indebted for decorating rocky situations and sloping banks. Nothing else can take their places for creating wild and picturesque effect. An occasional plant of the Canadian, prostrate, or squamate junipers may be introduced on the outer edge of clumps or belts of shrubbery with excellent result, and the newer golden-variegated form of the first named is especially rich. The upright common and Irish junipers are greatly admired where planted in the centres of clumps, but are too stiff and formal for standing alone. Junipers are somewhat difficult to remove, and are especially impatient of dryness at the roots when out of the ground."

Ornamental and Profitable Tree-planting.

BY MR. M. PETTIT, WINONA, ONT.

I have chosen as a subject "Ornamental Tree-planting" in its broadest sense, not a tree only to look at, but something that will shelter our homes, stock and farms from the chilling blasts of winter which sweep nature's protection from the fields, leaving the young plants and roots to be destroyed by a repeated sunshine and frost, also to protect us from the drying winds of summer.

We know that the standard that measures the importance of any work that is undertaken upon the farm, is considered from the point *will it pay*, and we are not inclined to extend our experiments beyond a known-paying limit; that to plant and protect trees *will pay*.

I think you will agree with me in saying that, if every 100 acres of this country was sheltered on the windward side with ten or twenty acres of bush, the remaining eighty or ninety would produce more than the whole 100; thus saving a great amount of seed-and labor.

In travelling through the country last June, you would frequently hear this remark, "that is a fine piece of wheat," "so-and-so has a fine field of clover;" the answer invariably was, yes, it was sheltered by that piece of bush; and yet these pieces of bush are fast being swept away by the wood-man's axe. The high price of lumber and fuel, and the want of ready cash, have been the means of putting the portable mill into many a good protection to the farm, little thinking that they were, by so doing, rendering the farm barren and unfruitful to generations yet to follow.

To those who say there is always enough of everything, consequently there always will be, I may offer no reason or argument for forest protection and tree planting. But the history of the world is before us, and as every violated law brings its penalty, so every effort in harmony with nature is sure to bring its reward. We have only to look out upon the world and take warning; it is full of examples, whereby the ignorance and stupidity of man, large areas of country, once fertile, are now barren wastes. The entire coasts of the Mediterranean, once the garden of the world, have been blighted by the

process of denuding its once magnificent forests.

Some of the West India Islands, that were once almost gardens of paradise, were denuded of trees, and are now nearly worthless. Facts in this direction could be multiplied indefinitely, showing very conclusively that, if we sow not neither shall we reap, or in other words if we sow to the wind we must expect to reap the whirlwind, for nature is an exacting school-master and will not be cheated. There is no doubt but that destruction of forest trees in Ontario, as well as in other countries, has been the means of diminishing the amount of rain-fall, while freshets become greater, though not so lasting; many streams with ample water-power for the whole season, 20 or 30 years ago, now only afford sufficient force to turn the mills on them in spring and autumn.

One hundred years ago Ontario was a forest country, and now it is only from 10 to 20 per cent. timber, with thousands of acres of barren waste lands, and no increase to replace this waste timber. We should gain wisdom by the experience of others before it is too late.

France, Austria, Russia, Switzerland, and Prussia are, perhaps, making greater advances in forestry and tree-planting than any other part of the world. In these, as well as some of the smaller kingdoms, government either owns or controls all the timber lands.

In Prussia there are 20,000,000 acres of forests, and of this one-half is owned by the government; this brings in an annual income of \$14,000,000, at an expense of \$7,500,000, leaving a net income of \$6,500,000. They also have schools of forestry.

In Saxony they have 400,000 acres worked at an expense of \$500,000, and bring in a net revenue of \$8 per acre.

In France the government owns 7,500,000 acres of forest, while 15,000,000 acres are owned by farmers and private corporations; but in one sense, it may be said to be all under government control, for by a well-regulated system of protecting and preserving, adopted by the government a number of years ago by purchase and by enactments, these vast forests are not only a source of wealth for their commercial value, but by this system barren fields are becoming fertile.

In Russia, the government owns about 330,000,000 acres, and other parties about 150,000,000. About 40 per cent. of Russia in Europe is timber land, and these immense forests are placed under the care of a minister of public domain, who has a director of forest department, with assistants. They have also established two schools of agriculture and forestry—one at St. Petersburg, and the other at Moscow. Considering these, and many other facts that can be produced, it should be the duty of every farmer who has the love of his country at heart, and the welfare of those that will follow us, not only to do his duty in the way of tree-planting, but to assist through Farmers' Institutes and other associations of this kind, in urging upon our government the necessity of giving greater encouragement to the planting of trees and the protection of forests. A commencement has been made on the Experimental Farm at Ottawa. There are over 100,000 forest trees being reared from seed and nursery plants, with the immediate end in view of sending them to the branch stations when they have been sufficiently

matured. In this regard the greatest interest attaches to the results in Manitoba and the North-west, where the problem of tree-planting is of inestimable importance. If the prairie farms of the North-west can be surrounded with trees, not only will the protection afforded be of great value, but as adding to the improved appearance of the country and the comfort of the settlers, the experiment is regarded with the greatest interest.

The Ontario Government has wisely made provisions for the expense of planting trees on the roadside and boundary lines by an act passed in 1883.

[TO BE CONTINUED.]

Wild Flowers and Native Ferns.

BY SARAH F. GOODRICH, OHIO.

A flower border filled entirely with native perennials would be of no little interest. There would be small difficulty in securing plants for a succession of bloom. Beginning with hepaticas, white, pink and blue, continuing with bloodroot and violets, of which the fragrant Canada violet, the velvety white and the long-spurred are well worthy cultivation, an abundance of handsome plants would follow until summer; then would come the scarlet balm, the cardinal flower, asters and goldenrods. Some among the latter are very showy and not too weedy. The Virginia lungwort, locally known by the more appropriate name of "bluebell," is one of the handsomest plants in my border. Although other lilies bear larger flowers, my garden contains none more beautiful than the wild Turk's-cap and the stately pyramid of bloom of the meadow lily.

Many of our native ferns are as easily cultivated as a stalk of corn or a sunflower. I have seen very satisfactory results from a bed made along the north side of the house, close to the wall and scarcely more than a spade's breadth wide. The earth was loosened deeply, some partly decayed leaves mixed with it, an edging of cobble stones laid where the drip from the eaves would patter on them instead of wearing away the earth; then the large ferns were carefully planted in a single row as close as possible to the wall, and along the edge, alternating with the large plants, were placed clumps of wild violets, a stalk of wake-robin, and the pretty, low bladder-fern. If well made, such a border needs less subsequent attention than any other part of the garden, as weeds never grow among ferns, while for two or three months of every summer it is a continual delight. In the bed above described the ostrich fern sends up every year such an admirable circle of its plumed leaves as is the wonder of all visitors. For success in such a situation, where one has no space for the elaborate construction of a rockery, it is necessary to avoid all ferns that grow only upon rocks, and select instead those that love to send their roots deep into the earth, like the royal fern and its congeners, Clayton's and the cinnamon fern, (all peculiar and interesting in their manner of fruiting,) the ostrich fern—give these large kinds plenty of room—maiden's hair, the shield ferns and the fragrant Dicksonia. I do not know whether bracken would thrive in so shady a situation, but it would be worth while to try, if only to be able to show that numerous class of travellers who never see anything at home, that bracken grows here as well as in England.

A Baldwin tree that bore fifty-nine bushels of apples last year stands in the back yard, near the house, where it gets the benefit of the house slops, showing what plenty of fertility will do for orchards.

The Diary.

Contraction.

On cold nights entrances of hives should be contracted, also on cold days. If this is adopted the bees will probably rear more brood, but if neglected at any time the bees are liable to have the brood chilled on the outside combs, as the cold makes them contract and leave the outside combs exposed. Therefore, if you cannot attend to the hive at every change of temperature, it is better not to adopt this plan.

Preparation.

Everything should be in readiness for the honey season, and especially so with the bee-keeper who is a farmer, and has no time to spare after the land is fit for cultivation. Hives should be ready for swarms, and if comb honey is taken, supers should be filled with sections and foundation in them. If extracted honey is to be taken, supers should also be provided, honey knives sharpened and empty vessels cleaned and ready for the crop.

Robbing.

This month is one dangerous for robbing. The strong attack the weaker, and often colonies which could otherwise be built up for the honey season are lost in this way. Prevention is the very best method to adopt. Refrain from leaving honey lying exposed and thus create the taste for robbing. Handle weak colonies as little as possible and towards evening, for if the bees get the least inclination to rob early in the day they get fairly started before night and do not forget their success, whilst if a few bees do start at the close of the day the weak colony can generally hold its own for a short time, and night stops any further attempts.

Queenless Colonies.

Only under very exceptional circumstances will it pay to purchase a queen for a queenless colony. If the colony has been queenless during the winter the bees are likely to be worn out with anxiety, and will succumb to the first cold wind, and even if the queen can be obtained at once the expense is likely to prove of no avail, as the colony will dwindle away. If the colony has become queenless in spring, and you have to send for a queen, it is very likely at that time of the year that you will not secure one promptly, and she will arrive too late to be of value. Only in a case where the queen has been lost in spring and you can get another immediately is it advisable to purchase one.

Spring.

April is a time which requires very careful judgment with bee-keepers, and fortunate indeed is the man who can foretell the weather. Bees that have been wintered outside should have no further attention than to see that they have a free entrance and ample stores. An overhauling, therefore, upon the first favorable day is advisable; the combs should be examined for stores, and if none are there then the best thing to do is to give combs of honey in place of the empty ones, and failing these give cakes of sugar. In removing combs from the hive, a novice should be very careful not to remove combs with brood or eggs, as bees wintered outside commence brood rearing before this time generally. If a colony is found very weak, some of the combs may be removed and the hive contracted by means of a division board, otherwise contraction is not advisable. Great care should be observed to keep the brood chamber warm, by means of packing above the quilt and if possible on the sides also.

Honey Plants.

The advantages to be derived from planting certain trees, and sowing seeds to produce flowers from which bees are to secure more honey, may be great. It is doubtful if there are any plants which can be placed upon land fit for cultivation which are of no value except for honey and yield a profit; yet there are ways of doing this which can be followed with profit. R. S. Russell, in the American Rural Home, writes:—

Who is there who has handled bees and made them his associates, who will doubt for a moment that these industrious little misers will appreciate any improvement in their home and plantation, and doubly repay any judicious outlay toward supplying them any suitable plants from which to extract the honey? I believe that a bee is not happy except when employed gathering the sweets which nature stores in certain plants.

Now is the time to lay the foundation for an abundant honey harvest. If you have no willows near your apiary, procure a few roots or cuttings, and plant in low land near the apiary. This will bring the earliest pollen, which is the most useful. The bark will crack late in the fall, and furnish a harvest of honey after frost has killed all the flowers.

Also plant a few soft and hard maples, and tap lightly in two or three places early in the spring. These trees should be near the house, as many bees are chilled and lost in rambling for these early sweets.

Be sure and spare all the basswood on your farm, and plant a few more in old pastures for shade. Plant catnip, the more the better, near the apiary. This is fine for the young bees. Spare all the golden-rod when mowing the fence-corners, also all asters. The bees will tell you what they are when in bloom, if you do not recognize your friends. Sow a patch of buckwheat on July 1 and 20, and also on Aug. 10 and Sept. 1.

Last, but not least, procure at once a supply of Simpson honey-plant seed. It can be sown in hot-beds, and transplanted the same as cabbage, or sown in open ground. It will grow anywhere, in fence corners or waste ground, in shade or in cultivated fields, planted two and half a feet apart. It can be sown in your woods pasture. It is certain grower, and will "get there" whether cultivated or not. This is beyond doubt by far the best honey plant of all, giving a steady flow

of good honey from the middle of July until killed by frost. The honey accumulates in the cup-shaped flowers, and, if all is removed, it will almost immediately fill up again, thus affording an inexhaustible supply faster than the busy workers can remove and store it.

I have noticed no disease in my apiary since I have raised this honey plant. I think the secret is, it keeps the bees employed gathering good, healthy honey, instead of trying to extract it from decaying fruits and vegetables in the fall months, which they are sure to do unless they can work on something better. It is a medicinal plant, but is not eaten or disturbed by stock of any kind, and will take care of itself after the first year. It is not a noxious weed that will take possession of your farm, but it is easily exterminated.

I can imagine no lovelier stroll than through

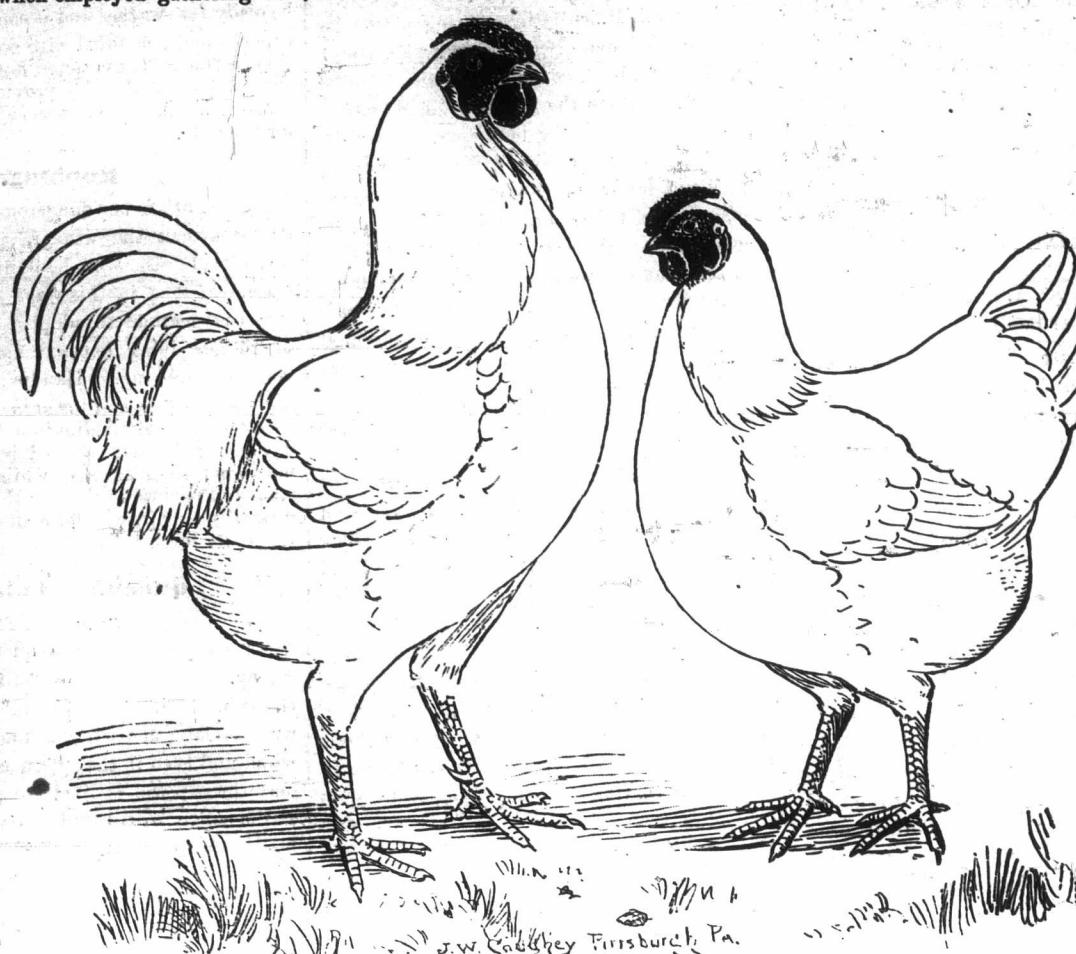
Poultry.**The New White Breeds.**

Since the great Cochin mania in England many years ago, no breed of fowls have made their advent with such eclat as the two new white breeds, viz.: White Wyandottes and White Plymouth Rocks. This not to be wondered at, when we consider their origin, viz.: Laced Wyandottes and Barred Plymouth Rocks respectively. These birds are sports from the parent varieties, and seem to have all their economic merits; and being of a solid color are, of course, much easier to breed true to color. The White Wyandottes have low rose combs, which do not freeze readily, also bright yellow legs and skin, thus making them a desirable appearing fowl for the table; and their plump juicy meat is not excelled by any other variety.

They are also very prolific layers, being second to few, if any, others. White Plymouth Rocks are also a very hardy breed, are easily bred to color, have bright yellow legs and yellow flesh, are an excellent table fowl and very fine layers.

Cooked Food.

I believe in cooked food for growing chicks. Other things being equal, a brood of them fed chiefly on such food, will grow right away from those fed wholly on uncooked food; at least that has been my experience. To settle this question to the satisfaction of a neighbor who



WHITE WYANDOTTES.

my woods in August and September. The honey-plants are in full bloom, and the beautiful Italians make the woods musical from daylight to dark. I will not speak of the merits of the different varieties of clover, as of necessity they will be sown, and help to round out a full season for the most industrious creature of God's creation.

Mr. Joseph Kilgour, of Mount Forest, says: "I have taken the FARMER'S ADVOCATE for twenty-one years, and I have never received a number that has not been worth a dollar to me."

Farmers, now that you are making arrangements for another season's work, and outlining your methods of procedure, take your boy into your confidence. Make him partner with you. John Smith & Son can do far better and more effective work than can John Smith by himself. You will lose nothing by trusting him, by asking his advice, and by heeding many of his suggestions. Young eyes see well, young ears hear oftentimes to the best advantage, and young blood, when recognized as valuable, will circulate to the profit of those who thus recognize its merits.

didn't believe in cooking chickens' food, and always fed her chickens raw meal wet up with cold water, I turned a brood of newly hatched Light Brahmans over to her care to be raised on raw meal and water, while two other broods, hatched the same day, remained on our premises and were fed, as we fed all our young chickens, chiefly on cooked food. At ten weeks old there was a marked difference in favor of ours; they didn't look so much larger, but were plumper, heavier, and better feathered. The poultry keepers who make a business of raising "spring chickens" feed mainly on such food, and this fact shows that their experience has been very much like mine.

If those whose object is to grow chickens to the broiling age in the shortest possible time from the shell, did not feel sure that their chickens grew faster on cooked than they would on uncooked food, do you suppose they would "fuss" to cook it? Not a bit of it; they don't cook chicken food for the fun of the thing, or because

they are so "sot" in their ways that they don't make any change, but because it pays. You are not raising chickens for early broilers. Perhaps not. I don't care what you are raising them for, it will surely pay you to have them "get their growth" as soon as possible.

Fowls in the wild state don't bring up their chicks on cooked food! Well, we are not raising fowls in the wild state. I dare say the wild hen's way of bringing up her chickens was a very good way—anyway she probably did the best she could for her family, but her ways of feeding won't answer at all for the civilized chickens of this age. But it is barely possible that this cooked food business may sometimes be carried too far—overdone as it were. All cooked food is the best thing for the first few days, but just as soon as they are old enough to swallow the grains, say ten days, wheat and cracked corn are better than cooked food at night; it "stands by" longer, and besides it affords an agreeable and appetizing change.—[Fanny Field, in Exchange.]

Poultry for Profit.

Mr. H. B. Geer, of The Tennessee Farmer, whose forte is domestic fowl, suggests the propriety of bearing the following "facts" in mind when considering the question of highest possible profit from poultry:

"Hens in flocks of ten to twenty will lay, under favorable circumstances, to their utmost capacity. Hens in flocks of twenty to thirty-five will lay only fairly well. In flocks of thirty-five or fifty they will not pay for their feed. More than fifty hens in one flock are a nuisance that we would not fool with. This does not mean that one person cannot keep fifty hens profitably. It does mean, however, that one person can arrange his fowls into flocks of fifteen or twenty, giving them a separate run, say a yard 50 by 200 ft., with grass in it, and multiply such separate runs as much as is desired, and make all pay."

Referring to persons who having "given all the corn they will eat" still lament the absence of eggs, a Prairie Farmer correspondent whose hens lay every day credits this outcome to his system of feeding:

"In the morning I give rye, a quart to about sixty hens, sprinkled in straw so that they had to scratch—and I tell you they enjoy scratching for it, too. Then I nail up a couple of heads of cabbage in the hen house, so that they can reach it and, let them eat all they want. About noon I give a little oats and rye, just to get them to scratch, and at night I give the table-scrap, and once in a while, a little sunflower seed. I use corn as little as possible, as I don't think it proper food for laying hens. In the way of drink, I give milk altogether, and think it far better than water. I keep my poultry house well-bedded with straw, and even if you don't feed any grain in the straw, they will scratch, anyway."

Canada last year exported fourteen million dozens of eggs to the United States; these at fourteen cents per dozen amount to one million nine hundred and sixty thousand dollars, and as that is in all probability below the price it is quite safe to say two million dollars worth. Who says chicken raising is a small business?

Some of the local poultry associations are making a move in the direction of a scoring school. This is done by a small exhibit being made on the night of meeting. In some instances prizes are given. The judge is furnished with a score card and put at work; after he is done a discussion is held and the judge is asked to give his reasons for each cut. Toronto, London, Barrie, Stratford and Bowmanville have all adopted this system, and members are highly gratified with the results.

Family Circle.

When Jim Was Dead.

"Hit served him right," the nabor sed,
An' bused him for the life he'd led,
An' him a-lying that at rest
With not a rose upon his breast:
Ah! menny cruel words they sed
When Jim was dead.

"Jes' killed himself," "Too mean ter live."
They didn't hav' one word ter give
Of comfort as they hovered near
An' gazed on Jim a-lying there!
"Thar ain't no use to talk," they sed
"He's better dead."

But suddenly the room grew still,
While God's white sunshine seemed to fill
The dark place with a gleam of life.
An' o'er the dead she bent—Jim's wife!
An' with her lips close, close to his,
She sobbed—a touchin' sight ter see—
"Ah! Jim was always good ter me!"

I tell you when that cum ter light,
It kinder set the dead man right:
An' round the weepin' woman they
Throwed kindly arms of love that day,
And mingled with their own they shed
The tenderest tears—when Jim was dead.

—F. L. Stanton in Atlanta Constitution.

A MISSING HUSBAND.

"By Jove, Jack, old fellow, you've been a lucky dog," said Tom Yarborough, as the last of his friends' guests departed and he was left alone with him in the smoke-room of his charming "Queen Anne" house at Hampstead.

Jack Smedley gave a little sigh. "Yes, Tom," he said, "I suppose I ought to consider myself lucky." "You suppose! Why there can't be much supposition about it. Five years ago, Jack, things were rather different with you."

"They were, but I think I was happier then. Monks is a jolly nice thing, Tom, but like all other luxuries, it costs a good deal to acquire."

"Well, you have acquired it, so you ought to be contented. If you are not, I don't know who should be. Look at you. Barely thirty, strong, handsome, a universal favourite with the men as well as with the women, you've a lovely little house in town, a charming place at Brighton, your pugon and Mrs. Smedley's Victoria are the smartest turn-outs in the Park, you've the best of health and the best of luck, you're going to be taken into partnership by the biggest firm in the city, your wife's the prettiest and the jolliest little woman in the world, and—By Jove, old man, it almost takes my breath away to think what a lucky chap you are!"

Jack Smedley let his friend run on, without replying to him. He sat back in the big easy chair and smoked his cigar with a look in his eyes that told of thoughts far away, and there crept over his face a shadow that few who knew Jack Smedley's face would have expected to see there.

His friend noticed it and it puzzled him.

"What's the matter, Jack?" he said; "aren't you well to night?"

"Oh yes, I'm all right. I've been a bit worried lately. You see this partnership is a big affair, but to tell you the truth it will rather tie my hands. I can't refuse it, because it's a certainty."

"Refuse it? I should think not. You ought to be put in a lunatic asylum for thinking of such a thing."

Either Jack Smedley didn't like the conversation, or he was tired of talking, for he rose and gave Tom a delicate hint that he would be glad to bid him good night.

"You'll excuse me now, old boy, won't you?" he said. "I'm a bit tired, and I've a lot of letters to write before I go to bed. To-morrow will be a busy day for me in the city, as I have to meet the accountant and the lawyers with regard to the deed of partnership."

"I understand. Good night, old chap. Shall I say good night to Rose?"

"She's gone to bed, I think. I'll say good night to her for you."

"Well," said Tom Yarborough to himself, as he walked across the Heath in the moonlight, "that's the way of the world. If, five years ago, anybody had told Jack Smedley that he'd one day be taken into partnership with Morton Brothers, the richest firm on the Stock Exchange, he would have jumped up to the ceiling with delight, and now that it's going to happen, I'm hanged if he doesn't look more like sinking through the floor with annoyance. What would I give to be in his shoes!"

* * * * *

Jack Smedley—handsome Jack Smedley, as he was called by his friends—had lost his father when he was a lad. The Smedleys were what is popularly called "a good old country family." Jack's father had, however, brought the family to grief. He had squandered a goodly inheritance in leviathan gambling transactions. Horses and cards had been his weakness from youth, and at last they had brought him when they had brought many a richer and many a better man before him—to ruin. The old home was broken up, the old Hall sold, the estate realized to satisfy clamorous creditors, and then the bankruptcy court having given a final touch to the picture of "utter smash." Mr. Smedley with his

wife and only son came up to London, and were lost to view in a little house in a mean and melancholy side street in Notting Hill. Then, after a year or two of useless regrets for the stormy past, the elder Smedley shuffled off the mortal coil, leaving his widow the local tradespeople's bills to settle, two quarter's rent to pay, and a growing lad of fifteen to clothe, feed, and provide for in life.

Jack came home from school to his father's funeral, and he never went back again. He and his mother had to make a fight for life. The mother's friends did a little for her, and she managed to get a little house of furniture together and to let lodgings to city clerks, and so to make both ends bread and cheese. Jack, thanks to the same people—people who had known the Smedleys in their "better days"—was lucky enough to obtain a situation in the office of a stockbroker. He was really only a superior errand boy at first, but he was paid ten shillings a week, and that was a wonderful help to the widow in her struggles with the landlord and the rent collector, not to mention the baker and the butcher.

Jack was a handsome boy and an amiable boy. He had been a favorite at school, and he was soon a favorite with his employers. He was quick, bright, and industrious, and always a gentleman. After he had been in the office two years he was a clerk and had £75 a year, and when he was twenty-one he was a superior clerk and had £150.

It was just when he came of age that his mother died, and then Jack, having wound up her little estate went into lodgings, and started, in the elegant phrase of the period, "entirely on his own hook."

Fortunately for young Smedley, before his independence, his loneliness, his handsome face and his charming manners had led him into the dangerous bye-paths of London life, he fell over head and ears in love with a pretty young lady who lodged with her mamma in the house. Rose Leacroft was a lady. Her papa had been a Lieutenant in the Navy. He had died of malarial fever in some dreadful foreign seaport, and left his wife and little daughter about £150 a year. Mrs. Leacroft liked the handsome young stockbroker they called Jack very much indeed. Jack was a gentleman, and his family were "known," and Mrs. Leacroft thought a great deal of family. People who come down in the world generally do. It is a great consolation to them in their poverty to know that no shabbiness, no short commons, no indignity on the part of landlords or tradespeople, can rob them of their birthright. They may be poor but they are "well born." Their clothes may be the worst for wear, they may ride in omnibuses, and they may not always have butcher's meat for dinner, but still they are ladies and gentlemen by birth.

When Mrs. Leacroft found Jack Smedley was a "real" gentleman, she smiled upon him, and was gracious and she discovered that her "people" had in some years gone by known some of his "people," and she was able to tell him whom his great aunts married, and what relation he was by marriage to several people who occasionally figured in the list of presentations to Her Majesty and among the guests at the balls and receptions of the season.

And when Jack and Rose discovered that they were in love with each other, Mrs. Leacroft was glad. Mr. Smedley was a rising young man. He was sure to attain a good position in the city, and though a business man he was "the son of a country family."

It was not a very long courtship. Six months after they were engaged Jack and Rose were married, and they took a tiny little house in the Camden-road, and had one little maid-of-all-work, and were very economical for they had determined to save all they could, and never, never, never to get into debt or to launch out beyond their means.

It was a happy little home, and it grew happier as Jack's position improved, and they had a big growing servant, and the little drawing-room began to fill with elegant nick-nacks, and Rose had prettier and more expensive dresses, and they could give modest little dinner parties, and take their holiday comfortably at the sea-side, not in lodgings, but at the best hotel.

Then they moved to a bigger house, and had stalls at the theatres and at the opera, and a hired brougham took them and brought them home, and they soon began to taste the pleasure of being "well-to-do."

Everything prospered with Jack after his marriage. The firm had been pleased with him before. They were delighted with him now. He was married, and that removed the last drawback to their complete confidence in him. A handsome young fellow of one-and-twenty is not so desirable as a confidential clerk as a young married man of the same age.

So perfect was the firm's faith in Jack that, when the head clerk started in business for himself, Jack took his place, and from that moment was absolute. He saw the principal clients, managed the biggest jobs, signed cheques in the firm's name, and took over the entire command of the ship; and the partners, who were growing old and had made their pile, gradually left the business more and more to him, until at last they did as he told them, instead of telling him what he was to do for them. And finally, things going on so well, they took longer holidays than usual, and didn't mind about being away both together. "Mr. Smedley" was now practically the firm, and clients asked for no one else. If one of the partners was in and saw a client, the client just said "How d've do?" and then said he would wait and see Mr. Smedley.

When things were in this delightful position Mr. Smedley was very different from the Jack Smedley of old days. He was as handsome and amiable as ever, but not so economical. He had a beautiful house in town, and his wife had her horses and diamonds,

and they gave grand parties and had launched out in life which was a costly and extravagant one.

Everybody knew that Jack didn't do it on his salary. You don't live up to £5,000 a year on £1,000. But there was no mystery about it. Jack, with his intimate knowledge of the markets, had made coup after coup on his own account, so it was said. Why, it was common gossip that during one panic he had made over £20,000 in American rails, and out of the electric light boom while it had lasted he had cleared another £20,000.

One day—it was a week before the dinner party referred to at the opening of this narrative—the partners came up to town smiling and bland, and when they arrived at the office they invited Mr. Smedley to favor them with a few moments conversation in their private room.

They told him that in consideration of his talents, and his long faithful service, they had determined to take him into partnership.

Of course Jack thanked them effusively—dream of his life—never repay their kindness, etc.

They then went into details, and explained that as there was to be a partnership, everything must be done in a proper way, and so an accountant would come and go through the books, and put everything straight, so that they might make a perfectly fair and business-like start as between themselves and their new junior partner.

"Quite right," said Jack; and it was arranged that the accountant should come in on the following Monday to get the accounts straight, and then the deeds should be drawn up and the partnership should be settled.

The night of the dinner party was the night before the accountant was to commence his labors. On the following morning Mr. Smedley packed a portmanteau and kissed his wife, telling her he had to go out of town to see a client of the firm's, who was ill and wanted to sell out his shares in various undertakings and invest in consols.

He didn't go to the office, and the partners were afraid he was ill, and sent up to his house. Mrs. Smedley, astonished, wrote a note to say he had gone out of town for the firm.

Then the partners were astonished too, and couldn't make it out, and didn't until the account struck them speechless with horror and amazement by informing them that there was a sum of nearly £50,000 which was not properly accounted for, and which he wanted to know about before he could balance.

This led to a closer investigation, and then there was no doubt as to the motive of the confidential clerk's disappearance. He had embezzled during the last five years about £50,000, and the offer of a partnership had necessitated a thorough balancing of the books, and that balancing he had not thought it advisable to honor with his presence.

* * * * *
Jack Smedley's disappearance was a nine days' wonder on the Stock Exchange, and then it was forgotten. The partners whose confidence Jack had so shamefully abused felt bound on public grounds to take some steps in the matter, and they determined to prosecute him, and the police issued advertisements, and a reward was offered for his apprehension. But not the slightest trace was ever found of the fugitive.

Poor Rose at first utterly refused to believe that her husband had gone off so unceremoniously. Day after day she expected that he would find some means of communicating with her and letting her know where he was. She gave up everything to her husband's creditors without a murmur, and went back to live with her mother, hoping against hope that she would hear something of Jack, that he would let her know where he was, and give her the means of joining him. But the weeks grew into months, and still there came no sign, and presently a year had gone by and she was still in utter ignorance of her husband's whereabouts.

She felt that he had treated her very cruelly: the shame was bad enough, the terrible suspense was worse. She didn't even know if he was alive or dead. At last she made up her mind that he must be dead. He might have committed suicide—drowned himself, perhaps—and this was the reason that since the day of his flight the silence had remained unbroken.

She wondered often what could have induced him to turn dishonest. She had never asked for luxury, though she had accepted it when it came. And Jack himself had always appeared quite contented and happy in the days when they practised economy.

Year succeeded year, and still no news came, and then Rose abandoned her last hope, and made up her mind that on this side of the grave she should see her husband no more. Then she determined to accept an offer which she had from an old friend of her family, a wealthy widow named Moncrieff, and accept the position of a companion to her. Rose's mother had died the year previously, and she had no one to consider but herself.

Mrs. Moncrieff was about to take a long continental tour, and the change of scene and the excitement would be the very best thing possible for Mrs. Smedley, whose health had suffered under the long harass and suspense she had endured.

On the evening that was to be her last in the lodgings, she had occupied since her mother's death, she was busy packing her boxes, when the landlady came up to say that a gentleman wished to see her.

It was so unusual for anyone to call upon Mrs. Smedley, that for a moment a wild idea flashed across her mind that it was Jack. But the hope was slain the moment it was born, for the landlady added, "He says that his name's Yarborough, ma'am."

"Tom Yarborough," said Rose to herself, "what-

ever can he want? I suppose he's heard that I'm going abroad and has come to say good-bye."

She came down stairs to the parlor to see her visitor, and found Tom in a state of great excitement.

"I hope you won't mind my calling on you so late?" he explained, "but I've only just found out where you lived. I've some news for you."

"I know what it is," gasped Rose, "you—you've seen Jack."

"Yes, I believe I have."

The next minute Tom had dashed out into the hall and was yelling for the landlady. Rose Smedley had fallen down in a dead faint.

When the landlady and Tom between them had brought her round and Rose was calmer, Tom told his story.

He had been dining with some friends on the previous evening at a little town some thirty miles from London, and after dinner they had made up a party to go to the local theatre.

The piece was not up to much and the company was only a small travelling one, but the voice of the man who played one of the parts instantly arrested Tom's attention. He listened and listened, and the more he listened the more the idea haunted him that he was listening to Jack Smedley.

He borrowed a pair of opera glasses and scrutinized the actor carefully, but the "make up" effectively concealed the man's real features. And yet there was a look about the eyes and upper part of the face that confirmed Tom's impression that he was in the presence of his long lost friend.

The actors name was given in the programme as "Mr. J. Wilson." As soon as the performance was over Tom made an excuse to his friends and went round to the stage door. He saw the stage door-keeper and asked if he could speak to Mr. Wilson.

"I'll see, sir. What name?"

"Say, Mr. Yarborough."

The man took the message, and promptly returned to say that "Mr. Wilson was engaged with the manager, and could not see anybody then." Tom was not to be put off so easily as that, so he said he would wait outside.

As he was turning from the door, a young lady came up from the stage, dressed for the street.

"Oh, Mrs. Wilson," said the doorkeeper, "there is the gentleman as wants to see your husband."

Tom turned and looked at the young lady. She was very pretty and about four and twenty.

"I beg your pardon," said Tom, hesitating and wondering how he should get out what was on his mind without making a mess of it. "I only wanted to ask Mr. Wilson a question."

"Perhaps I can answer it," replied the young lady, looking at Tom with a searching glance.

"I—er—I'm afraid not. I'd sooner wait for him. I shan't detain him a minute."

"I'll go and see if he can leave the manager for a moment," said the young lady, and she went down the stairs to the stage again.

Tom waited and waited. The actors and actresses passed out, and presently the fireman came upstairs.

"Seen Mr. Wilson?" said the stage doorkeeper. "This gentleman's waiting for him."

"Everybody's gone," replied the fireman. "There ain't anybody in the house now."

"How long has Mr. Wilson been gone then?"

"I don't know the company by name, but there ain't nobody left in the house, I can tell you that," was the reply.

"Ah, said the stage doorkeeper, "then it's no use you waiting. Mr. Wilson and his wife must have gone through the front."

Then Tom at once jumped to the conclusion that the young lady had told Wilson that he (Tom) was still waiting, and they had both slipped out of the front way to avoid meeting him. And this convinced him that his surmise was correct, and that the actor with Jack Smedley's voice was Jack Smedley himself!

Tom Yarborough blurted out his story, for he was full of it. It was not until he saw the effect of his narrative upon poor Rose that it occurred to him that he had done an unwise thing.

"I don't believe it, Mr. Yarborough," she exclaimed, her eyes filling with tears. "I won't believe it. My husband was cruel to leave me in doubt and suspense all these years, but surely he would not venture back again and run the risk of detection—and—"

She could not bring herself to say what was in her mind, which was that wicked as Jack Smedley had been to her, he would not be so wicked as to come back to England calling another woman his wife.

But her curiosity was excited. The idea that her husband was alive and near London revived all the old feelings of doubt and anxiety which she had after a lapse of years conquered,

"Tom," she said presently, "I must see this matter out. I shall go down to this place, will you come with me?"

"Certainly," said Tom, feeling that he was "in for it," "but—er—hadn't I better go first and make sure. You see, I may have been mistaken after all."

"No, I'll go myself. I can't rest now till I know the truth."

Mrs. Moncrieff started for the continent alone. Rose explaining that important business of a private nature would detain her in town for a few days.

The next evening, accompanied by Tom Yarborough, Mrs. Smedley went to the theatre. It was a different play—the bill had been changed, and there was no Mr. Wilson in the cast.

Tom went round to the stage door and interviewed the stage doorkeeper again. Did he know if Mr. Wilson was in town still, and could he give his address. Tom was referred to the acting

manager, who said that Wilson had not been to rehearsal that morning, and on sending to his lodgings it was found that he and his wife had taken their luggage and left the town. It was a very extraordinary thing to do, as a week's salary was due to them, and the manager couldn't understand it.

Tom Yarborough understood it and Rose understood it. Jack Smedley had ventured back again, believing that his crime was forgotten and that in the strolling actor no one would recognize him. Directly he had been told that a Mr. Yarborough wished to see him he knew that he was discovered and he had fled, taking with him the woman who called herself his wife.

But even now there was no proof that these surmises were correct, and Rose couldn't leave the matter.

"Mr. Yarborough," she said, "I am determined that I will find this actor who calls himself Wilson, and see for myself if he is my husband. I can't rest until I know the truth, however terrible that truth may be."

Tom Yarborough went back to London; he had his business to attend to, but Rose went to the hotel and stayed in the little town. She determined to find out from the company and from the landlady of Mr. Wilson's lodgings what kind of man this Mr. Wilson was.

She went next day to the lodgings. The landlady could tell her very little. Might she see the rooms?

Certainly.

They were poorly furnished, dull, uncomfortable looking rooms—small parlors divided by a folding door. They were what is known in the profession as "theatrical diggings," and they changed their occupants almost weekly by week. Some of the tenants were careful, but some were not, and the general appearance of the apartments bespoke rough usage and neglect.

Rose looked about the rooms in vain for any sign or token by which she might know that the last occupant had been her husband. She didn't know what she had expected to find, but she had a vague idea that she might light upon a clue in some shape or form.

Finding nothing, Rose Smedley began to ask questions of the landlady. What sort of a looking man was Mr. Wilson? How old did he appear to be, &c., &c. The landlady couldn't say much about her last lodger. She had so many coming and going that they were pretty near all alike to her, and she saw very little of them. But she did notice Mrs. Wilson; she was a very pretty, rather delicate-looking lady; she noticed her particularly, because when she came to pay the bill, and to say they were going away, she seemed nervous and frightened, and her manner attracted her attention.

Rose felt a sharp pang of jealousy as she listened to the landlady's description of the young woman's personal attractions. For the first time it occurred to her that even if she traced her husband he was utterly lost to her. This girl, who called herself his wife, had usurped her place, and all that was left to her now was to prove the fact of her husband's treachery, sue for a divorce, and be a free woman again.

Gradually she began to see that that was what she ought to do. Why should she spend the rest of her life bearing the name of a man who had treated her so infamously; who had committed a criminal act, and left her without a word, only to come back again after many years with another woman as his companion?

Yes, she had another motive in finding John Wilson, the actor, now. Love was dead, and revenge had taken its place.

But how was she to find the man? She had no clue, not a single thread to guide her. The man had left no address at the lodgings; no one there had the slightest idea as to where he was going when he left.

Rose went back to the theatre and saw the manager. She explained that the Mr. Wilson who had so mysteriously disappeared was, she believed, a friend of her family's, and she was very anxious to discover his whereabouts. The manager was very polite, but he knew nothing of Wilson; he had engaged him for the tour, which commenced about a month previously. Wilson had answered an advertisement, and had applied for himself and wife.

"Have you the letter?" said Rose. She thought to herself that she would recognize the handwriting, and that would set her doubts at rest.

The manager couldn't say: probably it was destroyed, but he would look among his papers and see. He was absent for about ten minutes, and then he returned.

"I can't find the letter," he said; "but I've found a photograph he sent with it."

"His photograph!" cried Rose. "Let me see it, I shall know it at once."

"No, not his photograph—the photograph of his wife."

He placed in Rose's hands the photograph of a young woman, and Rose looked at it with mingled feelings of curiosity and repugnance.

The landlady was right. The girl was certainly pretty. There was a look of delicacy and refinement in her features, and the eyes were very large and beautiful.

"May I—may I keep this?" gasped Rose, as with a deep sigh she lifted her eyes from her rival's face.

"Certainly, if you wish it. And now I must ask you to excuse me. We are playing a new piece tonight, and I'm wanted on the stage."

Rose thanked the manager, and left the theatre with the photograph of Mrs. Wilson in her pocket. She had made up her mind what to do. "I shall know this woman again," she said to herself, "wherever I see her, and when I do see her, I shall

not be long before I find out where this man is who passes as her husband."

Five minutes after Mrs. Smedley had left the theatre, a gentleman arrived, and sent in his card. There were two words in the corner which procured for him instant admission. Those two words were "Scotland Yard."

The gentleman explained his business in a few words. He wanted some information about a Mr. Wilson, an actor in the company.

"Why, there's just been a lady here on the same errand," said the astonished manager. "What's Wilson been doing?"

"A lady!" exclaimed the Scotland Yard gentleman. "What was she like?"

The manager told him.

"So," thought the detective, "Mrs. Smedley's heard of it, too. Well, between us I fancy we shall find him; but she mustn't know I'm going to help her, or it might upset the applecart."

Tom Yarborough had done a very foolish thing. He had gone back to the city and mentioned that he believed he had seen Jack Smedley acting at a theatre.

He did it innocently. He had quite forgotten that the reward of £1,000 for Smedley's apprehension, which was issued at the time his frauds were discovered, had never been withdrawn, and that the warrant was still in the hands of the police.

Someone who owed Smedley a grudge in the city—a former clerk of the firm he had robbed, heard the news, and went straight away to Scotland Yard with it, and a detective went down at once to the town, where Yarborough thought he had seen the culprit at the theatre. And so it came about that after a lapse of years, during which Jack Smedley's crime and his mysterious flight had almost dropped out of remembrance, Tom Yarborough's chance visit to a little provincial theatre suddenly set the hounds of justice once more on his track.

Rose Smedley, convinced that the man who was acting with a provincial company under the name of Wilson was her missing husband, went back to London with the photograph of the woman who called herself Mrs. Wilson in her pocket.

The photograph was the clue by which she hoped to trace the man. She thought all the circumstances over, and made up her mind that her husband, alarmed at being recognized by Yarborough, would not risk a public appearance again yet awhile, but the woman would probably get another engagement. They were evidently poor, and would have to live on her salary.

Mrs. Smedley's first visit was to a big theatrical agency near the Strand, an agency through which managers all over the country engage their companies. She pretended that she was in search of a young friend, an actress, whose whereabouts she had lost sight of for some time. The agent might be able to give her some information. Rose showed him the photograph, but he didn't recognize it. He explained that he had such an enormous number of clients it was quite impossible that he should remember them all. Many of them he did not even see, but obtained them engagements by correspondence. However, if she would leave the photograph with him he would make enquiries, and he might be able to let her know something. She might call again in a day or two if she liked.

Mrs. Smedley allowed a week to pass, and then she called upon the agent again. The clerk took in her name, and came back with the answer that Mr. —— was very busy, would she kindly excuse him not seeing her. He had no information to give her?

Rose was disappointed, although she had hardly hoped for anything better.

"Thank you," she said, "I'm sorry to have given Mr. —— so much trouble. Will you kindly ask him to let me have the photograph I left with him."

The clerk went into the private room, and presently returned with a photograph which he handed to Rose.

Rose was just going when the agent came hastily out of his room.

"I beg your pardon," he said, "but I've given you the wrong photograph."

"Oh no," replied Rose, "this is the one I left."

The agent looked at it.

"That's curious," he said, "for I've another on my desk now. I didn't look closely at what I was giving my clerk, and I fancied that I must have made a mistake. Wait a moment."

He went into his room, and returned with a letter.

"I see how it's happened," he said. "The photograph I have come this morning in a letter, which my clerk opened and put with a number of others on my desk."

"A letter from Mrs. Wilson?"

"No, it is from a Miss Elmore, but this is the photograph, because my clerk endorsed it with the name and address after taking it out of the envelope."

He showed Rose a photograph. It was a fellow one to the photograph she held in her hand. Both were photographs of the same woman.

"I've advertised for a lady and gentleman to go out with a company to the Cape," said the agent, "and this is in reply to it. Miss Elmore is evidently your missing friend. She is anxious to secure this engagement for herself and husband. She does not enclose his photograph, but says he will call upon me by appointment, if the vacancy is not already filled."

"Oh," exclaimed Rose, endeavoring to appear calm, "how fortunate! will you kindly give me Miss Elmore's address?"

The agent hesitated. There was a look in Mrs. Smedley's face that made him do so. He was a man of the world, and he had known instances before in which one lady wanted another lady's

private address for the purpose of a friendly greeting.

"It's hardly the thing," he said, "for me to do without Miss Elmore's permission; but as the engagement is still open, and I think she will just suit the part, judging by her appearance and the press notices she encloses, I shall write to her to come and see me, and then I'll give her your address if you will leave it. That will answer the same purpose, I presume?"

"Oh, certainly," replied Rose, biting her lips with disappointment. "I'll—I'll send a letter here for her which you can give her or forward to her."

"Certainly. Good morning."

The agent disappeared into his private room again, and Rose went out into the street fully determined what she would do.

[TO BE CONTINUED.]

The Household.

A BANIAN DAY.

BY A FAMILY DOCTOR.

Without anything approaching to the familiarity of the young man in the poem, who commences his impertinences with the remark—

"You are old, father William...."

The few locks that are left you are grey."

I am always pleased to interview a man who is well up in years without being very old in appearance. The experiences of life—and the mode of living—of such men are seldom without their value from a physiologist's point of view. Moreover, men over seventy are, as a rule, not averse to admit the impeachment of old age. When about ten years older than this, they may even look upon it as a compliment. If still another ten years be added to their span of life, they really sometimes come to consider living as a matter of course, and forget they are old unless thoughtlessly reminded of it. I say "thoughtlessly" because I know men, and even women too, who, in conversing with the aged, constitute themselves downright *memo-mories*, if I may coin a word for the occasion. I do not suppose that even the oldest man in the world, whoever that may be, wishes to be constantly reminded that, figuratively speaking, he has one leg in the grave. An aged man may be excused for considering a person, whether man or woman, an unmitigated bore who alters their voice when talking to him, who either whines as if pitying him, or shouts at him as if he were as deaf as a door-nail.

I was chatting the other day with an old sea-captain (a wondrously hale, hearty, bluff and brown "old tar"), and happened to say—

"You are talking of things that happened a long way back, but you cannot be much over sixty."

"If you add twenty to that," he replied, "you'll be getting within hail of it."

"Indeed!" I said; "then I'm somewhat out in my guess. To what do you attribute your extraordinary good health, may I ask?"

He laughed. "Extraordinary good health, indeed! Why, I never had any. I've suffered from dyspepsia all my life—or, to speak more truthfully, I would have suffered, and would suffer from that complaint now, if I didn't always manage to steer clear of Scylla, without running foul of Charybdis. In other words, sir, I have what you might call a tell-tale stomach."

I must here explain that on board ship what is called a "tell-tale" is an instrument consisting of a weighted brass clock-hand hung on a pivot, pointing to the arc of a circle, on which degrees are marked. When the ship rolls, it thus indicates the angle of deflection from the plumb. The captain by glancing at it can tell in a sea-way whether or not he is carrying a dangerous

pressure of canvas, and can take in sail before finding himself on his beam-ends.

"Yes, sir, I've a tell-tale stomach; it is easily capsized, or put slightly out of order. It is to that I attribute my length of days, and the measure of health I do enjoy. A man who carries a tell-tale isn't likely to crack on too much, and it is better to ease off than to 'turn turtle.' Besides, in every ship I've had the honor to command, I have invariably insisted on a Banian day once a week."

"On a Friday, I suppose?"

"Yes, a Friday; just for fashion's sake. But on that day no meat was eaten; we were vegetarians out-and-out. Indeed, our Banian day often used to be very much of a fast day. My officers might not like it at first, but they soon learned the advantage of such a plan; and the increase in health and happiness obtained, amply repaid them for the inconvenience of granting to the digestive organs one day's almost total rest a week."

Let me say at once that I do not uphold this cure as a panacea for all the dyspeptic ills that human flesh is heir to, nor do I claim for it originality. I am quite content that it should be considered an old cure resuscitated, so long as some of my readers are willing to adopt it and adapt it. I may add that it is most likely to do good to that very large and ever-increasing class of people which includes the "only-middling"—people are never over-well, nor ill enough to be defined as invalids; people whose state of health is undergoing constant fluctuations, whose condition ebbs and flows like the tide, goes round and round with the weather-cock, or up and down with Fitzroy's barometer; people who, like a bold Northumbrian friend of mine, are "not well enough to boast, yet scorn to complain;" which also includes the so-called or *sociable* nervous, as well as the excitable—those for whom life seems far too short to do all they wish in, and who never can do enough or go fast enough to please themselves; who are intemperate in their desires, and intemperate in their very work; who are always grumbling at the ways of the world; and who would desire nothing better than to have it all turned upside-down and made over again, so long as they were permitted to superintend. It includes, also, persons very much akin to these, who suffer from irritability of brain, temper, or from boredom, *ennui*, and languor—which last in nine cases out of ten is but another name for laziness. But can these latter be called dyspeptics at all? Certainly they can, for, more often far than not, their mode of life, and methods of eating and drinking, lie at the root of their misery. All cases of dyspepsia are not distinctly referable to the region of the stomach, remember, but to the head, the heart, the nerves, and muscular system generally. Let four men, for instance, dine together, and all be guilty of the indiscretion of eating too heavy meal, without probably drinking anything stronger than ginger ale; three at least of these will suffer from disagreeable after-effects—dyspepsia, in fact—while the fourth will escape with the minor punishment of depression. But of the three, one may have acidity, flatulence, and liver disturbance; the other, irritability of the nervous system; and the last, simply a disagreeable feeling of fulness and wooliness in the head, with some heat of brow and eyes.

Now, in the good old times the physician or

leech would have treated all three cases alike. He would have bled them, or sent them round the corner to the barber's, asking them to call when they came back. He would then have continued the treatment by further depleting them through the system, and next day they would be wiser men. Not sadder, though. Oh! no; on the contrary, they would feel lighter and merrier altogether.

I do not think I shall be either contradicted or accused of excessive rudeness if I state boldly my conviction that over-eating is one of the greatest vices of the age. I cannot be contradicted, because society itself confesses to the sin—but society goes on over-eating, all the same. These very words—"Over-eating kills more people than over-drinking"—have become proverbial. Unfortunately, even as men consider all persons mortal except themselves, so they are inclined to impute gluttony to any other corner of the table rather than their own.

Over-eating causes heat of surface, and slight fever of blood; not very appreciable, perhaps, but enough anyhow to cause you to turn more than once in bed during the night, and banish all the feeling of buoyancy from your waking hours, without which health is in reality an unknown quantity. Even over-eating in the minor degree during one day causes discomfort in the next—all the forenoon, at all events; for the skin is too dry, the secretions are checked and retained, and languor and depression, perhaps even sleepiness, are the symptomatic results.

Enough said. Now, while strongly advising both the strong and the "only-middling" to live always temperately, I as strongly advise Banianism one day in seven. My cure, after all, depends on a policy of rest; it is to be real and true "at home" day for the system. Rest for the stomach, rest for the liver, the heart, and the brain. Rest for the body also; but this is not imperative, and hardly necessary—so that the Banian day may be any day of the week.

I do not counsel abstinence from food entirely. Starvation for merely twelve hours would constitute a dangerous shock to many delicate people. But no meat is to be taken on Banian day, and only the lightest of diet, and the least of that which can be done with. Supper itself is permissible, and even to be recommended; but it should consist only of a few rusks, or a light biscuit, with a glass of peptonised milk.

As accessories to this treatment for indigestion, I recommend a mild aperient about once a week if necessary; and in all cases where not contraindicated in the judgment of the physician, the shower-bath or sponge-bath every morning.—[Cassell's Magazine.]

CARE OF THE FEET.—Persons who are troubled with feet which at times emit an offensive odor, in spite of all known preventives, will be glad to learn of the following simple remedy which we have obtained from one of our eminent physicians:—It is usually the case that those who are troubled in this way are subject to excessive perspiration. No amount of bathing and washing remedies the evil complained of. The softening of the skin between the toes and leakage of the fetid lymph suggest an astringent application; but even a strong solution of sulphate of zinc will be absorbed, producing swelling, and more or less distress; but oxide of zinc not only possesses the proper astringent property, but effectually arrests the discharge disinfecting the parts, and effecting a complete cure of the offensive malady.

Minnie May's Dep't.

"These Girls."

"These girls, these girls," said the tired professor, shutting his desk at the set of sun.
"How they perplex and distress one's spirit,
Thinking of nothing but dress and fun."

"Boys are straightforward and easy to fathom;
Everyone knows that boys will be boys;
Girls are deceitful and hard to manage,
Their tongues are restless—artful decoys."

"These girls, these girls, who could understand them?
When bent on mischief grave as the sphynx;
I asked to-day who found work for the idle?"
One cried out, "You, sir, the saucy minx."

"I am quite weary and more than discouraged,
Trying to teach them geometry;
Well, I'll forget them until to-morrow.
Forget my troubles and go to tea."

Then he went home, the poor, tired professor.
His little girl met him with a kiss,
Another daughter put on his slippers,
A third had tea made, like liquid bliss.

"These girls, these girls," said the thoughtful professor,
Placing his hand on his daughter's curls:
"Now that I come to think upon it,
How would we manage without these girls?"

—By Mary West.

by-and-by. How delightful to watch the swollen buds of the Lilac and Syringa bushes unfold into fragrant blossom soon. Just in the sunny shadow of this fence will be the place to plant a long double row of sweet peas, for they should be put in when the snow leaves to insure early blossom. Strong yarn or twine should be secured against the fence by small nails, to enable the peas to climb, which they will readily do if given one or two turns around it when they are a few inches high. Small limbs of trees do as well, but they do not look so tidy as the string. These peas will bloom one month earlier and dozens of bunches can be picked for market, for they are a favorite flower and readily sell. We can only rake the borders clean of leaves and dead flower stalks this afternoon, for the soil is still too moist to poke in it with our trowel as we long to do, but we can plant our peas in a long double row, cover them two inches and leave the sun and warm showers to do the rest. So now, my dear girls, we cannot do better than go indoors, the sun is getting low and it is not wise to remain out too long. Bathe your faces and hands in water just as hot as your skin can bear, it has a wonderfully refreshing effect; smooth your hair and sit down for half an hour to rest before making preparations for getting the evening meal for the family, which should be light, wholesome, and as appetizing as possible, for they will come home tired as well as hungry.

MINNIE MAY.

A Letter From a Reader in Manitoba.

I cannot do better than give you a letter written by a farmer's daughter away off in the North-west, in which she states a number of her grievances. She says:—"That dark side of farming, to me the pig-killing, is over at last, and it is the worst time I ever remember. It has been so miserable with extra work and dirty floors. Father knows I don't like to have the carcasses scraped near the door, and generally takes them out of sight; but when doing the work the other day the weather was drizzling and chilly, and he had them in the shelter of the shed before I knew it, and there were pools of gore all over the grass close to the woodshed door, and from there it would be brought into the house on the men's boots. I had not looked out of the door while the work was going on, for the sight always distresses me; but when they had done calling for hot water and seemed through the business, I glanced out, all the rest were standing with their hands in their pockets, and father was finishing off the animal. But I did not take time to look at the boys, for the dirt and bristles and running pools of red on the little patches of snow caught my eyes, and I could have cried to think the nuisance had to remain there for ever so long. Why will the men folks be so careless of the comfort and happiness in little things of those they profess to love? I try to forget the matter, and work hard at preparing sausage-meat, pickle-making, and lard-rendering, but that unnecessary blot on my housewifely-pride seemed too much for me, and when, in the course of a day or two, some of the girls came in to ask me to paint them little things for Christmas they stopped dismayed 'Why, Charity, why didn't you send them behind the barn?' they chorused. 'Because,' I said, 'I am not able to watch half a dozen of men who have no more brains than so many calves, and don't care how dirty the door-yard

is, and then our indignation meeting passed several vehement resolutions. We unanimously resolved, first of all, that there is no necessity for men being so selfish and heedless, or thinking, as some do, that because they are farmers they need not be particular as to appearance either of person or property; secondly, that such farmer's girls are glad to go the city, that they are likely to detest the mountain of work that looms up all the year round, and is topped by pig-killing. The city servant has everything to her hand. There is a man to attend the furnace; bread and butter are brought to her door; the fowls are purchased ready plucked, there is no thrashing to be done by half a dozen dirty boys and men, who come in full of dust, and have their tracks marked with grain and chaff, even in their bedrooms where they take off their clothes. What we want is more refinement among the young of both sexes and more thoughtfulness to save work. A young girl who was visiting in this neighborhood last summer, in speaking of a certain family, said:—'The daughters are refined and well read, but the boys are boors.' No one could deny she was right, and I say, that going behind the plow, feeding animals, sowing or reaping, need not make a man rough or coarse. This is done by the company he keeps,—men who do not know any better, and who make out that farmers must be rough and sneer at refinement, till the boys learn to imitate them instead of aspiring to better things. I am tired to-night. There is little hope of anything else for me than this weary round of duties, but even this monotonous life would be robbed of half its pain and soreness if thoughtful love on the part of the stronger members of the family lightened its burdens. But, when he wants to go out early, never thinks of lighting the fire before he calls me, or after, for that matter, though it would be a great comfort to me, and yet when he and father are away, or if they are all very busy at work, I do not think it beneath my dignity to feed the horses or any other animal without being asked. It is these mutual acts of interest and affection that gives one courage to face the troubles of life that beset us all, and this is one of the secrets of happiness in every home."

Prize Essay.

"How every girl can furnish her own room." The time for receiving essays on the above subject has been extended to the 20th of April, in consequence of this number coming out so much earlier than usual. Now, ladies, is your chance to secure a beautiful silver napkin ring. I hope to hear from some of you on this subject, of which much could be written.

MINNIE MAY.

Our Competition Prize Essay.

A prize of \$2 will be given for the best essay on the following subject:—"A breakfast for seven days for a farmer's family, and how to cook the same." Now this is a practical subject, and I hope it will be liberally responded to. I have been rather disappointed of late that more have not written for our prize essays, perhaps the time given was too short, so I will make this offer good till the 10th of May, when all communications must be in our office.—M. M.

It is conversation, and not simply what one eats or drinks, or has to offer or display, that makes a dinner banquet fit for the gods.

Fashion Notes.

LADIES' BASQUE.

No. 1 represents a very attractive and stylish bodice, having a postilion back finished with two large buttons, and the front opening over a full vest of surah or some other material. The high-standing collar, revers and cuffs are braided to



NO. 1.—LADIES' BASQUE.

match the trimming. If silk is used, one yard will be found sufficient. All the basques are to be trimmed a great deal, the severe, plain style quite going out.

CHILD'S DRESS.

No. 2 is a dainty-little dress, and may be made up very tastefully in navy blue serge, with trimming of a corresponding shade. The full front trimming is gathered top and bottom, and



NO. 2—CHILD'S DRESS.

sewed to the waist and pointed yoke. The skirt is gathered at the top and sewed at the waist. A sash and tassels completes the costume. The yoke, revers and bottom of the skirt are herring-boned, as seen in the engraving. Suitable for a child from 4 to 10 years.

The order of dinner is oysters, soup, fish, meat, game or entrees, solids, dessert, crackers and cheese, fruit, confectionery and coffee. Brown bread should be passed with fish and salads.

Conservatories—Construction, Aspect and Management,—Selection of Plants, etc.

BY MR. MITCHELL, INNERKIP, ONT.

I wish to be understood as taking up this subject altogether from the amateurs' standpoint, and as considering the limited conservatory of ordinary use, and one in which it is desirous to accommodate as many different general species and varieties of plants as can be grown successfully. The size must, of course, be regulated by the pocket and enthusiasm of the builder, but the smaller, the more difficult to preserve an even temperature. The material of construction for the outer walls or sides, is not very essential if it be frost proof, or nearly so, although I favor double boarding with tarred paper between. As to the style or form (and with it the situation or aspect), it should always be (for a general collection of plants,) of some form of the ridge and gable plan, with the sashes sloping east and west. This gives the fullest sunshine in the morning and evening, while at mid-day the rafters and sash bars exclude a large portion of the sunlight. Consequently, an even temperature is more easily maintained. I find many, very many, conservatories, constructed as a lean-to, and situated on the south side of the dwelling. It would be impossible for a professor of the art to produce good results in such a house as this, and I believe such houses as these have completely discouraged many beginners. My own conservatory, or greenhouse, has no lights in the south gable. By this I have a bench at the south end, shaded from the south or mid-day sun, while it receives the morning and evening sun, and at all times in the day it receives light from above for a large portion of the year. This is the most valuable space in the house. It is very desirable, or imperative, rather, in the sort of conservatory we are considering (one in which a number of different plants can be grown), to have a shaded portion as well as other summer positions. But I will probably make further mention of this when I take up a few of the desirable plants for the conservatory. If practicable, the house should be wide enough to admit of a raised or filled bed in the centre. Sod, and new, or loamy earth, with a little manure, is the best material to fill this bed with. Hot water is, I think, all things considered, the best mode of heating. The first cost is more than that of smoke flues, but where winter bloom is desired the result is more satisfactory.

I will not pretend to make a complete selection of desirable plants for the conservatory, but will confine my remarks to only such plants as I am familiar with. For winter blooming the cineraria is particularly valuable. When intended for winter blooming I sow the seed in spring or early summer, and after potting keep the plants as much as possible in the open air throughout the summer. A cool place with a northern aspect is the best (the north side of some building where the sun's rays can only reach in morning or evening. Care must be taken that the pots do not get water-soaked for any length of time, as excess of moisture is very injurious. On the approach of cool weather the plants should be placed in a cool, airy position in the conservatory. The cineraria will make a finer and a far more prolonged display at this season than when brought into bloom, as it usually is, in the early spring.

The Chinese primrose is another valuable winter-flowering plant. The seed should be sown in May or June, and I prefer to grow it also in a shaded place in the open air throughout the summer. The carnation is another particularly fine winter flowering plant. It is not only a useful decorative plant for the conservatory, but is of even more value for the lasting and beautiful cut flowers which it furnishes throughout the winter. For the best plants, cuttings should be struck the previous winter or spring, and be planted in the open ground throughout the summer. The plants should not be allowed to bloom while in the open ground. They should be taken up and potted, and removed to the conservatory in October or November. Ordinary fall frosts will not harm them. Many varieties of tender roses bloom profusely throughout the winter. Varieties of climbing habit will generally give the most bloom, and are easily managed. They should be planted in the bed in the centre. I recommend the following:—In white, the old Lamarque is best, for the beginner at least. It is not a rose of very high finish, but is a rampant grower, is almost mildew proof, and requires but little care except such as it may require from the pruning knife occasionally. Gloire de Dijon, peach or fawn color, is a first-rate rose for the amateurs' conservatory. A sweet-scented, good-sized, well-formed, constant-blooming rose, and is nearly, though not quite, as easily cared for as Lamarque. In reds, Reine Marie Henriette and James Sprunt are perhaps the best among the elder varieties, and are easily managed. I know that amateurs are generally advised (by those who profess to be posted on this matter), not to attempt to grow that magnificent yellow rose, Marechal Neil; but if thrifty young plants are selected and planted in the ground in the part of the house in which the temperature is the most even and least subject to strong drafts, it will generally succeed well. I have had more perfect success with it than with any other yellow rose which I have tried. Nearly all Hybrid Perpetuals and Hybrid Teas will bloom freely in the latter part of winter. These should be grown in pots. By far the largest portion of flowering plants bloom in the spring. I will not enumerate any of these, but will make mention of a few valuable summer-flowering plants.

For an early summer-flowering plant, the Agapanthus is well adapted to the amateurs' conservatory. Insects rarely prey upon it, and, though a strong-growing, stately plant, the flowers possess a delicacy and purity which exact universal admiration. The comparatively new, large-flowered Tuberous Begonias are useful, handsome plants. The Chinese Nibiscus is worthy of being grown far more than it is. Some of the double varieties produce bloom six inches across. The colors in many varieties are gorgeous and striking. The hottest and sunniest position suits it best.

A plant which is a greater favorite of mine for the conservatory than perhaps any other, is the Gloxinia. A bunch of well-grown Gloxinias in full bloom is a grand sight. Those who have seen only indifferently-cared-for specimens cannot form an idea of the wonderful beauty of this flower when at its best. Compare the most beautiful, daintily-dressed child with the most neglected little street Arab, and you have not so wide a difference as there is in the extremes of

this flower. I mention this matter of ill-grown Gloxinias because I see so many of them.

There are many other beautiful summer-flowering plants which I would like to make mention of, but it would prolong this to too great an extent. In concluding this at this present time, I may say that the most complete formula of rules for guidance, or the most approved structure or appliances will not avail much, if the possessor or person in charge is not a true and devoted worshipper at the shrine of Flora.

RECIPES.

VEAL CUTLETS.—Cut slices from the loin of veal one inch thick, dip in beaten egg, then into finely powdered bread-crumbs, and fry a light brown in very hot dripping.

PRESSED VEAL.—Boil the two knuckles of the hind quarters, with any other small trimmings from the joint, in two quarts of water with a tablespoon of salt. When very tender take from the water, cut the meat in small pieces. Add pepper, and a pinch of ground mace, return to the liquid and simmer an hour. Pour it into a mould to harden.

A NICE WAY TO COOK FRESH PORK.—Chop raw pork very fine, with half as much bread as there is meat, soaked until soft, two eggs; mix well together, make into oblong patties, and fry in hot lard. These are nice for breakfast.

FRIED EGGS FOR BREAKFAST.—Toast slices of stale bread, and cut off the crust, butter and place on a dish to keep warm. Fry eggs in butter and put an egg on each piece of toast, with a dust of black pepper on each egg.

LIGHT CAKE.—Two cups of sugar, two cups of flour, two eggs, one cup of sweet milk, two tablespoons of melted butter, two teaspoonsfuls of baking powder.

GOOD CHEAP SYRUP.—To make a gallon of syrup, take five pounds of brown sugar, add one quart hot water, set on the back of the stove and melt slowly, when thoroughly melted pull the kettle forward where it will boil. Boil rapidly for ten minutes, and pour into a large basin or demijohn for use.

SHORT CAKES.—One cup of sour milk, two-thirds of a cup of sour cream, one teaspoonful of soda, a little salt, flour enough to make a soft dough, roll out half-inch thick and bake on pie tins.

SORT GINGERBREAD.—One cup of molasses, one spoon of lard or butter, one-half teaspoonful of ginger, three cups of flour, one cup cold water, one teaspoon of soda. Mix all together free from lumps, and bake in a slow oven.

ABORTING FELONS.—The Therapeutic Gazette recommends the following treatment for felons, which has proved successful in a vast number of cases when applied before suppuration had begun. The entire finger is covered with ointment of nitrate of mercury, to the thickness of about one-eighth of an inch, and then wrapped in sticking-plaster. This dressing is left on twenty-four hours, after which no further treatment is needed.

HOW I PREVENT MY HAIR FROM FALLING OUT.—Whenever it commences to comb out, I put alcohol on the scalp and gently rub with tips of fingers. Continue the treatment once in two or three days until it ceases to come out. This stimulates the growth. Four or five applications will usually cure for the time. A little rubbed on occasionally is beneficial.—Rock Maple.

Uncle Tom's Department.

Both Mistaken.

He stopped in front of a maiden fair—
"Twas at a waxworks show—
And he said: "How lifelike is her stare!
How natural her golden hair!
Her cheeks! See what a hue they wear!
They actually glow!"

The maiden opened wide her eyes.
"Not only can they walk,"
She said in evident surprise,
"But now it seems these effigies
Are made in such a wondrous wise
They actually talk!"

—Chicago Tribune.

MY DEAR NEPHEWS AND NIECES:—The days of snow and mud are almost gone for this season, and the time of singing birds and budding trees, and bright, long days is upon us. Those little boys whose "mibs" were nearly buried in mud, and had to take "droppings," may shoot "knuckle down," and even get on their knees in an extremity without their clothes telling such dreadful tales. Some of our little nephews have been at work through these winter months, now gone forever. Do you want to know how? Well, on Saturdays they met, and, like their papas, they held a Farmers' Institute meeting. How, you ask, they're not farmers? No, but they are farmer's boys, and one of these days they'll help their fathers. When the hair begins to turn grey, and the forehead to wrinkle with care, and the shoulders bow, then these worthy fathers *need* not work, but will direct our youthful, strong, young men, rejoicing in their manhood. Then the boys of to-day are the men of to-morrow.

But what about the Institute? Oh, yes, Uncle Tom has been wandering. Well, they hold their meeting, appoint their chairman, who makes his speech, and then each member in turn is called on for something—a recitation, a song, a reading, a speech, with an occasional discussion and a debate. Perhaps I oughtn't to tell it, but my nieces will be pleased to hear they let the girls debate with them one time, and the girls beat. There is not anything very clever about these little folks, just like you are; and if you had been in their meetings you would soon feel very much at home. But some one is saying, it's nice enough to talk about, but we're too busy at our place to do that. Our examinations are coming soon, and we have so much to do, while somebody else is wishing there were no High Schools, and no entrance examinations to write on. Well, High Schools are useful institutions, and—Oh, no, don't stop reading Uncle Tom's letter yet, thinking you haven't time. He's been through it all, and knows just how it goes. His advice is to study hard now, but the harder you study, play the harder, too, to keep up your physical strength.

Mind and body go together, you know, and it's just a waste of precious time to sit pouring over books when you ought to be out for exercise, because you will get worn out and weak and nervous, and will not do as well at the end as if you knew less, but were in a good healthy state, mentally and bodily, and able to tell all you know.

Do not think of the result. Do your best, and who can do better than that? Use common sense, too. That is an element examiners are very fond of finding intermingled with knowledge on students' papers, and gains for them those coveted marks, which labels you *passed* or *plucked*.

It isn't alone in writing on examination papers, it's helpful, but continues being so all through this strange thing we call life, for which your school days are fitting you. Though you have wisdom that could measure the stars, that could remove mountains of algebraic difficulties, or understand all the synthesis and analysis of Paradise Lost, and lack common sense, your knowledge is vain, and will land you in pedantry, sometimes termed crankism, instead of a well-balanced, well-cultivated mind.

Have you ever seen a tree deformed in its growth, and all out of shape? We notice the same in fruit, vegetables, and sometimes in people. Well, those students who cultivate one part and are lacking in others, are mentally deformed. The time to correct these errors is now, before the habits grow strong and hard to break off.

It is easy to break a cord; a rope is harder to break, but when the rope is of many and heavy strands, it binds one, and is next to impossible to break. So, take care now while these things are forming, your character depends on it. But while working hard at your studies do not neglect the puzzles, for a change is a rest. So give them a few minutes, too, in the evening, and if you win a prize at the end of the year, it will come in very nicely for pocket money. The ADVOCATE is now going to be out much earlier in the month, and I want all that possibly can to let me have their puzzles and answers by the 20th of each month.

UNCLE TOM.

A prosperous barrister was talking shop the other day at the house of a rich friend. The learned one, in the exuberance of his verbosity, related the history of his earliest success: "My first client," said he, "was a man of good family, the reputation of which would have been fatally tarnished had he been convicted; so I took his case up, and got the rascal off." After dinner, enter an important personage, a great friend of the host, who presents the lawyer to him. Great person, patronizingly: "I do not need to be introduced to this gentleman; I met him long ago. In fact I gave him his first start in life. I was his first client."

Little Dot—Mamma, papa was readin' in the paper 'bout a oatmeal mill that exploded awful in Chicago.

Mamma—I—I suppose the meal was not managed carefully.

Little Dot—I dess so. May be they didn't put enough sugar on it.

Bobby has been imparting to the minister the important and cheerful information that his father has got a new set of false teeth.

"Indeed, Bobby," replied the minister indulgently; "and what will he do with the old set?"

"Oh, I s'pose," answered Bobby, "they'll cut 'em down and make me wear 'em."

Little Darling—That was a white sugar almond I gave oo, Mr. Squeams. Does oo like it?

Crusty Old Bachelor (who is trying hard to swallow the dainty in question)—Very much, indeed, thank you.

Little Darling—It was pink once.

Puzzles.

1—CHARADE.

Listen? Harken? All ye solvers To what I tell to you; Persistence, first your motto be, And keep this thought in view. Perchance you may last answer get, That's wrong (or nearly so); And then give up because you're beat, O dear! Why is it so?

The one that gains the victory, Must be very smart indeed! If to all puzzles that second tries, The answer he doth read.

Now, if at first you chance to fail

In solving, try again;

No total mind can e'er expect,

An answer to obtain.

FAIR BROTHER.

2—NUMERICAL ENIGMA.

My 12, 26, 27, 28, 31, 1, 17, 32, means to see. My 10, 24, 11, 29, 15, 3, is full of knots. My 2, 13, 16, 5, 49, 25, 39, 5, means unnecessary. My 37, 38, 39, 24, 35, 6, is to turn towards. My 20, 41, 42, 4, 43, 9, 40, 44, is to stain. My 40, 20, 7, 14, 36, is to delay. My whole is a worthy and a true saying.

A. T. REEVE.

3—A SQUARE.

My first writers ought to know how to do well; My second is a very pleasant (fourth word); My third every puzzler has seen in a shell; And the worm is the lot of the (fifth line) bird.

HARRY A. WOODWORTH.

4—REVERSALS.

Reverse "an inflection" of mind and get "judgment." Reverse "to measure" and get "to send out." Reverse "depravity" and get "active." Reverse "a mark" and get "noted college." Reverse "to conclude" and get "a reward."

"SNOWBIRD."

5—Illustrated Rebus.



6—CUBE.

1	0	0	0	0	2
0	0				0
3	0	0	0	0	4
0	0				0
0	0				0
0	5	0	0	0	6
0	0				0
7	0	0	0	0	8

Oh! The 3 to 4 has not such a thrilling sound As the bell that rings when "dinner-hour" comes round! Whenever a country boy feels rather sick From (2 to 6), then he eats 3 to 7 quick! He eats it with a (from 1 to 2) too, And a 4 to 8 of dishes goes quickly from view!

His father, the 1 to 5, looks on in surprise, As to finish a tumbler of 7 to 8 he tries; But with things to eat alone, this cube cannot be filled.

To write "a thief" from 5 to 6—a man that should be killed.

From 5 to 7, "tear"; from 6 to 8, "three of a kind."

Three very useful studies these will then bring to mind.

Campbell, in "Hohenlinden," speaks of 2 to 4, "fever" is he.

And now I wish you'd guess this, if you are not too busy;

'Twill only take a minute of some rainy April night.

To say that this (1 to 3) I know you're too polite.

HARRY A. WOODWORTH.

7—CURTAILMENTS.

1. My whole is a small division of territory."
2. Curtail I am a "division of a poem."
3. Curtail again "I am to turn."
4. Once more curtall "I am a vessel."

"SNOWBIRD."

8—DROP VOWEL PUZZLE.

R--s-n's -h-l- pl-s-r- -- ll th- j-y- f s-n- L-- n thr- w-rds h-lth, p-c- nd o-mpt-t-no- .

—P-p.

A. T. REEVE.

9—CHARADE.

How often miss second has pored o'er a first, With forehead all puckered in doubt, And how when at last the hard first has been solved, Has miss second been tempted to shout.

A. HOWKINS.

10—HOUR GLASS.

(1) Sister of Apollo, (2) Goddess of Revenge beheaded, (3) a letter, (4) the god of flocks and sheepherds, (5) went after the golden fleece. Centaurs supported the world on his shoulders.

A. HOWKINS.

11—ENIGMA.

My first thought not a fire is in heat, My second though not a chair is in seat, My third though not a dwelling place is in home, My fourth though not supposed to travel is in road, My fifth is not a bird in the bush but in hand, My sixth though not in farm is in lands, My whole is the name of a poetess.

COX.

12—GEOGRAPHICAL STORY.

It was quite a (cape west of the United States) to sister (island in the Coral Sea) when the (bay off Tasmania) came on, as she was going away with (cape east of the United States) the (island north of Australia) to do some (lake in Ontario) but the (cape west of the United States) and (lake in Nevada) made the (city in West Virginia) so bad that it was impossible to (lake in Dakota) the (river in Germany) roads. Brother (bay near Canada) promised her a (river in Ontario) time if she would have (cape north of Japan) until (mountain in Alaska) set in, and then he would take his (Newfoundland cape) (island west of Newfoundland) and (lake in Kewatin) the river, and they would have a (mountain in New Brunswick) time, (bay off New Zealand) of (town in Ceylon) and other (town in France) things, (island in the Gulf of St. Lawrence) says Bell, but I (cape east of the United States) that I shall not be able to get my (mountains in Vermont) (river in New Brunswick) (sea in Europe) (valley in India) dress before spring. Oh, say, do you see that (sea west of Asia) (town in England) that (river in Illinois) make (island south of South America) and get it for me and (river in Austria) a (cape south of Australia) be (cape off Nova Scotia) now, or—

But the sentence never was finished. Why?

FAIR BROTHER.

Answers to March Puzzles.

1—Grace, race, ace, ee.

2—Kindness makes friends.

3—All things we mortals

call our own.

Are mortals too, and

quickly flown!

But could they all for-

ever stay,

We soon from them

would pass away.

4—Hare, Alma.

Earl, Bear.

P, R, P, T

R, R, E, R

O, E, E

B, F, M, R

E, E, E

L, L, S, T

S, S, S

I, I, I

O, O, O

U, U, U

M, M, M

Q, Q, Q

M, M, M

N, N, N

L, L, L

T, T, T

A, A, A

P, P, P

C, C, C

E, E, E

L, L, L

R, R, R

C, C, C

N, N, N

E, E, E

T, T, T

I, I, I

G, G, G

L, L, L

Y, Y, Y

6—Stride.

7—One cannot always be a hero; But one can always be a man.

8—Patience is bitter, but its fruit is sweet.

9—

A N G A H
C H E R I F N A B O B S
R I V E R R H O N E

H O N E Y D E W

B A D V I M S

T W O K I N G S

10—Joy

Take home joy,

And make a place in thy great heart for her,

And give her time to grow, and cherish her,

Then she will come and oft will sing to thee,

When thou art working in the furrow; ay,

Or weeding in the sacred hour of dawn,

It is a comely fashion to be glad.

JEAN INGLEBLOW.

11—When wearied wretches sink to sleep,

How heavenly soft their slumbers be,

How sweet is death to those who weep,

To those who weep and long to die.

12—Make way, make way, for wild king march!

I hear his heralds in the larch

Above my head.

Blow on, ye noisy buglers, blow!

Ye cannot fight us, well we know.

Winter is dead!

Your king's wild reign is brief at best.

Before the April robins nest

Ye will be dead!

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

Ed. A. Fairbrother, Lizzie C. Watt, Helen Con-

nell, A. Howkins, Robert Wilson, Cecilia Fair-</

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. They must judge for themselves whether the goods advertised can, in the nature of things, be furnished for the price asked. They will find it a good rule to be careful about extraord'nary bargains, and they can always find safety in doubtful cases by paying for goods only upon their delivery.

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AUCTION SALE
OF

SHORTHORN CATTLE

In order to wind up a portion of the estate of the late W. T. Benson, the Executors have decided to sell without reserve.

ON WEDNESDAY, MAY 1ST,

—THE WHOLE OF THE—

POINT CARDINAL HERD OF SHORTHORNS,

consisting at present of about 25 cows and heifers, and 10 young bulls, also the imported stock bull, Cleoro - 8317 - (6-618) 73273. Catalogues on application.

G. F. BENSON, Cardinal, Ont.

Cardinal is a station on the Main Line of the Grand Trunk Railway, nine miles below Prescott, on the St. Lawrence.

TWENTY SHETLAND PONIES

Two imported Welsh Pony Stallions; Pony Turnouts a specialty; Pony Carts, all styles and prices; Pony Mikado's; Pony Harness, Boys' and Girls' Pony Saddles; also twenty Acme Pulverizing Harrw. Clod Crusher and Levelers at a bargain, made by Duane H. Nash, Millington, New Jersey. Address, G. W. RUBINSON, Kingston, Ont.

1889 — SEASON — 1889

FOR SALE — A NUMBER OF

SHORTHORN & HEREFORD BULLS.

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SILVER LACED & WHITE WYANDOTTES.

PRIZE WINNERS.

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Choice Young Boars and Sows of October and November litters. Orders booked for choice spring pigs at 8 to 10 weeks old, pairs not akin from first-class imported boars, and of all the best families.

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Sure death to ticks, vermin on cattle, horses and poultry. A powder easily applied and perfectly harmless. Wm. Linton, Stock-breeder, Aurora, says of it: "The best article in the market." Endorsed by the leading farmers.

G. D. PATTERSON, Chem't, Aurora.

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FOR SALE

Six choice young Shorthorn bulls, and a lot of Berkshire pigs; very, very cheap. Correspondence invited.

278-c EDWARD JEFFS, Bond Head.

SHORTHORN BULLS

The undersigned has Four Young

Bulls, which are model animals, and

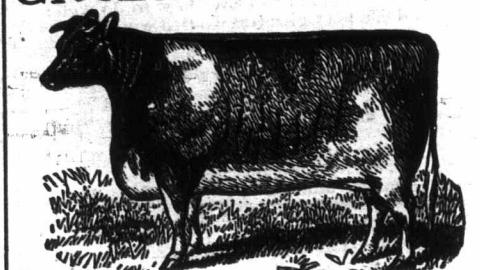
intending purchasers will find them as represented.

Correspondence promptly answered.

JOHN MILLER,
Breeder,

Markham P.O., Ont.

277-c

ARTHUR JOHNSTON,
Greenwood, Ontario.

A LARGE SELECTION OF HOME-BRED

SHORTHORN BULLS FOR SALE.

All by imported sires, and mostly out of imported dams, besides imported and home bred cows and heifers. I have also a number of exceedingly good imported

CLYDESDALE STALLIONS AND MARES FOR SALE.

New Catalogue for 1889, will be ready about the 20th

January, 1889. Send for one.

Claremont Station, C.P.R., or Pickering Station, G.T.R. Parties met at either station on shortest notice. Come and see me.

265-tf

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ABERDEEN, ANGUS, HEREFORD,

—AND—

A. J. C. C. JERSEY CATTLE.

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M. H. COCHRANE,

275-y HILLHURST P.O., Compton Co., Q.

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—AND—

COTSWOLDS

FOR SALE.

My Shorthorns are well bred, good colors, and have been fine milkers for generations. I have over 100 females and a large number of bulls, from which buyers may select.

Prices to suit the times.

Satisfaction guaranteed.

Correspondence promptly answered.

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Sales held any part of the country.

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BOW PARK HERD

—OR—

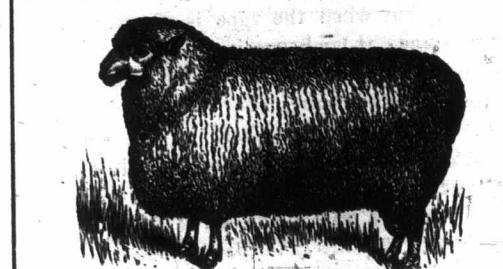
PURE-BRED SHORTHORNS.

Have at all times a number of both sexes for sale. Catalogue of young bulls recently issued. Address:

JOHN HOPE, Manager,
206-y Bow Park, Brantford, Ont.

FOR SALE — A HOLSTEIN BULL
three years old. For particulars apply to the undersigned, JOSEPH S. CRESSMAN, BRESLAU, P. O. 278-tf

COTSWOLDS AND SHORTHORNS FOR SALE



For many years my flock has been the largest and best in Ontario County. A number of sheep and cattle always on hand for sale. Come and see me, or write for particulars.

JOSEPH WARD,
MARSH HILL, ONTARIO.
279-y

IF YOU WANT TO PRODUCE
CHEAPER BEEF
AND MORE OF IT, BUY A
CRICKSHANK BULL

—FROM—
JOHN DRYDEN,
BROOKLIN, ONT.
277-tf

Thick, Fleshy, Stylish Fellows, full of vigor and at very moderate prices.

Prize Winning Ayrshires for Sale.



GURTA 4th
(1881)

Mine is one of the largest and most successful show herds in Canada. They are finely bred and of great individual merit. Bulls, heifers and cows always on hand for sale: also a few good Leicester sheep. Correspondence solicited. Visitors welcome. Address:

THOS. GUY,
279-y Sydenham Farm, Oshawa, Ont.

BERKSHIRES

—AND—

COTSWOLDS.

—J. G. SNELL & BRO.

EDMONTON P. O.,
Brampton and Edmonton Railroad Stations.

For forty years we have led all others in these lines, both in the show yards and breeding pens.

We now have a choice lot of young pigs varying in age, from six weeks to six months, all are descended from fastidiously bred prize winning English stock. We also have a grand lot of Cotswolds; a large number of which are yearlings. Good stock always for sale. Visitors welcome. Write for particulars.

279-y

APRIL, 1889

THE FARMER'S ADVOCATE.

127

200 Percheron
—AND—
FRENCH COACH
HORSES.
Send for Catalogue.
J. W. AKIN,
SCIPIO, N. Y.



TWO AYRSHIRE BULLS for Sale,
Registered in Canada Herd Book.
278-tf MICHAEL BALLANTYNE, St. Mary's P.O.

FRANK R. SHORE & BROS.

White Oak, Ont.

Breeders of

SCOTCH SHORTHORNS

—AND—

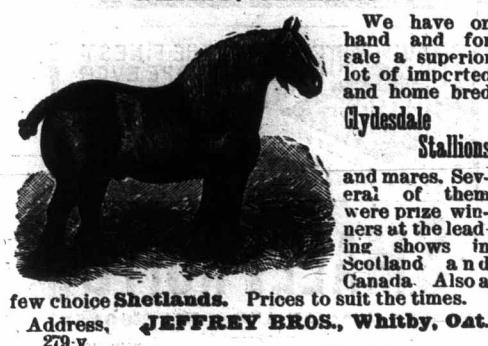
SHROPSHIRE



Young bulls and heifers for sale from imported Cruicksank sires and from dams of the most approved Scotch breeding.

278-y

COLDSTREAM STOCK FARM,
WHITBY, ONTARIO.



We have on hand and for sale a superior lot of imported and home bred Clydesdale Stallions

and mares. Several of them were prize winners at the leading shows in Scotland and Canada. Also a few choice Shetlands. Prices to suit the times.

Address, JEFFREY BROS., Whitby, Ont.

279-y

THE LOWLANDS STUD!

CLYDESDALES FOR SALE
AT REASONABLE TERMS.



Our imports of 1888 comprises a large number of carefully selected stallions and mares, gets of the noted sires, Darnley (222), Macgregor (148), St Lawrence (323), Lord Hopton (296), Sir Hildebrand (402), and Old Timer (579).

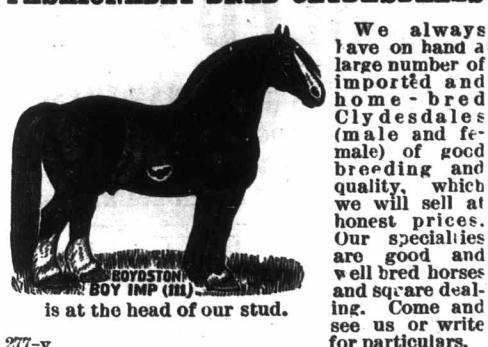
Visitors always welcome. Catalogues on application.

DUNDAS & GRANDY,
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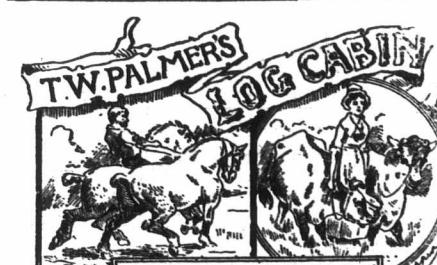
D. & O. SORBY, GUELPH, ONT.,
Breeders and Importers of

FASHIONABLY BRED CLYDESDALES



We always have on hand a large number of imported and home-bred Clydesdales (male and female) of good breeding and quality, which we will sell at honest prices. Our specialties are good and well-bred horses and square dealing. Come and see us or write for particulars.

277-y



STOCK FARM
OVER 150 TYPICAL
PERCHERONS
AND
JERSEYS.

For CATALOGUE and Prices, address
E. W. COTTRELL,
No. 4 Merrill Block, DETROIT, Mich.

Two AYRSHIRE BULLS for Sale,
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Breeders of

SCOTCH SHORTHORNS

—AND—

SHROPSHIRE



Young bulls and heifers for sale from imported Cruicksank sires and from dams of the most approved Scotch breeding.

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WILSON HORSFALL,

Potto Grange, Potto Station, Northallerton, Yorkshire, England. Breeder of registered

CLEVELAND BAY HORSES.

Largest Stud in Cleveland. Also, prize

BORDER LEICESTER SHEEP.

Telegrams, Horsfall, Hutton Rudby. 279-c

TO HORSE BREEDERS.



IMPORTED SHIRE-BRED STALLIONS

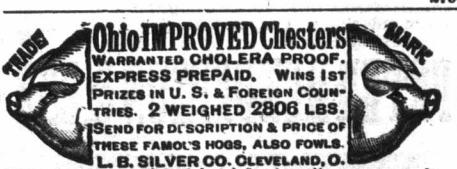
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BROOD MARES FOR SALE.

Prize-winners at the Industrial and International Exhibitions; also a number of High-bred Travelling Fillies; mostly sired by General Stanton. Address

MORRIS, STONE & WELLINGTON,
WELLAND, — ONTARIO.

279-b



This company sold 100 head for breeding purposes in 1888. Send for facts and mention this paper.

TRUE Ohio IMPROVED Chesters

WARRANTED CHOLERA PROOF,
EXPRESS PREPAID, WINS 1st

PRIZE IN U. S. & FOREIGN COUNTRIES.

2 WEIGHED 2806 LBS.

SEND FOR DESCRIPTION & PRICE OF

THESE FAMOUS HOGS, ALSO FOWLS.

L. B. SILVER CO., CLEVELAND, O.

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FREE PRESS CO.

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E. D. GEORGE

PUTNAM, — ONT.

Importers and Breeders of

Improved Chester White Swine

Stock recorded in the National

C. W. Record. Orders booked for

spring pigs, in pairs and trios not

akin. Prices right.

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ANY PERSON CAN PLAY THE PIANO AND
ORGAN WITHOUT A TEACHER, by using

Soper's Instantaneous Guide to the Keys. Price,

\$1. No previous knowledge of music whatever re-

quired. Send for book of testimonials free. Address

The Dorcas Magazine, 19 Park Place, New York.

276-f

The Canadian Poultry Review

The only poultry paper published in Canada.

Only \$1 per year, or 10c per copy.

Bright, practical and well-illustrated.

H. B. DONOVAN, Editor and Proprietor, Toronto, Ont.

Henry Hogan, Proprietor.

278-y

ST. LAWRENCE HALL, Montreal. This hotel

is conveniently situated in the heart of the busi-

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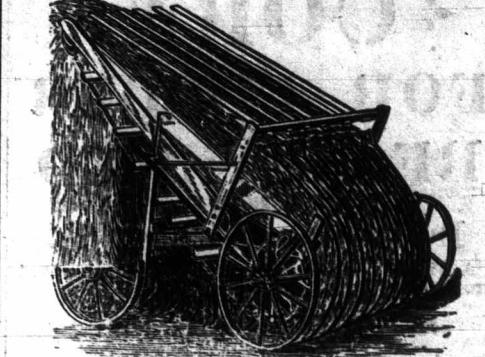
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M. WILSON & CO.,

Hamilton, Ont.

Manufacturers of all kinds of

HAY TOOLS



Foust's Patent Hay Loader, Anderson's Patent Rake Attachment, Grand Rapids Hay Tedder, Wisconsin Dead Lock Hay Carrier and Fork.

The above mentioned implements are the most popular Haying Tools in the market. Send for descriptions and prices. Good, responsible agents wanted.

"RIVERSIDE" Woodburn, Oct. 28th, 1888

Messrs. M. WILSON & CO., Hamilton.

Dear Sirs:—We used your Hay Loader during the entire season while haying last, and were well pleased with it—so much so that the work hands were unwilling to draw in hay without using it, even in limited quantities. There is no surer evidence that an implement does its work well than to find the work hands anxious to use it. We consider it a great saving in time and work when hay is loaded in this way. By cutting but a limited portion at once, and using the Tedder and Hay Loader judiciously, hay can be fairly well saved almost any season. We would not think of doing without either of those implements in future.

Yours, etc.,

THOMAS SHAW,

Prof. of Agriculture, Agricultural College, Guelph.

280-g

FARMERS, DON'T FAIL TO SEE THE

Preston Rose Rotary Disk Harrow

—MANUFACTURED BY—

P. E. SHANTZ, Preston.



THE above cut illustrates the most complete and

perfect machine of the kind ever placed upon the

market. It is much lighter draft than any other,

for the reason that each section is divided into two parts, which work independently of each other.

This Harrow is composed of twelve Disks, each sixteen inches in diameter, arranged in sections, with three Disks to each section, and with four sections to each Harrow (others have only two), which revolve independently of each other. The sections are composed by placing three Disks upon a tube or pipe, with thimbles between them. Two of these sections are placed in a gauge, and a nicely fitted rod passes through these tubes, and upon this rod the sections revolve when at work. This gives a stationary axle and long bearing, upon which the sections revolve. The standards and nuts are protected by hard steel washers.

The above cut represent the Wearing Bearings of my machine. Below represent the Wearing Bearings of other machines.

My bearings or wearing parts are not made of cast

iron, as others are; and being long, the dust and

dirt is entirely excluded. Taking this into con-

sideration, it is certainly apparent to all that my

Harrow will outwear one-half dozen of any other

make. The Disks or blades are made of the best

quality of steel, and heavier than that used in other

machines. The seat can be moved backward to

balance machine, so there will be no weight on the

horses' necks. I also put on a good foot rest, which

no others have.

FARMERS AND DEALERS—It is to your interest to

see my Harrow in the field before buying. To see

it is to admire and appreciate it. Wherever this

machine has been introduced it sells more readily

than any other of the same class.

280-g

**OUR CELEBRATED
M.S.S.
CORN
FOR FODDER
REGISTERED**

THIS TRADE MARK ON EVERY BAG.
Buy None Without It.
A Fine White Corn, carefully selected. Will grow ninety-five per cent.

SACKS FREE.

This is the finest Ensilage and Fodder Corn in cultivation.

WRITE FOR CIRCULARS AND PRICES

We are now preparing a Pamphlet on **FODDER CORN and ENSILAGE**. With directions for building a **SILO**, illustrated with cuts. We will mail this, on receipt of 10c., to all who apply. This nominal charge will barely cover the cost of cuts and printing. Address,

JOHN S. PEARCE & COY
SEED MERCHANTS,
LONDON, - - - ONTARIO.

SEEDS WM. EWING & CO.,
142 McGill St., Montreal,
SEED - MERCHANTS.

GARDEN AND FARM SEEDS
of every description. Our Illustrated Catalogue mailed free to all applicants.

CHOICE LOWER CANADIAN GROWN TIMOTHY A SPECIALTY.
Send for sample and compare with western grown CLOVERS, GRASSES AND SEED GRAIN.

ESTABLISHED 1866.

KEITH'S

Gardener's Assistant and Illustrated Catalogue of Garden, Agricultural and Flower Seeds

NOW READY

and will be mailed free on application to any address.
Clover and Timothy, Orchard, Blue and Red Top Grasses, Flax Seed, Tares, Seed Wheat, Oats and Barley, &c., &c.

Correspondence solicited from buyers and sellers.

GEO. KEITH, Seed Merchant,
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Every kind of hardy Fruit and Ornamental Tree or Plant at almost half the price of many others. Lovett's Guide to Horticulture tells all about them (defects and merits, prices, planting, culture, pruning, etc.) It is a handsome book of nearly 100 pages, finely printed, over 200 engravings. Mailed with colored plates, 10 cents; without plates free. Headquarters for Wonderful Peach, Candy and Monmouth Strawberries, Abundance and Spaulding Plums, Meech's Quince, etc.

Plants by mail a specialty.
J. T. LOVETT CO., Little Silver, N. J.
Mention paper and get copy *Orchard & Garden* free.

278-c

A VEGETABLE WONDER!



Copyright, 1888, by Peter Henderson & Co.

**HENDERSON'S NEW
BUSH LIMA BEAN.**

Can and Should be Grown in every Garden on the Continent.

Of all the *Newness* in *Garden Products* ever sent out, there is nothing so entirely distinct and valuable as this *New Vegetable*. The old Lima Bean can only be grown on poles, while the *NEW BUSH LIMA* grows and is cultivated exactly like the common bush or snap bean (growing only 18 inches high), and from the time of its bearing in July, produces in abundance delicious Lima Beans throughout the entire season until frost. It has, besides, an additional value, in that it is *two weeks earlier* than any other Lima Bean, being fit for the table in from forty to fifty days from time of planting.

Price (by mail) 25 cents per packet, 5 packets for \$1.00, 12 packets sufficient for an ordinary-sized family for the season). Directions for growing on each packet. Remittances can be sent either by Post Office Order, Postal Note or Stamps.

\$1.00 in Cash Prizes for single plants bearing greatest number of pods. For conditions see Manual offered below.

Every purchaser of *Henderson's Bush Lima Bean* will be sent, without charge, our MANUAL OF EVERYTHING FOR THE GARDEN, a book of 140 pages, size, 9 x 11, containing 3 colored plates (the price of which is 25 cents), on the distinct understanding, however, that those ordering will say in what paper they saw this advertisement.

PETER HENDERSON & CO
35 & 37 Cortlandt Street, New York.

280-a

A NURSERY AT YOUR DOOR.

TREES, VINES AND PLANTS. Just the kinds wanted. Strictly first-class.

SPECIALTIES: Globe Seedling Peach, Russian Apricot, Eaton, Vergennes and Warden Grapes, Jessie Strawberry, and other New and Old Sorts. Send your order to the CENTRAL for prices. The Mailing Department receives Special Attention. **A. G. HULL**, Central Nursery, ST. CATHARINES, ONT.

277-e

Over 6,000,000 people believe that it pays best to buy Seeds of the largest and most reliable house, and they use

Ferry's Seeds

D. M. FERRY & CO. are acknowledged to be the Largest Seedsmen in the world.

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For 1889 Will be mailed FREE to all applicants, and to last year's customers without ordering it. *Invaluable* to every person using

Earliest Cauliflower Garden, Fox or Flower Seeds should send for it. Address

D. M. FERRY & CO., Windsor, Ont.

SEEDS

Our Annual DESCRIPTIVE and Illustrated Catalogue ready and RELIABLE SEEDS will be sent free to all applicants. It contains all the leading and most popular sorts of Vegetable, Farm and Flower Seeds, besides all the desirable novelties of this and last season, and everything else required by the Farmer, Market Gardener, Florist, Private Gardener and Amateur, should see a copy of our Catalogue before ordering. It will pay you.

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THE NEW WHITE GRAPE DIAMOND THE FINEST GRAPE EVER INTRODUCED - LARGE, EARLY, HARDY, PRODUCTIVE. ADDRESS AGENTS WANTED DIAMOND GRAPE CO. BRIGHTON, N.Y.

ALL KINDS OF **SMALL FRUITS** AND GRAPE VINES. PLANTS GENUINE AND WELL ROOTED.

A CHOICE ASSORTMENT. CATALOGUE FREE.

T. C. ROBINSON OWEN SOUND, ONT.

SEEDS GIVEN AWAY Mixed Flower Seeds, 500 kinds, GUIDE, and 10c. Certificate for Seeds, your choice, all for 2 stamps (4 cents). Every flower lover delighted. Tell all your friends. G. W. PARK, FANNETTSBURG, PA.

Send at once. This notice will not appear again.

FOREST TREES. Catalpa Species, White Ash, European Larch, Pines, Spruces, Arbor Vites, etc., etc. Catalpa Speciosa Seed. Forest and Evergreen Seeds. R. DOUGLAS & SON, Waukegan, Ill.

BUY SELECT NORTHERN SEEDS OF VEGETABLES AND FLOWERS, ALSO HOUSE PLANTS and ORNAMENTALS CATALOGUE FREE.

T. C. ROBINSON, OWEN SOUND, ONT.

Selected Seed Oats, Wheat and Barley.

Imported Oats.—Pedigree Black Tartarian, from a famous East Lothian farmer, \$2.25 per bushel of 40 lbs.; Selected Scotch Potato, \$2.50 per bushel of 45 lbs.

Home Grown Oats.—34 lbs. per bushel; Black Tartarian, from imported stock, 75c; Black Champion, 65c; Black Mane, 60c; White Egyptian, 60c; Welcome, 60c; Early Calder, extra fine variety, 75c; Prince Edward Island, very prolific, 75c per bushel.

New Varieties of Oats.—We have received from the North of Europe, three new varieties of oats, which are recommended for their earliness, vigor of growth and enormous productiveness. Before offering them to the public in quantity, we shall have each variety carefully tested in different sections of the Dominion of Canada the coming season. On receipt of 25 cents we shall mail a trial packet of each variety to any address in Canada or the United States.

Wheats.—The Magyar, a new and very promising variety, per bushel, \$2.00; The Mars, a new extra early variety, per bushel, \$1.75; White Russian, Lost Nation, Red Fern and White Fife, \$1.30.

Barley.—Improved 6-rowed, 75c per bushel; Black, for feeding, \$1.00 per bushel of 60 lbs.

Cotton Bags, 20 to 25 cents each. Catalogues on application.

JNO. A. BRUCE & CO. Seed Merchants, Hamilton, Ont.

280-a

NORWAY SPRUCE
in large quantities. Also, *Roses, Clematis, Climbers, Shrubs, Dahlias, Herbaceous Plants, &c.*
Send for price list. **A. GILCHRIST,**

279-c Toronto Junction, Ont.

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TWENTY-SEVENTH YEAR.

BEST equipped and most successful Business College in the Dominion. Over 300 students past year. Offers unequalled advantages to farmers' sons and others desiring a business education. For handsome illustrated catalogue write.

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BRITISH AMERICAN BUSINESS COLLEGE ARCADE Yonge St. TORONTO.

WILL RE-OPEN MONDAY, SEPT. 3, 1889.
For circular, etc., address

271-y **C. O'DEA, Secretary.**

THE MANAGERS OF THE PROOF ST. CATHARINE'S BUSINESS COLLEGE

Will give \$100 to any charitable institution, named by any person or rival college, who can furnish the name of a student who has taken a full course in Shorthand at this College, and who has failed to secure a position; or for any student who has taken a full course in any department, and who has lost his position through incompetency.

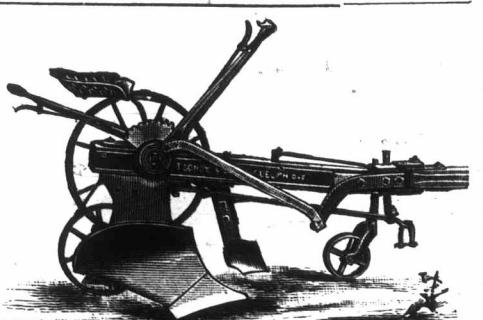
W. H. ANGER, B. A., PRINCIPAL.

N.B.—The best costs no more than the poorest.

274-y

HOME STUDY—Thorough and practical instruction given by MAIL in Book-keeping, Business Forms, Arithmetic, Penmanship, Shorthand, etc. Low rates. Distance no objection. Circulars free. **BRYANT & STRATTON'S, 419 Main St., Buffalo, N.Y.**

275-f



OUR "LITTLE GIANT" SULKY PLOW
Is the most complete, easiest handled, best working, and cheapest Sulky Plow in the market: it has a furrow wheel not shown in cut. We also make MOWERS, TURNIP DRILLS, LAND ROLLERS, ONE, TWO AND THREE-FURROW PLOWS, HARROWS, ETC.

THE GOWDY M'F'G. CO.
GUELPH, ONTARIO. 280-b

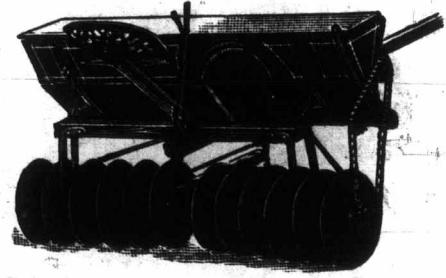
TO THE DEAF—A Person cured of Deafness and noises in the head of 23 years' standing by a simple remedy. Will send a description of it FREE to any person who applies to NICHOLSON, 177 McDougal Street, New York.

277-v

COMBINATION PICKET AND WIRE FENCE.

The Fence best suited for farms, gardens, orchards, town or city lots. No other fence can compete with this for general utility. Prices from 45c per rod (16½ feet). Send for our price list. Address all communications to **Toronto Picket Wire Fence Co.** Office and Factory—151 River St., Toronto, Ont. Fence Machines for sale. 280-f

THE "CORBIN," THE LEADING DISK HARROW



The above shows the Harrow with Removable Seeder.

Still They Come. More than forty trials are reported with other Disk Harrows, in which the "Corbin" was sold and settled for, the past two seasons.

The simple fact of the matter is that the "Corbin" is the strongest, the most flexible, the most durable, the lightest draught, and the only Disk Harrow that is reversible, and cultivates all the land under the tongue, and leaves the land level, and its work in the field quickly proved it.

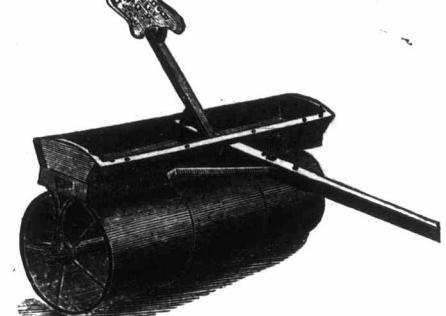
The "Corbin" is made by men who have made a specialty of the Disk Harrows for years, and they know what is necessary to a perfect working Disk Harrow. In this respect they have a great advantage over inexperienced manufacturers.

Send for 1889 circular which has some interesting facts and description of a new harrow.

Mr. Thos. Shaw, writes in Live Stock Journal of March, '88: "The reason this firm (St. Lawrence Manufacturing Co.) has done so well, is because they have manufactured a good article, the usefulness of which we have verified on our own farm."

About the Seeder. This has now a perfected drive gear, and gave excellent satisfaction last season. As it greatly adds to the utility of the Harrow at a small cost, the demand for it is rapidly increasing.

THE CORBIN STEEL DRUM ROLLER, WITH GRASS SEEDER.



—ADDRESS—

The St. Lawrence Mfg. Co. of Ont., Ltd.

PREScott, CANADA.

Agencies—Messrs. Van Allen & Agur, Winnipeg, Man.; all agents of the Massey Mfg. Co. in the North-West, and 200 local agents in Ontario.

278-f

W. W. COWAN,
STRATFORD BRIDGE AND IRON WORKS.

Structural Iron Works: Iron Roofing, Iron Stairs, Fire Escapes, Builders' Hardware, Ornamental Iron Work, Ornamental Fencing, &c.

Estimates sent on application.

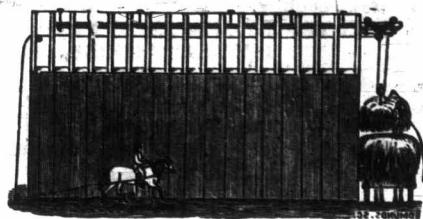
Box 12, STRATFORD.

DRUNKENNESS is a DISEASE, and can be cured, by administrator. Dr. Haines' Golden Specific. It can be given without the knowledge of the patient, if desired, by placing it in coffee, tea or articles of food. Guaranteed. Send for free circulars. **GOLDEN SPECIFIC CO., 185 Race St., Cincinnati, O.**

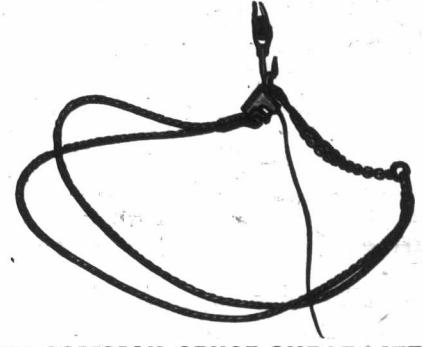
280-b

BUCHANAN'S Malleable Improved Pitching Machine

For unloading hay and all kinds of loose grain



Will unload on either side of barn floor without changing car. No climbing necessary in order to change from one mow to another. Will unload a load of hay in four forkfulls. All cars made of malleable iron. All forks made of steel. Machines guaranteed to give satisfaction or no sale. The purchaser to be the judge. Responsible agents wanted in all unoccupied territory. None but responsible men need apply. Send for circulars and terms.



THE COMMON-SENSE SHEAF LIFTER

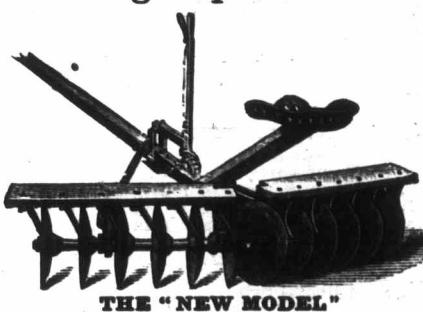
Works in connection with the hay carrier, and is the most complete apparatus ever offered to the public for unloading sheaves. Leaves the sheaves in the mow just as they come from the load. Satisfaction guaranteed. Price, \$5.00.

M. T. BUCHANAN,
INGERSOLL. 278-a

1889. ESTABLISHED 1838. 1889

—THE—

Morrisburg Implement Works.



THE "NEW MODEL"

Rotary Disc Jointed Pulverizing Harrow

With or Without Seeder Attachment.

Don't buy until you have given the "New Model" a trial. Progressive farmers say that it is the very best farm implement ever produced, because effective in work, durable in wear, simple in construction, convenient in handling. See one, try one, buy one and be happy; it will pay you to do so.

Send for catalogue showing "New Model" with Seeder Attachment.

J. F. MILLAR & SON,
MORRISBURG, ONT.

Write for testimonials of leading farmers of Canada and descriptive circular.

The "New Model" is for sale by Messrs. E.G. Prior & Co., Victoria, B.C.; The Watson Mfg. Co. (Ltd.), Winnipeg, Man.; R. J. Latimer, 92 McGill St., Montreal, Que.; G. A. Le Baron, Sherbrooke, Que.; Johnston & Co., Fredericton, N.B.; W. S. Casson (Mgr. for Frost & Wood), Truro, N.S.; John West, Kensington, P.E.I., and by agents in every county in Ontario.

Distributing warehouse for Western Canada at London, Ont., H. A. STRINGER, Agent.

278-c

FOR SALE.

A Farm of 160 Acres - thirty-five under cultivation, twenty acres summer fallow; ready for cropping. A good house, and good stable 18 x 75 feet. A fine place for stock. There will be a cheese factory in operation within three miles in the spring. Particulars on enquiry.

R. J. BENNER,
PHEASANT FORKS, ASSA.

**CHOICE
4 FARMS 4**

-IN-
Manitoba and the Northwest
FOR SALE.

Apply to JOHN WELD, London, Ont

Address for Price List and description, P. K. DEDERICK & CO., ALBANY, N.Y.

BALES HAY without Tramping or Stopping.

THE P. K. DEDERICK PERPETUAL HAY PRESS MANUFACTORY AT 90 COLLEGE ST., MONTREAL, P.Q.

268-y

W. & F. P. CURRIE & CO.

100 Grey Nun St., Montreal,

MANUFACTURERS OF

SOFA, CHAIR AND BED SPRINGS.

A LARGE STOCK ALWAYS ON HAND.

IMPORTERS OF

Drain Pipes, Vent Linings, Flue Covers, Fire Bricks, Fire Clay, Portland Cement, Roman Cement, Water Lime, Plaster of Paris, Borax, Whiting, China, Clay, etc.

268-y

VICK'S AMERICAN BANNER OAT.

This oat was introduced by Jas. Vick, Seedsman, Rochester, N. Y., in 1886. He says that he had tried it three years previously from an original stock of about one pint, and was satisfied both as to its distinctiveness from other varieties and also as to its productiveness. These oats are the most productive grown. In the year 1886 I sowed one pound, and have produced from that quantity in two years two thousand bushels. The grain is white, large and plump; ripens early; has a stiff straw of good strength, and has an open or branching head. It tills freely, so can be sown thinner than is customary. These oats are free from all foul seeds and are perfectly pure.

Price, by express freight at expense of purchaser, per bushel, \$1.25, or 2½ bushels, including bag, for \$3. A liberal reduction for larger quantities. Orders received by mail will be promptly attended to. Address—

JOHN MILLER, Markham, Ont.

TESTIMONIALS.

Sutton West, Dec 1, 1888.—From the two bushels American Banner Oats I received from you last spring I grew 105 bushels. I am well pleased and intend to sow them all next season.—JNO. L. HOWARD.

A. FORSTER, Reeve of Markham, received one bushel of these oats last spring and says he has about fifty (50) bushels, but has not measured them yet.

278-b

DRS. ANDERSON AND BATES—Eye and Ear Surgeons, 34 James Street, Hamilton, Ont. Exclusive attention given to the treatment of the various diseases of the EYE and EAR.

CROSS EYES STRAIGHTENED

J. H. TENNENT,
VETERINARY SURGEON
LONDON, ONT.

280-c

NOT "THE COMING DRILL" BUT ALREADY THE LEADING DRILL.

THE
Patterson Steel Frame Grain Drill.



It possesses every desirable quality arranged in the most simple and attractive form. Has a positive force feed which does not clog or crack the grain. It commences to sow as soon as the horses move, misses no ground, covers the seed perfectly, and the depth can be instantly regulated as required. Sows ALL GRAINS from FLAX SEED TO PEAS AND BEANS with accuracy and uniformity. Has a refined Channel Steel Frame and our New Patent Hoe Connection; the strongest, simplest and best yet invented.

OUR HARVESTING AND HAYING MACHINES ARE UNEQUALLED AND UNEXCELLED.

SEND FOR OUR LARGE, HANDSOMELY ILLUSTRATED CATALOGUE.

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Manufacturers of Traction and Portable Engines. Patent Double and Single Blast Threshing Machines.

We will guarantee our Engines and Machines superior to any others made in Canada, and challenge anyone to produce a Machine that shall equal the work done by our Double Blast Separator.

280-f

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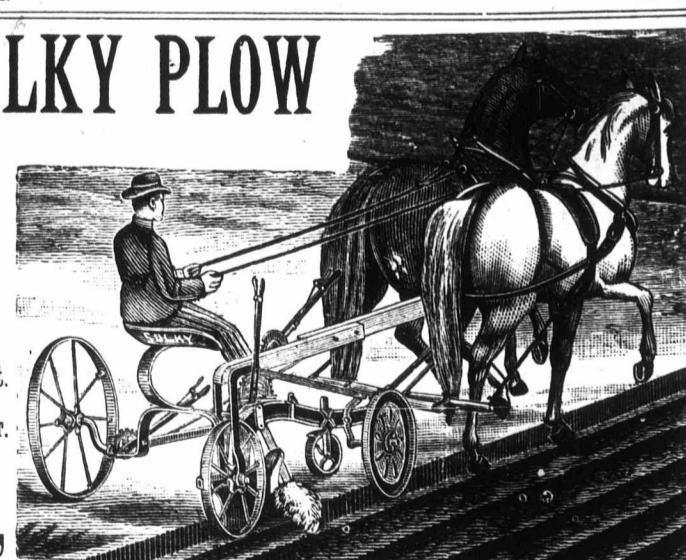
Simple in Construction.

Easily Handled.

Light of Draught.

New. Original. No Experiment.

Send for Circular, and Buy no Other.



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Hamilton.

ECONOMY, EQUITY, STABILITY.

THE

Ontario Mutual Life

ESTABLISHED - - 1870.

Assurances in force, Jan. 1st, 1889.....	\$12,041,914 00
New Assurances written in 1888.....	2,518,650 00
Cash Income for 1888.....	393,074 00
Assets, Dec. 31st, 1888.....	1,313,853 00
Liabilities, as per Gov't Valuation.....	1,223,516 00
SURPLUS	\$90,337 00

The New Business for January and February of this year is MUCH GREATER than was ever before written by the Company during the same months, while, with over \$12,000,000 on our books, the death losses have been only \$6,500!

WM. HENDRY,
280-a Manager.

W. H. RIDDELL,
Secretary.

FARMERS, ATTENTION!

Porous Terra Cotta Building Material

—MANUFACTURED BY—

THE RATHBUN CO., DESERONTO, ONT.

—IS JUST THE MATERIAL FOR THE CONSTRUCTION OF—

DWELLINGS, DAIRIES, SILOS, HENNERIES, ETC.

Absolutely fire proof. Cool in summer and warm in winter. It insures freedom from rats, mice and other vermin. One-third the weight of ordinary brick mortar. Can be applied direct without lath or furring. Applicable for old and new work. Farm Drain Tile of any size. Write for prices and further information.

280-f

Agricultural Savings & Loan Company
ESTABLISHED - - 1872.

Total Assets,	\$1,584,908
Subscribed Capital,	630,000
Paid-up Capital,	616,583
Reserve Fund,	88,000
Deposits in Savings Branch,	580,465

Bankers, Bank of Toronto & Merchants' Bank.
Liberal rate of interest allowed on savings deposits. Money to loan on real estate on favorable terms. For particulars apply to.

WILLIAM A. EPPS, Manager.
273 ecom-y 100 Dundas Street, London, Ont.

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is full of useful information on Woman's Handiwork: Knitting, Crochet-work, Embroidery, Art Needlework, and other household topics of practical character. Every lady should subscribe for it. Price, 50c. a Year. Address The Dorcas Magazine, 19 Park Place, New York.

GRATEFUL-COMFORTING
EPPS'S COCOA
BREAKFAST.

By a thorough knowledge of the natural laws which govern the operations of digestion and nutrition, and by a careful application of the fine properties of well-selected Cocoa, Mr. Epps has provided our breakfast tables with a delicately flavored beverage which may save us many heavy doctors' bills. It is by the judicious use of such articles of diet that a constitution may be gradually built up until strong enough to resist every tendency to disease. Hundreds of subtle maladies are floating around us ready to attack wherever there is a weak point. We may escape many a fatal shaft by keeping ourselves well fortified with pure blood and a properly nourished frame.—*Civil Service Gazette*.

Made simply with boiling water or milk. Sold only in packages by Grocers, labelled thus:

JAMES EPPS & CO., Homoeopathic Chemists,
London, England.

278-y

\$1,500.00

WORTH OF

STOCK, IMPLEMENTS, ETC

GIVEN AWAY!

For Procuring New Subscribers to
the FARMER'S ADVOCATE.

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. *Honewals 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.

STOCK.

For 150 new names we will give a Hereford Bull (fit for service), valued at \$150, bred by R. J. Mackie, Oshawa.

For 150 new names, a Shorthorn Bull (fit for service), bred by James Graham, Port Perry, Ont.

For 150 new names, an Ayrshire Bull (fit for service), bred by Thomas Guy, Oshawa, Ont.

A Heifer of any of the above breeds will be given for from 100 to 150 names, according to quality of animal.

For 30 new names, a Shropshire Ram or Ewe Lamb, bred by John Miller & Sons, Brougham, Ont., or Jno. Dryden, M. F. P., Brooklin, Ont.

For 30 new names we will give a Cotswold Ram or Ewe Lamb, bred by Joseph Ward, Marsh Hill, Ont., or David Birrell, Greenwood, Ont.

For 20 new names will give a Leicester Ram or Ewe Lamb, bred by Jeffrey Brcs., Whitby, Ont.

For 20 new names we will give a Dorset Horned Ram Lamb, bred by Capt. Wm. Tolph, Markham, Ont.

For 30 new names we will give a Hampshire Ram Lamb, bred by John Adams, Esq., Port Perry.

For 40 new names we will give a Berkshire Sow or Boar 6 months old, bred by J. C. Snell, Edmonton, or J. G. Snell & Bro., Edmonton, Ont., or by Wm. Linton, Aurora, Ont.

For 10 new names we will give a pair, or for 5 a single bird, of any of the following breeds: Light Brahmans, Dark Brahmans, Lanershans, Black Red Games, any variety of Lebourns, Wyandottes, Dorkings, Spanish Bantams, Ducks, etc. Eggs will be given as prizes when desired from the yards of Wm. Hodson, Brooklin, Ont.

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.

IMPLEMENT. ETC.

For 110 new names a Bain Farm Truck, value \$75, manufactured by Bain Wagon Co., Woodstock, Ont.

For 65 new names a Patent Iron Frame Section Spring Tooth Cultivator, value \$35, manufactured by J. O. Wiener & Son, Brantford.

For 110 new names we will give a first class wagon, value \$75, manufactured by the Chatham Manufacturing Co., Chatham, Ont.

For 75 new names we will give one of the celebrated Westward Ho Sulky Plows, value \$40, manufactured by Copp Bros., Hamilton, Ont.

For 125 new names we will give one of Halliday's Standard Wind Mills, value \$75, manufactured by the Ontario Pump Co., Toronto, Ont.

For 140 new names we will give a Hay Loader, value \$75, manufactured by Matthew Wilson & Co., Hamilton, Ont.

For 100 new names we will give a large Straw Cutter with Carriers attached, value \$55, manufactured by B. Bell & Son, St. George, Ont.

For 40 new names we will give a large Agricultural Furnace, value \$12, made by the Gowdy Manufacturing Co., Guelph.

For 65 new names we will give a new Fanning Mill, value \$35, manufactured by Manson Campbell, Chatham, Ont.

For 90 new names we will give one of Osborne & Co.'s large Stock Scales, value \$50, capacity 4,000 lbs., manufactured by Osborne & Co., Hamilton, Ont.

For 40 new names we will give a Winchester Repeating Rifle or Breech-loading English Shot Gun of latest design and good quality, or 10 new names we will send an importe Breech-loading German Rifle.

For 40 new names we will give the Model Harness, valued at \$20, manufactured by the Farmers Supply Co., 176 King St. East, Toronto.

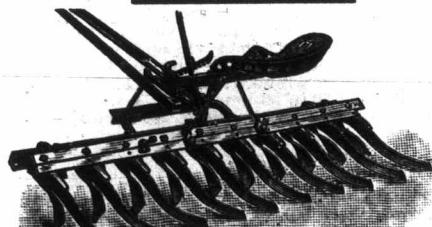
All stock or goods shipped free on board the cars.

BOYS FOR FARM HELP!

The managers of DR. BARNARDO'S HOMES desire to obtain good situations with farmers throughout the country for the boys they are sending out from time to time from their London Homes. There are at present nearly 3,000 children in these Homes, receiving an industrial training and education to fit them for positions of usefulness in life; and those who are sent to Canada will be selected with the utmost care, with a view to their moral and physical suitability for Canadian farm life. Farmers requiring such help are invited to apply to

MR. ALFRED B. OWEN,
AGENT, DR. BARNARDO'S HOMES,
204 Farley Avenue, TORONTO.

150,000 FARMERS HAVE USED AND APPROVED THE
"ACME"



PULVERIZING HARROW, CLOD CRUSHER
AND LEVELER.

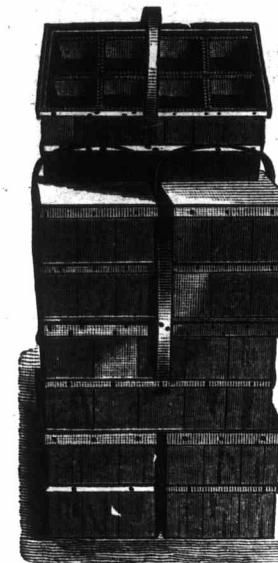
Steel Crusher and Leveler. Double Gangs of Adjustable Reversible Coulters. Lumps Crushed, Soil Cut, Lifted and Turned in one operation. No Spike or Spring Teeth to pull up Rubbish. NO Wearing Journals. Practically Indestructible. Sizes 3 to 12 ft. With and Without Sulky.

I Deliver Free at Convenient Distributing Depots in Canada.

FAIR Don't Buy a Base Imitation or Inferior Tool Order a Genuine Double Gang PLAY. Acme ON TRIAL, to be returned at my Expense if not satisfactory. No Pay Asked in Advance. Agents Wanted. Illustrated Pamphlet FREE.

DUANE H. NASH, Sole Manufacturer,
Millington, New Jersey.
Mention this paper. 277-e

THAT IT PAYS
THE
FRUIT GROWER AND ORCHARDIST


Well to ship his small fruit, early apples, etc., into the city markets in neat and compact packages of such size as will be convenient for the consumer to take in his hand and carry home instead of being shipped in barrels or other second-hand packages, has been fully demonstrated by the immense quantities of such fruit that has been readily disposed of during the last few years in our fruit baskets. A customer will, nine times out of ten, stop and buy a basket of Red Astrachans or Early Harvest apples, if put in that shape; when he would not take the second look at them if in barrels or bulky packages. We make the best shipping packages for every variety of fruit.

GIVE US A TRIAL,
OAKVILLE BASKET FACTORY,

for Strawberry, Raspberry, Currant, Cherry, Huckleberry, Pear, Grape and Peach Baskets, Gardener's Plant Boxes, Farmer's Grain and Root Baskets, Clothes and Market Baskets of every description. The accompanying cut shows our 24x9 shipping basket especially adapted for Strawberries and Raspberries. Address:

W. B. CHISHOLM,
OAKVILLE, ONT.
279-d



BEST
STEEL
WIRE
GALVANIZED.
WOVEN WIRE FENCING
60 to 80 cts. PER ROD.

Twisted Wire Rope Salvage.

All widths and sizes. Sold by us or any dealer in this line of goods. FREIGHT PAID. Information free. Write

THE ONTARIO WIRE FENCING CO.,
Picton, Ontario, or to

JAMES COOPER, Montreal,
Wholesale Agent for Quebec, New Brunswick and Nova Scotia.

NORWAY SPRUCE!

100 CHOICE

Twice Transplanted, two years growth here.

TWELVE TO SIXTEEN-INCH SPRUCE.

Carefully boxed and sent freight prepaid to any Ontario Railroad Station, on receipt of \$6.00.

Full Assortment of other trees at low rates.

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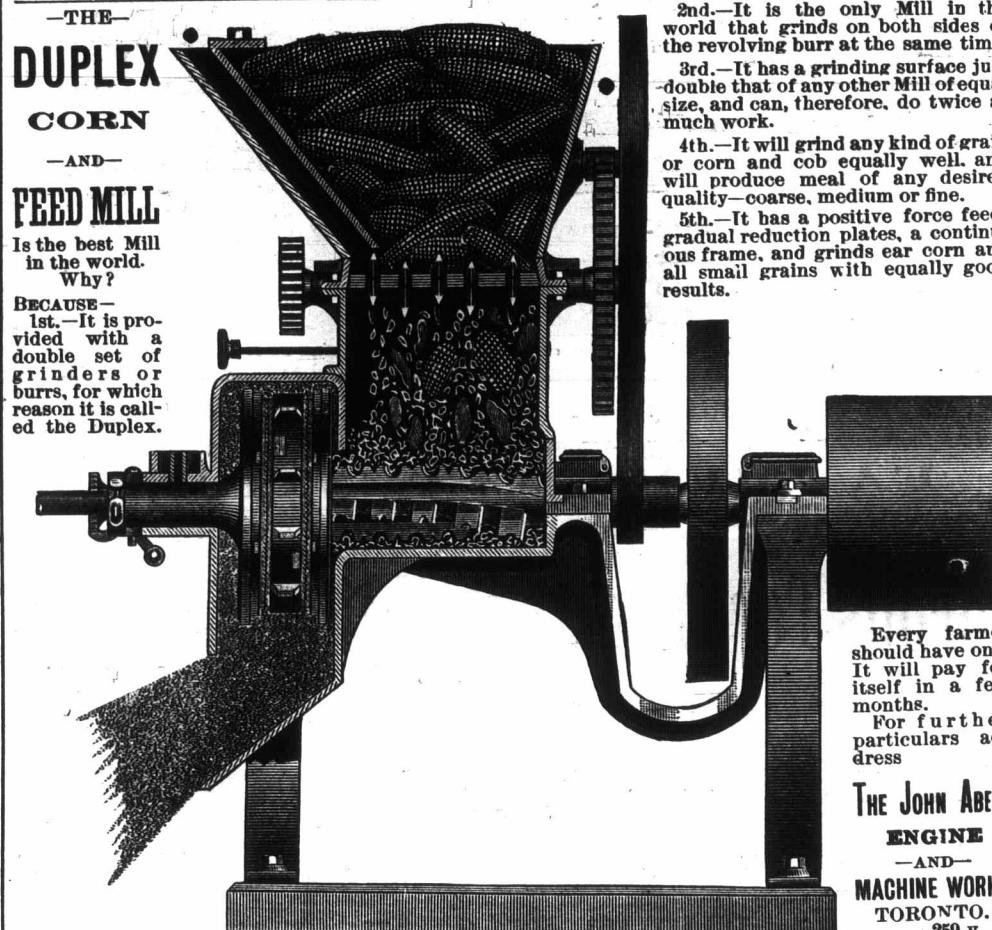
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2nd.—It is the only Mill in the world that grinds on both sides of the revolving burr at the same time.

3rd.—It has a grinding surface just double that of any other Mill of equal size, and can, therefore, do twice as much work.

4th.—It will grind any kind of grain or corn and cob equally well, and will produce meal of any desired quality—coarse, medium or fine.

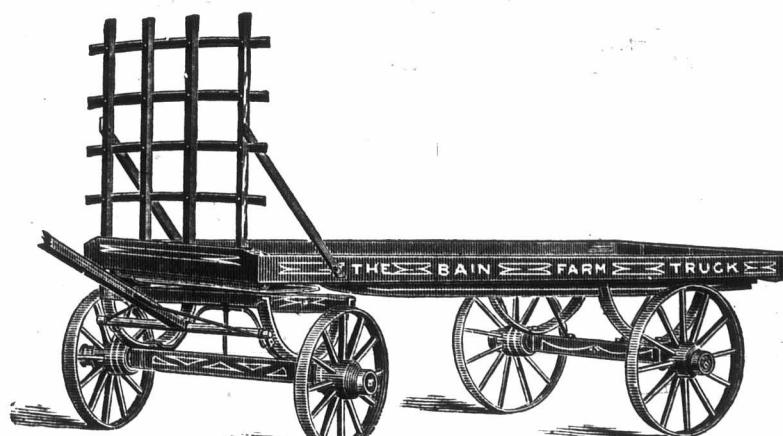
5th.—It has a positive force feed, gradual reduction plates, a continuous frame, and grinds ear corn and all small grains with equally good results.



Every farmer should have one. It will pay for itself in a few months.

For further particulars address

THE JOHN ABELL
ENGINE
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MACHINE WORKS
TORONTO.
269-y

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.

Imported Clydesdales & Hackney Stallions for Sale

Highest Prize Winners in the Leading Shows of the World
AND GETS OF FAMOUS Sires

Such as Lord Erskine, Darnley, Old Times, McCammon, Garnet Cross
Macgregor, Prince Edward, Prince Henry, Sir Wyndham,
Good Hope and Fireaway.

Prices Reasonable. Catalogues Furnished on Application.

ROBT. BEITH & CO.,
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Bowmanville is on the line of the G. T. R., 40 miles east of Toronto
and 294 west of Montreal.

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IMPORTED AND REGISTERED CLYDESDALE & HACKNEY STALLIONS AND MARES

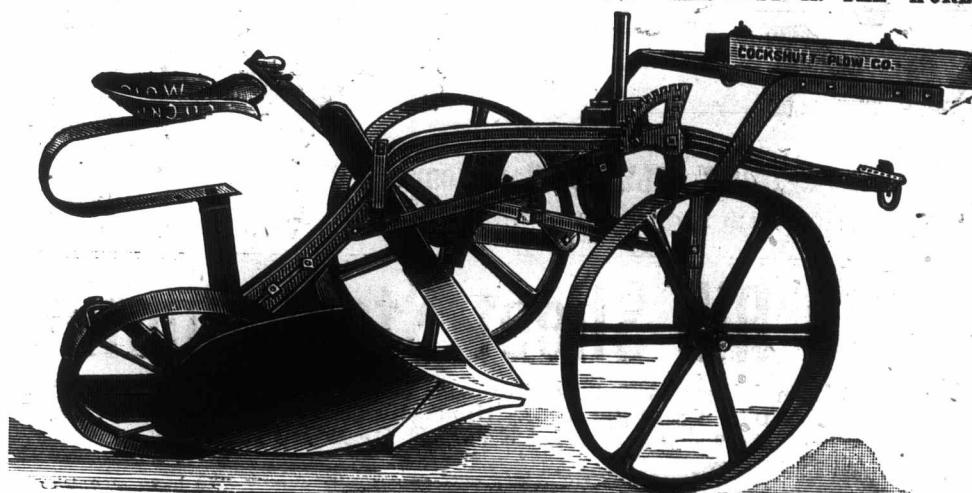
Constantly on hand, and For Sale at Reasonable Terms.

The importations of 1888 comprise a large number of
one, two, three and four-year-old registered stallions and
mares, the gets of such sires as Macgregor (1497), Darnley
(222), and Prince of Wales (673). Also a few choice SHET-
LAND PONIES. Correspondence solicited, and visitors
always welcome.

GRAHAM BROTHERS,
Twenty-five miles east of Toronto.

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COCKSHUTT'S "J. G. C." RIDING PLOW—THE BEST IN THE WORLD.



Descriptive Catalogue Mailed Free on Application.
COCKSHUTT PLOW CO., (Ltd.) - - BRANTFORD, CANADA.

GURNEYS' FARM AND STOCK SCALE

PORTABLE, ON WHEELS. WITH DROP LEVER.

CAPACITY, 3,000 LBS.

Platform, with extensions, 6 ft. x 2 ft 6 in.,
provided with guards, allowing ample
room for any animal.

Designed Especially to Meet the Wants of
Farmers and Stock-Raisers.

Made very strong, of the best
material and finish. So con-
structed that extensions and
guards can be uncoupled when
desired, and scale used without
them. See this scale at your
nearest hardware, or write
direct to makers.



Patented April 25th, 1888.

PRICE MODERATE.

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GURNEYS & WARE SCALE CO.,
HAMILTON, - - ONTARIO.

MANUFACTURERS OF ALL KINDS OF SCALES.

275-y

STOCK GOSSIP.

Secretary Wade, of the Provincial Association, thinks that with better stock accommodations and better facilities for visitors seeing them, there would be less desire for special attractions at our fairs.

Scott Bros., Maple Farm, Aurora, have a flock of eight ewes—Leicester, Southdown and Cotswold grades—which dropped sixteen lambs in February, and which they have since sold for \$70, all to be taken away before the first of April. Surely, sheep are a profitable stock in this instance.

Rock Bailey, Union, Ont., has made a venture on the Jersey line, having bought from Samuel Smoke, of Canning, St. Lambert Bull (41063), a three-year-old pure St. Lambert; a heifer-calf from Clover Smith (29523), a pure Rex cow; a heifer calf from Daisy, of Maple Lane (44546), and from Mr. Beeman, of Nanapane, at his late dispersion sale, a pair of finely-bred calves, a bull and a heifer.

Captain Robert Reesor, Cedar Grove, also a recent beginner in Jersey breeding, recently sold eight heifers, and one bull to William Brigham, Mount Forest; one bull and one heifer to Abram Wieden, Altona; heifer-calf to William Jacques, of Whitelock, and a heifer calf to Marshal Mainie, Uxbridge; also, a Canadian-bred Clydesdale stallion, two years old, and a one-year-old filly to a Mr. Tuckett, Iowa, and one Shetland pony to Mr. S. E. Smith, Toronto.

Mr. W. D. Reeser, of Elm Park, breeder of Jerseys, recently sold Floss, of Glen Rouge, by Briar Pogis (14163), dam, Coquette, of Glen Rouge (17559), to a Boston breeder. Also, a young bull, half St. Lambert, to James Duncan, of Scarborough. Since Mr. Reeser began breeding, two years ago, he has shipped seven Jerseys to the United States, and still has a few very choice animals as breeding stock. He has also bought two very nice heifers from Wm. Ralph, Markham.

Mr. Wm. Linton, Aurora, has recently bought the noted bull, Royal Booth 2nd. This animal was bought by James Russell, Richmond Hill, at Bordentown, New Jersey, in 1882, and sold by him in 1886 to Messrs. Beaty and Roland, Warren, Warren Co., Penn., from whom Mr. Linton bought him. He is certainly a valuable acquisition to Mr. L.'s herd, and, although not in show condition, is looking vigorous and hearty as a yearling. He has passed six months of his life in quarantine.

Mr. John Isaac, Markham, reports the following sales:—One imported bull, one-year-old, to William Shier, and one to Charles McCarthy, Markham; one to William Pearson, Manchester, and one imported bull, one-year-old, to John Taylor, Rockwood, Ont.; Mr. Isaac expects to import another lot from Mr. Campbell, of Kinellar, Scotland, this summer. He has also sold a Clydesdale stallion, rising three years, to Messrs. Smith, of Flint City, Mich. This colt was from Darling 4th, whose colt of last season sold at five months old for \$300. Darling 4th has produced \$2,700 worth of colts.

Wm. Sadler, of Galt, has sold to R. G. Coatsworth, of Romney, county of Kent, his Suffolk stallion, Golden Hero, 35 months old, for \$1,000. He was sired by Young Hero (1515), dam by Prince Alfred, he by John Long, imported Suffolk. He was awarded first prize at the Toronto industrial exhibition last fall. He stood 16 hands high, girth 7 ft. 3 in., weight 1600 pounds. Mr. Coatsworth also bought from H. C. Logie, of Lindsay, a three-year-old filly sired by Young Hero, for which he paid \$300 in January last. She was awarded first prize at the Industrial Exhibition at Toronto last fall.

While waiting for the train at Bradford a few days ago, Mr. Wm. Innes, of that place, showed us two very fine Clydesdale stallions, Grand Times (363) (367), bred by R. Alexander, Auchenmade, Kilwinning, Scotland, and imported by Graham Bros., Claremont, Ont.; sire, Old Times (579), dam, Maggie (96), vol. v., S. C. B. This horse won second at the Industrial last year; also first at the same, shown as a two-year-old three years ago. In the same stable is Defiance (355) (355), bred by Wm. Falconer, Carlton, Fortoun, Kincardineshire, Scotland, and imported in 1883 by Simon Beattie, of Markham, Ont.; sire, Prince Charlie (629), dam, Dolly (3447), vol. vii., S. C. B. This horse has also won several first and second prizes at the Industrial and Provincial exhibitions. Also in 1883, before coming to Canada, he won first at Aberdeen, and a cup for the best stallion on the ground of any age.

Canadian-bred Jerseys seem to head the list. Captain William Ralph, Markham, recently sold to Baron W. B. Von Richthofen, Dinneen, Colorado, the St. Lambert cows, Beauty of Lea Farm (15904); Jessie Lorne (25218); Flower of Glen Rouge (17560); and St. Lambert's Coquette (41070); to R. Leslie, Orangeville, a St. Heller bull; to J. H. Earl, Skarlatas, N. Y., a yearling bull, Canada's St. Lambert (21856); to Starr & Fowler, Ottawa, Julia A. of St. Lambert (54718); a one-year-old heifer; to S. D. Jackson, Clifton Springs, N. Y., a heifer, John Bull's Maid (49669), also three heifer calves of the St. Lambert strain, eligible for registration; to W. D. Reeser, Markham, two cows, Ernestine Pogis (30193), and Lively Queen (41219); to J. Norton, Aldershot, the heifer, John Bull's Queen (49662), and John Bull's Coreopsis (49665); to S. S. Showers, Macedon, N. Y., two St. Lambert heifers, eligible for registration; to J. R. Stevenson, Sutton West, Flora, of Elmwood 2nd (27886); to E. H. Hamilton, Covington, Ky., the bull Lord of St. Lambert (18902). Also, 25 head Dorset horned sheep to E. F. Bowditch, Framingham, Mass.; ten head of Dorsets to S. D. Jackson, Clifton Springs, N. Y.; also, single lambs and trios to seven or eight other persons. Mr. Ralph recently bought from W. D. Reeser the noted cow, Coquette of Glen Rouge, for which is claimed a test of 15 lbs. of butter per week.

STOCK GOSSIP.

The following sales of stock are reported by Messrs. Green Bros., Innerkip. The imported two-year-old shire stallion Sir Joseph the 2nd, to the La Belle Ranche Horse Importing Co., of Winfield, Dakota. The two-year-old shire filly Judy, to Messrs. Ormsby & Chapman, of Springfield, Ont. The fine yearling roan bull, Crusader, by the Earl of Mar, out of Countess 5th, to Messrs. J. & W. Menzie, of Kirkwall, Ont.

Mr. James Fields, of Highgate, who has been on the lookout for some time for a fine bred Clydesdale, has succeeded in purchasing from Mr. Hobt. McEwen, of Byron, The Laird, No. 974, rising three-year-old. He is blocky and low set, possesses extra quality of legs and feet, and is a son of the well-known prize winner, The Times, No. (3358), out of the imported mare, Lovely, No. (3878). Mr. Fields, it is needless to say, paid a high price for an animal of such merit as The Laird.

In a letter received from Mr. F. A. Fleming, of the Park, Weston, Ont., just before going to press, he says: "I have had very good luck with my calves this winter, having raised 23 calves from the same number of cows and heifers. The only loss was the death of one calf at time of calving, but as one cow dropped twice the average of one live calf to each cow calving was kept up. Out of these 23 calves there are only 7 bulls, leaving 16 heifers. They are all looking remarkably well and doing better than I have ever had my young calves at this time of the year. I sold in March, to a gentleman from London, 16 very nice young animals, 5 bulls and 11 heifers, to take out to Montana, where he intends starting a thoroughbred ranch. I have still a few young bulls left, and expect to sell all I can spare in a short time. I am receiving numerous letters enquiring about Herefords."

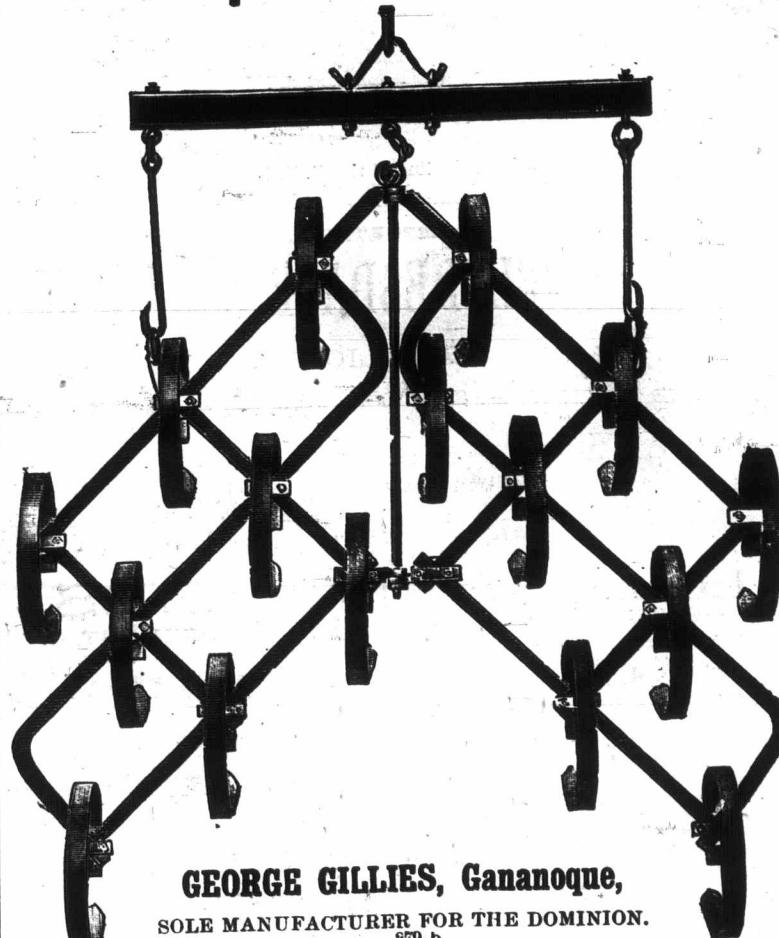
On March 25th we received a letter from Messrs. Graham Bros., Claremont, Ont., in which they say "Our horses are doing well; we have sold three stallions and two fillies since the spring stallion show in Toronto, and we expect to ship more tomorrow." As will be seen by the prize lists, which are given in another column, these gentlemen were very successful in Toronto. Their horse made a very fine display. As will be seen by consulting our March number, MacCaskie, MacLaurin, and Macbean, were all got by MacGregor (1487). Each of these horses was a prize winner in his class, though the opposition was very keen. Macbean, besides winning 1st prize in his class, won the sweepstakes as best horse, any age. Certainly a very great distinction, when the horses with which he competed are considered. Such a company of horses never before met on Canadian soil as were recently shown in Toronto.

Messrs. Bollert Bros., of Cassel, write: "Our Holsteiners are doing very well this winter; the demand for superior bred animals is very good; inquiries are coming in with every mail. We lately sold a pair of heifers to Mr. C. C. Fry, Bright, Ont., they were a very fine pair of more than ordinary merit. One of them is sired by the great prize bull Jumbo. One of the others is a first prize winner in her class, though the opposition was very keen. Macbean, besides winning 1st prize in his class, won the sweepstakes as best horse, any age. Certainly a very great distinction, when the horses with which he competed are considered. Such a company of horses never before met on Canadian soil as were recently shown in Toronto." Mr. T. Lovell, of Wroxeter, selected one of our best young bulls, acting on the principle that the best is the cheapest. He is the making of a very fine and large bull. He is by our silver medal bull Barnton. His dam is a first prize winner at our county fair, and is beyond doubt the best two-year-old heifer in Canada. Her dam is our noted cow old Jumbo, winner of 1st prize and diploma at the Provincial, 1886. Huron county may be proud of possessing such men as Mr. Lovell, and of the stock he is introducing. We have yet several very fine and highly bred young bulls on hand.

J. C. Snell, Edmonton, Ont., breeder of Berkshires and Cotswolds, reports a steady demand for good sheep and pigs. Among recent sales he reports the following: To S. R. Wilcox, Lapeer, Mich., boar and sow; H. Doren, Bushnell, Ill., 1 shearing ram; Poissons Bros., Wallen, Ind., ram lamb; E. V. Miller & Co., Morley, Iowa, boar and sow; I. Potter, White Sulphur Springs, Montana, 14 Cotswolds; T. Pearson, Stanley Mills, Ont., 1 ram; I. H. Blumer, Fredonia, Pa., boar; Jos. Ward, Marsh Hill, Ont., imported ram lamb; John Thompson, Uxbridge, Ont., boar; Ontario Agricultural College, Guelph, Ont.; R. H. Lide, Livingstone, Ala., boar and sow; A. Young, Princeton, Ont., boar; J. S. Ross, Yeo, Ont., boar; N. P. Wood, Kingston, Ont., boar; W. Duncanson, Orwell, Ohio, 5 rams and 4 ewes; W. J. Runciman, Orwell, Ohio, 5 rams and 4 ewes; W. J. Sprule, Webster, Ont., boar; A. & W. Cartwrights, Kerwood, Ont., ram lamb; R. M. Brown, Bridgen, Ont., boar; P. Lanzoni, Belmont, Wis., ram; D. Millay, Paris, Ont., boar; A. Cochrane, ram; Almonte, boar; Ed Horton, New Dublin, Ont., boar; Bryan & Williams, Westchester, Ind., 1 ram, 4 ewes; C. S. Smith, Tilsonburg, Ont., sow; J. H. Reed, Girard, Ohio, sow; James Gaunt, Whitechurch, boar; W. I. Samuels, Bardstown, Ky., boar; W. C. Edwards, M. P., Rockland, Ont., boar and sow; Isaac Devitt, Floridale, Ont., boar and sow; W. H. Jacobs, Madison, Wis., 1 boar, 5 sows; sow; H. D. Nichol, Nashville, Tenn., boar; J. B. Hercules & Son, 4 ewes; John Deyell, Lindsay, Ont., boar.

MANY OLD FARMS require so much fertilizing that farms & gardens WONT PRODUCE A PROFIT.
The rich, loamy soil of Michigan Farms produces a fine crop without this expense. The near Markets, towns, villages, etc., make Michigan Farms the best in the world. Write to me and I will tell you how to get the best farms on long time; low rate of interest. O. M. BARNES, Land Commissioner, Lansing, Mich.

LaDOW'S Improved Patent Float Spring-tooth HARROW

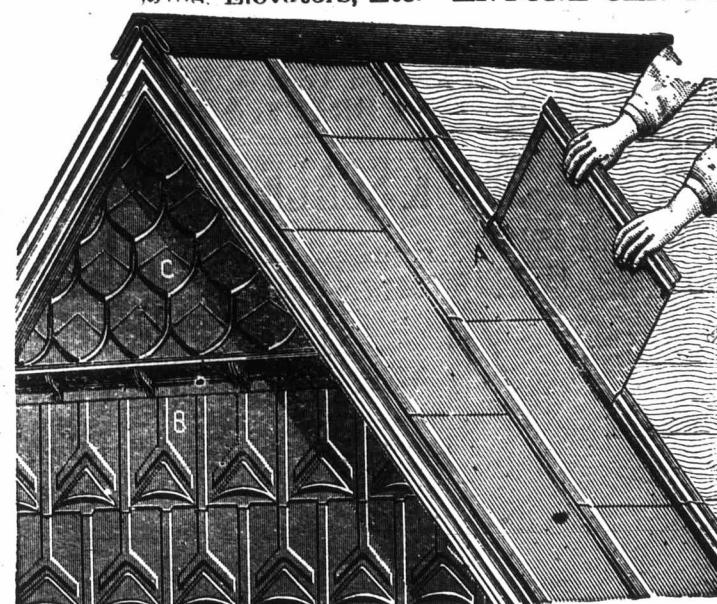


GEORGE GILLIES, Gananoque,
SOLE MANUFACTURER FOR THE DOMINION.
279-b

Many improvements have been made on this Harrow during the past year, making it now the best Spring-tooth Harrow before the public. It is made in two sizes, 16 and 18 teeth respectively, with sand without runners. All steel frame, no wood to rot or wear out. See one of these Improved Harrows before buying any other, and write for full descriptive circulars of them. All implements guaranteed for one year.

Broad Rib Sheet Steel Roofing

The Cheapest and Best Metal Roofing and Siding in the Market. Can be laid as Cheap as a Shingle Roof. Specially Designed for Factories, Mills, Elevators, Etc. ANYONE CAN PUT IT ON.



A. Cooper's Broad Rib Roofing. B. Walter's Patent Standard Shingles.
C. Cooper's Patent Queen Anne Shingles.

For prices apply to the sole manufacturers in Canada.

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We have recently perfected machinery for manufacturing Plain Sheet Metal Roofing under the Walter's patent. This patent possesses advantages of construction not found in any other Metal Roofing. Its use does away with the necessity of

TONCUING UP EDGES,
DOUBLE-SEAMING,
COPING OF RIBS,
RIVETING OF RIBS,
EXPOSED FASTENINGS
AND CLEATS

No expense will be spared to make THIS ROOFING, in quality of metal and perfection in fitting, the very best in America.

FAY CURRANT GRAPES

LARGEST SHOWER OF GRAPE VINES IN AMERICA.

HEADQUARTERS NIAGARA, EMPIRE STATE. EATON, MOYER and all others, new and old; also small fruits. Lowest prices, highest grading, warranted true. In every respect a model and first-class establishment. Free illustrated Catalogue. GEO. S. JOSSELYN, Fredonia, N. Y.

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BURROW STEWART & MILNE,

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

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

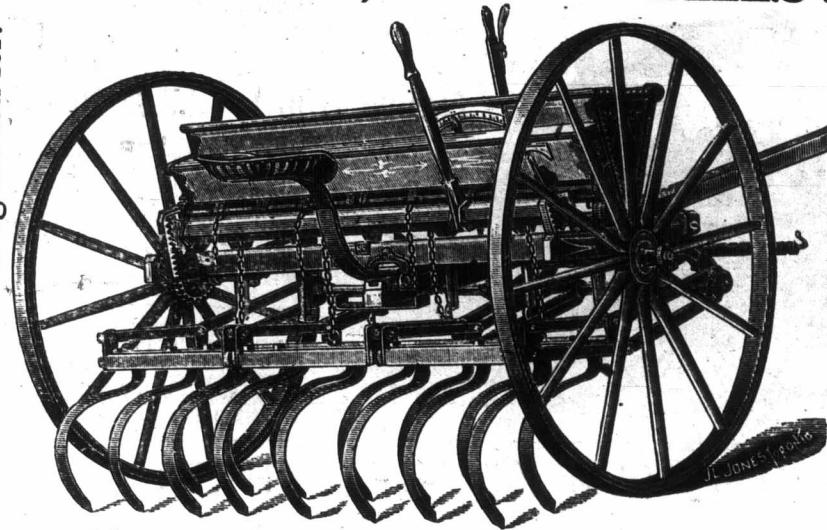
It weighs Accurately from half pound to 4,000 pounds.

DAIRY SCALES,
SPECIAL FAMILY SCALES,
COUNTER SCALES,
PLATFORM SCALES,
HAY SCALES,
&c., &c.

Quality, Accuracy and
Beauty of Workmanship
Unsurpassed.

BURROW, STEWART & MILNE, Hamilton, Ont.

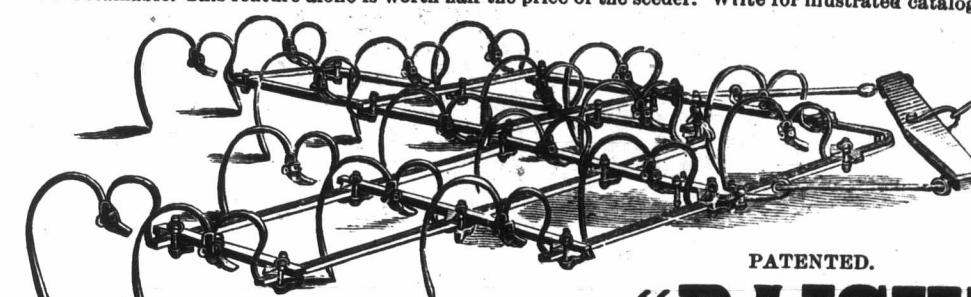
FARMERS, READ THIS!



LATEST AND BEST.
COVERED BY PATENTS.

THE NEW MONARCH.

The NEW MONARCH is the latest improved seeder in the market. See and examine it before buying. It has an accurate FORCE FEED. Sows and covers all kinds of grain in any quantity required to the acre. The cultivator is in three sections, independent of each other, and all the teeth can be set to work any required depth in the ground INSTANTLY by a lever in easy reach of the driver, making it the best cultivator obtainable. This feature alone is worth half the price of the seeder. Write for illustrated catalogue.



THE "DAISY"

ALL STEEL FRAME SPRING TOOTH HARROW.

Ask for the "Daisy," and buy no other; it is the best. Send for illustrated catalogue and price list. Responsible and Pushing Agents wanted in all unrepresented districts.

THE J. W. MANN MFG. CO.,
BROCKVILLE, ONT.

278-6

STOCK GOSSIP.

Tisdale's Brantford Iron Stable Fittings. We lose no job we can figure upon. Catalogue sent free. The B. G. Tisdale Co., Brantford, Canada. Adv't.

H. George & Sons, Crampton, Ont., have lately imported seven Ohio Improved Chester White swine, five sows and two boars. This is their second importation within a year. They have now on hand 102 pure bred pigs and fifteen sows bred for spring trade. They report sales good, and a very thrifty lot still on hand. Mr. George intends to visit England this summer, among other stock he will import shire horses.

NOTICES.

We would call attention to the advertisement of Patterson's Tick and Vermin Destroyer, manufactured by Mr. Patterson, of Aurora. Leading farmers in his vicinity endorse it.

We beg to call the attention of our readers to the advertisement in another column, of the celebrated M. S. S. Corn. Messrs. John S. Pearce & Co. are also preparing a neat pamphlet on Fodder Corn and Silage, with instructions for building a silo. All interested in this important and valuable fodder crop should have this little work.

The report of the Bee-keepers' Association gives the number of members, the various directors' meetings, accounts of various expenditures, a reference to "foul brood" which has caused great loss, some apiaries being totally destroyed by its ravages; the President's address, a paper entitled "Bees for Pleasure and Bees for Profit" by Mr. Allen Pringle, Selby. The addresses of the executive, and the treasurer's report, showing a balance on hand of \$455.75.

Among the Government publications to hand are the Reports of the Ontario Poultry Association, Eastern Ontario Poultry and Pet Stock Association, Ontario Bee-keepers' Association, and the Annual Report of the Professor of Dairying at the Ontario Agricultural College. The report of the Ontario Poultry Association gives a short sketch of the show held in London in Jan., 1888, a brief description of the method at present in vogue of judging by scoring, and a comment on the exhibit.

The Eastern Ontario Poultry and Pet Stock Association report is a clear and concise account of the formation of the association, the locality of its members, the number of meetings held, a comment on the system of marketing poultry, and suggesting legislation regulating the sale of dead poultry. Also an account of the fourth annual exhibition, which was held in 1888, and a clear and detailed financial statement, showing a balance in the treasury of \$60.42. This report is of more value than those of its kind usually are.

The report of the Professor of Dairying is a pamphlet of thirty-seven pages, in which is given an account of the Creamery Management; Fodder Corn and the Silo; Supplementary Summer Feed for Milking Cows; Work in connection with the Dairymen's Associations; Public Meetings; College Lectures, Bulletins and Recommendations. We note specially a suggestion for, and draft of, Score Cards for Judging Butter and Cheese, both of which we endorse most heartily. The report is of value to dairymen. We will review more fully in a future number.

BURLINGTON ROUTE DAILY EXCURSIONS TO THE PACIFIC COAST, COLORADO, WYOMING AND UTAH.—Railroad ticket agents of the Eastern, Middle and Western States will sell, on any date, via the Burlington Route from Chicago, Peoria or St. Louis, round-trip tickets at low rates to San Francisco, Los Angeles, San Diego, Portland, Tacoma, Seattle, Vancouver or Victoria; also to Denver, Cheyenne, Colorado Springs or Ruehle. For a special folder giving full particulars of these excursions, call on your local ticket agent, or address P. S. Eusser, Gen'l Pass. and Ticket Ag't, C. B. & Q. R. R., Chicago, Ill. Adv't. 278-6.

Mr. J. P. Thomson, Corresponding Secretary of the Y. M. C. A. of the Ontario Agricultural College, writes:—Last February the Y. M. C. A. of the University College, Toronto, sent Messrs. Fraser and McLean as a deputation to visit the students of the Ontario Agricultural College, Guelph. As a result of this, with the assistance of Messrs. Colly and Fraser, a Y. M. C. A. was organized at the College, Saturday, the 9th inst. There has been a large attendance at the study & weekly prayer meeting, but it is gratifying to know that all the students except five or six have become active or associate members of the Association. This indicates the moral tone of the O. A. C. students. The officers for the ensuing year are:—E. A. Hennie, Hamilton, president; C. A. Zavitz, B. S. A., Coldstream, vice-president; H. Hutt, Thorold, recording secretary and treasurer; J. P. Thomson, Uptergrove, corresponding secretary, Committee, Messrs. N. Monteith, Stratford; C. F. Whitley, London, Eng.; F. Linfield, Goderich.

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Your name on this useful article for marking linen, books, cards, etc., 25c.
Agents sample, 20c. Club of six, \$1.00.
EAGLE STAMP WORKS, New Haven, Conn.

CARDS 60 samples and designs, Hidden Name, Chromo, Gold Edge, and Shape Cards, 5 cents. ROSE & CO., Mt. Vernon, N.Y.

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We can now give the farmers what they want and have so long looked for.



PROVIDENT LIFE & LIVE STOCK ASSOCIATION
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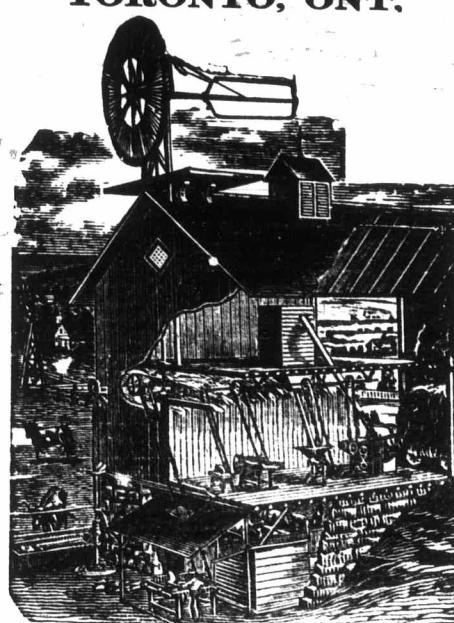
INCORPORATED--A MUTUAL BENEFIT ASSOCIATION

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.

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LEADING INSTRUMENTS
FOR PURITY OF TONE
& DURABILITY.
CATALOGUES FREE.
W. BELL & CO., GUELPH, ONT.

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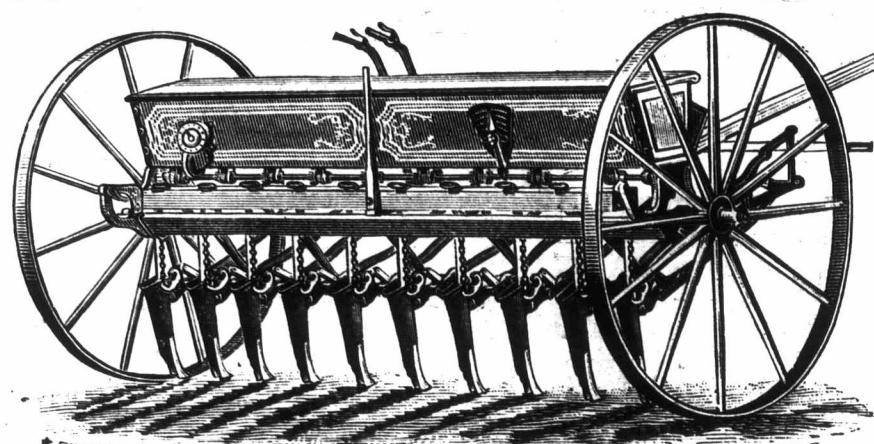


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IRON AND WOOD PUMPS.

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

Hoosier Steel Frame Grain Drill



GUARANTEED THE BEST IN THE WORLD.

No other Drill made can be instantly regulated to run at any desired depth without stopping the team. No other Drill will sow all kinds of grain thoroughly, even and properly covered at a uniform depth in all kinds of soil. No other Drill commences to sow the instant the horses commence to move, and misses no ground when starting in, after turning. No other Drill equals the Hoosier when used as a cultivator and no single cultivator surpasses it, thus combining two implements in one.

NOXON'S NEW STEEL BINDER. See the greatest invention of the age in our new Knotter which cuts but one cord, makes no waste ends and saves cord in binding. Read our new Descriptive Catalogue for 1889.

NOXON BROS. MFG. CO.,
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FOREST CITY MACHINE WORKS, LONDON, ONT
SOLE MANUFACTURERS OF THE
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.

NEW IRON SEPARATOR.
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287-tf

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CHATHAM WAGON

Of which we give a faithful illustration, and which the Government of the Dominion of Canada has adopted as the Standard Wagon. We simply ask intending purchasers, in their own interests, to send to us for particulars of the Chatham Wagon before purchasing any other.

Railway Platform Baggage Trucks. Farm and other Dump Carts.
Hardwood Lumber and White Oak Gang Sawed Ship Plank.
The Patent Champion Hay Rack, Etc., Etc.

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