

The FARMER'S ADVOCATE

AND HOME MAGAZINE.

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THE FARMER'S ADVOCATE & HOME MAGAZINE

WILLIAM WELD, EDITOR AND PROPRIETOR

THE LEADING AGRICULTURAL JOURNAL PUBLISHED IN THE DOMINION.

The FARMER'S ADVOCATE is published on or about the 1st of each month. 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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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.

The 1st prize of \$5 for best essay, *Showing the Benefit Which has been Derived from the Various Specific Associations, Such as The Dairymen's, Horticultural, The Poultry Keepers', etc., etc.*, has been awarded to Mr. John Robertson, London, Ont.

A prize of \$5 will be given for the best essay on *The most Economical and Healthful System of Feeding Farm Horses, including Working Animals, Brood Mares and Growing Colts.* All essays must be handed in not later than the 15th of December.

A prize of \$5 will be given for the best essay on the subject: *What is the Average Cost to the Farmer to Rear a Steer to the Age of Thirty Months, said Steer to be Sold Fat at that Age. How Much Profit is Derived? If there is a Profit, How Can it be Increased?* All essays must be handed in not later than January 15th.

Editorial.

Editorial Notes.

We would especially direct the attention of our readers to the article on "Tuberculosis," written by Dr. Sweetapple for this number. How often do we find on farms, and in dairy herds which supply milk to consumers, some cows in a very unhealthy state. The doctor's views are very pronounced on such cases. He is very careful in drawing his conclusions, which we have always found were based on well established facts.

In the Poultry Department will be found a very admirable article on "Winter Feeding," written by Mr. W. C. G. Peter, who has had extensive experience in breeding fowls both in England and Canada. He is an extensive and practical poultry keeper, and a very successful exhibitor.

By errors made by our printers in last month's report of the Dominion Farmers' Council the sense of two of the speeches was somewhat destroyed. Page 332, second column and thirty-sixth line from the top, and three succeeding lines, should read, "replant, to test and disseminate all the newer kinds, and not make it only subservient in supplying the institution with small fruit for their own consumption." In Professor Robinson's speech, the last four lines in the first column of the next page should be at the top of the same column.

Announcement.

This number completes the 23rd volume of the FARMER'S ADVOCATE, and also finishes our contract with most of our subscribers. It is with humble thankfulness we acknowledge the mercies and blessings bestowed upon us by the Giver of all good. Although we are now in the "sere and yellow leaf," with pleasure we announce that we are still sufficiently strong and vigorous to put forth a special and determined effort to make the volume for 1889 superior to any previous one in utility, popularity and extent of circulation.

The office staff is improved by the acquisition of practical and scientific writers, and also very valuable additions have been made both in the Canadian and Foreign Correspondent Department. Each department of the paper will receive the attention of specialists and still greater attention will be paid to the Household Department, which charms and delights the children, and imparts useful knowledge to the frugal and economical housekeeper.

Our energetic labors and fixed principles should impress you with the fact that we are determined to make the volume for 1889 second to no other agricultural publication in America.

Thanking each one of our subscribers for their long continued patronage, we trust we shall be favored with a continuance of their support, feeling confident that we have the sympathy and support of thousands who are interested in a higher development of the agricultural capabilities of this great Dominion. The abundant crops this year and present prices will, no doubt, stimulate the farmer with encouragement, and will be the prelude to greater prosperity than he has enjoyed for some time. We add our congratulations and fervent hopes that the present prospects will redound to the farmer's prosperity.

Fall Calves and Colts.

Prof. W. A. Henry, in his article found in other columns, shows clearly that the feed fed to young animals pays much better than that fed to older beasts. We all like to feed fat slick-looking steers, but his assertion that, healthy, thin animals give better returns for the feed consumed, may have a point in it worthy of consideration when buying steers to fatten, but the trouble with our farmers is they insist in buying at public auctions, where long credit is given, and where they frequently (nearly always) pay more for their cattle than they are worth, after allowing the interest of the money for a year. We have frequently seen farmers pay as much, or nearly as much, for store cattle at these auctions in the early fall, as they sell them for in the following spring, when fattened. Experience has taught leading dairymen and farmers throughout the country that cows that calve in the fall are more profitable than those that calve in the spring, for reasons elsewhere explained in this number. Prof. Henry in his article tells our readers that a calf born in the fall is of greater value than one dropped in the spring. We believe fall colts are also to be preferred, one reason being that given by Prof. Henry; another is, colts foaled in November may run in a warm box with their dams all winter, and with plenty of roots, clover, hay and straw, supplemented by a little grain, both dam and colt will do well. The colt will be in good shape for weaning in the spring, and will be found to do well when turned on grass. The mare may be put to work, and give good service all summer if properly used. Considering the comparative idleness of most farm horses during the winter months, we believe the rearing of fall colts a wise and economical system of breeding. A good mare cannot be put to any work during the late fall and winter that will pay as well. We have tried the experiment and have been well pleased with it. Our mares lost much less time during the busy season, when managed in this way. This system always gave us a good colt.

Our \$125 in Prizes.

The \$125 we offered as prizes in 1887 (and referred to in the August number, page 239,) for any new variety of wheat or other cereal, or any other new plant or vegetable, that on trial proves to be of more value than any of the old varieties we have already introduced, has not yet been awarded, nor any portion of it, although there are several varieties in competition that must yet be more fully tested before any award can be justly made. It is important that the competitive kinds really fill the bill, namely, that they are a new variety not yet generally introduced, and superior to the present known varieties.

We can point with honest pride to our introduction into this country of many new varieties of grain and vegetables, which have proved of great value to the country, and are not yet surpassed by any of the new sorts. All of our old varieties, which have proved so profitable in the past, were at first introduced in four-ounce packages, sent by mail, to persons sending in new subscribers. This coming season we shall introduce to you some cereals and plants, which we have confidence will give satisfaction. In future we purpose adding or giving the name "The Advocate" or "The Emporium" to each variety.

Our Agricultural Grants and Their Objects.

In other columns will be found a letter from the Hon. Chas. Drury, which should be carefully read. The amount of money which each society receives is plainly stated. By being conversant with these matters, our farmers can judge for themselves whether any one of these associations are giving value to the public for the money they receive. The benefits which may be derived from any of these societies are directly received by attending the meetings held under their auspices, and by reading their annual reports. The question arises, how far do the farmers benefit themselves by attending the various meetings? Some of the most intelligent make the most of these meetings; but the great majority do not. The most discouraging work we ever undertook was to try and interest farmers, and to get them to attend meetings called exclusively for their benefit. Several times this fall meetings have been announced by the secretaries of some of these associations, which met with no response and had to be abandoned. Now, this is altogether the farmer's fault. As matters now stand; whether you attend these meetings or not you have to pay for them, for directly or indirectly the farmers in Ontario pay the taxes. As Mr. Dryden shows in his admirable article, all wealth in this province must first come from the soil.

There is a very general objection raised to the manner in which the yearly reports of the various associations are issued; many of them not reaching the farmers for months after the meetings have been held. This objection could be remedied by enabling the agricultural press to publish at once the papers given on the various subjects. By this means these papers would have a very much wider circle of readers, and their influence for good would be much extended. By the present system, the yearly reports have a very limited number of readers. Because of the small attendance at the meetings of these bodies, and the limited number who read the yearly reports, the good accomplished by our associations is much less than it should be.

We have also received from Prof. William Saunders, a paper explaining the object of the Dominion Experimental Stations, but he did not send us a statement of the moneys expended on these institutions. We hope to be able to give these figures to our readers in a future number.

Since these large amounts are being yearly given to these various bodies, we will consider a record of their doings, as especially the property of the farmers. We will, therefore, give our readers such reports, papers, etc., from the various associations, as we think of value to our subscribers.

Maritime Correspondence.

The season has been a very trying one for farmers. So wet a haying and harvest is not remembered by that wonderful person, "the oldest inhabitant." Frost and flood has done an incalculable amount of injury. The root crops, however, will be pretty good, and the price of all kinds of produce is tending upward, so that those farmers who have anything to sell will get a good price for it. The New Brunswick government importation of horses and sheep were a good lot, and sold well, the two-year-old Clydesdale fillies bringing in the vicinity of \$400, and the Percherons, a year younger, bringing well up to that figure. The sheep also sold well, one Shropshire ram bringing \$100. The exhibition in Fredericton, except in horses, was not much of a show, and there was but one fine day out of the three. The New Brunswick Farmers' Association meets in Fredericton this winter, and will probably be more largely attended than usual, as the new regulations in reference to agriculture allow the different agricultural societies to pay the expenses of one or more delegates to the association—a course that was prohibited under the old regime. The subjects for discussion are not given to the public yet. St. John is moving to have a grand industrial exposition, or exhibition, next year. Toronto has been so successful in holding such exhibitions that St. John proposes to follow her example; and if the St. John men undertake it, they will make it a success if it can be done. County and parish exhibitions have been almost failures in many places this year on account of the weather. The Provincial Exhibition of Nova Scotia, held in Truro the last week in September, was very successful as an agricultural show; but in manufactures it was a failure. The manufacturers of the province said they were so driven with orders that they had not time to make an exhibit. The winter term of the Nova Scotia Agricultural School opened the 15th November, and there is a prospect of a large class. The government have bought a farm, and Professor Smith, who has charge of the school, expects to be able to combine the practical with the theoretical. Students are taken from any of the Maritime Provinces. Plowing and underdraining has been the principal work done at the Experimental Farm at Nappan this summer; and preparatory work, largely.

Prince Edward Island did not suffer by flood and frost, as did Nova Scotia and New Brunswick. In fact, the frost of September 6th, that did so much damage in the provinces and in the Eastern States, did not strike the island at all. They have had a long, wet season, but their crops were good, and they managed, somehow, between the showers to get the principal part of their grain harvested without much injury. And as the farmers there have a large amount of grain to sell, the rise in price, in addition to the good crop, will make it a good year for the Island.

The Price of Apples.

Numerous complaints have come to us from all over the country complaining that the apple crop has been and is manipulated by speculators to the injury of the growers. We have made a good deal of enquiry into the question, and found in this, as in many other instances, that the remedy is altogether in the hands of the farmers, if they will only act unitedly, vigorously and intelligently. Among the various replies to our inquiries on this subject is the following from Mr. P. C. Dempsey, of Trenton, which is so much to the point that we publish it in full. Mr. D. is in a position to know more of these matters than most men, and is one of those generous straightforward men who will give his honest opinion in public matters. Read his letter carefully and profit thereby:—

Your letter of the 9th inst. at hand. In reply I do not think one dollar per barrel for prime winter fruit is enough; but there is always some reason for paying such low prices. I know some farmers that always try to make their best fruit sell some trash they may happen to have. That is a great mistake; it would be better to graft the poor varieties with good ones, and grow nothing but the good ones, such as the market requires.

I will tell you what some men have done this season, and any person can draw their own conclusion: A Mr. — had a very fine crop of Fameuse; he wanted a high price for them; not being satisfied with any offer he got, he took them to Montreal, sold them there for \$1.50 per bbl. His expenses were 30 cts. per bbl. and 25 cts. for freight and wharfage; you will see he only had 95 cts. per bbl. for apples, his own expenses and labor. He told me that in order to get a big price for apples, a man must place fine specimens, and those that are well colored in the end of the barrel—no matter what the rest of the barrel was. This was the kind of instruction that he gave the farmers. I know another man who always packs and sells his own fruit, and has done it for many years past; he always calculates that the end of the package, when opened, can be used as an index of the contents; he could not be persuaded to pack any poor fruit in with good. Now, the result, he sold his Snows this year, f. o. b. for \$2 per bbl.; his Kings and Spys brought \$2.50; sold to the same parties.

Fruit dealers usually employ agents to buy and pack the fruit—paying them about 15 cts. per bbl.; they want to earn from four to six dollars per day. Now, in order to accomplish this, the work is done badly. I have seen some such work done. A barrel of Colverts was opened in my presence in Ottawa, that had been pressed so hard as to crush some of the fruit. Still, it was slack; the bad fruit would all go in a gallon measure—quite enough to spoil the whole package. I only mention one barrel, but there were others; the result is, the buyer lost money.

Now, Mr. Editor, I will not crowd upon your space, but the conclusion to my mind is, that the farmer should grow nothing but the best varieties of winter fruit; look after his picking, packing, shipping, etc., and he will save the many losses incurred through bad packing, assorting, and selling. Again, they should have in their possession the FARMER'S ADVOCATE, and the Canadian Horticulturist. If those two papers are well studied, any man can become posted sufficiently to handle his own fruit, etc.

Farmers Should Organize.

A great many farmers fail to make use of their opportunities, and frequently display apathy in not bringing themselves into harmony with the great questions that naturally affect their welfare. While agricultural papers are doing much good by disseminating useful and valuable information among the farmers, and invoking a spirit of activity among them, still this commendable work on the part of the agricultural press could be largely augmented and supplemented by the farmers uniting as a body and cheerfully responding to the suggestion to organize societies among themselves for the free and independent discussion of matters pertaining to farm topics. It is only by mutual co-operation and unity on the part of the farming community that light and knowledge can be obtained, and all the effort required to bring about this state of affairs is for the farmer to realize that his interests demand that he should be in possession of a fuller knowledge of his calling. While it is admitted that the Model Farm and the Experimental Stations, founded under the patronage of the Ontario and Dominion Governments respectively, are doing good, still both political parties frequently accord more praise to those institutions than they are entitled to, and their defects are smoothed over by party speakers and writers. The *ADVOCATE* was opposed to the establishment of those institutions, and many of the evils attendant on their introduction into this country have been removed through the influence of the fair and independent stand taken by us. This publication owes no allegiance to any political party, nor will it allow its principles, which have been faithfully expounded in its columns for over twenty years, to be wilfully misrepresented by those who are jealous of the success of this journal. The *ADVOCATE* recognizes the fact that those institutions are now permanently established. As the farmer contributes largely towards their maintenance, he should be in a position to receive such information and instruction as they impart. It is only by making himself conversant with the workings of these institutions that he will be in a position to offer fair and impartial criticism, or to receive any benefit which may be derived from these establishments.

A farmer's ambition should be to soar to greater heights in acquiring a clearer knowledge of his calling, as the history of the past reveals the fact that the majority of great men, whose names adorn the pages of history, were men of humble birth and whose parents were tillers of the soil. Many a truly and noble man, for the want of confidence in himself, and who could have been a great benefactor to the race, has lived and died, without having accomplished the work for which he was eminently adapted, his latent talent not being developed by early training when the mind was susceptible. If farmers are true to their interests and organize farmer's clubs and institutes, and conduct them with a view to improve their intellectual standing, the farmer will soon rise to the level of his calling. Other professions have societies for mutual improvement, and why has not the farmer?

Subjects which tend to unite the agricultural interests of our country should be freely discussed by such a society, and every member should be prevailed upon to take part in the discussions, and above everything else speakers

should guard against using technical terms and expressions, which are intelligible only to the learned, as the majority of farmers feel considerable timidity when they attempt to express their views in the presence of those who endeavor to impress their greatness on their audience by a pedantic display. Such speakers confuse rather than instruct. Let there be simplicity of expression and sound deliberation, and the result will be an individual interest by every member of the society.

In the long winter evenings the farmer will soon be privileged to enjoy a season of comparative rest, which he should utilize by endeavoring to consolidate into one harmonious whole the greatest of all interests in this country, and endeavor by united effort to raise the standard of agriculture and protect his interests from the aggression of combines. Let there be united action on the part of the great farming community of this country, and the *ADVOCATE* will go down to the battle as a faithful standard bearer to a loyal and patriotic people whose interests it has guarded jealously for nearly a quarter of a century.

Agricultural Depression.

BY JOHN DRYDEN, M. P. P.

There are those who, through the press and from the platform, are constantly telling us that the farmers are prosperous, and ought not to complain. Those of us who have our hands to the plow know that these statements are not correct, and that it is harder now to clothe and feed the family, and make any interest whatever on the investment, than it has been for many years in Canada. A great many persons realizing this fact conclude that it would be better to quit the business altogether. They are ready to advise any member of the family, who has in mind the occupation of a farmer, to choose some other more profitable calling. Now, it is very discouraging to work hard the year round and realize nothing from it, as many farmers have had to do; and yet, if the farm will not pay, it will not be long before no other business in our country will pay either. The farmer is at the head of the stream. If the fountain becomes dry, it is not long before the brook is without water also. In times of depression the farmer is affected first; the others see the water still running, but it issued from the fountain head some time before, and is only just passing them. Soon the stream will become weaker as the supply is cut short.

The merchant and tradesman understand this thoroughly, as is evinced by the anxious inquiry, when you go to town, "How are your crops?" Some may have thought that it is their interest in the farmer's personal welfare which causes them to propound this question; but a close observer will see it is rather anxiety for their own business that prompts the inquiry. The village merchants cannot sell goods to farmers who have no money, and succeed in maintaining a profitable business. Nor will the wholesale merchants be able to place large orders with retailers, who have comparatively few customers. The manufacturer cannot sell his goods to those who have no money to buy. If these must cut short their business, then it follows that the clerk and artisan in turn must be pinched; and so every branch in time feels the depression.

Let the farmer, who determines to change his business for another because of depression,

beware lest he meets in his new occupation troubles and difficulties altogether unseen and unknown before. Whoever, therefore, is fitted for the farm had better remain steadfast to his business, and let his motto be, "*Excelsior*."

The common effect of temporary distress and failure tends towards discouragement, and when this gets a strong foothold, everything about the farm bears testimony to that feeling.

The tillage of the farm is poorly done because, it is said, it does not pay to expend labor upon the land. "Any kind of seed will do; it will not pay to give higher prices for the best." Fences and buildings are gradually allowed to get out of repair, causing endless waste and trouble; and if the farmer gives his attention to stock-raising, anything will do to use on his flock or herd. "It will not pay," he says, "at present prices to procure the best."

Now, my theory is entirely the opposite of all this. If the price of wheat is low, then I must devote all my energy to produce a better crop than before in order to make up for the deficiency. It will not do to slacken a single effort. If the price of beef is low, then I must strive to get such an animal as will produce a greater amount of beef at the same cost. It will not do to say that anything will do under these circumstances; that is following a certain road to ruin.

In Great Britain, where prices are much higher, the rent on the land has also been much higher, and the farmer finds himself pressed as hard to make his rent. But this has only sharpened his perception, and he has not been slow to see that it pays to secure the best of everything, and so agriculture, in every department, has been carried in that country to greater perfection.

Let our farmers remember that this is not the only agricultural depression which has been felt in this country. Our fathers have passed through severer trials than any we have experienced in these days; but these dismal days did not always last; neither will ours of to-day. Already the prospect brightens; hope is beginning to dawn. Let us redouble our energies, and while we may look to our governments to remove obstacles, let us learn to depend more upon our own energies and resources, always remembering that our success is at the foundation of Canadian prosperity.

Mr. W. Drouson, of Vermont, writing of his experience of ensilage, says:—"To sum it all up, I think corn the best of all our crops for ensilage, and the nearer the glazing stage, the better. Cut with the ears on it makes a cheap feed, and will not need much grain to make cows do well. They do not want a large ration and nothing else. I feed a half bushel of ensilage, night and morning, to each cow, and a little hay, all the time. It will pay, and the feed will be good, if the air and frost are kept from the pits. The silo should be near by the stable. Stables should be warm so that nothing freezes in them. The cattle will then enjoy summer weather, in the barn, and will have the appearance and laxative condition of pastured cows. Of course, cows so cared for, should never be left out in the cold of winter. Neither should they stand in cold winds to drink."

The *FARMER'S ADVOCATE* leads all other agricultural papers in Canada; all its departments are edited by specialists and the best writers procurable. Send \$1.00 to the publisher and have it remitted to your address for one year.

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 corresponding 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.]

On the 22nd ult., the Dominion Farmers' Council assembled, President Anderson in the chair.

The following paper, written by Mr. Richard Gibson, of Delaware, Ont., was first read:

"THE SELECTION OF JUDGES FOR AGRICULTURAL FAIRS."

I will not occupy space in discussing the question as to the number of judges, as that was not contemplated in this paper, from the wording of the subject, as I received it. I will, however, say here that I am in favor of one judge—an expert, if you please—a professional who makes it his business, and who is paid commensurate with his services. One who, when approached by an exhibitor, "Why did you overlook that brown horse with blaze and white pastern?" would not be able to reply, "I could do nothing; two against one always count."

Again, outside of the question, I want to say a word to societies. Get the best man, or men, available, and remember "the laborer is worthy of his hire." After selecting your man, or men, don't ask him to travel from Windsor to Kingston, or Ottawa, to spend three or possibly four days in your service, and then require him to pay his railway fare, hotel bill, lunch tickets, besides, as I've known, pay to get into the grounds—the miserable three tickets given having been exhausted perhaps the first day. See to it that a judge, after spending two or three days and several dollars in money in your service, goes away without loss. As a rule, the business men "run" the larger shows. Let them apply the same business principles to the payment of judges as they would do in their own particular line. They do not hesitate to pay large salaries to men to go to Europe to buy for their houses; in other words, *competent judges*. Would they accept any man as fit for the position because a friend said, "Here, Smith is going to England; he's a good fellow; buy his dinner and give him a sovereign (\$5, the usual fee) and he will pay his own way!" No. If you want the confidence of the exhibiting public you must have men in whom they have confidence, and you must expect to pay them in this as in any other business. Here, I will say, that the London Kennel Club, at their late show at the Western Fair, paid their two judges \$75 each. The exhibitors were satisfied, and will come to London again.

Exhibitors of stock nowadays, when horses and cattle are sold up in the thousands, cannot afford to risk the reputations of their herds and studs to the opinion—the "ipse dixit"—of someone who has been appointed because "he is a good fellow, and won't cost the society anything." "But how can we tell who is competent and who is not?" A pertinent question; hence my suggestions.

The various breeds of horses, cattle, sheep, pigs, &c., that are worth perpetuating are now represented and formed into breeder's associations, clubs or societies, such as "Shorthorn Breeder's Association," "Jersey Cattle Club," &c. My idea would be, that at the annual meetings of these various organizations, they should recommend, or elect, certain parties, under whose judgment they would be willing to have their cattle or horses pass, and whose judgment and opinion would be final and satisfactory to those most interested. By adopting this course the Agricultural Societies would be relieved of the odium of having appointed an unpopular judge. They could reply to the "disappointed exhibitor" (they are on every agricultural asso-

ciation's list). "You selected him." The responsibility would be thrust upon the breeders themselves, and the parties most interested in having their exhibit properly judged, would be the ones to select the judges; the onus, therefore, would lie upon the associations, at their annual meetings, to select competent men, and should one disappoint the pen could be struck through his name at next meeting. Such, gentlemen, is my idea of selecting judges for stock; and if in stock, why not in the other departments—horticulture, dairying, &c.?

Mr. W. Weld then addressed the meeting. He said Mr. Gibson was one of the best Canadian authorities—in fact, one of the best authorities in America on matters pertaining to live stock, and that his views deserved every attention from all who controlled such matters. The time has now come when the entire fair system needs reforming, even from the largest to the smallest shows. All thinking men should give this subject their attention. This is an agricultural country, and unless our farmers are prosperous, all classes suffer. The fairs are for the benefit of agriculture and live stock. The benefit to be derived from them is largely educational, and if they are not properly conducted with this object in view, their influence for good is largely lost.

J. W. Bartlett, who is well posted on all matters relative to poultry said: Several years ago, a scale of points was adopted by the poultry breeders of America; also, the system of judging by a single expert. A scale of points was tried as an experiment, and was found to give such general satisfaction that the system was unanimously adopted. Since that time, the American Poultry Association have granted certificates to such persons as are qualified to act as judges. These are accepted as suitable persons to make awards at regular poultry shows. By this system, the educational advantages have been very great. By consulting the score card, which is always given at poultry shows, any one who desires to learn can easily acquaint himself in what points any bird is defective, and in what points it is perfect, thereby learning what constitutes a good bird, and what are the defects to be guarded against.

In discussing the subject from a fruit-grower's standpoint, Mr. Deadman declared in favor of a scale of points, and very emphatically stated one judge was to be preferred to three. He considered that the fruit growers should consider this matter, and adjust a scale of points for the use of their judges.

Mr. Holman was much pleased with the reasons advanced in favor of a scale of points, and the appointing of one expert as a judge at fairs. The system of judging, as at present practiced, had outlived its usefulness, and had become unsatisfactory. We, who are exhibitors, want something better.

The president thought the main point was to get good judges. He was not strongly in favor of only appointing one judge, he would be more afraid of favoritism and dishonorable dealing; besides, this plan involved more expense, and it is well known that the large fairs are not always a financial success. The managers of the Dog Show, which was held in London, during the time of holding the Western Exhibition, and was very widely advertised, employed single expert judges only; to whom they paid \$75 each. The awards gave general satisfaction, but the show was a financial failure, at which he was not surprised. Yet, if the work could be done by experts in all departments and the cost not be too

great, he was strongly in favor of that method. He said, as the Ontario Agricultural College is the seat of the Agricultural Educational System of Ontario, he thought it would be wise for them to hold examinations, and grant certificates to those who passed suitable examinations as judges of the various kinds of stock and other subjects relative to agriculture.

F. W. Hodson said our fairs are useful principally as a means of educating the people in all matters relative to agriculture. The time has come when this should be done in the best possible way, and I believe it will give better satisfaction to appoint a single judge, as suggested by Mr. Gibson. I believe this plan would meet with the hearty endorsement of the great majority of breeders. By the present system, really good judges cannot always be procured; for instance, the Western Fair Board this year endeavored to obtain a certain man who lives east of Toronto, as a judge on Down Sheep; for his services he was to receive \$5; his railway fare to London and return would be \$7.60; his other expenses would naturally be as much more—say in all \$15; his reply was he would like to accommodate the Board, and was willing to give his time, but would not come and incur a financial loss—therefore his services were lost. Such occurrences as this frequently happen in all departments, and frequently men totally unacquainted with the class they are set to judge, are appointed. The result is, the educational advantages in such classes are entirely lost, as prizes are misplaced. How are the young or ignorant to learn anything from such awards? The value of the fair to the exhibitors is largely as an advertising medium. Yet, how very discouraging it is to carefully prepare animals for a whole year and then, at the exhibition, to have them passed upon by incompetent men, or men of little experience. This alone has discouraged some of our best breeders from exhibiting. I do not think it would be much more expensive to appoint an expert and properly pay him for his services, than it is now, to appoint three men at \$5 each, as is now practiced. The \$15 which they receive would go a good way toward paying the expenses of a good man. In case the expenses were, by this means, somewhat increased, the benefits derived from the show would be much greater. In poultry breeding I have derived much benefit by watching the work of an expert judge, and comparing the score cards which he attached to the various coops which contained the birds, whose score of good and bad points were marked thereon. By this means we can readily learn in what points the winning birds excel, others not so successful. If the single judge system has proved such a benefit in the poultry department, and there are none who deny this fact, can anyone say why it shall not be equally beneficial in all other classes?

Before the close of the meeting, a unanimous resolution was passed to the effect that this Council is in favor of one expert judge passing on all agricultural exhibits.

The subject for discussion at the next meeting will be "The advisability, or otherwise, of continuing the Provincial Exhibition; also, the Township Shows." All the members of the Club are desired to give this question their earnest attention, and come prepared to discuss these questions at the next meeting, which will be held on Thursday, December 13th.

All clubs amalgamated with the Dominion Farmers' Council are respectfully requested to fully discuss these questions, and send to our corresponding secretary a report of their decisions on or before December the 12th.

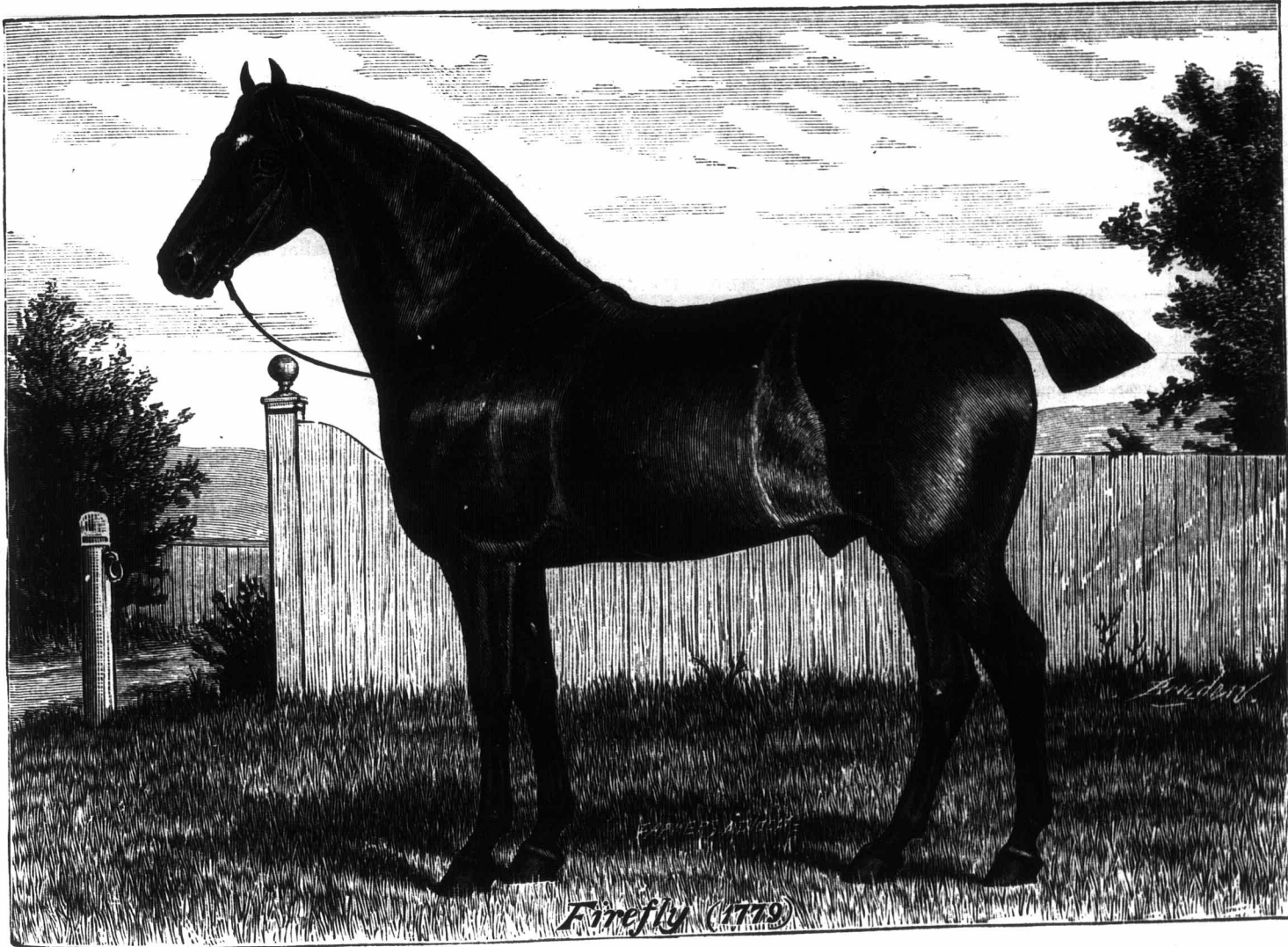
Stock.**Messrs. Beith's Hackneys.**

Messrs. Robert Beith & Co., of Bowmanville, Ont., have long been noted as breeders and importers of extra good and well-bred Clydesdales. This year they added to their grand stable of Clydesdales, several Hackney stallions. Firefly (1779), of which we give an illustration, is a very handsome stallion; stands 15½ hands high, is of a rich bay color, and three years old. He is perfectly sound and good-tempered, and calculated from his superior individual merit and good pedigree, to get valuable weight-carrying hunters, and grand carriage horses. He was

English Coach horse with its society and its stud book (the Yorkshire Coach Horse Stud Book), and that there is a Hackney Horse (or, as I once proposed to denominate him, the English Trotting Horse) with its society and its stud book (the Hackney Stud Book). The English Coach horse may be, and often is, nearly of pure galloping blood, but is not eligible for entry in the general stud book because there is a stain in the pedigree. A Hackney may not have two successive crosses of racing blood, and the best bred horses have very little of it. He traces his descent from the variety which was established some 150 years ago by a large use in Norfolk of Arab and Barb blood on mares of the old English trotting variety, which documentary evidence

Norman harness horses, the progeny of the Norfolk hackney and the Norman horse, for carriage work.

There also may be a temptation to misuse the English term Coach horse for those Hackneys which run to 15.3 hands and up to 16.2 hands. This plea for a correct use of terms may consequently not be deemed out of place. The Prince of Wales is going in for horse-breeding as a business. His Norfolk estates—Sandringham and its surrounding district—have much land well adapted for the breeding of horses. Shire horses are being bred, and an extensive area not long ago reclaimed from the sea is just the thing on which to bring up the young stock with an abundance of hair and plenty of size. What may be spoken of as the Home Farm, near Sandringham house, is where thorough bred are to be cared for. Close to the Wolferton railway station, the nearest station to Sandringham, a farm of 350



THE PROPERTY OF MESSRS. ROBERT BEITH & Co., BOWMANVILLE, ONT.

bred by John Houlden, Langton, Malton, York, and was purchased by Mr. McNair at the late London Hackney Show, where he was greatly admired. His sire was the famous Hackney stallion, Triffit's "Fireaway" (249), dam, "Nance" (1291) by "Pottinger." "Fireaway" is one of the best Hackney stallions on record, and his blood prevails in almost all the famous horses of the class. A full review of Messrs. Beith's stables will be given in an early issue.

The Hackney Horse.

BY MR. HENRY E. EUREN, NORWICH, ENGLAND.

By calling attention to the inaccurate use of the names of our English horses a difficulty at some future time may be prevented. On two occasions recently I found a paragraph in leading American papers respecting an importation of Hackney horses under the description "English Coach Horse." Canadians should know that there is an

proves has been in the Norfolk district for hundreds of years. The result was a trotting horse with a gait like that which the Americans now cultivate (prints of 90 years ago show this), but which a change in fashion and travel has replaced by quite another style of trot. In England we used the word "Hack" and "Hackney" indifferent senses. A lady's hack or a park hack may be nearly of pure racing blood or it may be bred anyhow. A Hackney is the trotting horse of which I have spoken above. The word "hackney" at the time of its introduction by the Norman Conquerors simply meant a horse; just as did the Norse word "nag." By the middle of the fourteenth century the term "hackney" was applied only to riding horses having the trotting gait, just as nag came to be and is yet applied to any riding horse. Americans have chosen to give the name French Coach horse to the Anglo-

acres has been devoted to the use of a Hackney and hunter stud farm. The buildings at this farm are very good, but plain, and there is quite a business air about the whole of the arrangements. Sir Dighton Probyn, the comptroller, and Mr. Beck, the estate agent, have been selecting a stock of Hackney brood mares with much judgment, and have covered them with the best Hackney stallions that were available.

The Italian government has this year—as it has in many years past—been buying some of the best of Hackney stallions at prices ranging as high as \$5,000 for use in the State breeding establishments. We may also add, as an item of news that may interest Americans, that the next London show of the Hackney Horse Society, to open on Tuesday, March 5, 1889, and to extend over four days, will be a grand aggregate show by the Royal Commission on Horse Breeding, the Royal Agricultural Society of England, the Hackney Horse Society, and the Hunters' Improvement Society—a display of blooded stallions such as has never yet been seen.

The American Fat Stock Show.

(From our Chicago Correspondent.)

The Fat Stock Show of 1888, like a number of its predecessors, was reported as "beating all previous records." As a matter of fact, the show is very different in many respects from former years; but opinions of men differ somewhat on its comparative excellence.

In point of numbers, it was the peer of any display ever made, counting the horses and other animals not properly coming under the head of fat stock. The display of choice cattle, of mature age and quality, was very small, and it was pre-eminently an "early maturity" show. In years past great things have been accomplished in the line of heavy weights, but this year the show contained a larger share and a finer quality of yearling and two-year-old cattle than ever before.

A three-year-old Polled-Angus steer took the grand sweepstakes for best steer in the show.

The heaviest animal in the show was a steer shown by John R. Sherman, of Chicago. It was a Shorthorn, fattened at the experimental stable at the Stock Yards. Fed on steamed food it had grown to a weight of 2550 pounds. King William, the winner of first prize premium in the 3-year-old and over Shorthorn class, weighed 2230. In the 2-year-old Shorthorn class Chief Brant, raised at Brantford, Ont., and weighing 1890 lbs., took first premium. In the Shorthorn ring, steers, 2-years-old and under three, first premium, Chief Brant, owned by John Hope, Brantford, Ont.; second premium, Richmond, owned by J. H. Potts & Son, Jacksonville, Ill.; third premium, Clay, owned by J. W. Pickett, Plattsburg, Mo.

At the Aberdeen-Angus meeting it was decided, on motion, that a prize of \$500 shall be awarded by the association to the best Aberdeen-Angus steer exhibited at the American Fat Stock Show, and that the executive committee shall be empowered to duplicate the same prize at the fat stock show at Kansas City, should one be held there.

It was also decided that a prize of \$50 and a diploma should also be given to the feeder of the winning Aberdeen steer, as an encouragement to faithful herdsmen.

The horse show was the best yet made. The Clydesdales, Percherons, Shire, and Cleveland Bay breeds were strongly represented. The ponies, too, were on hand in large numbers, and formed a very attractive feature of the exhibition.

At the meeting of Clydesdale breeders the executive committee made the following very encouraging report:—"The prevailing high prices of recorded animals confirm the views of breeders in selecting the Clydesdale as the best type of an attractive and serviceable draft-horse, and as long as the home and foreign demand for representative specimens of the breed so largely exceeds the supply, there is danger in not using the knife on the exceptional sports that are not up to the high standard that intelligent importers and breeders make every effort to sustain. One of the most encouraging features indicative of the permanency and profits of the business of breeding Clydesdale horses in America is the large and rapidly increasing number of small breeders owning one to a dozen recorded mares. The introduction of a Clydesdale stallion into a neighborhood generally encourages the owners

of grade Clydesdale horses to invest in pure-bred mares, and the general desire of all familiar with the breed to increase the number of pure-bred as well as grade Clydesdale horses is stimulated. It is a matter of congratulation that there are more pure Clydesdale horses bred each year in America than of all other draft breeds of horses combined."

The Shire horsemen adopted the following:—"Resolved, that the Society offer a challenge cup for the best Shire stallion and mare, to be competed for by all ages, in connection with the annual show, and that the executive committee be authorized to take the proper steps to carry out the resolution and procure a suitable cup, at the same time providing rules regulating the competition for the same."

There was much complaint among visitors about the blankets being kept on the cattle and horses so much of the time. There was no cold weather during the show, and the blankets seemed worse than superfluous.

Room was scarce, and the former display of agricultural implements had to give way for stock exhibits.

The admission to the show this year was raised to fifty cents, and still the attendance was larger than ever before. The show was financially a success, which is more than could be said of some of its predecessors.

Among the familiar forms and faces missed this year was that of Col. John Gillette, which will be seen no more at fat stock shows, which he did so much to promote.

The dairy show was a good one, and so was the butterine display. The old fight between the dairymen and the artificial butter men was not resumed this year in the show, but the war is waging bitterly everywhere else.

Fall and Winter Feeding of Young Stock.

BY PROF. W. A. HENRY,

Director of the Experimental Station, Wisconsin, U.S.

Colts and calves need the most attention at a period when their personal attractions are the least. As calves pass out of their babyhood and assume a languid indifference to all about them but flies and grass, they are apt to be neglected; if they are, the loss is irreparable. A calf that has not made a good start by fall had better be disposed of at any price, while, having made a good start, it must be kept constantly gaining, at any cost within reasonable limits. The important point in stock feeding is to constantly bear in mind that a young animal gives better returns for feed consumed than an old one. A pound of meal or a pound of hay adds more to the weight of a calf than to the same animal when grown. A grown animal in thin flesh, but vigorous, will swell out and fill up the tissues with water and seem to gain very heavily for a time when put on good feed, and may give better returns for a given amount of feed than a young animal in good flesh, but under ordinary conditions, for both young and old, the proposition I state is true.

At this station we fed sixteen calves, from good common dairy stock, until they were two years old, keeping account of all the food consumed. At first, when feeding skim-milk, oats, corn meal, etc., we could get an average gain of about two pounds per day at a cost of only \$3.14 cents per 100 pounds, allowing twenty-five cents per 100 pounds for sweet skim-milk, \$20 a ton for oats, \$16 for corn meal, \$12 for bran and \$8

for hay; but that was the cheapest gain we ever got with these animals, as our figures will show. Here are the periods of the trial and cost of growth:

No.	Length of period.	Season.	Cost of 100 lbs gain.
1.	98 days	Summer	\$ 3 14
2.	84 "	Fall	3 38
3.	84 "	Winter	5 47
4.	42 "	Early spring	8 35
5.	212 "	Summer and fall	3 50
6.	65 "	Winter	6 18
7.	85 "	Late winter	16 01
8.	57 "	Spring and summer	8 19

During periods 5 and 6 the steers were on pasture. I should say that during the first summer, when they were yearlings, we charged each animal \$3 for pasture, and the second summer up to June, when the experiment closed, we charged at the rate of \$10 each for pasture. We found that heavy feeding was successful at all times except late in winter and early in spring, when small gains were made and the expenses run high, this being very marked late in the second winter, when gain was made at the excessive cost of about \$16 per 100 pounds. This excessive cost might have been avoided perhaps by more rational feeding. It shows, I think, that we fed too heavily early in the winter. Moderate feeding and steady growth pay best.

I think these figures show plainly the point I am trying to make, that feed goes further with young animals than old ones. This being true we would endeavor to push our farm stock rapidly to maturity, always bearing in mind that summer growth is cheapest, and sell just as early as possible.

For making thrifty calves, in my experience, oats come next to milk, either ground or whole, but preferably ground for young calves, since they will learn to like them quicker and masticate them better. To get a calf while yet on skim-milk to eat oats, it should be tied up, and as soon as fed milk, a handful of oatmeal, or whole oats even, put in its mouth. At first it will dislike the treatment, but soon it will get the taste and readily dispose of a half pint, placed in a little feed box conveniently located in front. Hay and grass follow naturally, and, later, bran can be used. During pleasant fall weather the pasture will afford exercise and feed, but if flies are troublesome the gain from pasture is too small with young calves to pay for the loss they undergo from vexation and blood flow. A feeding trough should be placed in the pasture and grain fed daily, morning and evening. With fair treatment the calves will go into winter quarters gaining a pound and a-half a day, which means a profit to the owner if he is ever to get one from them.

This leads me to another point: In my experience a calf born in fall or winter is worth two born in the spring for profit. A spring calf is so young that it gets little good from pasture the first season, for by the time it can fight flies successfully and crop grass enough to really aid in nourishing it, winter is at hand and it is placed on dry feed. The fall born calf comes out in spring-time large enough and sufficiently vigorous to fight its own battles, and gets the benefits of the whole season's pasture. Whatever plan we pursue, let us bear in mind that it takes fully half the food an animal can consume to sustain it, and that our profits come from the last half only.

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Shropshire Sheep.

BY J. L. STONE, WAVERLY, PA.

(Abridged and Corrected for the FARMER'S ADVOCATE.)

As early as 1541 the wool product of the County of Shropshire was famous and brought the highest price of any in England.

These native sheep of Shropshire and Staffordshire, comprised the sorts known as the old Shropshire, the Morfe Common, the Longmynd, the Clun Forest, and the Cannock Heath.

These several varieties are thus described by Youatt: The old Shropshire—horned, with black or mottled faces and legs, about the size of the Southdown, hardy, weighing from 14 to 16 lbs. per quarter, the fleece about 2½ lbs. The Morfe Common—small horns, speckled, dark or black faces and legs, the wethers weighing about 13 lbs. per quarter; the fleece, of remarkable fineness, weighing about 2 lbs. The Cannock Heath—polled, grey-faced, or of every intermediate color between black and white; the legs usually of the same color as the face, thin in proportion to their length; mutton good, fattening with moderate food, and capable of growing to a very great weight.

While it is probable that all these breeds were drawn upon in the formation of the modern Shropshire, it is thought that the Morfe Common breed contributed the greatest part; some writers going so far as to claim that it is the original stock from which the present breed sprang.

In 1792, the Bristol Wool Society reported in regard to the Morfe Common breed that they considered it a native breed. The sheep were black or brown or spotted faced, horned, little subject to rot or scab, weighing, the wethers from 11 to 14 lbs., and the ewes from 9 to 11 lbs. per quarter, and clipping from 2 to 2½ lbs. wool per fleece.

Youatt remarks that it was probably this wool that was referred to in a work published in 1694, which states that "Shropshire wool is not to be equaled in its kind by any part of the world, and is suitable almost to any degree of quality."

In 1848, the breed was named the "Shropshire" by Mr. W. G. Preece, of Shrewsbury, who did much to attract public attention to it.

In 1853, at Gloucester, it was first recognized as a distinct breed in the show-yard of the Royal Agricultural Society of England; and here too its general superiority as a breed was first recognized, and breeders were awakened to use care in breeding and to keep accurate flock records.

It is stated by some that Southdown and Leicester blood had been used previous to this date in improving the breed, but the best authorities to whom I had access in England, denied the correctness of this statement.

Be that as it may, it is conceded by all that "no one who has achieved a successful reputation, or acknowledgment as a Shropshire breeder has deviated from a line of pure breeding since that time."

An English writer says: "The most popular breed of sheep in the United Kingdom at the present moment is, undoubtedly, the Shropshire. It is held in high estimation alike in England, Scotland and Ireland, and is found to be adapted to the varying climates of all three countries. At a late meeting of the Royal Agricultural Society of England, there were 397 pens of sheep exhibited in 36 classes for 13 different breeds, and of that number no fewer than 127 entries

were Shropshires. The Shropshire is the only breed of sheep for which there has been established in England a flock book for the official registrations of pedigrees."

Mr. Alfred Mansell, of Shrewsbury, England, who is a recognized authority on Shropshire, history, writes: "This breed seems to thrive and become acclimated in all places if properly cared for, is proved by the success of exhibitors extending over a wide area—noticeably at the last Royal Show at Shrewsbury in 1884, the exhibitors of this breed, numbering no less than sixty, and hailed from fifteen countries, including Ireland; whereas, the best that can be said of any other distinct breed is that the Southdown came from eleven breeders in six counties—and by experience of others who have seen the breed flourishing in every county of England—in Scotland, Ireland, the United States, South America, Canada, the Colonies, France, Germany, Greece, and most other continental countries, whose soil and surroundings differ to a great extent. This power of acclimatizing itself, no doubt, has not escaped the notice of foreigners who of late years have exported the breed largely."

Their mutton is of good quality, with a large proportion of lean meat, and in the discriminating English markets sells on a par with that of the Southdown.

The wool is such as is known in our markets as medium—delaine, "and half-combing wool," strong, fine, lustrous fibre, very close and even, without a tendency to mat or felt together, fleeces averaging from 5 to 7 lbs. washed wool.

One breeder told me of selling 2,400 fleeces (several years clip) that averaged 7½ lbs. washed wool per fleece, and this included quite a number of lamb's fleeces.

The Shropshires are said to stand close herding in large numbers remarkably well, without loss of size or vigor; a quality of great value to owners of large flocks.

Here is a good description of the breed by an English authority: "The face is much larger than that of the Southdown, and also somewhat longer; forehead broad, prominent and slightly arched; ears larger than the Southdown; the color of the face is a softened black, and occasionally a very dark grey, or inclining to grey on the jaw; the forehead is well covered with wool; the legs are darker than the face; neck strong and good; shoulders flat, back short, ribs well sprung, hips wide with long hindquarters, and full haunch. They carry fleeces of close-set fine, wool, longer and coarser in staple than that of the Southdowns. Shropshire shearlings commonly weigh 20 lbs. per quarter, and two shears may be fed up to 40 lbs. or more per quarter. They are exceedingly prolific, at least one half the ewes dropping twins, and they suckle well. They are hardy, and particularly adapted for enduring a wet climate. The mutton is excellent, and the breed is recommended by its highly profitable and rent-paying qualities. Rams of the Shropshire breed are much used for crossing inferior classes of sheep, chiefly for the purpose of rearing lambs for the butcher."

The advent of the Shropshires in this country is of comparatively recent date. Virginia has the honor of receiving the first importation of which we have any account in 1855; but not till within the last decade have large numbers been brought from their native hills to try our variable climate; and their adaptability to all kinds of pastures, hardiness, close storm-proof

fleece and docility have made them general favorites. In the show-yard they are coming rapidly to the front. At the Fat Stock Show in Chicago, in 1884, a Shropshire took first prize in the class between 2 and 3 years old—competing with Hampshires and Oxfords; sweepstakes, for best sheep, any breed between 2 and 3 years; grand sweepstakes as best sheep any age and any breed; heaviest fat sheep and best dressed carcass.

The similarity of Shropshires to other dark-faced breeds has made it easy for careless or unprincipled breeders to depart from a line of pure-breeding without attracting the attention of the uninformed. It soon became apparent that to preserve the breed in its purity, a system of registry was necessary. Accordingly in February, 1884, at La Fayette, Ind., an organization was formed under the name of "The American Shropshire Registry Association;" having for its object the establishment of a permanent record for the registering of Shropshire sheep in the United States and Canada.

Breeding and Feeding Pigs.

BY J. Y. ORMSBY, V. S.

[Continued from page 338.]

The next question that naturally arises is, what breed of pigs do we find answering to this description? and I would answer without hesitation, the Improved Large White, or Yorkshire. In doing so I may be accused of partiality, as I think I can rightly claim to have been the first to introduce the improved Yorkshire pig to the notice of Canadian farmers, and, consequently, I will ask you to listen for a few moments while I read you the opinions of one or two good authorities on this point.

In a letter to Mr. Sanders Spencer, from Messrs. Harris & Son, of Calne, Wiltshire, I find the following answer to Mr. Spencer's query as to what they consider the best kind of pig for farmers to breed:—

"The best kind of pig is, we think, the Tamsworth, or the Large Yorkshire, either pure or crossed. The Berkshire is a very fine quality pig, but gets too fat, especially about the poll and shoulders;" while in a foot-note they add: "The Small Yorkshire, Suffolk and highly-bred Berkshires are, we think, anything but desirable breeds, at least from a curer's point of view."

Mr. Shaw again says:—"The best pig for Ireland is, I think, a cross between the imported Large Yorkshire and the native breed." Messrs. Wheeler, Bennett & Co., of London, in a letter to Messrs. Davies & Co., of Toronto, say: "You know what England needs—a long, lean, yet well-fed, fleshy side, cutting full of lean; and the Improved Large Yorkshire is the animal for our market."

While Messrs. Davies & Co. themselves say in the letter already quoted from: "We have made careful enquiries as to the most desirable breed of hogs for bacon purposes, and find that the Large Yorkshire is far better than any other breed that can be had."

For my own part I can say that when I first began to take an interest in pig breeding, my taste lay in the direction of Berkshires, but now, after comparing the different breeds carefully, I am convinced that the Improved Large Whites have no equals unless it be the Tamsworths, a breed yet unknown in this country.

Having thus endeavored to point out the best kind of pig to breed, I will now proceed to take up the question of management without further delay.

In selecting a breeding sow perhaps the three

most important points to look to are: Constitution, pedigree and temper.

Never breed from a sow that shows evidence of a weak constitution, but rather, when choosing a young sow out of a litter, to be kept as a brood sow, be sure to select one that shows plenty of depth and width in the chest, and that is not at all inclined to be slab-sided, but has the ribs well sprung with a good back and loins, and, last but not least, remember that it is very important that a brood sow should have a mild, gentle disposition. Another thing that must not be overlooked is the pedigree, for it is by this alone that we can form any certain idea as to what the progeny of our sow will be like. The old adage that "like begets like" is a very true one, but we must also remember that there are several other rules to be remembered, and that not the least important of these is that form of heredity commonly called "Atavism" or "Reversion," in accordance with which we often find the offspring exhibiting some peculiarity not in the parent, but which can be traced to some ancestor more or less remote. I may add here, that one of the most important characteristics that we find to be hereditary is fecundity, or the faculty of reproduction, and I would strongly recommend that a brood sow should always be chosen, if possible, from a large litter, and almost invariably from a spring litter, as in that case we are better able to give her plenty of exercise, which, combined with an ample supply of nourishing food; such, as will be spoken of further on, will enable her to make rapid and vigorous growth during the first six months after weaning time. This brings us to the question, at what age shall we commence to breed from her? On this subject we find a great diversity of opinion. Some breeders recommend coupling the sow with the boar at the age of six months, while others again think it better to let her run till she is twelve to fifteen months old. This is a point, however, to which no hard and fast rule can be applied, as a great deal will depend on circumstances. I generally like to have my sows farrow at from twelve to fourteen months old, provided that they are well grown and of good constitution. With regard to the selection of a boar the same principles should govern which have influenced us in the choice of a sow, but in addition to this I would say, never breed to a male unless he is pure-bred, and when selecting him mark well the points in which your female is lacking, and be sure that he shows you these points sufficiently strong to warrant you in supposing that they will counterbalance the defects in your female; but at the same time do not allow the excellency of any one of these points to cause you to overlook any serious defect in him elsewhere.

With regard to the treatment of the sow while carrying her pigs, if it be summer time, there is no place better for her than a plot of clover, with a nice dry pen to lie in at night, while in the winter give her a good, large, roomy but warm pen, and in fine weather let her run out of doors at her will. Nothing is worse for a sow during gestation than close confinement; her food should be nourishing but slightly laxative in its nature. We find that in the summer our sows do very nicely on grass and clover, with a small ration of bran and shorts three times a day; in winter we feed, in addition to the bran and shorts, a little corn or peas, and oil meal. We also feed them a few mangolds daily, always,

however, stopping them at least four weeks before farrowing. We run our brood sows in lots of two or three together, and two weeks before farrowing we separate them and put them in a nice warm, comfortable pen with a board or railing around it, about eight inches from the floor, so that she may not lie upon the little pigs.

After farrowing there is nothing better for the sow than skim-milk warmed and mixed with a little shorts and bran. If you have no skim-milk scald your bran and shorts with boiling water and feed it at about the heat of new milk and in a slop; after four or five days increase her rations by adding a little corn, or barley meal, or ground peas and oats, but be very careful never to overfeed her.

After the little pigs are three to four weeks old they will begin to feed themselves. It is a good plan then to give them the run of an adjoining pen with a shallow trough in it, out of which they will have no difficulty in feeding themselves. The best supplementary food that we have found for young pigs is skim-milk warmed and thickened with a little middlings. When we have no skim-milk we mix a little ground flaxseed or a few finely ground oats and peas with the shorts; scald the mixture with boiling water and feed it in a thin slop at about the heat of new milk. When seven to eight weeks old the little pigs will be fit to wean, and they should now be sorted out and put up in lots to fatten. What I mean by sorting out is this: in all litters we find some pigs smaller and weaker than others; I find it a good plan to separate these pigs into two or even three lots, putting pigs about the same size in each lot. It is a good time to select the sows we need for breeding purposes then, and to separate them from the others which are intended to be fattened; these latter we should endeavor to have fit to butcher at from seven to nine months old, and to do this it is necessary that they never be allowed to get a check. There is no better food for them, that I know of, than skim-milk or buttermilk, mixed with shorts, to which should be added, later on, peas, barley and cornmeal, together with potatoes, which I need hardly say must always be cooked.

With this treatment we have no difficulty in making our improved Yorkshires weigh from one hundred and fifty to over two hundred lbs. at seven months.

In conclusion, I must apologise for the meagreness of this paper. I have passed over many very important questions, such as the value of clover in fattening pigs, the relative values of cooked and uncooked food, &c., both of these will, I hope, before long, be more fully tested and reported on by Canadian pig-breeders; but, as you are aware, each speaker is supposed to be limited to fifteen minutes and I am afraid I have already exceeded that time, still, I cannot close my paper without saying that, although I and my partner are engaged in importing and breeding pure-bred horses, cattle, sheep and swine, there is nothing on the farm that we find pay us so well as our pigs, and I for my part would be very sorry to attempt to farm in this or any other country without the aid of this most useful animal. However, perhaps you will say I have given you a good reason for this when I tell you that I am an Irishman born and brought up on the old sod; and, as you all know, an Irishman without a pig is like a fish without water.

The English Agricultural Gazette says:—"We have found out, rather late, unfortunately, that a too implicit belief in artificial manuring has led to much waste of money. Let us remember the lesson and not make the same mistake with regard to the feeding of our live stock. After all, practical experience must be our main guide. The analysis of a food is far from a complete statement of the properties of that food. Just as each animal we possess has an individuality of its own, so each article of food has some special and peculiar property not revealed by chemical analysis—a physiological property, we presume."

Veterinary.

Tuberculosis in Cattle.

BY C. H. SWEETAPPLE, V. S.

(Continued.)

As heretofore remarked, it is now generally recognized by scientific men, that tuberculosis can be transmitted from the lower animals to man, and vice versa, from man to the lower animals; also, from man to man, and from animal to animal. With regard to the mode of transmission, experiments on the lower animals have satisfactorily demonstrated, that the virus of the disease (the microbe producing it), can enter the body through the medium of the breath, thus coming into contact with the air passages and lungs; by swallowing tubercular matter in the food; also, by direct introduction beneath the skin from a scratch sore, or wound. It is also believed to be hereditary; and this can scarcely be doubted, as tubercular deposits are frequently found in the fetus at birth. Some have claimed that "in-and-in breeding" will produce it; and, certainly, that process will intensify any hereditary tendency to it that may exist.

Different species of animals show differences in their liabilities to contract the disease. Man is probably the most susceptible to it; then, the ox tribe, particularly milch cows; the common fowl is also quite liable to it. Then comes rabbits, pigs, sheep and horses, in about the order named; dogs and cats but seldom, though it has been frequently produced in the dog by way of experiment. It is believed that the disease is more readily produced in omnivorous, or herbivorous animals, than in the carnivora. Young animals of all species are more liable to contract the disease, and females are much more apt to suffer from it than the male sex. Also, anything whatever of a debilitating character may induce a pre-disposition to imbibe the poison and cause the development of tubercular deposit, such as an excess in secretion of milk, bad keep, breathing impure air, or any defective hygienic conditions.

The discovery and identification of the contagious principle (the microbes) of tuberculosis, has placed the subject of its contagious character beyond dispute; still, it must be admitted, that it is only recently that this has been recognized; and even yet, some are skeptical. Most certainly, the dangers of its dissemination from one animal to another, by the ordinary courses of infection, are very much less than in most other diseases of a well-known and long-recognized contagious character, which experience has proved to be contagious long before the discovery of the microbes of disease.

With regard to the "caseous and calcareous tumours," not recognizable prior to death, "the grapes of the butchers," described in my last article, although they may not be of a true tubercular nature, many of them undoubtedly are; and there cannot be a doubt that, during the time of their deposit, disease existed that would be readily recognized and located by a professional observer; but it would probably have been the merest guess-work for the most acute practitioner to have designated the cause of the trouble as a tubercular deposit. And undoubtedly many animals apparently perfectly recover, lay on flesh and fat, and are butchered in the prime condition, leaving no trace of dis-

case, until dressing the carcass reveals the presence of the tumors. In these cases I am of the opinion that the tubercular tendency exists, and is liable again to break forth at any of the usual exciting causes, as it is not at all an uncommon occurrence, in making post-mortem examinations of animals that have died from "miliary tubercle" (that is, a deposit of an immense number of very small tubercles), that, from their nature, can have been only a short time in existence, to find large masses of tubercular matter that have been many months or perhaps years since they were deposited.

In most cases of bad or fatal tuberculosis, particularly of the lungs, the careful and experienced practitioner may, before the death of the animal, by taking the aggregate of the symptoms, form a pretty accurate diagnosis of the actual cause of the trouble. And in many cases of disease of other organs or tissues of the body that appear to be chronic and not amenable to treatment, suspicion may almost amount to certainty. Still, as before mentioned, there are numerous instances, more especially in the early stages of disease, in which a positive conclusion would be an impossibility, unless by a post-mortem examination. With regard to the danger to human life, in using as food, meat or milk that may contain the microbe of the disease, there can be little doubt that thoroughly cooking the meat and boiling the milk would destroy its contagious properties, as it is scarcely possible that any "microbe" could retain its vitality if exposed to the heat of boiling water. At a recent meeting of the British Medical Association, Prof. Walley, in his remarks on the dangers of the disease being communicated to man by food containing the germ, instanced its prevalence in poultry, and expressed his opinion that the disease might be transmitted by eating eggs.

Of course, large quantities of milk are used in its raw state, and it is the decided opinion of those who have made the subject a special study, that not only tuberculosis, but that many outbreaks of disease in the human race, especially those of a typhoid character, have originated from the consumption of the milk of cows suffering from disease. In view of this fact, which may be said to be well established, every effort should be made to prevent the sale and discourage the consumption of milk that is derived from cows that are not in a perfectly healthy condition.

Good hickory ashes are said to be excellent for expelling worms from the bowels of young horses. Mix them with the feed, a couple of table-spoonfuls once or twice a week.

Experience teaches the advantage of buying a stallion early, to get the best selection from the new importations, and to get the horse home and get him advertised in advance. The early bird catches the worms.

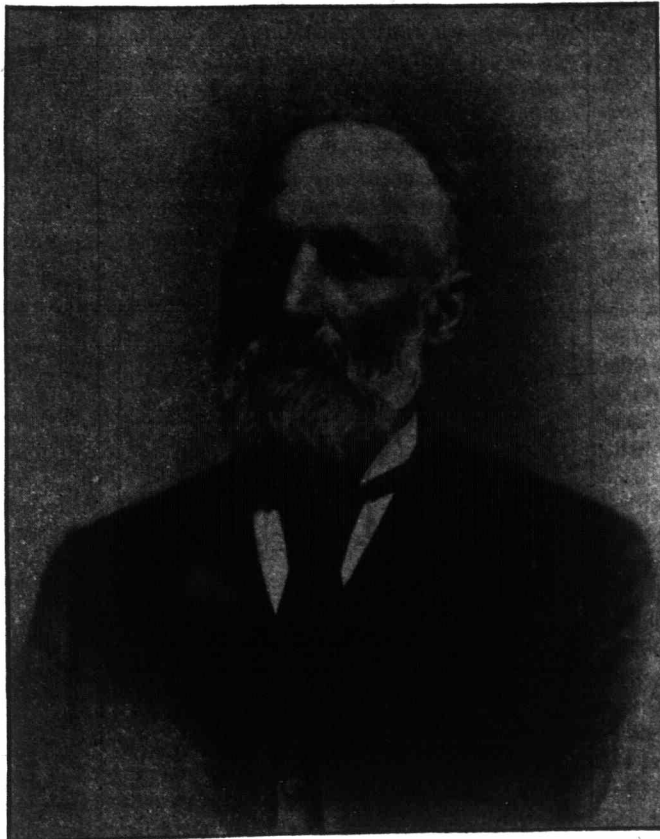
Make pets of your colts. Make friends of your horses. Treat them kindly, and you will not be troubled with unsafe and unruly horses. It is but the humane way to treat them, anyway.

Garden and Orchard.

Mr. P. C. Dempsey, Trenton, Ont.

By the kindness of the Canadian Horticulturist we present to our readers a photo-engraving of one who has been long and favorably known at the meetings of the Fruit Growers' Association, and whose practical knowledge of horticulture has always been freely communicated to the public. It is now fifteen years since he was first elected a Director, representing Division No. 4, a position which he still honorably fills; and during that time he has been once elected Vice-President, and twice President.

One hundred and one years ago Mr. Dempsey's grandfather, a United Empire Loyalist, settled at Albury, Prince Edward County. Fond of fruit culture, he brought seeds along with him, from which he started a nursery, principally of apple trees, some of which are still living and bearing



MR. P. C. DEMPSEY.

fruit upon the old homestead. Cider was made in large quantities from this orchard in early days, and during the war of 1812 proved a highly profitable business, bringing him high prices by the hoghead.

Thus, growing up among orchard trees, Mr. P. C. Dempsey early developed a taste for fruit culture, and in the year 1857, finding the confinement of office work too great for his failing health, he decided to devote his whole attention to horticulture.

Soon after, hearing of the good work being accomplished by the Fruit-Growers' Association, he became a member, and was first elected a Director in the year 1873. A fluent and pleasing speaker, he was always heard with interest by all in attendance, and honored by his election, in the year 1875, to the position of Vice-President; and in 1880, and again in 1881, to the highest gift in power of the Society to bestow, viz., that of President. Mr. Dempsey was sent to the

Centennial Exhibition, in company with Colonel McGill, of Oshawa, in charge of the exhibit of Canadian fruit, the medals from which are still in possession of the above Association; and in 1886 he was employed by the Dominion Government, in company with Mr. A. McD. Allan, to have charge of Canada's fruit exhibit at the Colonial and Indian Exhibition.

The subject of this sketch is also favorably known in horticultural circles in Canada as a hybridist, having devoted much attention to this interesting study, and to the practice of the art. To his success in hybridizing, the Burnet grape, the Trenton apple, the Dempsey pear and the Dempsey potato all bear lasting testimony. The Trenton apple, now five or six years fruited, has been offered in the Belleville market, and always brings Mr. Dempsey a fancy price; the Dempsey pear, a real acquisition, is the result of a cross between the Bartlett and the Duchess some twelve years ago. It partakes of the excellences of both parents, and is in season just before the latter.

Apple Butter.

Apple butter has been made in Pennsylvania, by the following recipe, for upwards of fifty years; and is said to be the best article of the kind known to commerce. Canadian farmers can use up a large quantity of their early fall fruit to good purpose in this way, and produce, cheaply, a very superior and healthful article of diet, that will be highly appreciated at their own tables. To forty gallons of good sweet cider made from sound ripe apples, use three bushels of selected apples. The cider should be boiled down one-third or a little less before putting in the apples, which should be pared clean and well cored. They may be quartered or cut finer if large; a good paring machine which cores and cuts into circles will be found to greatly lessen the work. As soon as the fruit becomes soft commence stirring, and continue until it is cooked. When boiled down to ten gallons it will be done. Put in earthen vessels, and when cold, dip clean white paper in good whiskey or brandy, and lay over the tops. In four months after

making, if kept in a garret, which is said to be the best place, the jars can be inverted without any leakage. If it is made with the right kind of apples, such as the Rambo, Smokehouse or Bellflower, it will become as smooth as cheese and will keep for years. Vick highly recommends this recipe in his Illustrated Magazine. Never allow the fire to strike the kettle above the line of contents.

If you are not successful in winning a prize, we will give you a substantial cash commission.

We ask every subscriber particularly the stockmen to send us in new names, show the paper to all who buy stock from you, also to your neighbors and friends.

Good live agents wanted in every county to canvass for the FARMER'S ADVOCATE. Splendid commissions given to those who do not wish to compete for prizes.

When all the old fence rails in the country are rotted, or burned, farmers may find that they have maintained too much fence, and that the excess has been a great tax wholly unnecessary.

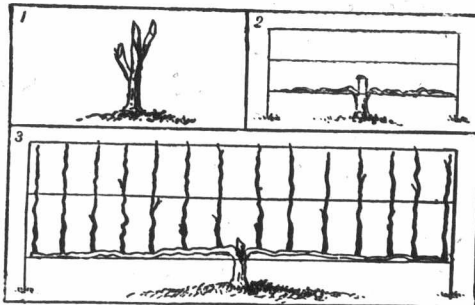
Grape Culture.

BY G. W. CASTON.

So much has been said and written about the culture of the grape, that it would be hard to present anything new. But yet, this beautiful and most luscious of our fruits receives very little attention, especially in the colder parts of Ontario. People think: Oh, the climate is too severe; it is no use trying to grow them. And they don't try, or, if they do, they do it in a way to invite failure. Now, of course, I do not mean to say that grapes can be grown and ripened in the open air in any part of this province. We know well that in some parts of Ontario the climate is altogether too severe; but that the grape can be successfully grown over the greater part of Ontario, I believe the future will prove. Of course, we know that in the more favored portions of the province, such as the Niagara Peninsula and the Lake Erie counties, grape culture is one of the leading industries, and the fruit attains to great perfection. But when you come to the inland and northern counties, you scarcely ever see a vineyard. Very often the only thing in the grape line to be seen is a few scraggy specimens of vines, in some obscure corner of the garden, which have never got a fair share of sun and air, and have never been pruned, but allowed to grow wild, and, of course, never did any good. It is not the purpose of this article to attempt to give advice on grape culture to those who are already making a success of it, and who are probably more experienced than myself. But to those who live (like myself) in the colder and less favored parts of the province, and who would like to cultivate this most healthful fruit, I would give a little advice, based upon experience, and give some simple directions for their guidance, which, if followed, will make it plain sailing. In the first place, the soil best suited for the grape is a rich, warm loam, with natural drainage. If planted on clay soil, choose land that is a little rolling, if possible, and be sure that it is thoroughly under-drained. Do not plant near a swamp, or any place subject to late frosts in spring or early fall. Choose a location the most free from those frosts that you can. Before planting, see that the soil is thoroughly well cultivated (it is a very good plan to summer fallow the year previous to planting,) and enriched with good manure. You can get nothing better for this purpose than hardwood ashes. They may be applied an inch thick over the ground and then plowed in. It would be almost impossible to get the ground too rich for the growth of grapes—bone meal, blood and offal from the slaughter house, are all very acceptable to the grape. Where any of these manures cannot be obtained, good barn-yard manure may be applied at the rate of 25 or 30 loads to the acre. But the ashes are a specific, on account of the potash and phosphoric acid they contain. The next thing to consider is, what variety to plant. If you live in a locality where, as a general rule, the temperature does not fall much below the freezing point before the 8th or 10th of October, you may plant the old reliable Concord, the hardiest and best all-round variety I know. I have ripened it here in the County of Simcoe for several years in succession, and it stands the winter the best, is free from mildew, and bears the most fruit of any variety I know of. I have only one fault to find

with it: I wish it would ripen a little earlier. If your season is too short for Concord, the next best among the blacks is the Worden, from eight to ten days earlier than the Concord, nearly, if not as good a bearer, and of very good quality. If your season is still too short for the Worden, I would recommend Moore's Early; and, if you are not very particular about quality, the Champion. Those two come in together with me. Moore's Early is a very good grape, as to quality, but a poor bearer. The Champion is a good bearer, but of poor quality; its chief virtue is its earliness. It is ripe two or three weeks before the Concord. In red varieties, I would recommend Lindley (Rogers' No. 9) and Brighton, and in white, the Niagara, it being a child of the Concord, possesses the hardiness, vigor and productiveness of its parent. But, in my experience, none of the red or white varieties ripen earlier than Concord. For a long keeper, I would recommend the Vergennes; but it is a late variety. In planting, set the plants ten feet apart each way; spread the roots out well, and do not plant too deep, unless the subsoil is very rich, as they are gross feeders and will reach out in all directions in search of nutriment, which is most abundant near the surface.

And now, one of the most important things in grape culture comes next, viz., training and pruning the vine. There are several systems recommended by grape growers; but I will give



the one I follow myself, as it is simple and easy, and with me, very successful. When you plant your vines in the spring a number of shoots will start (and just here is where most people make a mistake—they allow them all to grow). Rub off all but the strongest one, and let it grow and train it up to a lath or stake. When it gets about four feet high nip off the end—what gardeners call stopping. In the fall, after the leaves have fallen, cut back to two buds, as shown at Fig. 1, and cover with coarse manure or litter of some kind, and leave them covered till warm, growing weather sets in in spring. You will now require a trellis of some kind, and I would recommend one made of three wires stretched on cedar posts, the first wire sixteen inches from the ground. Saw off the tops of the posts five feet from the ground, and stretch the top wire along the top of the posts, and the middle wire half way between the two. You can set the posts twenty feet apart in the rows. You will train the two buds on the bottom wire of the trellis in opposite directions, as shown at Fig. 2. Let these shoots grow as long as they will, but shorten them in the fall to about four feet each, when you will lay them down and cover them again. The next spring you will uncover your vines and tie the canes to the bottom wire of the trellis, and rub off all shoots on the under side, and allow only those on the top side to grow. Those you will leave about eight or ten inches apart, and train them up your trellis, as shown at fig. 3.

When the vines reach the top of the trellis, pinch them off at the top wire, and pinch off the lateral shoots when they have developed three or four leaves past the last bunch of fruit. This is all the summer pruning that is to be done, and is done with the finger and thumb. Your fruit bunches will develop near the base of those upright canes. With regard to future pruning, you may for a year or two cut back all those upright canes to one bud in the fall, and after that cut back every other one, alternately, growing your fruit on the laterals of the canes which are left. When you do this allow no fruit to grow on the one you have cut back to one bud; but let it grow a new cane for next year. Leave those alternate canes which are to fruit next year, about three feet long. Always do your cutting back in the fall, after the leaves have fallen, for if cut in spring they will bleed freely. Some cultivators say this does no harm, and do their pruning in March. But I believe it is a bad practice, and would always advise the fall as the right time. Always cover your vines in winter. Loosen them from the trellis. After you have cut them back lay them down, being careful not to break them, and cover with pea straw, coarse manure, or earth, if you cannot get anything better. Never strip off the leaves to admit the sunlight upon the fruit. Some people think this helps the fruit to ripen; but that is simply nonsense, as they require the protection of the leaves to perfect the fruit; and without a good supply of healthy foliage the fruit will not ripen perfectly.

Now, if those simple directions are followed, you will find it is not such a hard task to produce grapes as you probably imagined it was. Each farmer should have at least a dozen vines, four of each color, red, white and black. By following the directions here given he will have grapes to eat, for wine, for preserves and for jelly, for dessert and to treat his friends. By using an abundance of this luscious, health-giving fruit in the family, he will not only add to their happiness, and thereby make the home more attractive, but will probably avoid sickness and save doctors' bills.

The Best and Simplest Methods of Keeping Fruits.

By L. Woolverton, M. A., Secretary of the Fruit Growers' Association of Ontario.

Much has been written of late in the horticultural press concerning the importance of the free use of fruit from a sanitary point of view. And the arguments are so well sustained by medical men that we, as fruit growers and farmers, readily accept so agreeable a prescription for the welfare of our families.

Granting, then, the importance of having a supply of fresh fruit throughout the year, it is evident that any remarks that may help to serve this end are, at this season, quite in place.

Among the most important fruits from a dietetic standpoint, is the apple. Granting that our farmers have selected the best varieties for keeping up a successive supply during the winter months, the question is, "Do they usually handle them in the best manner to attain that end?" Surely not all, for every one follows his own way. And amid the great variety of advice given by the public press what mode shall we adopt, one says:—"Let your winter apples and pears hang on the trees as long as they will before gathering them." I beg respectfully to differ from this. Is it not evident that as soon as perfection of size, form, color, flavor, in short general maturity is reached, that nothing more can be gained from the tree, and that the process of ripening will proceed, a process which when a certain point is passed, is called decay. As soon then as our winter apples have attained maturity,

it is time they were carefully gathered and placed under the most favorable conditions for holding in check the ripening process, and generally speaking, this should be done much earlier than is the usual custom. "Place them in large heaps, or in bins in the cellar, to sweat," we are told. Here again I must differ. Do our sage advisers really suppose that apples sweat as does a horse? That the moisture of the interior actually oozes through the skin of the apple? If so, they must be related to those people who think the water pitcher sweats in the hot days of summer. No. The pile of apples heat, and the moisture of the heated air of the interior of the heap, coming in contact with the cooler apples of the outside, is condensed and deposited upon the surface. All this heating hastens ripening, the very thing to be avoided.

"Put them on shelves in the cellar," says another, "so you can see and remove decayed specimens." Yes, and plenty of them you will have to remove in that case. For if the air is warm and humid, the progress of ripening and subsequent decay will continue, and if dry, the insensible evaporation will gradually result in shriveled, leathery specimens. The plan is wrong. Two things are essential to success in this matter of keeping apples; the first is a low temperature, as evenly sustained as possible. Apples do not freeze very easily, and if barrelled the thermometer might safely register for the most part as low as 32° Fahr. If one has a fruit room, or cellar, in which a low temperature can be maintained in the autumn by opening the windows on cool nights, and closing them during the warm days, then the apples may at once be placed there after picking and assorting. Otherwise, some cool situation outside is best, as for instance the north side of a barn, until winter compels their removal to the cellar.

The other essential is the exclusion of the air, the oxygen of which is an important factor in the progress of decay, and besides it bears about tiny organisms which generate the same. The open shelves, therefore, are to be condemned, and instead close barrels should be used. The more perfectly the air is excluded, the more complete will be the success attained, provided the temperature is kept low and other things favorable. The principle explains the success obtained by various experimenters, some of whom have packed their apples in barrels between layers of dry maple leaves, some in fine, dry sawdust; fine, dry sand, or submerged in water. And I would advise those wishing to preserve fruits beyond their usual season, to avail themselves of these hints.

I need make no special reference to pears, for the same remarks which apply to apples, equally apply to them.

The keeping of grapes during the winter has attracted especial attention since such beautifully preserved bunches of Hartford Prolific, Salem, Vergennes, Catawbas have been shown at the February meetings of our Association, and especially since such fine samples of Niagara were shown at our meeting at Picton last July. The same principles described above, apply equally to them, viz.:—A cool room, and exclusion of air. Some indeed have preserved such varieties as Wilder, Agawam and Salem, until May, without the aid of any packing material; simply regarding the usual precautions of gathering them on a dry day, allowing them to stand three or four days, assorting them into small

baskets and hanging these up in a cool, dry cellar. Others are successful by packing them in boxes and burying them in the earth; but probably the best success has been attained by packing in sawdust. Care must be taken to use only well-dried, fine hardwood sawdust, and then to pack in jars, or casks, which can be tightly closed up. Layers of dust, and of grapes, are put in alternately, the package sealed or tightly closed, and placed in a cool, dry cellar. The result will then be in most instances satisfactory, providing the suitable varieties are used. The following are few varieties that may be packed for winter to be opened for use in the order given:—(1) Lady Washington, Concord, Delaware, (2) Duchess, Barry, Massicot, Agawam, (3) Salem, Vergennes, (4) Wilder.

A Place to Winter Plants.

BY WALDO F. BROWN.

All of the women—and some men—like flowers, and they regret when the nice geraniums and other bloomers, which would blossom the second year if cared for, but which will not endure much frost, must be left out in the cold to perish. There are many farm houses which cannot conveniently be kept warm enough to carry plants through the winter, and others where a large family and small rooms make it very impracticable to try to keep them. For such cases I recommend the plan I have used for ten years: Our dining-room is over the cellar, and has a south window. Immediately under this window I made an excavation 4½ ft. wide, 9 ft. long and as deep as the cellar lacking two feet. The cellar window was taken out and the space enlarged so that a small door was hung, which enables us to enter our pit from the cellar without disturbing the sash. Our pit is boarded up, but if making another I would lay a brick wall, as the boards rot and must be renewed in a few years. We use three sash to cover it, and the upper end is placed against the house as high as possible and not interfere with the dining-room window. To make this pit frostproof we place a frame of inch boards 2 ft. distant from it on all the sides, except next to the house, and each fall we bring a load of fresh sawdust and fill this space. Cold nights an old carpet is spread over the glass, and whenever mercury is likely to go to zero, or below, we set a common kerosene lamp in the pit. For several years we kept an old iron kettle in it, and on cold nights would carry down a peck or more of live coals just before going to bed. This was objectionable, as the coals not only gave off gas, and a dust from the ashes settled on the plants, but the heat was irregular; for when first put in the coals would raise the temperature too high, and then before morning they would die, and in very cold weather mercury by morning would be near the freezing point.

The lamp will keep a uniform temperature, and for a pit the size of mine (4½ by 9 ft.), a single lamp will suffice, even with a zero temperature outside. We have had several nights with mercury from 8 to 14 degrees below zero, and then we put in a second lamp. We do not try to keep flowers blooming during the coldest weather, but in February and March they can be pushed forward, and thus daisies, pansies, violets, hyacinths and other hardy bloomers are made to contribute flowers in abundance. It is well occasionally to set a kettle of boiling water in the pit to render the air moist by the steam it gives off. In a pit of this size we do not wish to winter many large plants, and so we take slips of geranium

and other large plants, and late in the season pot them in 4-inch pots. Our plan of starting new geraniums from slips is very simple. Any time during the latter part of July or in August, when the land is moist, break off a branch and stick it down under the north side of the plant, where it will be well shaded, and press the earth firmly about it, and it will at once strike root. It is much better to break off a slip than to cut it; break at a fork by splitting it down; it will not be bruised, and will take a little from the main stem. Often in a wind, or by some accident, a plant will be broken, and it can at once be utilized for slips. As spring approaches we find the pit a very convenient place to start tomatoes, flowers and other plants, which can be sown in shallow boxes. In making a pit of this kind give a rather steep pitch to your sash, for the lower the front the more sunshine you get into the pit, and the higher the rear the more shelves there will be room for. After April 1st the sash can be taken off during a part of the day, and this will give a better chance to water the plants. I think a lamp might be constructed with a radiator, so that a single lamp would raise the temperature of a greenhouse of twice the size of my pit high enough to keep plants through the coldest winter.

Promising New Cherries.

Professor Budd, of the Experimental Station of the Iowa Agricultural College, at Ames, Iowa, who is making tests of a great variety of North-east Europe and Russian fruits, reports the following varieties of cherries as promising for Iowa.

This is something of interest to the whole western and northwestern country, where the common varieties of cherries usually fail, and probably among them will be found several that will stand the test of our severe climate, as they appear to have done at the Experiment Station.

The varieties that do well in Iowa, will doubtless prove of value in almost any part of the Dominion. The climate of Iowa is very severe and trying at times.

VARIETIES FOR CENTRAL AND NORTH IOWA.

Spate Amarelle.—Our trees from five to six feet in height were bending with the weight of the fruit this season. Fruit medium to large, color dark purple when ripe.

Schattan Amarelle, or Shadow Morello.—The name comes from the mirror-like reflection from the shining skin. Much like the above variety in size, shape, quality and season of fruit.

Gros Lang Loth.—Fruit large, roundish, truncate at stem end, nearly black when ripe. Juice colored. Pleasant sub-acid flavor when ripe. Season of English Morello.

Kings Amarelle.—Fruit round; pit very small. Ripens with Early Richmond.

Amarelle Bouquet.—Fruit much like Richmond in season and quality, but with more grape sugar.

Cerise De Ostheim.—It fruits early and is hardier in tree than what is known as Minnesota Ostheim, and bears larger, better and earlier fruit. Tender, juicy and when ripe pleasantly sub-acid.

Orel.—Fruit larger than Montmorency, nearly black when ripe, and very mildly sub-acid in flavor.

Shubianca (6m).—Fruit smaller and later than the above; black, and excellent in quality.

23 Orel.—Fruit much like Richmond in color, season and quality.

Doppelte Natte.—Fruit large for its class; skin dark brown or brownish black. Flesh very

red and juicy, and when fully ripe of rich aromatic flavor.

Griotte Imperial.—Fruit large, dark red, inclined to conical, flesh and juice red. Mildly sub-acid when ripe.

Brusseler Braune.—Fruit large, nearly round, purplish red in color, juice slightly red, flavor pure and quite acid.

Lütovka.—Fruit large, yellowish red when ripe, flavor pure and sprightly; season late.

Bessarabian (No. 62).—Our favorable report of this variety of 1885 we are glad to repeat. It will endure more abuse of tree than most of our forest trees. Our original tree has been cut for buds and scions for five years, taking off all the new growth. Yet the tree is sound to-day. Fruit large, dark red, firm fleshed, and when ripe very mildly sub-acid.

Sklinka.—Fruit large, skin yellow and red. Flesh yellow, firm, very mildly and refreshingly sub-acid.

Fraendorfer Weichsel.—Fruit large, dark red, truncate. Flesh tender, juicy, sub-acid, and good for any use.

Strauss Weichsel.—Fruit large and nearly black when ripe. Flesh juicy, refreshing and nearly sweet. A few days later than Richmond.

Lithaur Weichsel.—Skin nearly black, flesh quite acid, colored dark red, and with much grape sugar. Most valuable for culinary use.

Griotte Du Nord.—Fruit large, nearly black, flesh firm.

Juniat Amarelle.—Fruit much like Richmond in size, color and season, but firmer in flesh and better in quality.

24 Orel.—The name is not yet known on account of loss of invoice when the one year old trees were imported. Fruit about the size of the English Morello, dark red, firm, colored flesh, mildly acid, season of the late Richmond.

27 Orel.—Another strong growing, hardy sort of great promise.

26 Orel.—This is the "Lianzkaja Black" of East Europe, which we will send out in the future as "Orel Sweet." Fruit medium in size, black, with very small pit. Flesh, dark colored, and decidedly sweet. Very promising as the hardiest sweet cherry in our collection.

25 Orel.—This was spoken of in the Bulletins of 1885 as one of the Vladimir varieties; but it proves to be a Griotte, much like 23 Orel, but some later in fruit and larger in size of tree.

Heart-Shaped Weichsel.—Fruit large, heart-shaped, purplish black in color, and nearly sweet.

George Glass.—In leaf and habit of growth it much resembles Bessarabian. Its fruit also shows a near relationship to that variety. Very promising.

PROMISING VARIETIES FOR SOUTH IOWA.

Abbesse De Oignies.—Fruit large, round, dark red. When ripe mildly sub-acid.

Red Oranien.—Fruit in season and quality much like the preceding.

Amarella Bunt.—Another variety of the Red Dukes much prized in North Silesia for dessert use and cooking.

Duchess De Angouleme.—Of Red Duke family. A heart-shaped fruit of large size and excellent quality.

Gros Gobet.—Fruit large, red. Flesh white, quite acid, and best for canning.

Red Muscateller.—Fruit large, and said to be of good quality for dessert and other uses.

Double Glass.—A large fruited variety of the Red Dukes, likely to prove valuable south of Des Moines.

Vine Sweet.—Fruit was large, early and sweet. We regard it very promising for trial in South Iowa.—[Reported in Vick's Magazine.]

The Farm.

European Agriculture.

(By Our English Agricultural Correspondent.)

London, November 7.

FARM WORK.

Harvest is finished in England, except that there is a piece of late oats or beans here and there on the hills of the North; but in the Highlands of Scotland there is still a good deal more to do. More than half our wheat has been sown under favorable conditions, and as an abundance of rain has fallen during the past week, the land, previously too dry in some places, is all fit for the completion of the work, provided that we have fine weather for two or three weeks. Early-sown wheats are up, and looking well. Roots and potatoes have been nearly all stored, except turnips left for feeding on the land. The potato crop is a good one, though not nearly as heavy as that of last year; and there are moderately good crops of mangolds and turnips. As the autumn has been for the most part mild, and feed in the fields has been abundant, farmers have greatly economized their stores of winter food for stock; and this will help to keep up the prices of cattle, sheep and meat.

On the continent of Europe, sowing is generally finished, and a good start for next year's wheat harvest has thus been generally made.

THE WHEAT CROP.

Sir John Lawes has published his annual estimate of the wheat crop of the United Kingdom, based on the average yield of five of his experimental plots at Rothamsted, Herts, where he has grown wheat for forty-five years without intermission. His average is 26½ bushels per acre; and although he says the average for the Kingdom is more likely to be below than above his own, he takes the latter in working out his totals. Then he credits the Kingdom with a total production of nearly nine million quarters (of eight bushels), allows about ¾ million quarters for seed, and so gets at about 8¼ million quarters as the quantity available for consumption during the current cereal year, ending with August, 1889. For a population, reckoned at 37,771,175 for the middle of the cereal year, he allows 5.65 bushels a head (which includes what live stock consume, the human consumption being almost exactly 5½ bushels a head), making the total about 26½ million quarters. Hence he concludes that we shall have to draw from imports and reserve stocks about 18¼ million quarters. Now, Sir John's estimate of the home crop is at least two bushels an acre more than the judges reckon; and the most common estimate of the crop available for human consumption is 7 million quarters, while it is supposed that we shall have to import about 19 million quarters, when the promise of an early and abundant harvest enables us to lay our reserves unusually bare. But even if we can do with imports of a little over 18 million quarters, we shall not get that quantity without paying higher prices than those now current, for reasons given in previous communications. The expected deficiency of the American surplus has been fully confirmed; and we know now that we shall not get large supplies from India, because there is a fear of famine in several parts of that country, owing to the failure of the autumn harvest of the common food grains used by the people. Even in Russia, of

which such high expectations have been raised, a report just issued by the Minister of Finance shows that the crop is not nearly as large as that of last year.

CROPS IN RUSSIA.

The following are the figures alluded to as to wheat, and those for other crops as well. They were given in chetaverts, but I have converted them into quarters:—

	1888.	1887.	1886.
	Qrs.	Qrs.	Qrs.
Wheat	80,883,400	83,718,400	19,041,000
Rye	88,000,000	80,164,000	80,000,000
Oats	68,355,000	74,649,400	68,519,000
Barley	17,021,500	20,389,250	15,897,500
Millet	5,712,500	6,310,940	7,783,400
Buckwheat	7,212,500	7,501,000	9,665,000

These quantities, it must be explained, relate to European Russia, exclusive of Poland and the Caucasus. In nearly all Russian statistics these portions of the Empire are excluded.

THE FRENCH DEPARTMENT OF AGRICULTURE.

The French Government spends a great deal on agriculture. The Chamber has just agreed to the Budget of the Minister of Agriculture for 1889, the amount of credit voted being about one and a-half million pounds sterling.

THE WHEAT CROP IN ITALY AND SWITZERLAND.

An official report estimates the Italian wheat crop at the equivalent of 102,684,000 bushels, or 16,000,000 bushels less than the average for the last six years. An importation of about 40,000,000 bushels will be necessary. Switzerland, too, has a poor crop, only 1,648,000 bushels, according to the official estimate, and that little country will need 11,360,000 bushels from foreign sources. These deficiencies will help to drain the Russian surplus; and there are others in France, Spain, and elsewhere.

THE BRITISH DAIRY INSTITUTE.

This new institution, founded by the British Dairy Farmers' Association, will be opened on Monday next. It is a modern building, surrounded by its own grounds, and commanding an extensive view of the Vale of Aylesbury, with the long line of the Chiltern Hills in the distance. The dairy, which is separated from the house by an open yard, consists of five parts—the milk-setting and separating room, the butter dairy, the cheese dairy, the cheese-curing and storing rooms, and offices for cleaning the utensils. The rooms are fitted with complete apparatus for making butter and cheese by every method which allows of successful results, in order that students may learn how to make the best use of ordinary appliances, as well as of new ones which are not to be found in ordinary farm dairies. The course of instruction will embrace elementary chemistry in its relation to dairy produce, food, manures, and soils; botany, in relation to the grasses and forage plants of a dairy farm; elementary physiology and veterinary science in connection with the treatment and feeding of cattle in health and disease; and practical dairy farming in all its branches. Both male and female students will board in the building, and females only will lodge in it. The fees are £2 a month or £5 a quarter for either butter-making or cheese-making, and £3 a month or £8 a quarter for both subjects. Board is 10s. a week extra, which includes lodging for the female students. The factory system is being extended in the country, both for cheese and butter.

A VALUABLE PUBLICATION.

The new half-yearly number of the Royal Agricultural Society's Journal has just been issued, and it is full of interesting and in-

structive articles and reports of an unusually varied character. First, we have an article on Forestry, by Professor Curtis; next, a paper entitled, "Glimpses of Farming in the Thousand Islands," by Mr. W. E. Beve, recording two visits made this year to the Islands, and describing in detail the great potato industry of Jersey, and the production of fruit and early vegetables in Guernsey; and then follows an important article, based on experiments, by Mr. Jensen, of Copenhagen, on "Smut in Oats and Barley." The title is not sufficiently comprehensive, as the writer gives his experience in the prevention of smut and bunt in wheat, also. This is a remarkable article, because in it the writer condemns the old method of preventing these fungoid diseases—that of dressing the seed with a solution of sulphate of copper, or some other chemical preparation. He says he has found in his experiments, that sulphate of copper, in the quantities commonly used, kills from three to ten per cent. of the seed grain, and greatly injures the plants which live. Last harvest he obtained 30 per cent. more wheat and 23 per cent. more straw from seed treated in the way he recommends than from seed on an adjoining piece of land, dressed with sulphate of copper—commonly called blue vitriol. The plan he recommends, is to soak the wheat for five minutes in water of the temperature of 127 to 133 degs., Fahrenheit. It is important to notice that the latter is the extreme temperature that is known to be safe. The difficulty is to keep water at the temperature required, as the seed corn lowers it. Mr. Jensen shows how to do this; but his plan seems unnecessarily elaborate. If the soaking be done where there is plenty of boiling water at hand, a little at a time can be added to the tank in which the wheat is dipped, to keep up the temperature. Farmers do not commonly dress either barley or oats for smut; and I doubt if it would pay to dress oats, as the quantity is so bulky. For barley it is necessary to soak the grain for twelve hours in cold water before putting it into hot water (temperature as above) for five minutes, because the skin of barley shuts in tightly the fungus supposed to be in the unhealthy grain. Next follows an important article on the "Herbage of Old Grass Land," by Dr. Fream. Having carefully examined the grasses of some of the best of old pastures, Dr. Fream finds that the prevailing grass is perennial rye grass, and that white clover is the most common leguminous plant. He found nothing to account for the great merit of the best pastures of this country, and it seems clear that it is the character of the soil, and not of the herbage, which makes some pastures exceptionally valuable for cheese or butter. He shows the percentages of the grasses found in the sods out of pastures sent to him from various parts of the Kingdom. Another article gives the experience of a number of our most noted breeders and feeders, in the feeding of live stock; and these records it is impossible to summarize in anything like the space at my disposal, as they consist of answers to a series of questions, and the replies go into great detail. They were collected by Mr. H. F. Moore. In another article, Dr. Voelcher gives the results of sheep-feeding and cattle-feeding experiments carried out for the Royal Agricultural Society. The experiments with sheep, for the third successive year, show that $\frac{3}{4}$ lb. of whole wheat per head, daily, may safely be given to sheep feeding on turnips and hay or chaff, and, that at the prices of last winter, it was more economical than barley or oats, the cost of

a pound of increase in live weight being less on the wheat-fed sheep than in the others. In the cattle-feeding experiments, linseed, cotton cake (decorticated) and maize meal, mixed, proved better than any grain alone, for quantity and quality of beef. The other notable articles in the Journal are:—"Fruit Evaporation in America," "Barley, from a Malster's Point of View," and "The Structure of the Horse's Foot, and the Principles of Shoeing," by Professor Brown, Principal of the Royal Veterinary College. This last article will by some people be deemed the most important of all. There are in the Journal, also, reports on the "Trials of Hay and Straw Presses at Nottingham;" on the "Prize Farms of the Year," and other subjects. It is quite worth while for any farmer to get a copy of this publication, though it costs 6s. here, and postage to Canada would be 1s. extra. All farmers who have to lay down land with grass, should read Dr. Fream's article. The Journal is published by John Murray, Albemarle street, London.

THE NEXT DAIRY CONFERENCE.

It has been decided to hold the next Dairy Conference in Scotland, and in June, instead of in May, as usual, and as stated in a previous communication.

FIRST PRIZE ESSAY.

On the Benefit to be Derived from the Various Specific Associations.

BY MR. JOHN ROBERTSON, LONDON, ONT.

The benefits derived from the various specific associations are not easily defined, nor can they be all enumerated, as, no doubt, many farmers and others derive a great amount of information from attending meetings. Their occupation leads them to take an interest in, and, no doubt, derive much benefit therefrom; the extent of such benefits are scarcely even known but to themselves.

There are others who do not hesitate to make it known by word and deed, who show by their improved stock and produce therefrom, they are advancing in the knowledge of their profession, whether in stock breeding, mixed farming, or as specialists in any particular class or kind of industry relating to husbandry.

Beyond this, there is the visible improvement in all classes of stock—horses, cattle, sheep, swine, and poultry, which, in a great measure, have been attained through the work and labors of the various associations.

The annual exhibitions where stock of all kinds is brought together in competition, which brings to view the points of excellence attained by the successful competitors, which is a stimulator for others to strive to attain to. The unsuccessful competitors also see wherein they have come short, and may derive much real benefit in seeing where their weak points are, and learn how to improve or avoid them. These gatherings bring together different breeds in competition with each other; whereby, farmers may learn which breed is the most suitable for his location and system of farming.

Not only has the various associations assisted very materially in the improvement of all classes of animals, but they have been the means of great improvement in their products, both in quantity and quality.

The stock and beef farmers have now a clearer knowledge of how to breed cattle for beef only, and also how to feed and care for them. The annual meetings of farmers, whose business is the producing of flesh-meat, whether beef or mutton, brings together men who have been trying and experimenting with different kinds of feed; and by comparing notes of experience and results, the best information received the most

successful results are given; and all interested derive benefits from the information given. Not only to those present, but through the press the benefits are spread abroad far and near, and the influence for good cannot be known.

The dairymen, through their associations and discussions, are now better informed how to breed cows for milk, and how to feed and care for dairy cows, which, if properly carried out, will increase the quantity of milk produced very considerably in proportion to the amount of feed consumed. I do not believe any cow can make milk out of nothing; the old saying still holds good—"its by the mouth the cow milks." But then, some cows have a capacity and a power to convert food and water into milk, which others have not. This is what dairymen ought to see to. Breed only from cows who have the greatest capacity and power to convert food and water into milk.

These meetings have been also a great benefit in bringing information out as to the best system of feeding and best rations of feed for milk cows.

The benefits derived from associations are, they enable men of a similar occupation to get information and instruction on their work, which otherwise could not be obtained. Very few have any idea of the extent of our dairy industry. Ten years ago, we only exported about 400,000 boxes of cheese; this year, we will export about 1,100,000 boxes—nearly three times the quantity. This year will show the greatest quantity that has ever been exported in one season. Our butter exports have declined from 179,000 packages in 1880, to about 25,000 packages this season. There is, no doubt, but the Dairymen's Association has been the means of advancing the interests of cheese-making farmers, by gathering together men who had made the business of dairying a study, and who gave their experience and their knowledge to us, which has made us what we are, and put us where we are in the cheese-making industry.

Another benefit derived from associations is, members learn to know the requirements of the different markets which their produce is intended to supply, and how their products will be most profitably disposed of.

It seems clear to me, the best way to make the associations useful, is for each department or class to have an association of its own, with as little selfishness as possible amongst its members—some who have made progress along some special lines, keep some of the secrets of their success to themselves, this should not be so; a free and full expression of experience and knowledge should be given at all meetings on the subjects under discussion, that all may be profited thereby; this is the only true way whereby associations will be useful and profitable, and serve the purposes for which they are intended.

I am not a horticulturist, but the same principles hold good to disseminate information about that department. The introduction of new plants, new varieties of fruits and flowers, shade and ornamental trees, and how best to cultivate them, and so beautify the home and its surroundings, are worthy of the best considerations of those who are occupied with this department of industry.

As some of the associations, now in existence, receive government grants, I think it would increase their usefulness if the papers read and discussed at meetings were given to the press for publication soon after the meetings were held, it would circulate the information they contain among the public, and all who were interested in

the subjects would receive the information given therein.

The reports of the associations are not published in full for months after the meetings are held, and these reports are chiefly distributed among members, and many farmers never see them at all; if the papers were given to the public after the meetings are held in winter, dairymen and farmers would get the benefit of them, and have them discussed and thought over before the season of operations begin, otherwise, a whole season is lost before the benefit of the meetings is received.

I don't know the extent of the grants; perhaps the editor could give us the desired information, and how it is distributed. The associations which are absolutely necessary and deserving of support are: Horse Breeders' Association, Beef Cattle do., Dairymen's Cheese do., Dairymen's Creamery do., Sheep Breeders' do., Hogg Breeders' do., Poultry Breeders' do., Horticultural and Entomological do. Perhaps a Grain Growers' Association might be profitably formed.

These would cover all the ground necessary, so far as the general community of farmers is concerned. To sum up, there should be an association for each separate line of occupation, whereby the members of each could have a special interest of their own in their own department, and do their best to advance its interests as their own association.

The Object of the Dominion Experimental Farms.

EXPLAINED BY PROF. SAUNDERS.

The object of the farms is to experiment with all sorts of agricultural products, to introduce new varieties of wheat, barley, oats, fruits, grasses, fodder plants and roots, to test their usefulness in each and every district of the Dominion and disseminate the information gained by these practical experiments among the farmers. This system of experimental farming is so arranged as to cover the entire Dominion. The Central Farm, at Ottawa, serves the joint purposes of the provinces of Ontario and Quebec; the branch farm at Nappan, N. S., that of the Maritime provinces; the farm at Brandon for the Province of Manitoba, the Indian Head Farm for the North-west Territories, and the branch at Agassiz for British Columbia. The question is often asked:—"What good do you expect to result from this extensive system of experiments?" In reply to that I would say, all good farming is of an experimental character. The information we now possess and the experience which guide us are the result of the experiments tried by those who have lived before us, and by farmers who have carried on the good work up to the present. But you must bear in mind that every crop takes from the soil certain constituents which it is our duty as agriculturists to replace if we are to retain the fertility of the soil and keep up a succession of good crops. In order to find out what is taken from the land by these crops resort must be had to chemical analysis, and having gained that information we should utilize it for the purpose of obtaining fertilizers in order to replace what has been taken, and by following this course we may expect to continue to reap good harvests. It is not possible for farmers to carry on every line of experimental work. They may be ever so intelligent, energetic and painstaking, but unless they are trained chemists they cannot analyze the products of the soil, and they cannot carry on, because they have not the time, many of those experiments requiring delicate manipulation and close and constant attention. This has been felt for years to be a bar in the way of that agricultural progress which we all desire to see. Some forty-five years ago Sir John Lawes began his experiments at Rothamsted, in England, and being a wealthy man, was enabled to employ chemists to give him the information he needed to carry on the work successfully. By the expenditure of large sums of money he has accumulated information of such value that it is estimated the crops of Great Britain have been increased three-fold since Sir John Lawes commenced his good work, and a good portion of this increase is fairly attributable to the experience he has gained by experiments' work and

freely given to the farmers of Great Britain. Not long after Sir John Lawes began his experiments a society of farmers was organized in Germany for the purpose of establishing an experimental farm in that country. Application was made to the Government for assistance, which was granted, and soon the work was found to be so beneficial that there was a general outcry for more of them. During the past 40 years these farms have been found so beneficial to agriculture that they have multiplied amazingly, and at the present time there are no less than 185 experimental farm stations throughout the German empire. France followed in the same way, and has established a large number of experimental stations. The same thing can be said of Italy, Austria, Russia, in fact, every country in Europe which claims to be an agricultural country has devoted more or less of the public funds towards the support of such institutions for the benefit of the farmer. All the intelligent Governments of the world have concluded that it is wise and right to thus aid the farmers in their work, and not only in Europe, but also in Japan, the Government has established experimental farms. During the past ten years a number of experimental stations have been established in the United States supported by grants from the several states in which they were organized, and two years ago the Federal Legislature passed a law which provides that there shall be paid out of the public treasury the sum of fifteen thousand dollars a year to each state and territory in the Union which will involve a yearly expenditure of about half a million dollars for the support of these institutions. As we all know, Canada is largely an agricultural country. Indeed agriculture is the most important of all our interests, and it is right and meet that the farmers of this country should be looked after. The Parliament of Canada has not been behind in this particular. In 1884 the subject was discussed in the House of Commons, a committee was appointed to take evidence on the subject, and the committee recommended the establishment of experimental farm stations in Canada. The result was the introduction of the Experimental Farms Act, and under the direction of the present Minister of Agriculture the farms were established where it is hoped they will cover the more important of those varying conditions of climate and soil which prevail throughout Canada. It has been my privilege within the past few weeks to visit all the branch farms. At Nappan, N. S., the farm embraces some 300 acres, and the work there will probably consist mainly of stock raising and dairying, the growth of native and foreign grasses, clover, etc., and thus endeavor to work out for the people of the Maritime provinces all that is desirable in fodder plants in order to increase the products of the land, and also improve their stock, and thus enable them to carry on their farming with better profit and advantage. Nova Scotia is celebrated for its fruits, and experiments will be conducted there with a view to introducing new varieties of fruit to be tested, and the information gained scattered over the different Maritime provinces so that every farmer may know what varieties he can grow with success. At the farm in Ottawa a large variety of Russian fruits have been introduced. The climate in some parts of Russia is much like ours, and at times the temperature falls lower in winter than it does with us. The more tender varieties of American and European fruits will not endure very low temperatures, but it is hoped by introducing from colder climates fruit which endure there, valuable additions will be made to our fruit growing capacity here, and if these fruits succeed we shall be enabled to increase very largely the area over which fruits can be grown successfully in Canada. In Manitoba efforts will be made to introduce new varieties of grain, especially early ripening sorts for notwithstanding the fact that occasional frosts occur, we may confidently anticipate that that country will continue to produce millions upon millions of bushels of wheat, tenfold more than it produces at present, as the country becomes more settled, and we have a sufficient number of farmers there to till the fertile soil ready cleared at their hands. Then also the

question of stockraising and dairying will be considered and the important subject of forestry receive attention. As you are aware, there are comparatively few trees in Manitoba, and the wind sweeping over the plain produces a condition of things not so agreeable as that which the shelter of the woods and trees affords. Now, if this shelter can be provided—and I believe that in many cases it can—it will add to the comfort of the settlers' homesteads, make them more beautiful, and by supplying a tempering influence to the winds make that country more desirable to live in. The same class of experiments will be carried out at the branch farm at Indian Head in the North-west Territories. The land on this farm is all open prairie, and this spring when operations began there was not a shrub or tree in sight. By the introduction of trees we hope to make quite a change in this farm in a few years; 20,000 young trees were planted there this spring, and from 40,000 to 50,000 have been raised from seed, and we expect by the end of another year to have somewhere in the neighborhood of 100,000 growing trees on it. These experiments will be instructive examples to the farmers of the districts in which the farms are situated which they will not be long in imitating. In British Columbia the climate is milder. The farm at Agassiz is situated below the coast range of mountains, and has a climate much like that of England. It is admirably adapted for fruit culture, apples, pears, plums and cherries, growing there with a luxuriance surpassing anything we can do here. Many of these fruits are much larger than the same varieties grown anywhere in Ontario; and it is believed that in that province, although the quantity of agricultural land is limited, it will be possible to produce there a large quantity of fruits to supply the mining population of the mountains and the less favored districts in the territories.

Legislative Grants to the Various Associations.

The grants made by the Government of Ontario, in order to maintain the various Agricultural, Horticultural, and kindred associations, including the Model Farm, etc., for 1888, are as given below:—

Electoral District, Township, and Horticultural Societies.....	\$63,450 00
Fruit Growers' Association.....	1,800 00
Entomological Association.....	1,000 00
Two Dairymen's Associations.....	3,000 00
Agricultural and Arts Associations.....	10,000 00
Experimental Union.....	150 00
Creamery Association.....	1,000 00
Poultry Association.....	600 00
Bee Keepers' Association.....	500 00
Forestry.....	2,000 00
Farmers' Institutes.....	3,500 00
Investigation of Diseases, Printing Reports, Dairy Instruction, etc.....	4,000 00
Agricultural College.....	\$22,950 00
Less Receipts.....	5,814 00
	\$17,136 00
*Experimental Farm, including Experimental Dairy, Garden, Laboratory, and Creamery.....	\$25,575 00
Less Receipts.....	12,604 00
	\$12,971 00

(*This item includes permanent improvements amounting to \$1,718.00.)

These items include the larger portion of the grants made for agricultural purposes. If, however, we assume that the Bureau of Statistics is largely in the interests of agriculture, it would increase the expenditure by about \$16,000 00; and the total amount voted in 1888, for agricultural purposes was \$135,631.00. The total expenditure a trifle over.

In regard to your enquiry regarding the course of action I intend to take in the future, I beg to say as follows:—

It will be my aim in administering the Department of Agriculture to mingle as much as possible with the practical farmers of our province, at exhibitions and gatherings of a similar character, and especially at Farmers' Institutes; to put myself in communication with and invite the assistance of the best men; and by careful study of the agricultural interests of the country, in relation to other industries, to promote their development as fully as that can be accomplished

by governmental action. I also hope to be able so to direct the various societies organized under the Agricultural and Arts Act, by co-operative effort and otherwise, as to make those bodies more useful and efficient than they have hitherto been in their respective spheres. I shall earnestly endeavor to increase the popularity of the Agricultural College, with the view of securing a larger number of farmers' sons to attend that institution. It will be my aim to place the College and Model Farm in the highest state of efficiency for the purpose of imparting a thorough knowledge of the principles and practice of agriculture. I desire to make the Farm a true model of all that is best in the practice of agriculture; to have constantly before the students the best system of farming, conducted upon the most economical principles, and to do my utmost to secure the confidence of the farming community in an institution which is particularly their own. I shall also endeavor to keep fully abreast of the times in all experimental work in regard to the breeding and feeding of live stock; in the introduction and testing of new varieties of grains suitable for our country; in the carrying on of the Experimental Dairy and Creamery, with the view of demonstrating to the farmers of our province the value of improved methods in dairying, especially with regard to the production of butter; and in bringing before the notice of the province, from time to time, the desirability of cultivating any new crop which is likely to find a market, either in our own or in any other country.

In the pursuit of the objects set forth above, I am especially anxious to secure the assistance of the agricultural press of the province.

CHARLES DRURY, Minister of Agriculture

The Dairy.

Milk Standards for Cities.

BY JAMES CHEESMAN, BOSTON.

A great deal has been said and written about milk legislation during the present year, and some attempt has been made to amend the law regulating the supply of milk for cheese factories and creameries. So far, nothing has been done to improve the law relating to milk supply in cities, so farmers sell milk of any quality, and dealers retail milk having a very wide range of quality, at one price. A few days before leaving Canada, I was called upon for expert evidence by the defence, in some Toronto prosecutions for adulteration of milk supplied by the dealers. Some of the samples complained of were very poor, others were only medium, but all except one were better than ten samples obtained direct from farmers in the County of York by the government analyst, and pronounced pure. If the very moderate standard proposed by Dr. Macfarlane, of Ottawa, had been in force, much absolutely pure and wholesome milk would be made legally unsaleable throughout Canada.

In England the law errs by making a standard so low that all genuine milk can come within its limits; but it opens the door for much adulteration, also. New York, New Jersey, and many other States besides, not to mention any of the continental countries, have sought to legalize one standard, and to exclude all milk that would not reach twelve per cent. of solids. The effect of this legislation in New Jersey was the exclusion of large herds of Holsteins and their grades from the milk trade. If the laws of New York were as rigidly administered, the result would be disastrous to Holsteins, and some other cattle, besides.

In Massachusetts we have a high standard of thirteen per cent. total solids, but if this law was rigidly administered it would disqualify

more than forty per cent. of the milk produced in the State. In the city of Boston the law has been fairly well observed; but even here, if it were enforced it would exclude nearly half the milk supply, and do a great injustice to producers and consumers. The farmer would be unable to sell his milk for town and city consumption, and the consumer would have to face short supplies at greatly increased prices. If a high standard would be justifiable anywhere it would be in this city, for fully 60 per cent. of our milk supply is drawn from farms having Jerseys and Ayrshires, and very high grades of them.

Where should we look for a remedy for this vexatious kind of legislation? and what should be the remedy? Parliament may aid, but it cannot do the whole work. It should recognize the natural differences which undoubtedly exist in the milk of cows of different breeds, and fed and cared for under various conditions. About a year ago three standards were proposed which would cover milk of all qualities. The English standard is 11½, New York and New Jersey, 12 and 12½, and Massachusetts is 13 per cent. If the law would recognize natural differences in milk as it does in wheat, corn, pork, coal, and other products, we should have a rational basis for legislation, and each kind might be sold according to its market value. The three standards I suggest are as follows:—

No. 1 milk,	14 per cent. solids
" 2 milk,	12½ " "
" 3 milk,	11 " "

Every herd of cows of the breeds giving low-quality milk could comply with the low standard; and good grades of most small breeds, well fed, get within the second quality; while only Guernseys, Jerseys and their grades, well fed and cared for, would reach and exceed the first quality.

We have milk inspectors for towns and cities now, but their work is very indifferently done. With three standards in operation we should simply require certificates of quality, issued once a month, or oftener, in place of prosecutions. Inspectors should grade milk, as they do other goods. It is no uncommon thing nowadays for milk contractors to employ their own chemists, and pay farmers according to the food value of their milk supplies, as determined by total solids and fat.

For cheese factories and creameries, I believe the best test will be specific gravity, determined by a Westphal balance, or some equally accurate instrument, and a fat test of the milk. This will enable every cheese or butter-maker to estimate the cheese and butter value of milk or cream, and pro-rate the payment accordingly. As long as the practice of paying every farmer the same price for milk or cream prevails, so long will improvements in breeding and feeding for economical results be neglected.

There is enough data from milk inspectors and milk contractors' chemists, to settle on a rational basis of legislation without further delay. No more beneficent measure could be proposed for advancing the dairy interests of the country, and none would be so satisfactory to consumers. No doubt Parliament will approach the question during the coming session, and something will be attempted towards settling the question. For the farmer, the absorbing question, of how much dry food he can get for a given outlay in dollars, is the problem he is most interested in; and the legislation here suggested would be a material aid in its solution.

Butter Maker's Brands.

BY THE SECRETARY OF THE NEW ENGLAND CREAMERY ASSOCIATION.

At the beginning of the present season we strongly urged the creamery butter-makers, &c., to use the small five-pound box, or print under the cover of their own brand, for the home trade. It is very desirable to cultivate this trade in packages unbroken for delivery to consumers. It will familiarize the consumers with genuine creamery butter under its own proper name, and thus prevent, in some degree, the frauds of last winter by commission men. Every butter maker should endeavor to reach the home market consumer under his own brand, whether the butter be creamery or not. Butters will soon find their level if sold for what they really are. Good farm butter often commands higher prices than creamery because of its merits; but the great majority of farm butters are below creamery, and very much so. Again, fancy creamery, instead of standing on its merits, is often placed on the market as "Choice Jersey," and the unsuspecting consumer accepts it for what it professes to be, and thinks one day that, although fairly good, it is not quite as good, as some Jersey he has tasted, and finally ends up by buying a good, straight, honest creamery from tubs. Nothing tends to remedy fraud of this kind so effectually as selling under one's own brand. In a dark and dingy-looking cellar, belonging to one of the large New York produce commission houses on the west side, down-town, two men were busily employed, a short time ago, in "fixing" numerous tubs of butter for the retail trade. The house in question does a large retail trade up-town, and the mode of "fixing" these tubs preparatory to leaving the down-town establishment may perhaps explain why it is that the up-town consumer pays thirty-five cents a pound for "gilt-edge creamery," while the market quotation for same is but twenty cents. John Smith, of Butterville, Ohio, for instance, will consign a number of tubs of butter to a New York house to be sold on commission. The butter is ordinary dairy butter—any sort of butter for that matter—and the market price the day the butter is received is, say, eighteen cents. As this lot happens to be dairy butter, Mr. Smith, of Ohio, is credited on the books of the concern with the sale of so many pounds of butter at the ruling market rate. Now comes the transformation scene. All the marks on the tubs are carefully scraped off and the butter weighed. Say the first tub weighs sixty-five pounds, net, that is, with due allowance made for the tub, etc. The top is then knocked off and the butter "tried," to see what sort of a "brand" it will stand. Then as much salt or brine as the tub will possibly hold is packed on top of the butter. This is the first step. A new top is then nailed on (this cover, by the way, having been soaked, and being therefore much heavier than the first one,) and the tub is now ready for marking or branding. Here are a few imaginary brands for which stencils have been prepared:—"Silver Stream Creamery," "Rocky Spring Creamery, warranted gilt-edge," "Fine Mountain Brook Dairy," and so on. Now comes the weighing process. The tub thus metamorphosed, with the addition of several pounds of salt, and as many nails as safely can be driven in, is found to weigh seventy-three pounds. This seventy-three pounds of "Silver Stream Creamery" then is

sold for, say, twenty-two cents, yielding a net profit to the commission house of \$4.36, which, on one tub of butter alone, may be considered a handsome profit.

Sometimes the house wife who buys this "Silver Stream Creamery" at thirty five cents a pound raises a complaint at the quality of the butter. The reply usually is:—"Well, madam, this is genuine "Silver Stream Creamery," and it certainly ought to be good; perhaps it was the weather, after all." Madam might have another idea on the subject if she but knew that most of these flowery-named creameries had an existence only in dark and dingy cellars down town.

What is common in New York and other American cities, was practiced last winter to a great extent in Toronto and Montreal; more, however, in Toronto, as in Montreal the butter consumer of creamery goods is too well educated to be imposed upon to the same extent. The quantity of creamery-made goods is always on the increase, and so will the number of fraudulent dealers be. The small five-pound package is a grand thing for every butter-maker, whether private or factory; and every user should be careful to use a brand with not less than a three-quarter inch letter on its cover.

Warm or Cold Water for Cows.

Prof. Samuel Johnston, of the Agricultural College of Michigan, has been making some interesting experiments, as to the profit to be derived from warming water for milch cows.

A test was made during the winter of 1888 for the purpose of determining how milk and butter products would be affected by warming the water drank by dairy cows. The Holstein cow, Mae, was chosen for the test, which began January 19, 1888. For the first month the cow was fed bran, ensilage and cornstalks. Half the amount of bran and ensilage, fed daily, was given in the morning and the remainder at night. The stalks were fed at noon. The second month Mae was fed ensilage, bran, corn meal and ground oats, mixed; the daily ration was divided into two feeds, while hay was fed at noon. The first week, and every alternate week during the test, water warmed to 60° F. was given the cow to drink. On the second week and alternating weeks cold water was given her. Mae was watered at 7 a. m. and 5 p. m. every day during the test. The temperature was taken each day at 5 a. m. The number of pounds of food consumed, of water drank, of milk produced, and butter made was ascertained daily, and from these daily statements the following totals were compiled:

Total amount of milk and butter produced, and food and water consumed, during the weeks when warm water was given:—

Date.	Pounds.			Butter Produced.
	Food Consumed.	Water Drank.	Milk Produced.	
January 19-25...	469	550	301	10 lbs 5 oz
February 2-8...	447	641	279	8 lbs 14 oz
February 16-22...	475	398	272	8 lbs 2 oz
March 1-7...	470	618	274½	6 lbs 15 oz
Total.....	1,851	2,307	1,126½	34 lbs 4 oz
Weekly Av.....	462¾	551¾	281¾	8 lbs 9 oz

Total amount of food and water consumed, and milk and butter produced, during the weeks when cold water was given:—

Date.	Pounds.			Butter Produced.
	Food Consumed.	Water Drank.	Milk Produced.	
Jan. 26-Feb. 1...	452	396	288½	9 lbs 15 oz
February 8-15...	454	427	272½	7 lbs 11 oz
February 23-29...	449	442	262	7 lbs 15 oz
March 8-14...	475	407	258	8 lbs 6 oz
Total.....	1,830	1,672	1,081	33 lbs 12 oz
Weekly Av.....	457¾	418	270¼	8 lbs 7 oz

A study of the tables shows that the milk and butter produced was but little affected by the temperature of the water drank. In the two last weeks of the test the balance is in favor of cold water. The amount of butter made the last week on cold water was 1 lb 7 oz. more than the preceding week when warm water was given the cow. This holds true in no other case, there being a slight balance in favor of warm water during the entire period. The week when more butter was produced with the use of cold water, 16½ lbs less of milk was given than during the previous week when warm water was drank. In the total results there is a balance in favor of warm water, there having been 45½ lbs more of milk produced during the entire period when warm water was given than during the time cold water was drank. The balance in favor of warm water, in butter product, is 10 ounces.

This would indicate a greater relative gain in milk, by the use of warm water, than in butter. Mae drank 535 lbs. more of warm water than of cold. If, as is usually conceded, the amount of water drank increases the flow of milk, the last figures favor warm water. The results are not as pronounced in favor of warm water as was expected. The difference is so slight as scarcely to pay for warming the water. It may be thought by some that a more appreciable difference might have been made if the period of each test had been longer; that the change from warm to cold water every week might affect considerably the flow of milk. The tables do not seem to justify this belief, for a careful study will show but little difference in the number of pounds of milk given corresponding days of the different weeks of the test. The weather it will be noted was quite changeable, and this may and doubtless did have its effect on the flow of milk.

Ensilage vs. Dry Fodder Corn.

We have just received from Professor Henry, of the Wisconsin Experimental Station, their annual report. It is very ably edited, but too voluminous for us to reproduce in our columns, we will therefore at this time only give the conclusions deduced from the results of the tests.

First, that dairy cows readily consume a sufficient quantity of corn ensilage to maintain a flow of milk and yield of butter fully equal to, and rather more, than that produced by feeding dry fodder corn.

Second, that the dry matter of ensilage has not shown higher feeding value than the dry matter of carefully cured fodder corn.

Third, that we lost as much dry matter in fodder, that had been allowed to stand only one month in the field and was then shocked in the barn loft, as we did in that put into the silo.

Fourth, that while we know of no way to improve on the method employed for drying and storing fodder as practiced last season, it is probable that we can materially lessen the losses occurring in the silo in the future by improved practice.

Fifth, that about twice as much food can be stored in a given space in the shape of ensilage as in the form of hay.

Sixth, that long ensilage will go nearly twice as far in feeding cows, as long fodder, when large varieties of corn are used.

A word of explanation in regard to the claims set up by many who have silos, some of which seem very extravagant. In two of our trials our fodder corn was fed to the cows after having been run through the feed cutter and reduced to fine pieces, in which shape the cows ate it readily.

In the third trial, however, when we attempted to feed long fodder, we found that nearly twice as much was required, because of the uneaten waste, to produce the same amount of butter as when long ensilage was fed, which the cows would eat without waste. Here is a reasonable explanation, in part at least, for the results reported by farmers. It is no doubt probable that many farmers have succeeded in making their fodder go twice as far by putting it into the silo as it did by their former practice of drawing it from the field and feeding it long. Farmers who never fed fodder corn in any other way than to scatter it on the snow in the barn-yard and allow the cattle to waste it in a dozen ways, will find that by putting the same fodder in the silo in the fall they can make it go from two to three times as far as by their present custom. Those farmers who have carefully housed their fodder and run it through the feed cutter before feeding will not have such large gains to report by changing to the silo; to the latter class the economy of the silo will present itself mainly in the fact that they get their feed stored in the most compact shape and can perform the labor of stowing it away all at one time and at that season of the year when labor is performed at no great cost and with no serious inconvenience from the weather. To those farmers who are in the habit of cutting up their corn fodder, shocking, husking and grinding the grain into meal, we suggest that they try the short cut method of silo filling.

In the experiments reported, fodder corn ensilage was fed exclusively against dry fodder corn. This practice is not recommended and should not be followed by those who expect to get the best results from their feed. One would not expect to feed rutabagas or mangels together with a little grain ration and get good returns from his cows, neither should he expect to give his cows so moist a food as ensilage in the winter with no dry fodder accompaniment if he wishes the best results. There should be fed each day from five to ten pounds of dry fodder or hay or some forage suitable for the cattle along with the ensilage, which may constitute from half to two-thirds of the dry matter provided in the ration. Good ensilage fed in this way will not disappoint persons with reasonable expectations.—[Hoard's Dairyman.

Honor and Duty.

The following speaks well for the work of another Canadian abroad:—

"Mr. John Robertson, jr., a younger brother of Prof. J. W. Robertson, of the Model Farm, has spent the past season as Dairy Instructor in the southwest of Scotland. At the great dairy show, held at London, England, his pupils carried off the first prize for the best ton of cheese; second prize for the best four Cheddar cheese; and the cup and medal for the best lot of cheese on exhibition. At the Kilmarnock show of dairy products, held on the 26th of October, his pupils won the first prize of £20 for the best cheese of any make; the first prize in the sweepstakes competition for the best cheese of any make; the first for the best ton of cheese exhibited, besides a number of minor prizes. Kilmarnock show is said to be the largest show of its kind in the world."

The above clipping, from the Guelph Mercury, records a series of successes very creditable to the superiority and adaptability of the Canadian system of Cheddar cheese making. The plan of itinerant instruction was successfully applied to that branch of dairying in Scotland some three years ago, by the employment of Mr. R. Drummond, a well-known and successful cheese-maker, from Ontario. The results were so satisfactory to all concerned—the farmers, the landowners,

and the cheese factors—that an increasing desire for such educational aids has been evinced year by year. That feeling is about to express and crystallize itself in a new form. On the date of the show, above referred to, a meeting, in connection with the Scottish Dairy Association, was held at Kilmarnock. It was announced that arrangements were being made for the institution of a dairy school. Already buildings for the purpose are in course of erection. It was also stated that the Imperial Parliament is prepared to give a yearly grant of £500 sterling for its maintenance, besides a grant of £200 sterling for preliminary expenses. A number of large landowners have agreed to contribute £100 sterling each to the fund, and many other subscriptions of less amounts are confidently expected, together with an annual grant of £100 sterling from the Highland and Agricultural Society of Scotland.

Since the sphere of usefulness, heretofore so well filled by the Agricultural and Arts Association of Ontario, in maintaining the Provincial Exhibition, is now, in the judgment of most intelligent farmers, contracted into almost microscopic size, let me suggest and recommend the establishment of district dairy schools as a field large enough for the economical use of its Council's powers and money.

In England the same branch of farming is receiving unwonted attention from public men. The markets of Britain are practically the only ones presently available for our growing output of dairy products. The competition involved in the keeping of our hold upon these market threatens to become keener and keener. The dairymen of the British Isles now begin to recognize the value of the means whereby our rapid and successful development of this industry has been effected. They are no longer indifferent. Our dairymen cannot afford to become careless. More than ever we need the aid of the best informed men obtainable for our dairy conventions. Instead of weakening in the work of instruction, which we have been doing by travelling inspectors, we should double their number and increase the efficiency of their labors.

New York State Legislature voted \$5,000 this year for itinerant instruction, in connection with her cheese factories; besides the usual grants to dairymen's associations. In Wisconsin, now the banner State of the Union in dairy knowledge and practice, the sum of \$12,000 is granted annually for the support of Farmers' Institutes. These meetings offer unsurpassed opportunities for permeating the whole farming population with needful, helpful information and prospering enthusiasm. It will be very much easier for us to retain our coveted and valuable reputation for the superiority of our dairy products than to recover it if lost. Our name and place in the market cannot be maintained unless the pace of our progress is, at least, continually equal to that of our competitors.

DAIRYMAN.

Get farm ditches well started before the ground is frozen, and the work may proceed without hindrance long after frost has closed the earth to the depth of three or four inches, or even more.

Ensilage should be fed in combination with other foods. If fed alone it has a tendency to scour. It may be fed in quantities from half a bushel to a bushel a day, supplemented with about ten lbs. of hay, and grain or bran as required.

Poultry.

Winter Feeding.

W. C. G. PETER.

As the cold weather is approaching the remarks on feed will be more in keeping if they refer to winter feeding; and, in connection with this subject, I may remark that warmth in the house will save food and prove more beneficial than any egg food in the production of eggs in winter. I do not prefer to artificial heat, but merely to a good, warm house, built to keep out the frost as much as possible. My method is as follows:—I bring in each evening a feed of grain, and put in a large, old, square bread-pan; when I light the kitchen fire in the morning I put the pan of grain in the oven, and by the time I am ready to go out and feed, it has the chill off. As soon as they hear my step there is a scrambling to meet me first, among the inmates of the house. I scatter the feed among the straw, and if there is scratching done anywhere, it is in that house full of chickens. At noon Mrs. Peter has a good warm feed of cooked vegetables, with meat scraps sometimes, made up nice and crumbly, with equal parts of bran and shorts, a little bone meal and cayenne, and sometimes a very little salt is added about twice a week. After the exercise of the morning, they are in good trim for this mid-day meal, which is given on the feed-boards that are in each pen. These are about four feet long and twenty inches wide, hinged on to the partition of the pens at the bottom; they are turned up against the wall, after feeding is done, on which there is a ring in the edge of the boards and a hook in the partition, at a proper distance, to pass through the ring. Thus they are secured out of the way, and the benefit of having this nice, clean place to feed upon, can only be estimated by those who have tried it. Never let too much of any kind of food be given so that it lays about to get foul. I am quite sure that thousands of birds are killed by too much food, where one meets its death by famine; and not only death, but disease only wants a slight foothold, and it will quickly destroy a lot of over-fed stock. Even should the flock escape both these evils, they are but a continual bill of expense to their owner, giving no returns in eggs in winter, and small hatches of puny birds in spring. But how shall we estimate the required amount? some may ask. Well, friends, it is quite easy. How do you estimate the feed for your cattle, pigs, etc.? By noticing what their requirements are in this respect. A cow is a large animal, but you do not give her a barrel of bran at a meal, or let her have the run to a shed full of roots; and the same common sense that caused you to withhold something, and yet give sufficient food for most profitable results in the cow, will teach you to feed your poultry. It is simply the power of observation, and an earnest desire to be informed, brought to bear on the subject. I think it safe to say a small handful of grain for each bird, as near as you can tell to numbers, for each feed, is quite sufficient. It is only a few minutes' work to find out how much this would be, and if the same vessel is used always, you know what is being given; and if the birds are not always looking out to see what you have for them, whenever you go near them, it is pretty sure they are getting too much. It is not generally thought that fowls require some of the

coarser elements of food, such as fibre, but if we think of it they pick up a vast amount of what we call "trash" when at liberty, such as leaves, the husk from straw, and small bits of hay, not to mention such delicacies as are found in the manure pile from the litter of the stables. We may, then, do well to give oats and barley sometimes; these are rich in fibre material, and the chaff, if given to laying hens, will amply repay you in eggs, containing all the elements for their production. Another change can be made now and then, by giving a pan of bran that has been made moist with warm skim milk, or milk and water; especially to the layers. There is one thing not to be forgotten when birds are confined to the house, that is, gravel. A box can be filled and nailed to the wall, so that it will not be made dirty; and, if you take notice, you will see them pick out the sharpest pieces first. Gravel will largely take the place of oyster shell, so often recommended. Add to the bill of fare a piece of liver, or some bones to pick, occasionally, with lots of clean water in clean vessels; and if you do not get eggs whenever you look for them, change your birds for some other strain, for you may be quite sure they are not "built" for layers. A good feed of grain should be given for the evening meal, as the nights are long.

Artificial Incubations.

This is, and long has been, a very interesting study. Very many theories have been advanced and many devices used to accomplish it. We have been asked is it a success? This is a difficult question to answer. In some cases, decidedly yes; in most cases, most emphatically no. The question arises whence the success and why the failure? First, the attendant has very much to do with results; second, many incubators are positive failures. They are not like a mowing machine, that can be driven over furrows and across ditches, &c., &c.; there is more required than motion power, viz., brains. Many people expect an incubator to do more than the natural mother could do. This can never be. And while there are very few incubators made that a careful attendant could not get to hatch some chickens, yet the majority require too much attention to be pronounced a success. The writer once hatched 85 per cent. with the old style of incubator, with a large tank of hot water above the eggs, and the heat kept up by drawing off part of the water and replacing it with hot every six or eight hours. While we have known others, with the most improved, modern, self-regulating machines, to destroy every egg. In selecting an incubator be sure to get one that is self-regulating—that turns off the heat when it is necessary without allowing a draught of cold air over the eggs. The egg should not be less than eight inches from the source of heat—that is, the bottom of the hot air tank or water tank, as the case may be. The best results have been attained with incubators that have a tank of water heated with a lamp and a thermostatic bar to open a valve and allow the heat to escape from the tank (not the egg chamber), and at the same time turn down the flame of the lamp when the heat is too great, and close the valve and turn up the flame when it regains the proper temperature. With such a machine as this an ordinarily careful person should be able to get a very fair hatch; but even with it, close attention is necessary, and without it failure is certain.

There are many advantages in using incubators and brooders over the old system. They are always ready for use, and when the eggs are

ready can be set at work at once. They never run away from the nest or break or foul the eggs. Also, the chicks grow up much tamer if properly handled than with the hen. They can be fed, too, without the mother tramping on the feed or scratching it to the four winds of heaven, as they are almost sure to do if allowed their own sweet will. Also, the saving in the time of the hen is no small item where there are many chicks raised. Many poultry fanciers use the brooder for rearing the chicks when the hen is used for incubating. It is claimed by some that birds hatched artificially do not attain the same degree of perfection in form and feather that the natural mother gives them; but we feel certain it is from using improper brooders, in which the heat is greatest at one point, towards which the whole flock crowd, thus causing deformity in some of the unfortunate ones; in fact, we have known this to occur in two instances.

Laying Contests.

Under the heading a plea for layers, a contemporary suggests having egg laying contests at the large exhibitions. We are of the opinion that the writer is a beginner in the poultry business, as such a contest would be almost impracticable. All who have had experience with poultry are aware that hens removed to new surroundings will almost invariably stop laying for a few days, and further, the nervous bird that under favorable circumstances would win, is much more apt to be affected by such a change, than the heavy fowls whose quiet temperament is much less likely to be affected. Almost all exhibitors are aware of this fact, and it is doubtful if a single exhibitor would enter into such a contest.

The writer goes on to say "too much importance is attached to feathers, thus shoving aside in too many cases, form and other features indicative of utility, either for the table or egg production." Now, as to form, the standard from first to last, gives not less than 10 points for symmetry, and in some birds 12 and even 15, so it will be seen form receives a fair share of attention. But as to feathers we are quite prepared to admit that the best bird ever bred as to form, etc., without proper feathers, could not get a place under the present system of judging, but we claim this is as it should be. What else is the safe-guard of the purity of the breed? Now we know Leghorns to be prolific layers. Also that half-bred Leghorns very often approach the Leghorn type so closely that it would be difficult, even if possible, to say which was the better of the two; but in no instance have we ever seen a mongrel with pure-bred feathers, so it will be seen that feathers are the surest index of purity of blood; and when we allow mongrel bred birds to win prizes over pure breeds, the characteristics of the pure breeds will melt away like a snow bank in April, and with them their individual merits and the facilities at present afforded of selecting a breed suited to our requirements or circumstances.

Early feeding is the most desirable for fowls. The morning meal is important, and is also best relished.

Be satisfied with one breed of poultry, it will be far better, give you far more pleasure and pay you far better to spend your time on one variety than several. Select the variety you like best and study it well. Unless you have some money to spend and some room to waste, keep only one kind.

We have for the past two seasons sprinkled the boards beneath the perches liberally with road dust or loam, cleaning all off together and keeping it dry until spring, when it was mixed with the same amount of ashes, and applied to the hills of corn, when coming through the ground. The results have been very encouraging, especially the past season, when there was sufficient rain to dissolve it.

The Apiary.

Proceedings of the North American Bee-keepers' Association.

COMBINING BEE-KEEPING WITH OTHER PURSUITS.

The series of bad years for bee-keepers have decided many that it is a pursuit which should be combined with something else, such as market gardening, poultry keeping, or fruit culture. Prof. Cook spoke in favor of combining bee-keeping with something else. On the other hand, bee-keeping alone has its warm and open advocates, men who claim that bee-keeping should never be combined with any other business. In the meantime, it is probable that the business will be followed by whoever feels inclined to do so, and alone or combined with other pursuits.

CONSUMPTION OF STORES IN WINTER QUARTERS.

Dr. A. B. Mason, the president, found that none of his consumed more than 9 lbs. in the cellar; 12 lbs. to 15 lbs. outside. He found that light was not injurious to wintering bees. A number favored raising the hives from their bottom boards, one inch or more, in cellars.

OPEN-SIDED SECTIONS.

Dr. Tinker, New Philadelphia, Ohio, strongly advocated open-sided sections. He claimed honey would be more easily ripened and better filled, and therefore more easily marketed, on account of appearance, and less danger of comb breaking away from the section by jarring.

Dr. Miller said his bees did not so fill close-sided sections, but filled them up well. He was not an advocate of open-sided sections.

A. J. Roots, Medina, Ohio, found the bees filled open-sided sections many times, but not always, as claimed by Dr. Tinker.

R. L. Taylor, Lapeer, Mich., said if the bees were not pure Italian it would fill the close-sided section well enough. He thought it better to get such a bee than the open-sided sections.

LOCATION OF THE HIVE.

Under the head of safety in making the relative situation of hives in any apiary, received pretty thorough discussion. It appeared that bees marked their location by larger objects rather than by the appearance of the hive. For instance: they marked their location by an adjoining hive, or large trees; and if another house exactly similar were near, or a row of them, they would be liable to fly to the position their hive bore to the house, but might take the same position to some other house. For the same reason, hives should not stand in rows, with the space evenly divided; the more unsystematical the better, or, placing them in pairs was considered a good plan.

R. F. Holtermann thought that color and shape of the hive was also observed by the bees.

WIDTH OF SECTIONS.

Almost every width of section was represented to be used, from 1 3/8 to 1 3/4, the wider sections mostly with separators.

WHEN TO TAKE BEES OUT OF WINTER QUARTERS.

Mr. Moore advocated putting bees out when they would work freely on pollen. Dr. Miller wanted them put out about two weeks after the right time; in other words, he thought we took our bees out too early, and that bee-keepers would soon favor leaving them in winter quarters until much of the cold, catchy spring weather

had passed. Soft maple bloom was always early enough, but sometimes too early. He had to judge by the indications of the weather.

EXPERIMENTS IN APICULTURE.

Prof. Cook, at some length, gave the work which was being done in apicultural experiments at the Michigan Agricultural College. They were trying, by judicious crossing, to produce a better bee—to try and secure artificial bee pasturage which would help them to tide over poor seasons. Lastly, he was satisfied that the chemists had not yet found out how to tell pure honey. They were going to try and find something out about this. They were also trying to winter bees under different conditions, some without pollen, some on sugar syrup only; other first-class honey, some with buckwheat honey, and some with honey dew.

UNITED EXPERIMENT IN APICULTURE.

R. F. Holtermann gave a paper on the above subject. He strongly advocated that bee-keepers should combine, and conduct a series of experiments under similar conditions, and compare results. Much greater progress could thus be made for the benefit of the bee-keepers.

Prof. Cook suggested a number of experiments after the close of the convention, which are given in the Canadian Honey Producer, as follows:—
1. Feeding some sugar syrup, others none. 2. Set some in cellar in October, others in November. 3. Leave all pollen out of some; give pollen to others. 4. Feed some colonies only light honey, others dark. 5. Give one or two colonies honey dew. These experiments I have tried, and am trying.

THE BEE-KEEPERS' UNION.

Thos. G. Newman, 927 West Madison street, Chicago, Ills., the manager of the Union, pointed out the reason why bee keepers should support it. It was an organization to defend bee-keepers against wrongful persecution in their calling. A large number of cases have already been defended, and without a single loss. Such persecutions as claiming that bees were eating the pasture of the sheep; killing young ducks; sucking the milk from cows, have occurred, with others, which, to the untutored, have greater semblance of reason, yet are as groundless, have been defended with equal success. At the close of the address it was unanimously resolved, that bee-keepers should support the Union. The membership is \$1 per annum, and entitles the member to have his case defended by the Union should he be attacked.

Straight Combs.

When hiving a swarm, if you have already a movable-frame hive containing straight combs, take out one, or, better, two combs, replacing them with empty frames or division boards. Insert these frames in the new hive which the swarm is to occupy, putting them near the centre, with an empty frame between them. The bees will cluster on these two frames of brood, and will be sure to commence work on the frame between them first, and having a straight wall on each side, will be almost certain to build it straight. If honey is plentiful this frame will soon have a straight comb started all along its top-bar, but should they build any side-combs, remove them. Now part these frames and put two more empty frames between, leaving the frame with the newly-made comb in the centre, an empty one on each side of it, and the two finished frames containing full combs on the outside of these.

Continue in this way until all the frames have a small straight comb started along under their top-bars, after which very little attention will be necessary to insure straight combs. Until then,

be ever attentive, not allowing them to work more than two or three days without examining them, and cutting off all combs that may be started where you do not want them. You can get along with one full frame of comb to start with, or even without any, but in that case you must be vigilant, and never allow the bees to start building the combs crosswise to the frames.

Some beginners seem to think that all they have to do is to put the bees into the hive, in the belief that they will know how to manage things. The result is, the bee-keeper has a movable frame hive in which the frames are not "movable" after being filled with combs. I know of a case of this kind just across the river from here. Bees, if allowed to have their own way in frames not having foundation starters, are, I think, just as likely to build crosswise as lengthwise of the frames.—[S. E. Miller, in American Bee Journal.]

Correspondence.

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

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

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

Hard Lumps on Pears.—Will you please inform me through your paper what is the cause and what is the remedy for the hard lumps which form on pears like grains of sand gathered together, rendering it almost useless?—F. O., Auburn, Ont.

[The lumps are caused by the sting of the curculio when the fruit is forming. Remedy—Spray with Paris green (half teaspoon to three gallons of water) when the blossoms begin to fall; should rain wash it off, apply again at once, keeping it on the tree for a month or six weeks. Plant in pears Clapp's Favorite, Barlett, Flemish Beauty, Louise Bonne, De Jersey Beurre, D. Anjou, ripening in the order named, the latter keeping nicely until January. Plums, plant Lombard, Green Gage, Yellow Egg and Quackenbush. There may be others as good but none to excel the above for general planting.]

Fruit Department of the Agricultural College, Guelph.—In some strictures made in a report to the Dominion Farmers' Council on the Fruit Department of the Agricultural College at Guelph in your issue for November, the statement is made, that the ground selected for the fruit trees, which had proved such a failure, was the choice of a deputation of the Fruit Growers' Association, including Mr. D. W. Beadle and myself. In justice to that deputation I would say that this field was not our choice, that we endeavored to induce the professor of agriculture to place at our disposal some higher and drier ground without avail. The more suitable fields were all under experimental crops, which could not be interfered with, and this was the only one to be had at that time for the purpose. It looked better than it really was, the ground being covered with snow at the time, further, we were assured that it could be easily drained and that it would be thoroughly drained the following spring; with this understanding we consented to the use of that piece of land for the purpose. Frequent representations were subsequently made by us as to the necessity of draining this field and the certainty of the failure of the trees if it was not drained, but I believe no attempt was ever made to carry out the promises given to the deputation in this particular; had this been done I believe the orchard would have proved a success. I see no reason why the harder varieties of apples should not succeed on the College Farm at Guelph, if high or well drained land were selected for the purpose. W. M. SAUNDERS, Director Experimental Farms, Ottawa.

Commercial.

FARMER'S ADVOCATE Office, December 1, 1888.

The early part of the past month was unusually mild, while the latter part was pretty cold, with hard frost and severe storms in some parts. We understand there are a good many turnips still in the ground, which seems a pity, as the weather was fine and mild up to the 17th. A rule adopted by many good farmers (and it is a good one), is to leave all other work the first week in November, and put the roots away for winter. If this rule were followed we know that very few roots would ever be frozen in.

WHEAT.

The wheat markets of this continent have developed great weakness the past two weeks, and prices have receded ten to fifteen cents per bushel, according to locality. Whether this decline in price will stop at this, or go on till the even dollar is reached, is hard to say. Deliveries of wheat all over this country and the United States have been very large and free; much more than was anticipated by the trade. But whatever may be ultimately shown as to shortage in the wheat supply in America, the present fact is, that while the receipts of wheat in western primary markets since July 1st have fallen 7,000,000 bushels below corresponding time last year, the exports from Atlantic ports, of wheat and flour, have been 26,000,000 bushels less than last year, which, with the fact that visible stocks are now 4,000,000 bushels smaller than a year ago, implies this fact: that milling operations must have consumed a much larger quantity of wheat than last season, and that this excess is still remaining in this country. This view of the case is consistent with the existing dullness in the flour trade, which has led to the shutting down of many mills all through the West and Northwestern States.

A Chicago paper says:—"A break of 11 cents may be considered as a pretty good shrinkage in values. The bears, however, insist that prices are yet too high. Bearish influences are certainly in control at this juncture, not only here, but in other markets. Even in the Northwest great weakness is apparent, and No. 2 Northern sold to-day as low as \$1.00 a bushel. This grade is not quite up to our No. 2, and a little better than Chicago No. 3. In this market the difference between No. 3 and speculative grade has been narrowed to 16 cents."

Comments:—A short crop scare, supplemented by very talented manipulation, carried prices in Chicago enormously out of line with all the other markets east of there in the world. There has been no reason for it, and while a break of 15 cents is a large shrinkage on a natural value, it don't look so large when the resulting price is yet entirely unnatural, as is evidenced by 16 cents lower price for No. 3 than for No. 2 wheat.

Those who followed the advice given by us in the last two numbers of the FARMER'S ADVOCATE, will not have cause to regret so doing.

LIVE STOCK.

There has been a change for the worse in the condition of the British cattle trade, and although receipts from Canada and the United States have been light, the general supplies have run heavy, and which markets could not take, resulting in a depreciation of half a cent. It was reported that owing to stress of weather the mortality or several steamers exceeded the average. Demand at Liverpool to-day was weak at the decline, and trade dragged. Prime Canadian steers were at 11 1/2c, good to choice at 11c, poor to medium at 10c, and inferior and bulls at 7 1/2c@8c. Sheep have been in fair supply, and somewhat better prices have been made; in fact, our cables quote a nominal advance of one cent.

Following were the prices of prime Canadian steers in Liverpool on the dates mentioned:—

	1885.	1886.	1887.	1888.
Nov. 19.....	12 1/2	10	11	11 1/2
Nov. 12.....	12	10 1/2	10 1/2	12
Nov. 5.....	11	10 1/2	10	12
Oct. 29.....	10 1/2	10 1/2	9	11
Oct. 22.....	10	10 1/2	9	11
Oct. 15.....	11	11	10	11 1/2
Oct. 8.....	11	11	10 1/2	11 1/2
Oct. 1.....	11 1/2	11 1/2	11	12
Sept. 3.....	14	11 1/2	11	13
Aug. 27.....	13	12	11	12 1/2
Aug. 13.....	13 1/2	12	11 1/2	13
Aug. 6.....	14	12	10 1/2	13 1/2
July 30.....	14 1/2	13	10 1/2	13
July 2.....	14 1/2	13	10 1/2	13
June 4.....	14	14 1/2	12 1/2	12@12 1/2

In 1884 the price was 15c.

PORK.

The Cincinnati Price Current says:—"The marketing of hogs in the West continues to fall largely short of corresponding time last year. Ten leading points have packed about 270,000 hogs during the

week, against 385,000 a year ago—the total for these places since November 1 being 670,000, against 1,000,000 a year ago, or a decrease of 330,000 hogs. Other places have packed about as many as for corresponding time last year. The weather has not favored operations without cooling facilities, but at the close is more encouraging, and if it continues so, will lead to the opening of more of the small houses, and others. With this enlarged demand will be the increased marketing naturally expected. The competition at the western centres, especially Kansas City and Omaha, has been equal to maintaining prices of hogs closely up to values current in Chicago, Cincinnati, etc. The moderate packing for the past several weeks has allowed stocks of meats to become quite low at the large centres, which is an element of strength in the present position, although the current requirements for distribution are not especially large, and hardly equal to the average for this period in the season. There is some improvement in the foreign demand for meats, although the week's exports were moderate, and considerably smaller than a year ago. The speculative interest in provisions continues moderate, mostly confined within smaller limits than usual; at Chicago, values were strengthened during the week, closing with a rather sharp break, to lower points than a week ago for pork and short ribs sides. In the general outlook as to winter supply of hogs there is no new feature, nor is there, apparently, any more encouragement for stocking up operations in manufacture of product on the basis of current prices of hogs than has previously confronted the trade.

The adulteration of lard is now a common thing in the States, and the trade and pork packers in Canada are complaining. The principal grievance is the very large importation of adulterated lard from Chicago, coming as it does into direct competition with the pure article which the Canadian packers manufacture. The Chicago compound is composed principally of cotton-seed oil, stearine and tallow, with a small proportion of lard; although there is now a brand on the market in the analysis of which no trace of lard can be found. The sale of these adulterated articles is now prohibited in Great Britain, unless the purchaser, be he jobber, retailer or consumer, be made acquainted with the nature of the article he is buying. The various packages and coverings of the compound are required to be plainly marked, setting forth that it is an adulterated article, wherever it is exposed for sale.

Our government took prompt action a session or two ago, in prohibiting the manufacture and sale of butterine in the Dominion, and placed a heavy duty on the importation of the same; and this promptness in thus guarding our dairy interests was much appreciated and commended by the country at large. We hope they will be equally as prompt in putting a stop to the sale and also the manufacture of adulterated lard in Canada.

CLOVER-SEED.

Receipts of clover-seed at Toledo last week were 3,817 bags. Since August 20, 62,844 bags. Same time last year, 41,422 bags. Shipments last week, 6,103 bags. Since August 20, 75,716 bags. Same time last year, 20,756 bags.

Since our last we have investigated the street receipts here, which aggregate 6,800 bags, and our judgment is, we have 12,000 to 14,000 bags of seed in store.

BALTIMORE SEED MARKET.—Clover weak, with no business of moment being transacted. There is no market at over 8c. for any description, and we reduce quotations. When business revives, values will readily quicken. Quote the range clover, new, prime to strictly choice, 8 1/2c@9c; country lots, irregular quality, 7c@8 1/2c; Virginia, 6c@7c. Receipts, 481 bushels clover; 1,112 timothy; exports for the week, 2,659 bushels clover.

CHEESE.

The cheese market has taken a most decided turn upward the past ten days, and those who had not sold up to the 24th of last month were fortunate. The situation is now such that it looks as though all the cheese will be wanted at good fair prices before next May or June. The make, especially this fall, is a long way below that of last year. This week will see the cheese trade, as far as the factories are concerned, practically closed out for this season. The season's business has not been as satisfactory as it might have been, for the reason that the markets have been to some extent manipulated by some of the dealers.

BUTTER.

The market for butter is confined almost exclusively to local trade. Stocks of good fresh butter are light, and prices are steady and demand good for fresh rolls.

Active agents wanted in every locality, to obtain new subscribers to the FARMER'S ADVOCATE. Send for sample copies, and commence canvassing at once.

Family Circle.

ROBIN REDBREAST.

BY THE AUTHOR OF "FOR EVER TRUE," "A TEMPTING OFFER," ETC.

CHAPTER I.

"THERE is so much to be done!" cries Evelyne, distractedly. "Fancy, only two more days! Shall we ever be ready?"

"Not if we stand dawdling in this manner."

This from Hugo, who is stretched full-length on the schoolroom-sofa, with a cigarette between his lips and his hands beneath his handsome head.

Evelyne curls her lip, but deigns no reply. Somebody from a dark corner, however, flings a book heavily at Hugo's lazy figure.

"Don't confuse your verbs," a sweet, clear voice exclaims. "How can you stand, when you are lying down? and were you ever known to do anything else but dawdle, Sir Hugo—oh?"

"I give it up," says Hugo, sleepily, kicking the book off the sofa.

"There is the hall to decorate, the tree, the Christmas cards, the presents, besides all the important parts of our play, rehearsals, dresses, &c."

"More particularly cetera, cetera," says the girl's voice from the corner.

"Robin, where did you leave the others?" asks Evelyne, turning to this corner. "One would think the station was miles away."

"Suppose the box from May's has never come, won't you be up a tree?"

Hugo opens his eyes wide for a moment, as he shakes off his cigarette-ash.

Evelyne still maintains a dignified silence towards her brother. She is standing by the tall nursery-fender, a relic of the baby-days at Lowrick Hall, and the fire-light dances and dwells upon her lovingly. She is so pretty—so wonderfully fair—so slender—so graceful!

"We shall have to fall back on auntie's wardrobe. You horrid wet-blanket of a Hugo! I am sure I—"

But whatever she desires to say, those words are not said, for there is the sound of many feet on the stairs, the laughter and shouting of many youthful voices; then the door is opened, and in rushes a perfect crowd of boys and girls.

"Light the gas, somebody," commands Evelyne, "and do be quiet, all of you, one can hardly hear oneself speak!"

There is, indeed, great confusion and excitement; the box from the costumer's has arrived; the Christmas-tree is saved; Haines has turned out a perfect brick of a gardener, such holly and decorations were never seen before; in short, the usual excitement and bustle are in full swing in the Lowrick school-room, just as it has been at every Christmas-time since the young people can remember. Everybody tries to talk down everybody else. Evelyne is distracted.

"Do—do be quiet for one moment! and will somebody light the gas, please?"

Hugo lifts his long figure off the sofa with a sigh, but someone else is before him; and as the light fills the room, that someone is discovered to be a girl, a dainty, piquante-looking girl, who seats herself on the table immediately under the gas, and clasps her arms round her knees.

"Now let us have the box of dresses upstairs, and try them on," she observes.

"Robin, you are a brick!—the very thing!"

"Oh! yes—yes; let us try them on!"

Evelyne breaks through the eager voices:

"And we have not done the hall yet, Robin!" she says, reproachfully.

"Oh! bother the hall!" declares Hugo, now wide awake. "Robin's idea is a good one; we have more than an hour. We can't do better than don our finery."

Evelyne sits down with an exquisite air of resignation.

"I promised Mr. Mathews," she observes, quietly, "that that box should not be touched until he was here to superintend matters."

"Oh, Mathews be blown!" elegantly observes Hugo; but Robin suddenly sides with Evelyne.

"You are quite right, Evie, darling. You always are right; so let's be off to the hall at once."

She springs lightly from the table as she speaks.

"You seem to be in good spirits, Mistress Robertha Maxse," observes Hugo, as he watches the girl's graceful movements with much interest and admiration expressed in his handsome gray eyes.

"I think I am what the Scotch call 'fey,'" Robin laughs back. "I don't know why, but I feel awfully jolly to-night. I could positively fly from sheer excitement and delight."

"Don't you know why?" exclaims Audrey, one of the other girls. "Then I will tell you, Robin. It's because you are going to spend Christmas at Lowrick after all. Why, think how down you were two months ago, when that letter came from Colonel Everest saying he might be in England in December, and, if so, should wish his ward, Miss Robertha Maxse, to go to Newtownlock to pass Christmas and the New Year."

Robin suddenly gives a shiver.

"Audrey, don't even mention that horrid place. I hate the very thought of it."

"Oh, well, it's all right now, old girl," Hugo declares. "It only wants two days to Christmas; so you are saved."

"Saved!—Saved!"

Robin dances, practising the step she is about to astonish the natives of Lowrick village with, in the burlesque that is to be enacted in Lowrick Hall on New Year's-eve.

She snatches off a silken scarf from Audrey's throat, and waves it in the air.

"Marchons! she cries; "Marchons! messieurs, mesdames, to the hall—the hall!"

And away down the stairs, helter-skelter, the whole party go, following that dancing, lissome figure, as she leads the way.

What a heap of holly and evergreens, to be sure! Robin, as by one accord, is elected the mistress of these proceedings.

"Now I want something novel and grand," she observes. "Hugo, don't go: your long figure will be so useful! Audrey, will you trail that ivy over our ancestors' portraits? Jimmy will help you; and don't fall off the ladder, please. Evie, darling, you are much too pretty to dirty your hands with this stuff; why don't you go and begin your cards? We can manage splendidly, can't we, Mina? Oh, here is auntie! Make way, children, for your beautiful mother to pass. Auntie, dear, dear, have you come to help too?"

Lady Lowrick smiles at her niece tenderly. No one but she herself knows how dear this orphan girl is to her.

"No, darling, I have not come to help. It seems to me you have quite enough workers already. I came to find you, Robin. Your uncle has been asking for you."

"What does he want?"

Robin asks this question mechanically. She is called upon to decide where Hugo is to put up the largest piece of mistletoe—a most important point in the decoration of the hall.

"No, Hugo, not there. It won't be half seen. Will it, auntie?"

Lady Lowrick smiles again; but anyone might see that she is a little troubled as she puts her white, jewelled hand on Robin's shoulder.

"You will find your uncle in his study, dear."

"Must I go now, auntie?"

"I think so, my darling."

"Well," Robin throws down her scissors and holly, "it's rather a bore; but still, uncles must be obeyed, I suppose. Now you can all get on with what you are doing till I come back. No squabbling, please; and, Hugo, don't settle on the mistletoe. I shan't be a moment under what uncle Walter wants!"

Lady Lowrick has moved a few yards farther down the hall, and something like a tear shines in her eyes as she watches the girl vanish in the distance, singing as she goes.

"My poor little Robin! I am afraid she will be very disappointed," she thinks to herself.

Robin is busy rubbing her hands with her pocket-handkerchief.

"Hear I am, dear," she cries, in her clear, sweet voice, as she opens the study-door. "But I must not come near you, for I am grubby from head to foot—the evergreens are so dirty!"

She stops suddenly. Sir Walter is not alone.

A young man is standing by the fire—a young man in deep mourning, with a dark, resolute face, and magnificent eyes, that scan Robin up and down in a somewhat merciless way.

Sir Walter comes forward.

"Robin, my dear, this is Mr. Everest, your dear father's friend, and son of Colonel Everest."

If she had been plunged into a cold bath, Robin could not experience a worse shock. A horrible chill of disappointment suddenly freezes her.

She is silent only for a moment, then she speaks. "How do you do?" she says, courteously. "I'm sorry I can't offer to shake hands. I am too dirty."

And all the time her little fingers are entwined in her uncle's strong ones.

Osbert Everest sees this, and he frowns.

"How d'ye do?" he answers back. "I am afraid you are surprised to see me here, Miss Maxse."

Robin's fingers clasp Sir Walter's more closely.

"Yes, I am," she replies, uncompromisingly.

Sir Walter rushes into the breach.

"My dear," he says, turning to the girl, affectionately, "Mr. Everest is the bearer of sad news. I am sure you will hear with much regret that Colonel Everest died six weeks ago."

Robin interrupts him eagerly, her face illuminated into perfect beauty:

"Then I am free! I—I mean I am very sorry; but I have no guardian now, have I?"

Osbert Everest frowns again.

"So young, so pretty, and so heartless!" he thinks, quickly.

Then he answers for Sir Walter:

"Yes, Miss Maxse, you still have a guardian, although my dear father is no longer living to fulfil that post"—his voice is cold and stern. "When Major Maxse confided you to my father's charge, he left instructions that, in the event of my father's death, the guardianship of you, Robertha Agnes Maxse, was to devolve upon me. I have, therefore, the honor to present myself to you as your future protector and guardian."

Robin paused only a moment, then she turns to her uncle:

"Is this true, dear," she asks, piteously, "quite—quite true?"

Sir Walter pats her hand caressingly.

"What Mr. Everest tells you is quite true, darling; he is your legally-appointed guardian, although I am sure he will forgive me." Sir Walter goes on, turning towards the young man and speaking warmly. "If I say I deeply regret that Major Maxse should not have thought it wise to have left his only child to the care of his wife's sister, who is, in all respects, the proper person to have charge of the motherless girl."

"I sympathize with you in what you say, Sir Walter, but the wishes of the dead are sacred, and we have no right to question them; my father and Major Maxse were old friends, they were deeply attached; and you will forgive me for saying this—the quarrel that existed between yourself and Major

Maxse must have been the real cause of the arrangement he made on his deathbed."

Sir Walter flushes as the young man ceases. "A mere trifle! A stupid, silly, boyish quarrel! Ah! if only I could have seen Harold once again, all would have been forgotten."

"And then—then I could have lived with you always," Robin breaks in, hurriedly; "but"—turning to Mr. Everest—"but, perhaps I am going to live with you all the same."

How lovely her face looks with that eagerness written on it!

Osbert cannot refrain from admiring it; though he is not prepossessed by his ward's manner.

Sir Walter answers for him:

"No, my darling; Mr. Everest is hear to take you direct to Newtownlock, where in future you will reside."

"Newtownlock!—that dreary old place! Oh!—but surely—surely I am not going there at once—now, when Christmas is coming on, and there is the play," and her voice dies away mournfully.

Osbert answers, impatiently:

"No doubt you have heard, Miss Maxse, that your father expressly desired you should always spend Christmas and the New Year in his old home; my father allowed you to be with Sir Walter last year, because he thought it would be pleasant for you; but he had some scruples about so doing, and I know, had he lived, it was his intention to take you to Newtownlock this year. Since he is not here, however, that duty devolves on me. I trust"—this politely—"that this hasty journey will not be too inconvenient."

"My wife has gone to see that Miss Maxse's things are packed without delay," Sir Walter replies; "but I hope I may prevail on you to reconsider your decision, and remain to dinner."

Osbert smiles a very sweet, pleasant smile.

"I am sorry that I must still refuse your invitation, Sir Walter; but I promised my mother I would be home to-night, and as I have only just returned to England after a long absence, you will understand I like to keep to my word—this must be my apology to Miss Maxse for removing her so summarily from her pleasant surroundings."

Robin says never a word. To speak is not easy. So she has to go away from Lowrick at once, without having even had the poor compliment paid her of being consulted. The disappointment is so great that she cannot realize it to the full. If it were not for those wonderful, clear, handsome gray eyes fixed on her she would burst into a passion of tears, but something in Osbert Everest's face calls up all her pride, and lends her courage and strength at this the most disagreeable moment in her young life.

Sir Walter Lowrick is full of pity for the girl.

"Perhaps you would like to go to your aunt, Robin, my darling?" he says, gently, putting his hand on her shoulder.

Robin does not smile back in her wonted way; true to tell, she is deeply hurt.

"At what time do you wish to start," she says, sullenly, yet with defiance in her manner, as she looks at her young guardian.

"The carriage is waiting; I shall be glad to go as soon as you are ready," he replies, quietly.

"Do we drive all the way," she asks, quickly, "in all this cold?"

"You will find the carriage warm enough, I think, Miss Maxse."

[TO BE CONTINUED.]

"ONE GOOD TURN DESERVES ANOTHER."

A STORY IN TWO CHAPTERS.

CHAPTER THE FIRST.

"Oh, Gerty, do you think we might take a walk together? It looks so nice out of doors!"

The question was put in a subdued whisper, as the two sisters stood apart in a distant window.

"I don't know, Chris. I don't know if it would be quite polite. I wish I knew what people did in grand houses like this."

"So do I. I feel like a fish out of water. I don't think visiting is as nice as I expected. We have both looked forward to it so, and now I wish I were at home—almost."

"Hush!" whispered Gertrude warningly, and the next moment their hostess had come smilingly up.

"Well, my dears, and how are you going to amuse yourselves to-day? You know I told your mother that, with a whole household of guests on my hands, I should have to leave you to entertain yourselves a good deal. When I was young I used to like being left to my own devices, and I dare say you do too. A walk?—Why, to be sure! The whole world is before you. Go where you please, and do what you please; only be in for lunch at two o'clock. Mr. Chesterton is rather particular about punctuality and regularity at meals."

Gertrude and Christabel started off in the autumn sunshine, with a sense of joyous exhilaration and freedom from constraint. They were on a first visit from home, and the change from the quiet country rectory to a grand house—more like a castle than a house—with its parks and gardens and retinue of liveried servants, was a little oppressive. Moreover, their hostess, though an old friend of their mother's, was quite a stranger to them, and all the other guests in the house were considerably older than these two girls of eighteen and twenty. The Chestertons were childless people, who liked, in default of sons and daughters, to fill their house with visitors. Gertrude and Christabel had been invited to the Chase before, but their mother had not then thought them old enough to visit at a grand house, and they had only arrived there upon the previous evening.

Minnie May's Dep't.

MY DEAR NIECES:—Another year has almost gone and Christmas will soon be here again. Does not everyone with a heart in their bosom feel a glow of benevolence at the very mention of Christmas. We should all strive to make it brighter and happier for those around us, for we all have our home circle, our friends, or some poor or unfortunate one that we can do something for to ease the burden, or help them to forget the past. Good wishes, kind words and little gifts all contribute to make the day pleasant. I know, my dear girls, you have only a limited supply of pocket money to spend in gifts, but that is just what makes it so delightful, thinking and planning how to make it go farthest, for all my nieces are clever with needles, scissors or crochet needle, and can fashion any pretty thing from a copy, and with the variety you have to choose from in the last number of the *ADVOCATE*, it will not be difficult to select. To a house-keeper, such small things as a jar of honey, a basket of apples, a print of sweet butter, or a loaf of your own delicious home-made bread are graceful and acceptable offerings. We do not value the gift for its intrinsic worth; for who would not rather have a small gift, fashioned by a friend, than anything more costly only purchased! All these should be thought over and arranged before, long before; for our own household cares multiply at that season, and some are apt to be overlooked or forgotten. Much of our work has to be done at odd times, when no one sees us, so they take longer to complete. Our illustration describes the situation. Bessie, the maid, has come to call the children to tea. And, for the moment, they think it is some one else, by the half-worked slipper concealed behind the little girl's dress, and the hasty movement of the boy putting back the pictures into the portfolio. Evidently Bessie is in the secret by the way she guards her voice with uplifted hand, lest anything should be overheard. Where many young people live near, many pleasant parties can be organized for a dance, a drive, or, if the weather does not permit, games in-doors. I shall give you a description of one of the most popular games just now with our American cousins, and I do not know why it should not be very popular with us. It is called a "Donkey Party," and is played as follows:—Cut a donkey from brown paper, about four feet high. Any boy or girl clever with pencil can draw a sketch of one. Do not draw any tail on it. Now fasten a sheet tightly by the four corners, and paste the pattern of the donkey smoothly upon the sheet. Have as many tails cut as you have guests, with the name of each one written on it, and a pin through

one end. Place these in a little basket. One takes charge of the game, and blindfolds each one in turn, as in blind-man's-buff. Then the person blindfolded is given a tail, which they hold by the pin. They are turned around three times in the middle of the room, and left free to pin on the tail. Each one takes a turn in the same way, and it is funny to see how very wide of the place all the tails are. Whoever succeeds in pinning the tail nearest the proper place gets a prize, and the person who pins the tail farthest away gets what is called a "booby prize." The materials are so easily prepared, and the prizes need not be costly—a fan, or pretty box of bonbons, or any pretty trifle. MINNIE MAY.



SURPRISED.

Minnie May offers a prize of a beautiful silver lace pin for the best essay on "Recreation for our Girls and Boys." All communications to be in by the 25th of Dec.

It is with deep regret we chronicle the death of Mrs. John Robertson (nee Miss Jessie Robertson), a very clever writer, and for many years a contributor to our Magazine.

LIFE.—If we die to-day, the sun will shine as brightly, the birds will sing as sweetly, to-morrow. Business will not be suspended a moment, and the great mass will not bestow a thought upon our memories. "Is he dead?" will be the solemn inquiry of a few, as they pass to their work. But no one will miss us, except our immediate connections, and in a short time they will forget and laugh as merrily as when we sat beside them. Thus shall we all, now active in life, pass away. Our children crowd closely behind us, and they will soon pass away. In a few years not a living creature can say, "I remember him." We lived in another age, and did business with those who slumber in the tomb. Thus is life! How rapidly it passes.

PRIZE ESSAY.

How to Make Christmas Happy.
BY MISS ANNIE E. SCOTT, ST. CROIX, HANTS CO., NOVA SCOTIA.

"At Christmas time, away with sorrow;
We'll have naught but jollity."

What more fitting than that this day, which commemorates the birth of the Saviour of the world, should be one of universal rejoicing. That glad burst of angelic song which fell on the ears of the watching shepherds on the starry plains of Bethlehem, seems to echo in every heart, and each one feels that it is indeed a time "of peace and good-will." How strongly the charm of this glad and gracious season is felt in our home circles. And there are so many things that go to make Christmas happy, both in sumptuous and humble homes. There are the glad reunions of families and friends; the affectionate remembrances, expressed in the giving and receiving of presents; the beauty of tasteful decorations, arranged about our rooms by busy, loving fingers; the varied and bountiful supply of tempting good things on our tables; the infinite number of amusements; and withal, jolly old Santa Claus, making the hearts of the children to sing for joy. The merry laugh and kindly wish go round; the silvery tinkle of sleigh-bells and glad voices of merry-makers on skates and toboggans, come wafted to our ears—the very spirits of mirth and jollity are holding high carnival. Even the fire seems to feel the influence of the occasion, and burns and crackles more cheerily than ever. But if we are selfish in our happiness, taking no thought of the destitute and suffering outside our own happy homes, and, in our thoughtlessness, ignoring the divine words: "Inasmuch as ye have done it unto the least of these my brethren, ye have done it unto Me," then we are not happy in the highest sense of the word. Of

course, we all know that charity begins at home; but, let me add, that it should not be allowed to stay there.

I must say a few words, in passing, to the owners of the busy brains and fingers who have been so patiently employed in the making of those presents, that mean so much to dear ones. These Christmas tokens may not be expensive. Indeed, their cost must be regulated by the length of your purses, but when they are expressions of real love and remembrance, they are powerful agents in helping to make Christmas happy. In the matter of presents, by the way, none who have the privilege of reading Minnie May's Department of the *FARMER'S ADVOCATE*, need be at a loss for suggestions as to their preparation. Those described there require but a small outlay; the directions for making are so plainly given, and withal they are so dainty and pretty, that I quite long to be working at them.

this very minute. What more suitable for dear papa, than that handsome paper holder—his papers are always getting out of order—and that dainty sachet cushion would be just the thing for sister Nellie's toilet table; and, oh! that pretty music case for Cousin Belle; that work-bag for mother; that shaving-case for brother Tom—but there, I am growing excited. I might go on *ad infinitum*. There are so many dear ones to be remembered at Christmas, and time presses.

To begin again, let me repeat, that if we are selfish in our enjoyment of Christmas, we are not happy in the truest sense of the word. While we are feasting and making merry amidst the warmth and beauty and brightness of our homes, there are many who are suffering hunger and cold and illness in wretched homes, unbrightened by a single token of Christmas cheer. Here are pale, weary, discouraged mothers, sorrowing that they are compelled by direst poverty to deny their poor children even the smallest Christmas luxuries. What a blessed mission to bring help and sympathy to such homes as these. How the wealthy must bless God, as their hearts are warmed by the sweet, glad influences of Christmas, that He has given them the means of alleviating so much distress and misery. The poor we have always with us, even in the country as well as in the crowded city streets. We can all, by the exercise of a little self-denial, help to make Christmas happy for other less favored mortals than ourselves. To illustrate the last remark, allow me to tell you how a family, not too well off in this world's goods themselves, made Christmas happy for a poor widow and her three children—two little girls and a crippled boy. The boys—two little fellows of ten and twelve—went to the woods and cut down a large number of small birches. These they again cut into lengths suitable for the stove and then took them in wheel-barrow to the poor widow's door. Then one sister gave the little cripple a pretty picture book, and also a large scrap-book of her own making; another little sister gave the little three-year-old a beautiful rag doll with all its limbs complete and most firmly and neatly made—the child's own work. Then another little sister only eight years of age made two neat, beautiful sets of clothing for the dolly, as her share of the giving. The mother made over a bright woollen dress for the eldest little girl, and added a new muslin apron for the poor widow. The father, not to be outdone by the rest of the family, made up a large basket of vegetables, meat, and apples. To this the mother added a plum cake, while the children tucked a large paper of their home-made candies into a corner of the basket.

The surprise, gladness and tearful gratitude at the reception of these tokens of good will was something worth witnessing. This simple act of kindness was the means of interesting others in the poor strange family, and henceforth life became to them an infinitely happier thing.

Do you not think the thoughtful givers in this incident spent also a happy Christmas? Let me give you one more illustration.

A young lady teacher, one Christmas Eve, was passing along the streets of a city intent on the purchase of Christmas presents. Having made the necessary selections for the loved ones she had in mind she was now on her way to a

fur shop to invest for herself in what she considered a special piece of Christmas luxury—a fur tippet. It was to be rather expensive. She had delayed getting one till she could afford to invest in a specially good one, and for a year had been laying up money towards it. Passing a large and brilliantly-lighted toy shop she was attracted by the exclamations of a group of poor children gathered in front of the windows. As the light fell on them the expression of patient, hopeless longing on each poor little pale face was most touching. How these children were longing, with true childish longing, for the possession of those wonderful toys. But they were not for them. They would only be enjoyed by the petted, well-dressed children of wealthy parents. The young lady paused. The thought came strongly to her mind that all children had a special right to be happy Christmas. Did it not celebrate the birth of that Christ-child in the lowly manger at Bethlehem? Her resolve was made and at once acted upon. Entering the shop she purchased for each one of the children



MY DOLLIES.

the particular present for which he most longed. Then taking them to a baker's shop on the opposite side of the street she bought for them a generous supply of sandwiches, cakes and buns. It was good and most amusing to witness the surprise and delight of the children and to hear their exclamations of gratitude, as each one was now in a tearing hurry to run home and display his precious, unexpected treasures. One little girl, who held tightly in her arms a large rubber doll, the while eagerly munching a sandwich, looked reverently up into her kind benefactor's face, and said in a hushed voice: "Be ye an angel, miss?" One little Irish boy, with tears in his bright eyes, exclaimed, with true Irish fervor: "Oh miss, God bless you for iver, and may ye never die."

The young lady was prevented from indulging in the luxury of a fur tippet, but never once did she regret her kind act, and, furthermore, she said that it was the happiest Christmas she had ever spent.

Therefore, if we would know how to make Christmas happy, both for ourselves and others, we must exercise the true Christian virtues of love and charity, putting aside all selfishness and ill-will and forgiving every wrong, and then the

good we do will not only be a blessing on earth but will be more clearly shown in that day when the master "cometh to make up his jewels."

My Dollies.

Up, my dollies, one, two, three,
I must bathe you all, I see.
Dollies of china, wax, and wood,
Let me beg you to be good!
Don't cry at the soap, and don't kick at the rubbing;
Dollies, you know, are the better for scrubbing!
Big Mabel, shall it be your turn first?
No, for I think the sawdust has burst.
Or you, Miss Belle, with the curly hair;
Or Rosalinda, pluk and fair;
Or little black Judy, lying there,
Looking about with a queer glass stare?

Fashion Notes.

Genius is not necessary to enable a woman to make her own bonnets this year. What with simple and perfect foundations, the small amount of trimming necessary, and the suggestiveness of illustrations, any one who has a few good-sized scraps of dresses, and good taste at her command, can make her own bonnet. Frames cost but little, and the amateur soon discovers a way to bend, cut and re-wire hats and bonnets. The pretty felt hats and bonnets are quite within the trimming capacities of all ambitious women.

Striped material, if cut so that the stripes run diagonally, in a basque show the graceful tapering of the figure.

Green is the fashionable color.

Velvet is the trimming most in favor. Plush is no longer worn.

Moderately wide strings are worn upon bonnets.

When black kid gloves become hard, they may be restored by washing in gasoline.

Ribbons and feathers will take the place of flowers for winter bonnets.

Black hats seem to be the favorite color with any costume.

Most trimmings upon winter hats are from the back forwards. Even wings point sharply to the front.

Gold and silver trimmings are much used, but they are not serviceable, though expensive. Tinsel borders are noticed on some of the woollen dresses. They are handsome.

Green, blue and gray are favorite colors. Smocking continues in favor, and every lady can ornament her own dress, which makes it so popular.

White wool vests finish many of the new cloth gowns.

Short jackets are popular for street wear, but the happy possessors of a handsome dolman or cloak are not considered old-fashioned.

Round cloaks are hardly suited for street service, being difficult to keep closed while walking or shopping, and hands and wrists get chilled.

Recipes.

PLUM PUDDING.

One pound of suet, chopped and picked free from skin, half a pound of bread crumbs, rubbed fine, a teaspoonful of salt, one each of ginger, mace and nutmeg, one pound of Sultana raisins, one of stoned raisins, half a pound of sugar, half pound of flour. Mix all well with six well-beaten eggs, and enough milk to soften.

MINCE MEAT.

Chop fine one pound of sour apples, peeled and cored; one pound raisins, stoned; one pound currants, washed and picked; one-half pound sugar; one pound lean roast beef; half pound suet; add spices to taste, and chopped peel; mix with one pint of brandy, and put into a stone jar. It will keep for weeks.

A NICE CHRISTMAS CAKE.

Beat one pound of sugar with one pound of butter until it creams; add by degrees the well-beaten yolks of seven eggs, then the whites; stir in one pound of flour, in which has been mixed one pound of raisins, stoned; one pound of currants, washed and dried and well picked free from stones; one-quarter pound each of chopped lemon and orange-peel, a teaspoon of ground mace and one of cinnamon; mix all well together for half an hour, butter your baking tins and steam it for four hours; put into a moderate oven for half an hour to dry, then turn from the dish, and when cold, ice with hard icing.

CRANBERRY JELLY

Stew one quart of cranberries in enough water to cover them, strain through a collander, add one pound sugar, and boil until thick. Pour into small pots or jelly jars. This is nice to serve with roast turkey or beef.

BAKED APPLES.

Peel six large, sour apples, scoop out the stalk and also the blossom end; set them in a baking dish, stalk end uppermost; fill the cavity with brown sugar; put a small piece of butter on top of each, pour one cup of hot water around, and bake until soft. This is an improvement upon the ordinary way of baking apples with the skins on.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES:—The year of 1888 is about to close its volume, appearing to me by far the shortest year I ever lived in my life. As we grow old, the Christmases seem to come on so hurriedly, and before we can carry out all the plans made for the new year last January. Uncle Tom is busy all the time, and sometimes very disappointed. He hoped to present you with an attractive prize list for new subscribers, new puzzles, etc., this month; but there, it is not done. No doubt all my children are busy, too—their lessons, home duties, such as practising their music, getting in wood and water, feeding the chickens and stock, and all such chores. I know exactly what has to be done on a farm; and there is no time or room for idle hands. But we shall not grumble, for I know the happiest, healthiest people in the world are those who are always busy; for if we ever do take time to reflect, and in idleness consider our position, the first thing we know we are pitying ourselves, and comparing our lot to some one's whose perhaps appears to be more favored, having more leisure, and greater advantages, but who, I doubt, if they are one bit happier for; are not they, in turn, again longing for something else? The greatest happiness comes from a contented mind, prompted by a loving, generous and kind heart. At Christmas time you have ample opportunities for displaying a little of your affection. Will you not all try and do your share towards making some one happier than? A complete list of new prizes for 1889, also the prizes awarded for 1888, will be published next month; so now, young people, put in your best strokes this month, and answer all the puzzles, and send in some good new ones for the January number. Now, my dear nephews and nieces, I am going to ask every one of you to do me a favor, and that is, to send me the names of one or more new subscribers, to begin with the January number. If paid subscribers, that is, \$1.00 accompanying each name, I shall send you a

handsome prize in return. Now, see what you can do for your old uncle.

Wishing you all a very Merry Xmas and a Happy New Year, I remain, as ever, your affectionate
UNCLE TOM

Xmas Toys.

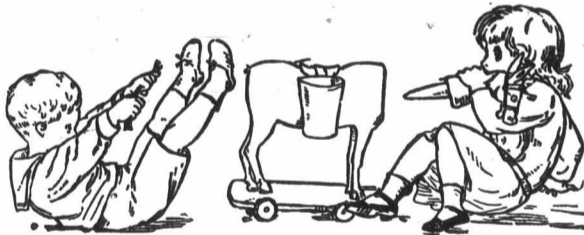
Christmas comes, and with it its pleasures; among which are the numerous toys that Santa Claus has left. How pleased all the children have been in the morning! Little differences often arise, and ere night the results below are often depicted. Some children are careful of what they receive, and years afterwards the yearly donations are carefully treasured. Sometimes they are handed down for generations. When visiting London, Eng., at the time of the



Colonial Exhibition, many Canadians were invited by the Marquis of Lorne to his residence, Kensington Palace. Perhaps one of the most pleasing reminiscences of that place was Queen Victoria's nursery. Here was to be seen her dolls' house, several dolls, dolls' cradle, chairs, &c., &c., which had been the playthings of our Sovereign when a little child. These carefully-preserved toys are an indication of a carefully-preserved life, and carefully-preserved kingdom. Children, if you are careful of your toys you may perhaps become like your Queen, admired by all.

A Vanishing Bird.

The fate of the wild pigeon is under discussion, and a very wide-spread opinion appears to prevail that because these birds are not seen in many sections where they formerly abounded,



they have disappeared from this continent. It is probable that this hypothesis can be proved an unsound one, and the wild pigeon may still be found in scattered flocks in the far West, their flight and nesting grounds changing with the fluctuations of the mast supply, on which they depend for food. Such flocks have been reported within a few years, and since that time there has been no event which might be accepted as an adequate explanation of their extinction. The fact remains, that the wild pigeon has not held its own, nor stemmed the current of settlement and civilization which has swept it from the great areas where its hosts once darkened the heavens.—[Forest and Stream.

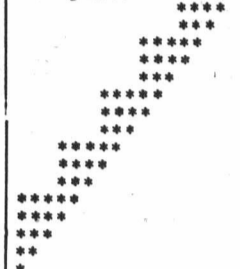
WANT of employment is the most irksome of all wants.

He that pelts every barking dog must pick up a good many stones.

Puzzles.

1-STAIR PUZZLE.

Diagram:—



- 1. To wink. 2. To join. 3. A colored fluid. 4. An empty space. 5. Poor. 6. A small animal. 7. Honest. 8. Position. 9. A conjunction. 10. A board. 11. Chance. 12. A unit on cards. 13. The side. 14. A bird. 15. A verb. 16. In pink. 17. In block.

FRANK RIDGLE.

2-NUMERICAL ENIGMA.

My 13, 5, 11, 7, is nothing.
My 8, 12, 15, 16, is vapor.
My 9, 1, 2, is to repose to the sun.
My 3, 14, 4, 4, is a small cavity.
My whole we are anxiously awaiting.

A. HOWKINS.

3-DOUBLE LETTER ENIGMA.

In climbing roses,
In charming stories,
In evergreen bowers, "at eventide,
In sunny climes,
In stirring times,
In timid minds, "do not deride."
In many reeds,
In grander deeds,
In dashing steeds, "we do delight."
Totals, to each puzzler, now I send,
Please accept them from a friend.

SNOWBIRD.

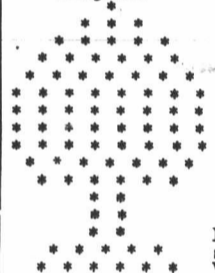
4-BEHHEADED AND CURTAILED.

-lttl -hing -houl -o- - - -espise -o-
-an -hread -ll -ln - - -lephan- -n-
-an -rod -ll -ak- -lve-

HOWKINS.

5-OUR CHRISTMAS TREE.

Diagram.



- 1. A consonant. 2. Wrath. 3. A fragment. 4. Meadow saxifrage. 5. Repeating. 6. A precious stone. 7. A maiden. 8. To animate. 9. A complete view. 10. To steal. 11. To set fire. 12. 1/2 of a rat. 13. 1/2 of a pint. 14. 2/5 of a verse. 15. A bird. 16. Frog-tongue.

My primals down name a large stream of water in the New World, and my finals a large body of water in the Old.

FAIRBROTHER.

6-DROP VOWEL PUZZLE.

-h -s- th -pr-c- -s h -rs t-d-y
T- g-thr kn-wl-dg- wh-l-y- - m-y,
F-r q-ckly h-st-th t-m- -w-y;
Th-n n-v-r b- "t- -lt-"

A. T. REEVE.

7-CHARADE.

We are a jovial puzzle band,
With "Uncle Tom" we've made a stand;
Yet with onward step we now advance;
Total, we solve a puzzle wrong,
But persevere and we ere long,
Shall be able to solve them at a glance.
While winter don's her coat of snow,
Let us first skillful labor show;
And not be reluctant with design,
But with a fresh charade or square,
And at last an enigma (rare),
And not entirely to one species incline.

FAIRBROTHER.

12-CHARADE.

My first can swim,
And cannot be drowned.
My second can hold
Two things together.
My total can draw,
But whether artist or not,
I leave you to guess as you will.

HENRY REEVE.

9-OUR CHRISTMAS DINNER.

- 1. 1/2 of a tortoise and an index.
- 2. Timber and to set upright.
- 3. To sever and to wrinkle.
- 4. 1/2 of heaven, a pronoun and a relation.
- 5. A deep vessel, a vowel and parts of the body.
- 6. A quadruped, the end, therefore and aloft.
- 7. To nibble and 1/2 a lesson.
- 8. Company, a consonant and a reward.
- 9. 2/3 of a monkey; a number and 2/3 of a gien.
- 10. A low shoe, relation and 3/5 of piety.

FAIRBROTHER.

8-TRANSPOSITION.

Tel lal rabset thiw dagesnls nobud.
Elt lal thears eb ogdo dan uter;
"Capee no reah, odog lwil raudon,"
Eb rou tomot veer tuer.

HENRY REEVE.

10-STAIR PUZZLE.



1. To wait for. 2. Ruin. 3. A house of entertainment. 4. Unripe. 5. To get up. 6. To handle. 7. To rate high. 8. Scarce. 9. Anger. 10. Obscurity. 11. A small animal. 12. A trade. 13. A garden tool. 14. Sickly. 15. A beverage. 16. A river in Scotland. 17. In December.

A. T. REEVE.

11-ILLUSTRATED REBUS.



Answers to November Puzzles.

- 1-I M I L E T
2-CORRAL IN ELEVEN RELET AVER SET IN N
3-Dominion of Canada.
4-(1) Madge, Dora. (2) Diana. (3) Madeline. (4) Anne. (5) Mary.
5-All are not princes that ride with the Emperor.
6-CORAL ORAL RAY
7-It is better to die in the right. Than to skulk away from the field; A true man never will yield. If he knows that his cause is right.
8-Anywhere.
9-The path that has once been trod Is never so rough to the feet; And the lesson we once have learned, Is never so hard to repeat.
10-Connecticut.
11-Once doing will not suffice. Though doing be not in vain; And a blessing falling us once or twice, May come if we try again.

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

Robert Wilson, Emma Dennee, Helen Connell, Frank Riddle, A. Howkins, Wm. B. Anderson, Madeline Lowe, Henry Reeve, A. T. Reeve, Carrie Sheeres, Flora McDougal Drummond, Fred Corbhan, Cecelia Fairbrother, Gertie Walker, E. Eulalia Farlinger, Annie Nolan, Margaret Ann Wiggins, A. Russell Boss.

First Bachelor—Where shall we go this afternoon—to the matinee, the circus or what? Second Bachelor—What sort of hats are the ladies wearing now? "Taller than ever." "Well, let's go to a balloon ascension."

Mother (severely)—Willie, you naughty boy! What have you been doing to your cousin Johnny? Willie (defiantly)—I heard papa say that he hadn't any sand, so I've been filling his mouth with it. Cry-baby!

NEW ADVERTISEMENTS.

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Fifteen pairs of Mammoth Bronze Turkeys for sale. I won the following prizes this season.—At Toronto, first and third; Collingwood, two firsts and one second; Stayner, first (only one entry). Male at head of pen weighs 43 pounds. Price, \$5 and \$7 per pair, according to size and color.

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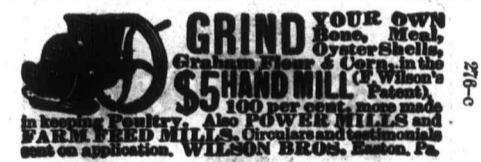
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Settlers for Manitoba, Northwest Territories and British Columbia look at this Season's Record:

2,046 Bushels Grown from 37 Acres

Major Walker, of Calgary, Alberta, now in Ontario, has just received a letter from his manager, dated Sept. 17th, 1888, stating that one half of his oats had been threshed, viz.: 37 acres, yielding 2,046 bushels by measure, weighing 44 pounds per bushel, and that most of them had been sold at 33 cents per bushel. This is the fourth crop of oats grown in succession on the same land without manure.

\$7,182.00 Made from 180 Acres.

Mr. J. D. Russell, of Portage la Prairie, who is now in Ontario, with a portion of the Manitoba exhibit, has just received a letter telling him that Messrs. Caruth & Brown, of Portage la Prairie, have just threshed this season's wheat. They had 180 acres, which yielded 44 bushels per acre, and for which they were offered 95c. at the threshing machine. In other words, these gentlemen realized for their wheat crop alone in 1888 the sum of \$7,182.

For full information, rates, or a set of the Company's pamphlets, write

W. R. CALLAWAY, 110 King St. west, Toronto. LUCIUS TUTTLE, Pass. Traf. Mang. Montreal. D. MCNICOLL, Genl. Pass. Agt. 276-a

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

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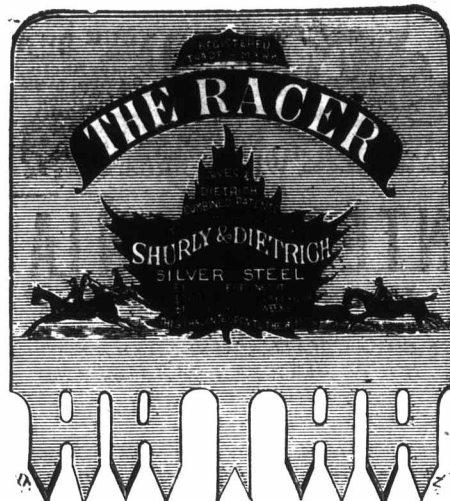
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ONTARIO CREAMERIES CONVENTION

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WEDNESDAY AND THURSDAY, JAN. 9 & 10, '89

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Fodder Crops and Corn Ensilage, by John Sprague and J. S. Pearce.

Creamery Work, How it is Done, by John McHardy.

SECOND DAY.

The Value of Dairy Farming to Ontario, by Hon. Chas. Drury.

One Year's Creamery Work, by Jas. Cheesman.

Small Packages for Encouraging Home Trade, by D. Derbyshire.

The Ontario Creameries, by Prof. Robertson.

Creamery Inspection, by Mark Sprague.

The Dairying Demanded by the Times, by John Gould, Ohio.

The blackboard will be used for illustrations.

Further information from James Cheesman, or from Local Secretaries, John Sprague, Ameliasburg, and R. J. Graham, Belleville.

Grand Trunk Railway and C. P. R. will sell tickets at full fare one way, and a third returning, on presentation of certificates, which may be had from the Secretaries.

276a



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Chief Office 47 Arcade, Toronto.


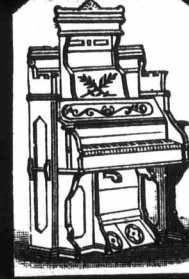
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In the Live Stock Department, two-thirds the loss by death of the live stock of its members through disease or accident; also for depreciation in value for accidental injury. Those interested send for prospectuses, claims paid, etc. Reliable Agents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

WILLIAM JONES, SECRETARY.

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FOR PURITY OF TONE & DURABILITY
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Creameries, Butter Factories, Have Your Choice. Danish, A. size, skimming..... 2250 lbs. per hour. B. 1150 " " Hand machine, " 160 " " Foot machine, " 225 " " Blackstrom Separator, " 800 "

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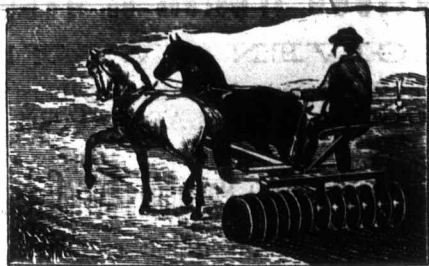
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In Over 30 Field Trials with Other Disk Harrows the Past Year the "Corbin" was Sold and Settled For. Every Farmer Should Insist on a Trial with the "Corbin" Before Buying any Other.

Read What the Best Farmers Say:

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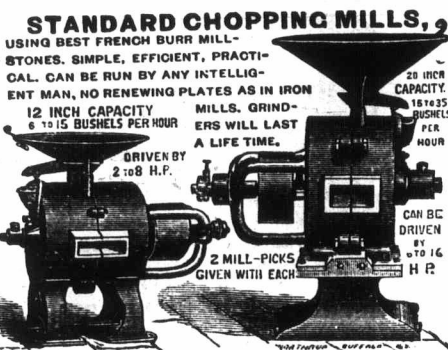
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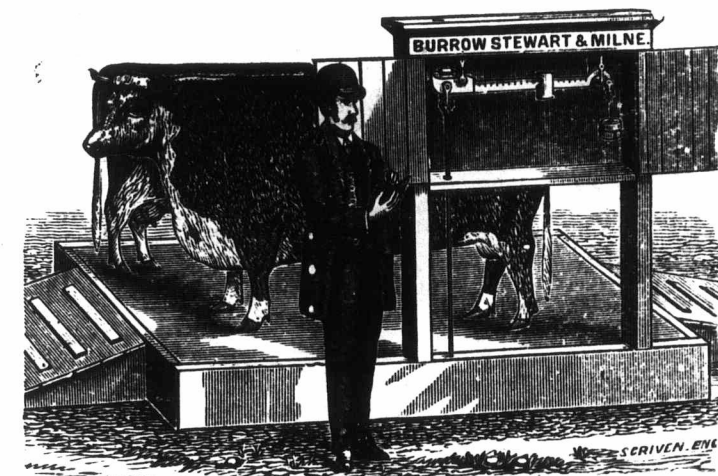
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It weighs Accurately from half pound to 4,000 pounds.

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PRIZES.**\$1,500 WORTH of STOCK
GIVEN AWAY!**

For Procuring New Subscribers to
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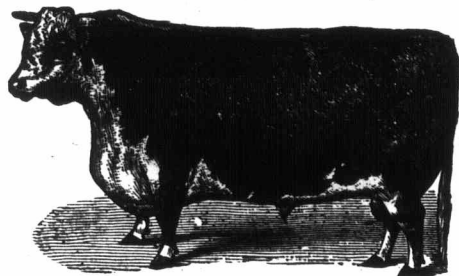
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CONDITIONS:

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

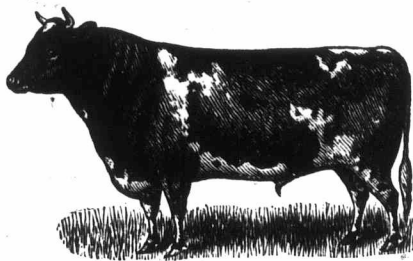
All the animals we offer are of good quality, and are registered or capable of being registered. All are of good families and have good ancestors. The Poultry will be equally good.

Hereford Bull---Value \$150.

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

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Springdale Farm, Oshawa, Ont., who is an extensive breeder and importer of
**HIGH QUALITY AND FASHIONABLY BRED
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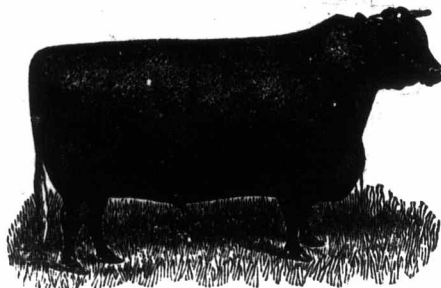
For a description of his herd see June number of the FARMER'S ADVOCATE, page 166. The bull given will be one of Mr. Mackie's finest young animals, and will be fit for service when shipped.

Ayrshire Bull---Value \$100.

For 150 New Names, accompanied by \$100, we will give a first-class Ayrshire Bull from the noted prize-winning herd of

THOMAS GUY,
BREEDER OF—
Ayrshire Cattle, Leicester and Southdown Sheep,
and BERKSHIRE PIGS.
SYDENHAM FARM, OSHAWA, ONT.

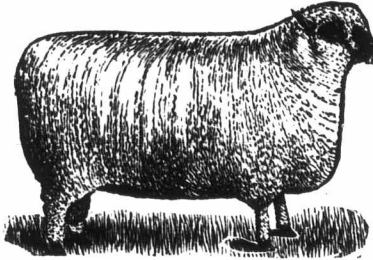
A review of his herd will be found in the September number.

Shorthorn Bull---Value \$150.

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

JAMES GRAHAM,
Port Perry, Ont., a very extensive breeder of
SHORTHORNS and COTSWOLDS

His herd now numbers upwards of 100 head. Highly bred milking strains are his specialty. The bull we will give will be one of his best young animals, and will be highly bred, of good quality and fit for service when sent out. For particulars of this herd see September number of the FARMER'S ADVOCATE.

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

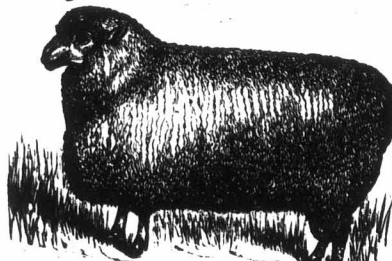
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CLYDESDALES, SHORTHORNS, SHROPSHIRE.

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

Shropshire Ram Lamb---Value \$25

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

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Importer and Breeder of
Cruickshank Shorthorns, Clydesdales, Shropshire Sheep and Black Minorca Fowls. Show animals always on hand. See May ADVOCATE, page 138 for description of this herd.

Yearling Cotswold Ram---Value \$40.

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

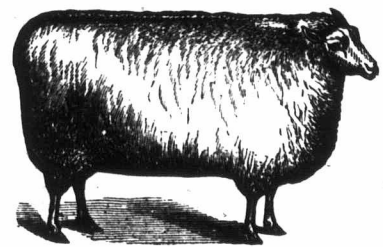
JOSEPH WARD, MARSH HILL P. O., ONT.
Breeder and Importer of first-class
SHORTHORNS, COTSWOLDS, SHROPSHIRE

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

Cotswold Ram Lamb---Value \$15.

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

David Birrell, Greenwood, Ont.,
Breeder and Importer of
CLYDESDALES, SHORTHORNS, COTSWOLDS
For description of herd and stud see June number of the FARMER'S ADVOCATE, page 167.

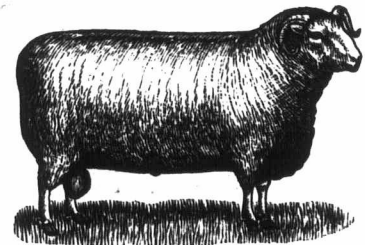
Leicester Ram Lamb---Value \$15.

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

ALEXANDER JEFFREY, WHITBY, ONTARIO.
BREEDER OF—

**Clydesdales, Shetlands, Shorthorns
and Leicester Sheep.**

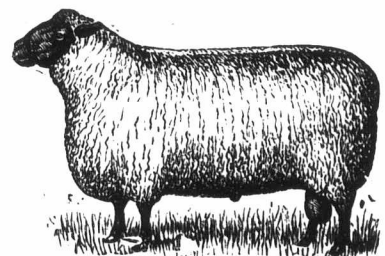
For description of stock see September number

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

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

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BREEDER AND IMPORTER OF
JERSEYS

OF THE MOST NOTED FAMILIES; also breeder of
Clydesdales, Shetlands and Dorset Horned Sheep.
For description of his herd see July number of the ADVOCATE, page 232.

Hampshire Ram Lamb---Value \$30.

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

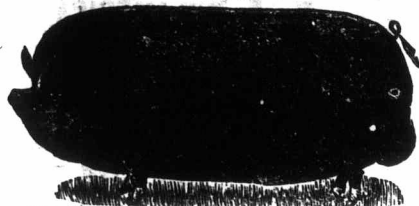
MR. JOHN ADAMS, PORT PERRY, ONT.,
BREEDER OF—

Shorthorns, Clydesdales, Shropshire & Hampshire Sheep
and BERKSHIRE SWINE.
See sketch of Ambleside Farm in July number,
page 202.

Black Minorcas---Value \$7.

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

Berkshire Boar--Value \$30.



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

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

They have for sale a good lot of young pigs from two to three months old by the prize-winning boars **RARE SOVEREIGN (490), LORD DERBY (486), BARON VON BISMARCK (426),**

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

BERKSHIRE SOW--VALUE \$30

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

J. C. SNELL, EDMONTON, ONT.,

Importer and Breeder of

Shorthorns, Cotswolds and Berkshires

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

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

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

WM. LINTON, AURORA, ONT.

BREEDER AND IMPORTER OF HIGH-CLASS

Shorthorns, Berkshires and Cotswolds.

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

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

POULTRY.



For 10 New Names we will give a pair, and for 5 New Names one Cock, of any of the following varieties:

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

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

Mammoth Bronze Turkeys--Value \$9.

ALL BRED BY

WM. HODSON, BROOKLIN, ONT.,

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

White Fantail Pigeons--Value \$7.

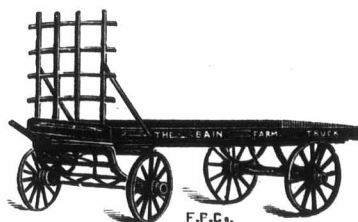
For 12 New Subscribers.

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

ADDITIONAL STOCK PRIZES.

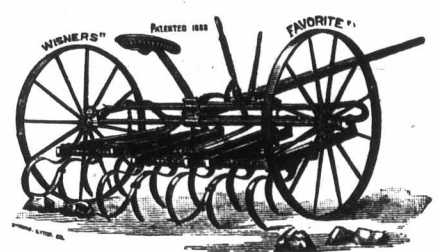
We will give as subscription prizes young animals, either male or female, of any of the following breeds: Shorthorns, Herefords, Galloways, Ayrshires, Jerseys, a bull or heifer (of fair quality), purely bred, for 100 new subscribers, accompanied by \$100. We can also supply home-bred or imported stock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

BAIN FARM TRUCK--VALUE \$75.



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

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



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

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

SULKY PLOW--VALUE \$40.

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

COPP BROS., Hamilton, Ont.

Send for cuts and information.

Improved Halliday Standard Wind Mill, VALUE \$75.

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

ONTARIO PUMP CO., TORONTO,

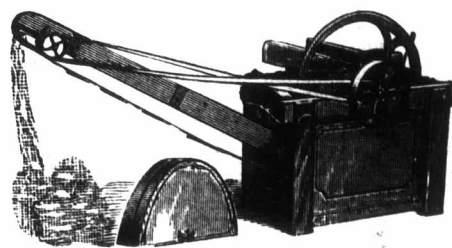
Manufacturers of Pumping and Gearing Wind Mills, 1 to 40 horse-power, also I. X. L. Feed Mills, Hay Tools, and Iron and Wood Pumps. Send for Illustrated Catalogue.

HAY LOADER--VALUE \$75.



For 140 new names, accompanied by \$140, we will give one of Matthew Wilson & Co.'s (of Hamilton) celebrated Hay Loaders, or a Tedder for 75 new names, accompanied by \$75.

FEED CUTTER WITH CARRIER--VALUE \$55.



For 100 new names, accompanied by \$100, we will give one of Messrs. B. Bell & Son's, of St. George, Ont., large Straw Cutters with Carriers, or one of their Root Pulpers, value \$18, for 30 new names.

Agricultural Furnace--Value \$22.

For 40 New Names, accompanied by \$40, we will give a Large Agricultural Furnace manufactured by

The Gowdy Mfg. Co., of Guelph,

MANUFACTURERS OF

Sulky Plows, Two and Three Farrow Gangs, Feed Cutters, Land Rollers, Reapers, Mowers, Fanning Mills, Turnip Seed Sowers, Harrows, Etc.

FANNING MILL--VALUE \$35.

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

MANSON CAMPBELL, of Chatham.

STOCK SCALES--VALUE \$50.

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

Winchester Repeating Rifle--Value \$45.

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

A GRAND GUN--VALUE \$40.

For 60 New Names, accompanied by \$60, we will give a very fine English Breech-loading Shot Gun, called the New Model; it has fine Damascus barrels, left barrel full choked, right half choked, very finely finished throughout. Those winning the Guns may have any size of bore they desire. All the Guns are of fine quality and finely finished.

A GRAND REVOLVER--VALUE \$12.

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

The Model Harness—Value \$20.

For forty new names, accompanied by \$40, we will give the Model Harness of Canada, manufactured by **The Farmers' Supply Co.**, 178 King St. East, Toronto. It has taken over twenty years to get this harness to perfection. Combines elegance and durability hitherto unknown. Hand made, best of stock, full nickle or Davis' hard rubber mounting; single strap or folded style. Price, only \$20. Harness are sold at \$30 not as good.

STOCK GOSSIP.

M. H. Meagher, of Halifax, N. S., writes he has sold four of his herd of Gall ways to the Hon. D. Ferguson, Provincial Secretary of Prince Edward Island.

Messrs. H. & W. F. Bollert, Cassel, Ontario, in a recent letter to us, sends the following stock gossip:—Our Holstein-Friesians have now moved into their winter quarters, and are in very fine condition. The calves sired by Lytle (the present herd bull at the famous Sinclairville stock farm), are wonderfully fine and growthy, and show great indications both for milk and butter. Last week we sold to Mr. N. L. Roth, of Cassel, the imported cow, Bedje (No. 4505, H. H. B.), her three-days-old heifer calf, and her four-year-old daughter. They are a fine family of large milkers.

Considering the very important roles which cavalry and artillery play in the art of modern warfare it is an interesting fact to know the total number of animals which the leading countries of the world can throw into the field of battle. The following is the list, according to the latest statistics. Russia, 21,570,000 horses; America, 9,500,000; the Argentine Republic, 4,000,000; Austria, 3,500,000; Germany, 3,350,000; France, 2,800,000 and 300,000 mules; England, 2,790,000; Canada, 2,624,000; Spain, 680,000 horses and 2,500,000 mules; Italy, 2,000,000; Belgium, 388,000; Denmark, 316,000; Australia, 307,000; Holland, 125,000, and Portugal 88,000 horses and 50,000 mules.

F. J. Ramsey, owner of Mountindale Stock Farm, writes us under date of Dunnville, O. T., November 26:—"I have made the following sales this fall: In Suffolk pigs—To Wm. Frazer, Forest, 2; J. Thomson, Pointe Claire, Quebec, 4; J. E. Couse, Wyoming, 3; Seth Hodge, Altercliffe, 1; W. Thomson, Niagara Falls, 2; Louis Grant, Dunn, 2; J. M. Vankeuran, Dunn, 2; Dan. Culver, Rainham, 2; Chas. Walker, Cayuga, 5; James Porter, Linwood, 2, and 2 Berkshire; John Yorkston, Pictou, N. S., 2 Shropshire and Leicester Sheep—1 Leicester ram lamb to Wm. Clark, North Willshire, P. E. I.; 1 Leicester ram lamb to John A. McNab, Alexandria; 1 Leicester and 1 Shropshire to E. A. Carver, Colpo's Bay; 1 Leicester to W. Gracey, Moulton; 1 Shropshire to Jos. Phillips, Maigstone Cross; 1 do. to J. D. Clement, Vanessa; 1 do. to Abner Neice, Sherbrooke; 1 do. to Wm. Poole, Moulton; 1 Leicester ram lamb to Peter Johnson, Moulton; 1 shearing Leicester to Emerson Martindale, Mount Healy; 1 shearing Leicester to H. J. Ince & Son, Willow Grove; 10 ewes, 3 ewe lambs and 1 shearing ram to J. M. Vankeuran, Dunn. In Shorthorns—1 bull calf to E. Martindale, Mount Healy; 1 do. to H. J. Ince & Son, Willow Grove; 2 to Senator McCallum, Stromness; 1 to Wm. Neice, Stromness; 1 to F. S. Platt, Dunn; 1 do. to John Bradley, Thorold; 1 do. to C. Risley, International Bridge; 1 to Asa Mison, Sherbrooke; 2 heifers to A. H. Bradley, Marshville; 2 cows and a heifer to J. E. Rebstock, Buffalo; 1 Holstein bull calf to Emerson Martindale, Mount Healy. I find the *ADVOCATE* a good paper to advertise in. Have made sales through it as far as Prince Edward Island. I will have a fine lot of Suffolk pigs for sale in the spring.

Messrs. Smith, Powell & Lamb write us as follows:—We wish to call the attention of your readers, and particularly the dairymen of Ontario, to the superior merits of six head of Holstein-Friesian cattle, lately bought of us by A. C. Hallman & Co., New Dundee, Ontario. This is the second lot of choice Holstein-Friesians that these gentlemen have selected from our herd and taken to their home. While the six head each possess good quality and are exceedingly well-bred, we will mention but two of them particularly. The bull which is to head their herd, Netherland Statesman's Cornelius, is rarely, if ever, surpassed for beauty, fineness and vigor, combined with a pedigree (considered from the standpoint of actual performance at pail and churn) of the highest standard. His immediate ancestors are celebrated as prize winners. His sire is Netherland Statesman, the best sort of that noble sire, Netherland Prince. His dam, Aaglie Cornelia 2nd, is one of our choice cows, her milk record of 14.6 lbs. 9 ozs. in a year, and butter record of 19 lbs. 6 ozs. in a week being the best evidence of her worth. Her sire is the famous Alexander (whose daughters and grand-daughters have made so many large milk and butter records). Through her dam (Aaglie Cornelia's milk record, 16,794 lbs. 11 ozs. in a year), Aaglie Cornelia 2nd becomes the grand-daughter of Rooker, the fountain head of the well-known Aaglie family. Briefly stated, the dam of this young bull, the dam of his grandsire (Lady Netherland), and the dam of his grandsire (Lady Netherland), have made butter records averaging 20 lbs. 14 ozs. for a week, while the milk records of his five nearest female ancestors average 16,570 lbs. 10 ozs. in a year. One of the cows selected by Messrs. Hallman & Co. was Princess Margaret, a fine specimen of the breed, which, as a 4-year-old, made a butter record of 20 lbs. 14 ozs. in a week, making a pound of butter from 14.79 lbs. of milk.

FAY CURRANT GRAPES LARGEST GROWER 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.

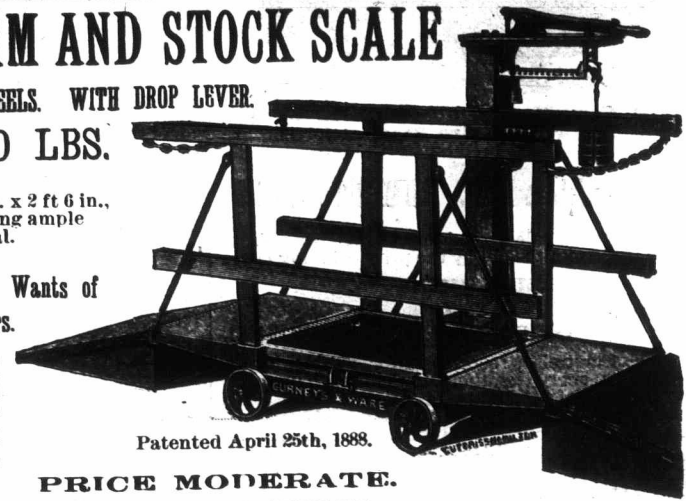
GURNEYS' FARM AND STOCK SCALE

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 constructed 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.
—MANUFACTURED ONLY BY—

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

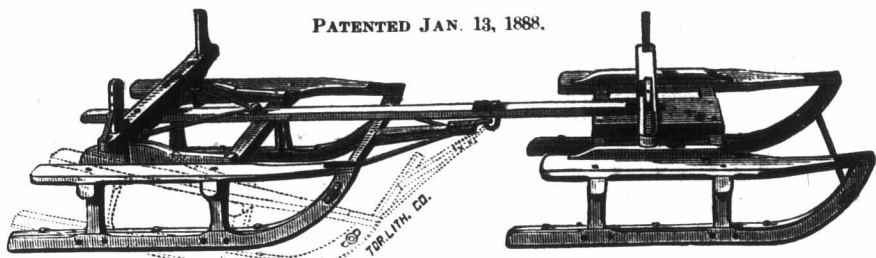
MANUFACTURERS OF ALL KINDS OF SCALES.

276-1

BAIN WAGON CO'S KNEE-BOB

PATENTED JAN. 13, 1888.

The best in the market for farm work, logging, teaming, &c. Two inch steel shoes.



The only sleigh on which the bob affixes on the bearing instead of on the box or rack. See cut.

REASONS WHY OUR SLEIGH IS THE BEST IN THE MARKET.

Because with our patent attachment to hind bob it is the easiest running sleigh made. Because it will go in and out of pitch-holes without any strain on itself even when heavily loaded. Because it will go in and out of pitch-holes without the hind bolster sliding back and forth on the box or rack, as it does with the old coupling. Because with our improved coupling it can be backed up the same as a wagon. Because with our swivel in coupling it can be used on the roughest roads without any twist to the reach. Because with our swivel in coupling it will allow either bob to turn up on its side when loading or unloading logs without any danger of breaking the reach. Because with our improved coupling it can be turned around in its own length. Because it is always in line and will track under all circumstances. Because it cuts off less than any other sleigh made. Because it is well made of the very best wood and iron. Because it has a good length of runner, and faced with a two inch steel shoe. Because all sleigh makers who have seen our coupling say that it is just what was wanted to make the bob-sleigh perfect, and wonder why such a simple and necessary improvement was not thought of before.

264-1f

BAIN WAGON CO., Woodstock, Ont.

THE E. B. EDDY
MANUFACTURING COMPANY (Limited)

Established A.D. 1854. Incorporated A.D. 1886.

HULL, P. Q.

MANUFACTURERS AND WHOLESALE DEALERS IN

PAILS, TUBS, ZINC WASHBOARDS, BOX-SHOOKS,
TELEGRAPH, SAFETY and PARLOR MATCHES.

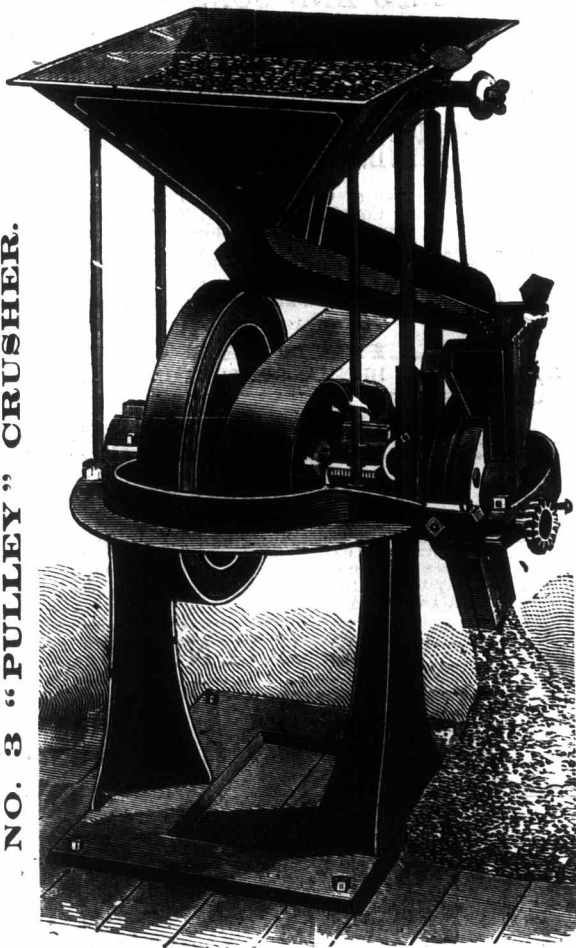
Indurated FIBRE WARE

Light, Seamless, Tasteless, Impervious to Liquids, Indestructible. No Hoops. Will not Shrink or Swell. Cannot Leak, Water Soak or Rust. Being Seamless, Bottom cannot drop out. Proof against Hot and Cold Water, Kerosene, Benzine and Naphtha.

262-1f

The New Rapid Grain Crushers

NO. 3 "PULLEY" CRUSHER.



Will Grind from 10 to 50 Bushels Per Hour.

Made in different sizes to meet the requirements of

Farmers, Threshers
—AND—
MILLERS.

This mill is essentially a farmer's mill for stock feeding purposes, and is constructed on new and scientific principles never before adopted in this country. It is the only iron mill which can compete with the French burr stone in grinding all kinds of grain.

We also manufacture both power and hand
CUTTING BOXES,
and a full line of
Standard Implements

—AND—
Harvesting Machinery.

For full particulars apply to us or our agents in your locality.

THE PATTERSON & BRO. CO.,
—WOODSTOCK, ONT.
276-f

STOCK GOSSIP.

James Midthews, writing us under date of Nov. 14, says:—My two-year-old coach stallion, Pure Gold, that got his fore leg injured at the International Fair, Buffalo, from which he was kept from getting first prize, has entirely recovered from the accident, and is looking fine. He is considered the best in his class in Canada.

On the evening of November 25th, the Ontario Government again sustained a serious loss by the destruction by fire of the barns, &c., at the Model Farm, Guelph. The barns were said to be the largest in the Dominion. The main barn was burned to the ground, also the two large wings attached to it for the horse stables and sheep pens. The bull shed, which was only separated from the wing for the horses, was also completely destroyed. The government was fortunate in saving all the live stock. The other contents of the barns, which included grain, hay, straw, &c., in large quantities, were completely destroyed. The total loss is estimated at \$30,000. Fires have been very frequent at this farm. A thorough investigation should be made as to the cause of this one.

Henry Arkell, Farnham Farm, Arkell, Ont., has sold within the last five months as follows:—To F. Wilson, Jackson, Michigan, eight Oxford-down rams and four ewes, for show purposes; two Oxford-down rams to John Rowell, Harrington, Seal Island, Nova Scotia; to Uriah Privett, Greensburg, Indiana, nine Cotswold rams and seven ewes, for show purposes. This is the eighth year Mr. Privett has come to Mr. Arkell for his show sheep, and has been very successful in the show ring of the leading American shows. Mr. A. also sold a Cotswold ram lamb to Henry Prinder, Simcoe; a shearing Oxford-down ram to W. B. Watt, Salem; a Shorthorn bull calf and two Oxford-down ewe lambs to Wm. Young, Waubano; a Berkshire boar to Robert A. Colwell, Monck; and one Berkshire boar to W. B. Palmer, Charlottetown, P. E. I.

H. J. Davis, Woodstock, Ont., writes: My stock, considering the drought, have gone into winter quarters in good condition, with an abundance of roots and fodder for them all. My recent sales included one yearling Shorthorn bull, 3rd prize winner at the Western, to J. Stonehouse, Wyoming, Ont.; one Berkshire boar to Mr. E. Howlett; one boar to George Gauld, jr., Rutherford, Ont.; one boar to John Ferguson, Eagle; one boar and sow to A. Sharpe, Thamesville; one sow to Thomas Fraleigh, Arva; one boar to Samuel C. Carmichael, Fincal; one boar to John Clarke, Blythe; and one boar and sow to Mr. F. W. Charteris, Chatham, Ont. I have one good red bull calf from Imp. Roan Prince on hand yet, also a few cows and heifers of the fleshy sort.

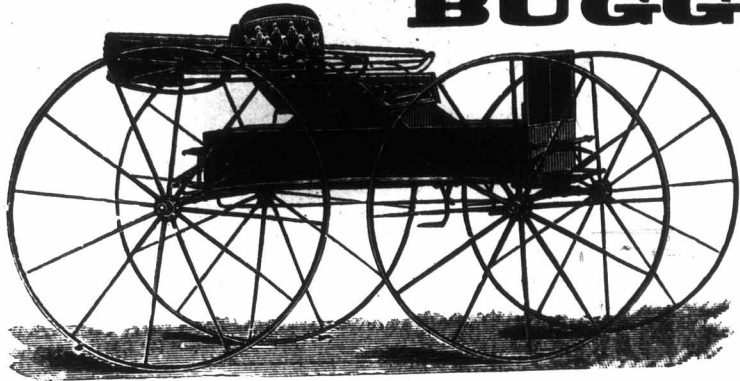
NOTICES.

Hon. T. H. Phair, Presque Isle, York County, N. B., is now making 40 tons of starch a day and will manufacture 1,200 tons this year. This will consume some 300,000 bushels of potatoes, and will take about 4,500 casks.

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 Pueblo. For a special folder giving full particulars of these excursions, call on your local ticket agent, or address P. S. EUSTIS, Gen'l Pass. and Ticket Ag't, C. B. & Q. R. R., Chicago, Ill. Adv't. 276-b.

A NEW GATEWAY.—By the completion of a new bridge across the Missouri River at Rulo, Nebraska, the Burlington Route has established, for the entire distance over its own track, a new, direct, through line from St. Louis to Kansas City, St. Joseph, Atchison and Denver. Over this line is run "The Burlington Denver Express"—a solid train with through sleeping-cars and coaches from St. Louis to St. Joseph and Denver, and a through sleeping car from St. Louis to Kansas City. The connections made by this train at the Missouri River, at Denver, and at junction points en route, are such that one can directly reach by it all points in Nebraska, Colorado, and all sections of the West and Southwest, as well as all Pacific Coast points. This is in addition to "The Burlington's Number One" well-known solid vestibule train between Chicago and Denver and Cheyenne, with which direct connection is made by C. B. & Q. R. R. train from Peoria, and by which one can make the run between Chicago and Denver without being more than one night on the road. For tickets via the Burlington Route, and for special excursion folder, call on any ticket agent of connecting lines, or address P. S. EUSTIS, General Passenger and Ticket agent, C. B. & Q. R. R., Chicago, Ill. Adv't. 276-b.

BUGGIES!



We make a specialty of
PIANO BOX
TOP BUGGIES

specially adapted for farmers' use.
Our output for 1887 was over 1,000.

Agricultural Agents will find it to their advantage to send for Catalogue and Price List.
All work is guaranteed.

B. J. NASH & CO.,

Wholesale and Retail.

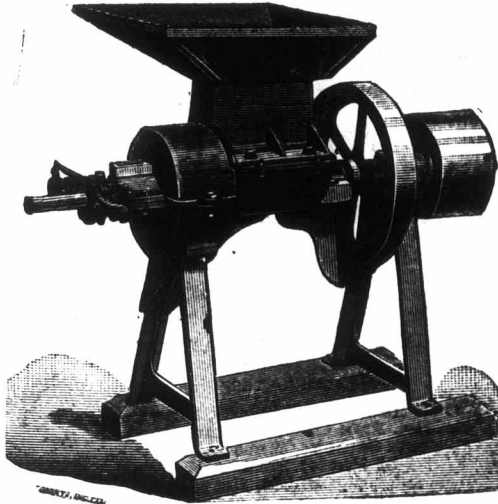
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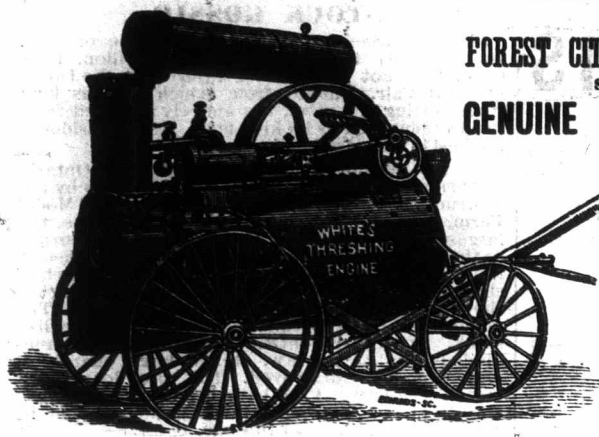
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The JOHN ABELL ENGINE AND MACHINE WORKS, TORONTO.

The DUPLEX CORN and FEED MILL.

Why the "Duplex" is the Best Mill in the World:
1st—Because it is provided with a double set of grinders or burrs, for which reason it is called the DUPLEX. 2nd—Because it is the only Mill in the world that grinds on both sides of the revolving burr at the same time. 3rd—Because it is the most perfect in construction, the strongest and most durable. 4th—Because it has a grinding surface just double that of any other Mill of equal size, and can, therefore, do twice as much work. 5th—Because 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. 6th—Because its shifting device for regulating the grinding is the most perfect known. 7th—Because 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
JOHN ABELL, TORONTO.
268-y





"THE FITTEST SURVIVES."
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.
 GEO. WHITE, Proprietor and Manager.
 H. B. WHITE, Head Traveller.
 HUB. J. WHITE, Sec.-Treas.
 A. W. WHITE, Asst. Manager
 F. J. WHITE, Asst.-Sec. 267-tf

The CHATHAM MANUFACTURING CO., Ltd.
 Chatham, Ontario, Canada.



MANUFACTURERS OF THE
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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HUDSON BAY CO.
FARMING and GRAZING LANDS
FOR SALE.

This Company has For Sale Land in every Township in Manitoba and the North-west Territories. Their Title is Direct from the Crown.

PRICES MODERATE. TERMS OF PAYMENT LIBERAL.
 These Lands have been Surveyed by the Government, and Inspected and Reported upon by the Company's Agents. The Government Township plans can be seen in the Company's Office, No. 208 Main street, Winnipeg. There are no Conditions, but a Deed will be given on full payment being made.

COAL LANDS.
 The Company also own Lands in all the Coal Bearing Districts.
TOWN LOTS.
 Lots for Sale in Winnipeg, Rat Portage, Portage la Prairie, West Lynne, Edmonton, Fort Qu'Appelle, Prince Albert and Newdale.
 Full Information can be obtained on application at the Company's Office. Maps, &c., sent to any address.
C. J. BRYDGES, Land Commissioner.
 Winnipeg, 1st Dec., 1887. 266-a

GLUTEN SUPPOSITORIES

ARE AN EXCELLENT REMEDY FOR
PILES AND CONSTIPATION.

They Cure the diseases. Trial box free, send 10c. for postage; large boxes, 75c.

A. A. ANDERSON,
 CALEDONIA, ONT

HARKNESS' BRONCHIAL SYRUP

For the cure of Colds, Coughs, Bronchitis, Croup, Whooping Cough, Hoarseness, Spitting of Blood, Pain or Oppression of the Chest, and all affections of the Lungs, Throat, Chest and Pulmonary Diseases. Where there is a tendency to consumption the timely use of this preparation will affect a speedy cure. Price 25 and 50 Cents per Bottle.

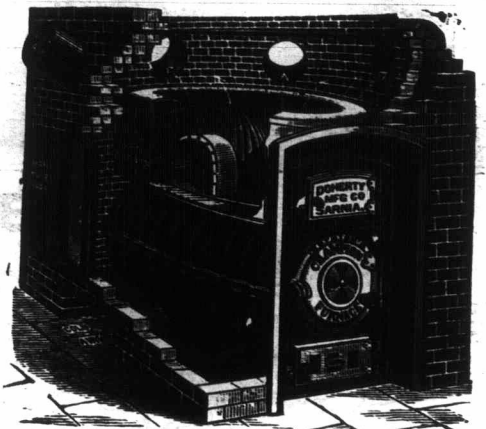
MANUFACTURED ONLY BY
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 268 DUNDAS-ST., LONDON, ONT.

Ontario Veterinary College

TEMPERANCE STREET, TORONTO.

The most successful Veterinary Institution in America. All experienced Teachers. Fees, Fifty Dollars per Session. Session 1887-8 begins Oct. 21st. Apply to the principal, PROF. SMITH, V. S., Edin. TORONTO, CANADA. 273-y

THE BOYNTON
Champion Hot Air Furnace



Especially adapted to Heating Churches, Schools and Private Dwellings. The newest and best in the market. Send for catalogue, prices and estimates for heating. Head center for Stoves and Furnaces.

DOHERTY MANUFACTURING CO.
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Manufactory at 90 College Street, Montreal, P. C.
 For catalogue P. K. DEDERICK & CO., Albany, I.

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, Fine Covers, Fire Bricks, Fire Clay, Portland Cement, Roman Cement, Water Lime, Plaster of Paris, Borax, Whiting, China, Clay, etc. 265-y

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—OF—



—AND—

HOME MAGAZINE

FOR 1888.

VOLUME XXIII.

WILLIAM WELD,

EDITOR AND PROPRIETOR.

OFFICE--360 RICHMOND STREET,
LONDON, CANADA.

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