

# FARMER'S ADVOCATE

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## THE FARMER'S ADVOCATE & HOME MAGAZINE

WM. WELD, PROPRIETOR.

THE LEADING AGRICULTURAL JOURNAL PUBLISHED IN THE DOMINION.

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

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### Our Subscription Prizes.

We again draw the attention of our readers to the subscription prizes offered in the April issue, page 119. We have a large number of Cinnamon Vines and packages of the seed of the Weather Plant left, but we cannot send out any more of the Early Six Weeks Market Potato.

### Hard Times in California.

We believe that times in Canada are hard, but not as hard as they are in the whole of the United States. Great numbers are out of employment in San Francisco. Multitudes everywhere are out of work all over the country, and great destitution is existing among them. Hundreds are being fed daily by charity, and half starved at that. So it would appear that California is as much under a cloud as any other part of the States. Farmers, wine-growers and fruit-raisers are not prosperous or making money; yet, great numbers are going there all the time. The big ranchers are subdividing the farms into smaller allotments, and selling at big figures. These are the only men who are making money.

### NOTICE.

The January, February or March numbers of the Farmer's Advocate cannot be supplied to new subscribers; our stock is completely exhausted. All subscriptions will hereafter start at date of receiving the order to send the paper.

### Editorial.

#### The Report of the Dominion Experimental Farms.

We have just received from Ottawa the annual report of the Dominion Experimental Farms for 1889. It contains particulars concerning each of the farms, and an account of the work done on each, also a detailed account of the experiments conducted, besides a great deal of valuable reading matter concerning the various departments. The Government have issued one hundred and fifty thousand copies for free distribution. We would advise every one of our readers to obtain a copy and read it carefully. They may be had from any Member of Parliament or from Prof. Wm. Saunders, Ottawa. Every farmer who applies is entitled to one free copy.

#### Toronto Industrial Fair, 1890.

The Board of Directors and officers of the Industrial Exhibition Association are showing great energy in the preparations for their next exhibition, which is to be held at Toronto from the 8th to the 20th of September. The prize list for the present year has, in most departments, been revised and sent to the printer. In the horse department some of the smaller prizes have been increased. A new section has been added for pairs of carriage horses, hackney or light steppers, and the special sweepstake prizes for herds of horses to be shown during the first week of the Fair have been left the same as last year. Five hundred dollars has been added to the prizes in the cattle department; two hundred and twenty-five dollars to the prizes in the poultry department, and the prizes in grain and agricultural products have also been slightly increased. Special prizes are offered for a dairy test by the FARMER'S ADVOCATE, and the Holstein Breeders' Association of America; the American Hereford Breeders' Association have donated \$100 for special prize for Herefords; the Shropshire Association of England give \$50 in special prizes and the American Oxford Down Sheep Association a gold medal; the Canadian Clydesdale Association give \$30 for the best Clydesdale mare and one of her progeny; the Western Dairymen's Association add \$100 to the prizes in the dairy department, and many other special prizes have been added to the list. The show of live stock will be confined to one week, the same as last year, except in the horse department, in the classes for which special prizes are offered during the first week. A large number of conventions and other meetings are to be held in Toronto during the coming Industrial Exhibition, and the directors are determined to make it the most attractive and most important yet held under the auspices of the Association, and from now until September will zealously work to that end.

#### Our Dairy Prize for 1890.

We are pleased to inform Mr. Rice and others (see page 146), who do not fully understand how the dairy test was conducted at London last year, that the cows were watched night and day. The instructions to the guard was to allow no one to enter the stables, except at the stipulated hours: even then the attendants must be accompanied by an officer. All necessary work was ordered to be done under guard. Mr. Rice asks, "Do the rules of this test give the value of the different properties required to make first-class cheese." Most assuredly they did, and always will. Every property in the milk was valued at what practical and scientific men considered a just and proper valuation. If the rules governing last year's test are carefully read they will make this quite clear to any one. The whole of the rules may be summed up thus. The prize will be given to the herd producing the greatest profits in milk and milk solids for food consumed. This is the test, and this alone. Last year, Prof. Robertson, and leading practical dairymen of large experience, formed the rules governing the test. This year these rules will be taken as a basis. Prof. Robertson and others will meet the representatives of the various cattle breeders associations at the Albion Hotel, Toronto, at one o'clock, June 6th, 1890, and with their assistance and co-operation adopt rules to govern this year's test. We hope the breeders, whether belonging to any of the associations or not, will take a lively interest in this matter. The members of the Holstein Breeders' Association have already appointed delegates. We ask that the other associations may do likewise. Gentlemen who are not appointed delegates, or are owners of breeds that have no Canadian association, are cordially invited to attend, and will have an equal voice with those otherwise appointed.

The test will take place this year at the Toronto Industrial, and will be conducted with the greatest care. The FARMER'S ADVOCATE will give silver plate, worth \$65, as a first prize; the Toronto Industrial Association will add \$30 cash as a second prize, and \$20 as a third prize. We look forward to this as likely to be one of the most interesting and valuable tests ever conducted in America. We feel amply repaid for our expenditure of last year. The discussions, which have taken place in our columns during the last few months, have brought a great deal of useful information to light. Thousands of our readers doubtless have a much fuller knowledge of the various dairy breeds than ever before, and thousands have had their interest awakened, many of whom must have been convinced that cattle bred for a specific purpose were much more profitable than scrubs. It is to be hoped that Jerseys, Ayrshires, Holsteins, Galloways, Guernseys and Shorthorns, will all compete this year.

**Scaling Lumber.**

In these enlightened days of standard measures, standard weights, and even standard time, it does seem incongruous that no one fixed rule has been established by law for the buying and selling of so important an article of commerce as the natural products of our timber lands. In many parts of the Eastern Townships there are no less than four different log scales in use, all more or less at variance one with another, while the Provincial Government adds still one more to the list, which is used by them for levying timber dues on leased government timber lands. No doubt contracts can be made according to any one rule agreed upon, and where both contracting parties are fully conversant with the way in which this one peculiar rule will hold out in board measure over log scale no injustice would be done to either, but while all other rules, weights and measures are being for the sake of convenience and simplicity reduced to one acknowledged standard, and this usually a decimal one, it does seem as though there was some peculiar design in keeping up this puzzling state of confusion for the purpose of taking advantage of the unfortunate settler, who finds it difficult enough to master sufficiently for his own protection any one table by which he can measure the contents of his own logs before surrendering them to the insatiable man of the presiding demon of the mill yard. Taking for the rate of example logs of twelve feet in length, and of 8, 12, 24 and 36 inches in diameter, it would appear that the difference in these five tables is not only remarkably great but also that in varying they do so with no apparent regularity.

Log Rules.	Length of Log. Feet.	Diameter of Log. Inches.	Amount in Feet.
Bangor	12	8	33
Oughtred	12	8	28
Scribner	12	8	24
Quebec Government	12	8	24
Doyle's Rule	12	8	16
Bangor	12	12	78
Oughtred	12	12	68
Scribner	12	12	59
Quebec Government	12	12	50
Doyle's Rule	12	12	48
Bangor	12	24	327
Oughtred	12	24	300
Scribner	12	24	303
Quebec Government	12	24	315
Doyle's Rule	12	24	300
Bangor	12	36	770
Oughtred	12	36	692
Scribner	12	36	692
Quebec Government	12	36	710
Doyle's Rule	12	36	786

In following a comparison of the different rules in the above tables, through the various sizes of the logs, it will be seen that in the larger sized logs the discrepancies are not so great as in the small, also that some of those which cut severely on small timber give the best measure on large. This fact is well known to lumber sawyers who use two rules in buying logs, applying which ever suits their purpose best. I have also known those who ship round timber to the United States use the Scribner, or even the Doyle rule for buying logs from the farmers, and sell by and pay the duty on the Bangor scale, by which they gain in actual measure from 250 to 500 feet on every thousand feet bought and sold where the logs are 10, 12 and 14 inches in diameter. Piratical as this undoubtedly is, the case grows worse when we come to the Doyle rule, now much in vogue, and inserted in the later editions (no date) of Scribner's Log Book. In the preface it says, "Doyle's rule for measuring saw-logs has been substituted for Scribner's,

and the whole book has been carefully examined by Daniel Marsh, a practical civil engineer." Now what in the name of common sense does a civil engineer know about how many feet of boards a practical sawyer can cut from a round spruce log? Further on the publisher says, "Hence, after repeated correspondence and consultations with large lumber dealers and practical sawyers in various parts of the country, we have become satisfied that the calculations given in this table are universally considered the only fair measurement for both buyer and seller." Mark you this "correspondence and consultation" is always from *lumber dealers and sawyers*, and so also are the favorable testimonials in the book. Could we but hear the expressions of those who of late years have been driven to cutting even their best butt logs into pulp wood in order to avoid the ruinous measurements of log scales of which but few have the opportunities of understanding, we should say at heart that the Doyle rule was not "universally" approved of. Again, as the Doyle rule is not figured for logs under ten inches in diameter, millers are in the habit of "jumping" the scale of all such as containing 24 feet (for 16 ft. logs). Now if we take an 8-inch, a 9-inch and a 10-inch log and measure them by the Doyle rule, the total result will be 84 feet, while the same logs, scaled by the Bangor rule, will give 164 feet, or nearly 100 per cent. more! In other words it would take about 18 logs of these three sizes to make 1,000 feet of lumber by the Bangor rule, while the Doyle rule would exact about 36 logs for the same amount. Now the only inference that one can draw from these conclusions is, that if the Government continues to refuse to establish a uniform legal scale they must have some interested motive for doing so. W. A. HALE.

**Mr. Drummond's Appeal.**

I would have preferred to leave unnoticed the article on page 343 of your number of November last, referring to the awards in my favor on Ayrshires in Toronto. I find that readers of that article are inclined to look upon it as of a sarcastic turn, not calculated to be either just to the judges of that class, or to their awards. I cannot see why there should be anything but an open acknowledgment of the accuracy of the judges' decision in my case. Although it is not surprising that some of the exhibitors of Ayrshires frequenting western shows should, as usual, endeavor to impress upon judges their astonishment that eastern Ayrshires should get prizes at western shows, although competent judges could not avoid awarding prizes to the best cattle, even if from the east. It may fairly be presumed that those dissatisfied and disappointed were the unsuccessful ones and their friends. They could not be competent judges, nor the disinterested public, inasmuch as the same herd was awarded the first honors at Kingston, Ottawa, Toronto and Hamilton, by different combinations of judges. I have taken information recently in reference to the ability of the judges you referred to, who were strangers to us, and who were independent and careful in examining the proper points of Ayrshire animals, showing a knowledge of their business. Two of them, I am informed, had, for many years, been successful Ayrshire breeders in Scotland, and the third in Western Canada; they are now Western men and respected. The exhibitions were open to public competition. It seems hardly fair that attempts should be made to at all influence

judgment because of the locality, although it may please some to endeavor to get judges who will favor particular persons or sections of Canada. The question of judging is a burning one to some. 'Tis hard to please all! Doubtful remarks in cases where honest, impartial men are chosen as judges, are neither just to judges nor to owners.

Yours truly,

JAMES DRUMMOND,

Park Hill, Petite Cote, Montreal.

The following is the clause complained of by Mr. Drummond:—

"The Ayrshire men found a formidable opponent in Mr. Drummond, of Montreal, and the judges fairly 'took their breath away from them,' by the way they let the prize tickets go east. We assume that the judges were honest and conscientious, and that they were competent, but we must say we have seldom heard more dissatisfaction and disappointment expressed over the work of an awarding committee."

In writing this there was not the slightest intention to throw discredit on the judges, or Mr. Drummond's splendid Ayrshires. On the contrary, we pronounce them "formidable opponents," and assured that the judges were honest and capable, we did not wish to infer or be understood otherwise, and no thought of sarcasm was entertained. We do not understand how any person could construe our remarks, or understand them to mean any way but favorable to Mr. Drummond and the judges. Had we thought Mr. Drummond, or the judges, had acted unfairly, we should certainly have spoken with no uncertain sound. Or, had we considered the judges had made glaring errors, we should have pointed them out. These are undoubtedly the duties of an agricultural paper. A just report by the press is worth much more to the exhibitors of live stock and agricultural implements than their simple appearance on the show grounds. It is most important that these reports be prepared by experienced, honest and practical men—such being our view, we always have a large staff of such men at the greatest shows, especially at the Toronto Industrial, which to-day is the most important live stock show in America, and where nearly all of the principal breeders meet. We are always glad to see good herds come from the eastern countries and provinces, and are also pleased when they are good enough to win in western shows. The eastern sections are sorely in need of good herds, from which the farmers may buy and thus improve their common stock. Such breeders as Messrs. Drummond, Brown, Stewart, Yuill, Jones and Reburn, deserve great credit and encouragement. It is to be regretted that eastern farmers do not patronize them as they ought. What would Canadian agriculture be to-day if it were not for such public-spirited persons as these? Yet, the country generally receives greater benefit from their importations and herds than the breeders do themselves; yet, many farmers grudge them the small profits they make from their pure-bred animals, and either do not patronize them at all or refuse to pay remunerative prices for their stock. No class of men in Canada have done so much toward building up and rendering profitable Canadian agriculture as the fine stock breeders, yet no class of public men have received so little recognition at the hands of the people and the government. Importing and breeding fine stock is a very expensive business, which frequently returns but small profits to the men engaged in it, but from which the country receives great benefits.

**The Corn-stalk Disease.**

In our April issue, page 115, we gave an account and sounded a note of warning concerning the fatal corn-stalk disease, which is becoming a scourge in the United States, and is already threatening the Western Peninsula of Ontario. Farmers throughout the Dominion should read the above mentioned article with great care, and scrupulously follow out its teachings, using every precaution and preventive. The following is a letter we received since our last issue from a qualified veterinary surgeon:—

THETFORD, April 7, 1890.

Dear Sir,—In your ADVOCATE of April, I noticed an article on the corn-stalk disease, and I hope it will be read by every farmer in the country. This disease has already appeared in this country (Lambton, E. R., Bosanquet Township), as I have seen four cases of it this spring. The cattle were fed on stalks grown from American corn, and the disease presented symptoms almost the same as anthrax. None of the animals affected lived over twelve hours. The *post mortem* differed in some of the organs of the body from what we find in anthrax. The gentleman who grew the corn told me it was the poorest crop of corn he ever grew: was withered and stunted in growth, and a good deal of it blew over and out of the ground. Having these cases in mind, and after reading your article, I am convinced that these animals died of the corn-stalk disease.

Yours truly,  
J. H. POWELL, V. S.

Immediately on receipt of this letter we forwarded a copy of it, together with a marked copy of the April number of the FARMER'S ADVOCATE, to the Hon. Chas. Drury, Toronto, Provincial Minister of Agriculture, and the same to the Hon. John Carling, Ottawa, Minister of Agriculture for the Dominion.

**Francis M. Wade.**

It is with mixed feeling of pleasure and regret that we announce the departure of Frank M. Wade, lately chief clerk in the office of his father, Henry Wade, Secretary of the Agriculture and Arts Association of Ontario, to Chicago, where he has been appointed to a situation of trust in the American Shorthorn Breeders' Association, under Mr. J. H. Pickerell, the well-known Secretary of that Institution. This is the pleasant part of the announcement, as the corporation is a wealthy one. The regretful part is that he has had to leave his own country to benefit himself, where he has made himself so popular by his pleasant, courteous manner, and obliging disposition. During the seven years that he has been in his father's office, he has met with all the principal Shorthorn and horse breeders of the province, and they, to a unit, express themselves as being very sorry that he has chosen to leave, and they all wish him success in his new undertaking. He passed through the very busy time of the changing of the standard of the Shorthorn Herd Books, and the re-printing of the new volumes, which was an experience that will never be forgotten by the staff of the office, and which experience will be of great benefit to him in his new situation.

Exhibitors at the Provincial Exhibition for the last seven years well remember him: first as keeper of the fruit books, where he then became acquainted with all the fruit men; afterwards he attended to the stock books, and made himself popular with all the stock men. He was born on his father's farm, near Port Hope, where he put in about seventeen years, which partially accounts for his appreciation of the farmers and their appreciation of him. He was also a great favorite amongst the yachtmen of Toronto, he being a capital amateur yachtman and a member of the Royal Canadian Yacht Club. A well-attended dinner was given him at the Victoria

Club on his departure. While regretting his departure from the land of his birth, we wish Mr. Wade every success. We feel sure his genial, manly manner, and marked business ability, will assure him this.

**Maritime Correspondence.**

The winter though very mild has been favorable for getting work done in New Brunswick and P. E. Island, but in Nova Scotia there has been a scarcity of snow, which has interfered with the work of the lumbermen. The cut, however, of lumber in all the Provinces will be very large, and will help many farmers to tide successfully over the bad harvest of 1889. The farmers' meeting, as separated by the Grange, the Provincial Farmers' Association of New Brunswick, and the Dairyman's Association of Nova Scotia, were not so well attended as last year. At each of these meetings Col. Blair, who is in charge of the Government Experiment Farm, gave a very interesting address, showing the work that is being done at the Station. The object lessons taught at the Farm are likely to be of great advantage to farmers.

Professor Robertson, Dairy Commissioner for Canada, whose appointment was chronicled in the March number of the ADVOCATE, has been making a hurried lecturing tour through Nova Scotia and New Brunswick. He spoke at Halifax, New Glasgow, Sackville and Fredericton, two lectures in each place. To say that he was well liked does not half convey the impression he made upon the people. Everybody was delighted, and if he should come this way again he will have larger audiences. The duties to be imposed on fresh and salt meats is very satisfactory to the farmers generally. It seems to have put new heart into them. Things have been looking very discouraging all winter. With hay at \$6 per ton, and not much demand at that, and the market flooded with Chicago beef, it began to be a serious question with many where the money was to come from to meet the most pressing claims. The one thing on the beef question that disturbs a certain number is the fear that Ontario will be as hard to compete with as Chicago, and that the duty will only have the effect of putting the money in the hands of Ontario and Manitoba farmers rather than those of the United States. Even if that proves to be the case, it will be satisfactory to know the money is spent in our own rather than a foreign country.

The New Brunswick Government has decided to dismantle their stock farm and go out of the stock raising business. They find it costs more to raise the animals than they will bring in the market. The stock was all advertised to be sold on the 24th of April. The question might be asked, if a Government with means to have everything conducted in the most scientific manner cannot make it profitable to raise pure bred stock, how can it be expected that farmers can make it pay.

A Committee of the House of Assembly, now in session, have just recommended also that the horses purchased a few years ago by the Government, and leased each spring for the season, be sold outright, all but Harry Wilkes, a trotting horse. A very wise recommendation, as it costs the Government about four times as much to keep these animals as it would a private individual, and the risk seems paltry, judging from the percentage of loss.

St. John is making great preparations for the proposed exhibition that is to be held there in September. It is hoped to make it the largest affair of the kind ever held in the Maritime Provinces; and it hopes that the Upper Provinces will send down a good number of visitors.

**Stock.**

**Chatty Letter from the States.**

[From our Chicago Correspondent.]

There is a better feeling in the fine stock market. Thoroughbred bulls one to two years old are selling for about \$100. There is no boom, and there is not likely to be, but the general condition of the market for pure-bred cattle is decidedly on the mend. The President has ordered all of the cattle out of the Indian Territory by October 1st, and there is some fear that the enforced exodus may cause some uneasiness in the cattle trade. A large share of the Indian cattle will be of good beef quality, and many others will be only fit for canning. The live cattle exporters are shipping more cattle from Chicago than ever before. They have lately been forwarding 300 to 550 car loads per week, or 5,000 to 9,000 head. They have lately been costing \$4.10 to \$5.00 for steers, and \$3.30 to \$4.00 for bulls.

It is understood that cattle room on all regular vessels leaving United States ports has been contracted for the next five months. This indicates a good deal of faith in the export trade. E. B. Morgan, Joseph Gould and W. McLean are among the Canadian cattle buyers operating at Chicago.

The receipts of hogs are increasing, but prices hold up pretty well, and it is not expected that receipts can more than equal the demand before next fall. Hog feeding, with prices at \$4.25 to \$4.50 at Chicago, is very profitable, with corn worth thirteen to twenty cents a bushel.

The available supply of choice corn-fed cattle in the States at present is not large; a heavy proportion of stock now coming forward being unfinished, but reports from many large feeding centres indicate a larger number of cattle being summer fed for fall markets than for some years. There is an improvement in the demand for young store stock. The tendency, however, is more to buy store stock to fatten for market than to buy store cattle and bulls for breeding. Distillery-fed 1,400-lb. steers sold to exporters at \$4.40. Corn-fed Texas cattle 950 to 1,200 lbs. \$3.00 to \$3.80.

The horse market is improving rapidly. The latest prices are:—

Description	Poor to Fair	Good to Choice
Draught horses	\$1.25 @ 160	\$1.70 @ 250
Streeters	90 @ 110	115 @ 135
Drivers	100 @ 120	130 @ 200
General use	90 @ 130	140 @ 175
Carriage teams	275 @ 350	400 @ 500
Saddlers	120 @ 170	200 @ 300
Plugs and rangers	25 @ 50	60 @ 70

Fancy 100 to 110-lb. lambs sold at \$7.00 to \$7.25. Choice 110 to 130-lb. corn fed Western sheep sold at \$5.75 to \$6.05. A lot of 161-lb. native sheep sold at \$6.50. Corn-fed Texas sheep, 80 to 95 lbs., sold at \$5.00 to \$5.65. A lot of 566 screening-fed 56 lb. Wyoming lambs sold at \$5.40. Sheep are considerably higher than anybody expected at this season.

Frank Upjohn, Welcombe Farm, Lake Francis, Man., asks us to state cost of registration in the Dominion Shorthorn Herd Book. The price of registration to members is 50 cents, non-members \$1; membership fee \$5; annual subscription \$4. According to section 3, article IV, of the constitution, each member receives a copy of the herd book and such other publications as the Association may issue during the year, either free of charge or for such reduced price as the Executive Committee may find necessary.

## Quality vs. Quantity Again.

MR. DRYDEN REPLIES TO MR. SNELL.

In reading Mr. Snell's letter in your April issue my first thought is aptly expressed in the scriptural words:—"Behold what a great matter a little fire kindleth." When writing my communication I did not dream of starting a controversy as between different breeds of sheep. I was arguing for a *general principle* applicable to the production of every farm product. It is in short, that the soundest policy for the farmer, regardless of what seems to be temporary gain, is never to produce an inferior article, but to always produce the best quality in the greatest possible quantity.

In the quotation from Mr. Snell's letter given in my last, I understand him to admit that the *quality* of both wool and mutton in the Cotswolds is *inferior*; but he urged that as these articles were always sold by the pound and that no additional price is paid for *quality* sufficient to compensate for the advantage which the Cotswold has in weight, therefore, the true policy is to breed Cotswolds. Accepting his admission as to *inferior quality*, I denied his conclusions, and I believe my position is sound and impregnable. I assert that if a poorer quality of either mutton, beef or pork is forced upon the market much less will be consumed than if the quality pleases the taste of the consumer. When the consumption increases, the demand must increase, and so higher prices and a steady market is given to the farmer for his product. Therefore, I say, for our progressive farmers looking merely to their own interests, the true policy is to produce and place upon the market the very *best article possible*.

I said nothing about the comparative merits of different breeds for this purpose. I accepted Mr. Snell's admission as to *inferior quality*, as shown by the paragraph quoted (only half of which he gives in his reply). Suffer me to quote it again:—"If our circumstances were such that we had a special market and could secure special *extra prices* for a *certain quality* of wool or mutton, one can readily understand the *wisdom* of breeding to meet the demand or requirements of such a market. But what are the facts in regard to our markets? Are not both wool and mutton sold at *so much per pound*, and is there any considerable extra price paid for *quality* in either case that will nearly compensate for the difference in *weight* in favor of the Cotswolds in carcass at any age, or in the annual clip of wool." Surely Mr. Snell declares in this paragraph that the markets will not warrant the production of a *better quality* because both wool and mutton are sold by the pound, without any distinction. Mr. Rees, writing to the Breeders' Gazette, says the same thing—"breed a big carcass;" never mind what breed, for "no one will ask you." Surely he also declares in the same paragraph that if there should be any extra price for *better quality* it is not sufficient to compensate for the difference in weight in both wool and mutton in favor of the Cotswold. Certainly he also affirms that if we had a *special market* for a *better quality* it would be wisdom to breed to meet such a demand. He now complains that I did not contradict any of these points. I did not need to. My contention is that a *better quality* will make its *own market* and eventually crowd out altogether that which is inferior.

He complains farther that I am attempting to mislead the public by *leaving the impression* that there is "no such thing as good quality in Cotswolds." How funny! It was not I who did this, but Mr. Snell, with his own pen, in the paragraph quoted. I assert again I said *nothing whatever* about quality in Cotswolds, but I did

advise the young breeder "if he could determine *what cross or what breed* will produce the *finest quality* in the greatest quantity to invest in them with a certainty of winning in the long run. I believe this better quality is in demand now, and this demand will increase if the consumer is not mocked and deceived by the thrusting of that which is inferior upon him.

If there is no demand why does Alderman Frankland, the pioneer exporter and butcher of Toronto, in his address to the Sheep Breeders' Association in Toronto a few weeks ago, strongly advise the use of a Shropshire ram in order to *improve* the mutton? Why does he, as a butcher in Toronto, declare that since within the last few years this cross has been made, *much improvement* in both *wool and mutton* has been the result? Why do the drovers in New York State, Michigan and elsewhere advise the farmers to use the same cross in order to sell their lambs at higher prices? The demand does exist. (I am afraid some one else is in a "Rip Van Winkle sleep.")

Yet he tells me I am dreaming of some possible time in the dim distant future, when the present generation will all be dead and gone. Perhaps he does not observe that he does a little dreaming himself when his prospects for his favorite breed are brightened by the possibility of such a change in fashions in the future as will make Cotswold wool again in demand. I am afraid if we must depend upon fickle fashion in ladies' dress goods for a demand for our product, it will be of short duration when it comes.

But I have given a stunning blow to Cotswolds when I say I do not want to breed them any more. Surely a very light blow stuns the trade. I thought it was the lightest thing I could say. I am not inclined to run down any breed. There is room enough for all in our broad domain. But let me ask why were Cotswolds bred in such numbers in Canada? Was it not to supply crossing rams for the American Merino? I said when this trade was at its height, that when the tide turned and this demand ceased and we depended on wool and mutton for our profits, we would soon want some other breed. The demand did cease. Will Mr. Snell say why? Perhaps if he should travel again by the "rivers in Kentucky" and elsewhere, where once these sheep flourished, he might find some others who had bred them and "did not desire to repeat the operation."

But, then, I don't know whether they are useful or not, because "I never owned a good one, and did not know one when I saw it." Yet, Mr. Snell says my neighbor upon the same lot did grow one of the best flocks in the land. I must then have owned *one good one*, for the last ram I used was the highest priced and one of the choicest breeding of all which were offered at the sale of this noted flock. My ewes were bought at two other sales, and at each no one will say that I did not get the best offered. I did not lose money by the operation either, yet I concluded they were not the most suitable breed for this country. Not because they are not pretty when fed, washed and trimmed, with their locks curled ready for the show. Not because *some* of them do not grow to large weights, but because when they are thus grown there is too much tallow for the flesh, and principally because the mortality among them is so great. It is very difficult to keep them alive. I do not depend for this merely on my own experience, but my observation of my "neighbor's flock" was, if possible, worse than my own. I have grave doubts if another flock should be started on that farm it would not be Cotswold. I shall not dispute Mr. Snell's comparative weights, because I do not deny with forcing feed the Cotswold is larger than the others mentioned.

The fact that a Cotswold wins in a champion prize decides nothing as to suitability of breed. Neither does the fact of the champion prize for best flock at London prove anything. His brother, in his letter on page 105 of the last issue of the *ADVOCATE*, states the case as the judges declared at the time, viz., that the Cotswolds were better representatives of their breed than any of the others shown were of their respective breeds.

The coming hog, sheep or bullock will contain less lard and tallow and more lean meat than

some of the breeds now furnish. If Cotswolds shall be so improved as to meet this demand, well and good. If Shropshires meet it more fully, and at the same time are prolific and hardy, as I know they are, then will the *boom* for them continue. It is not what may be done at some great exhibition, or by one individual here and there who has special faculties, but it is the average product of the average farmer which decides the best variety for this country, notwithstanding the smart sayings of either Mr. Snell or myself.

## The General Purpose Cow.

In the April number of your valuable journal appears a very interesting and in many respects valuable article, under the above heading. The paper contains some very good ideas, but also some glaring and misleading statements, which we cannot allow to pass unnoticed.

In defining the general purpose cow, the author says:—"The Jerseys, Holsteins and Ayrshires are out of the race on account of being non-beefers. Now I would like to know where Mr. Nicholson got this information. If this were a fact, how is it that at the Chicago Fat Stock Show (the greatest of all fat stock shows), in 1886, in the yearling carcass class, in which there were twelve entries, a Holstein and Polled Angus tied for first premium, thereby clearly excelling the ten others of the special beef breeds. Again, at the same show, in 1888, Ohio Champion, a registered Holstein steer, made the largest weight per diem of any animal ever exhibited at the shows of that Society. At the New York State Fair, 1887, the Holstein cow, Zaneta, won first premium as best fat cow over three years in strong competition, open to all breeds.

At the same show, in 1889, a registered Holstein won the 1st prize as a beef animal over Shorthorns and Herefords. In a feeding test made at the Michigan Agricultural College, where two pure bred steers (of nearly equal merit), of the following breeds (Shorthorns, Holsteins, Jerseys, Galloways, Hereford and Devon), were selected, and a complete record of the food consumed, and weights and gains made were kept, the following were the results:—The two Holsteins made the largest gain per day in pounds for a given time, and one of them made the greatest gain per day since birth, also showing the greatest gain for food consumed. Again, at a similar test, at our own Agricultural College, at Guelph, the result was the same, a grade Holstein steer making the largest gain. In our own stable a 3-year-old Holstein heifer made an average gain of 4 lbs. per day for a period of 63 days (and we did not have to resort to the molasses barrel like feeders of certain beef breeds do).

Jacobo, a registered Holstein, when killed at two years and 10 months old, dressed 67.31 per cent. to the 100, live weight; Amleto, 66 per cent.; Prince of Wayne 2nd, nearly 66 per cent.; Kooiska 2nd dressed 65 per cent. Their fine *beefing quality*, combined with their *unparalleled milking qualities*, stamps the Holstein the general purpose cow par excellence. How in the face of such facts (which could be indefinitely prolonged if space permitted), Mr. Nicholson can class the Holsteins as non-beefers, I will leave to your intelligent readers to decide for themselves. That a rivalry should exist between breeders of the different breeds is very desirable, but that this rivalry be carried on in a spirit of *honesty and fairness* is equally desirable. Our motto is to give each breed its just due.

H. BOLLERT.

**J. Morgan & Sons' Shorthorns.**

The group of four Shorthorns, which our artist has so nicely reproduced in our illustration for this month, is from the herd of J. Morgan & Sons, Kerwood. They are representative of the herd of good, thick, useful cattle which that gentleman is now breeding. He has been fortunate in starting a herd of such good breeding and really good cattle individually. Two of the Scotch sorts are represented in Fair Queen 2nd, the large roan cow, which is of the Campbell family of that name. She and her descendants have their top crosses of orthodox breeding, herself having British Statesman and Inkerman, both bred at Kinellar, below these is the imported

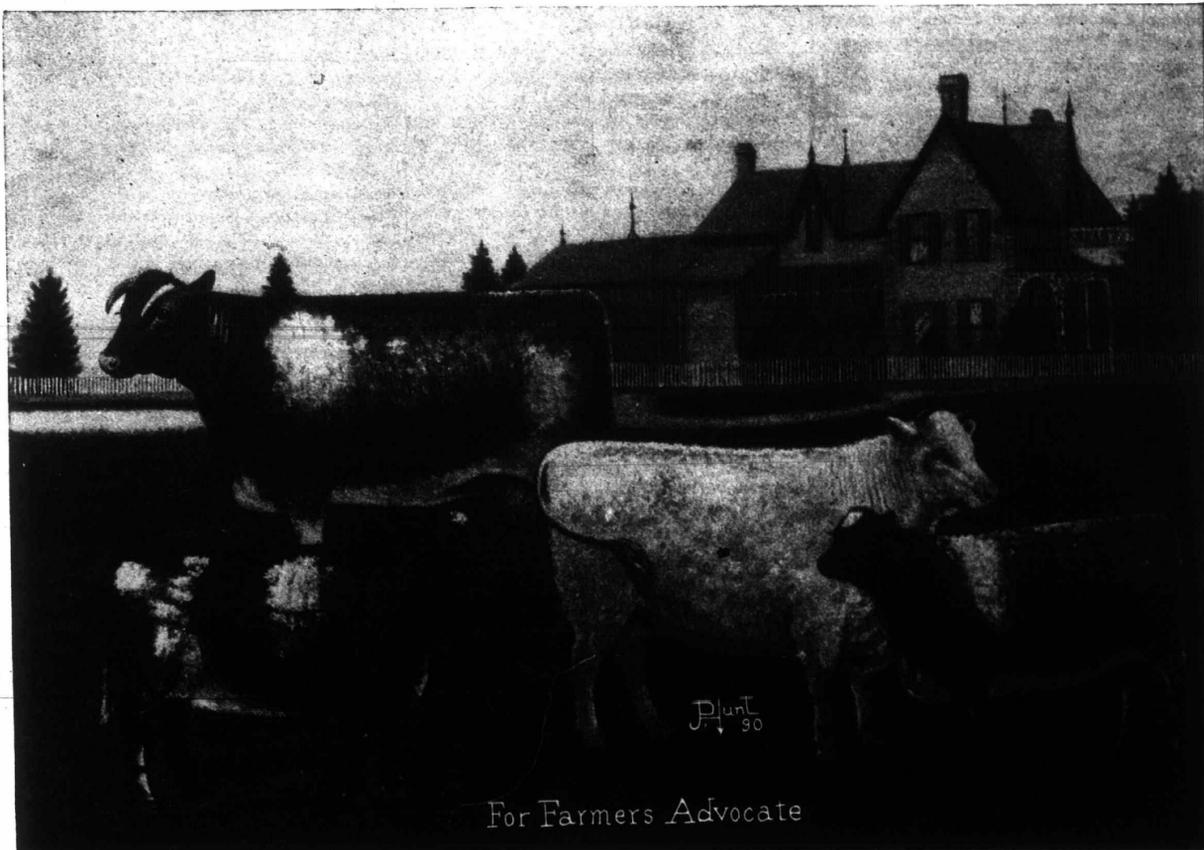
Golden Star's dam was of the celebrated Golden Drop tribe, and possesses the richest Kinellar, Sittyton and Booth blood, and is sired by the Campbell bull Royal Duke (35356); he by Sir Christopher (22895), one of Booth's famous bulls.

The bull, Silver Star, which won the sweepstakes at the late London Provincial, was bred by Mr. Morgan and sold to Mr. Currie, of Everton, who showed him. This bull has lately been sold at a very large price to head an Illinois show herd.

Mr. Morgan has a herd numbering twenty of pure breeding, and about twenty-five grades, some of which swept the board at last year's fairs.

**Dishorning Cattle.**

Every live-stock paper in Britain has been, in the past few months, devoting a good deal of space to this matter. The advocates on one side maintain it is necessary, and that the cattle without horns are worth much more for feeding than horned animals; that the operation, if skillfully performed, is not cruel or excessively painful. On the other hand, several prosecutions have taken place and fines imposed. Meetings are being held in different places to maintain the right of farmers to take the horns off, and to raise funds to defend the matter in the courts, and carry the appeals in to the Privy Council. Breeders of Polled cattle are coming to the front



For Farmers Advocate

A GROUP OF SHORTHORNS, THE PROPERTY OF MESSRS. MORGAN & SONS, KERWOOD, ONT.

Kinellar cow. The white heifer and roan yearling to the right are both descendants of hers. The roan yearling is by Rob Roy, by imp. Rob Roy, grand dam Fair Queen 2nd; the roan heifer calf at the left hand being one of the Crimson Flowers, which have been favorites all over the West, where long prices were obtained in the good times gone by. The dam of this heifer is Crimson Flower, by imp. Royal Bampton, a pure Cruickshank bull, and grand dam by Scotsman 2nd. On these families, which form the bulk of the Cherry Grove herd, Mr. Morgan has placed some good crosses that have had marked effect, such as imp. Rob Roy, of the Experimental Farm, Guelph, and his present stock bull Golden Star, sired by imp. Scottish Rose, imported by the late Joseph Thomson, Whitby.

Road horses are being bred also, of which the grey mare Nellie, with a private record of 2.36, laid the foundation, on which he has used such stallions as Mr. Burgess' Book-maker, also Western Sprague, by Governor Sprague, and Wilkesborough, by George Wilkes.

In sheep, both Shropshires and Oxfords are bred. The flocks were founded on sheep purchased at the Ontario Experimental Farm, Guelph.

The Cherry Grove Farm contains 250 acres of splendid land, with comfortable and convenient barns. The house, which is seen in the background, unites happily the useful and ornamental.

Nothing can be more certain than the need of good bulls among our cattle stock, and now that there is a returning confidence in the future of cattle for beef purposes, those who have faithfully held to a higher standard of individual merit will sooner or later meet their reward.

with the fact that the true way to get rid of the horns is to breed Polled animals; that all the crosses from Polled bulls are hornless, and that they are better feeders than any of the pure breeds. There is no doubt that the most popular feeding animal in Britain is the cross between the Galloway or Polled Angus and the Shorthorn, and that this cross, when sent over from Canada, will bring more in the English markets, and when fat will sell more readily and for a better price than any horned animal of equal quality and weight. For stockers the Polled cross is even more preferred, and will bring a much better price. In view of this, those breeding for that market should try the cross; it will certainly pay well to do so.

The Arabs have a maxim "That the foal resembles the sire." Therefore, breed from only good and well bred males.

### The General Purpose Cow.

BY S. NICHOLSON.

(Continued from April issue.)

I have heard it often remarked by breeders of rival breeds that to make heifers overly fat when young would spoil their milking qualities. A theory that I have no sympathy with. I believe that as every part of the animal economy is nourished from the same source that the lacteal organs will not be neglected, but that they will grow and keep pace with the bones, muscles, &c. I will go a step further. I believe that a heifer that is crowded to the utmost, and calves at two and a-half years of age, will give more milk than if she had been fed more sparingly. When we take into account that not one Shorthorn in 500 is overly fed for exhibition purposes, and that one is spoiled as a milker (which we do not believe), it simply proves nothing, excepting their capabilities as a beef producing breed. In other words, if we do spoil one in 500 the 499 cannot be any the worse for it. In every case, with hardly an exception, a cow that comes in fat will give more milk the next nine months than though she had come in lean. This brings to my mind an anecdote that came under my own observation some years ago. A then neighbor of mine, who had one half-bred Shorthorn,—his other horned stock were scrubs of the worst kind,—one fall, being hard pressed for money, and having nothing else to make money out of, concluded to fatten her. The reason he gave was that she was such an indifferent milker she was not worth keeping; but what was his disappointment to find in the winter she was in calf. Seeing him some time after, I asked him if he intended to fatten her: "No," he exclaimed, "she is the best milker I ever saw. I would not part with her on any account." His wife being present, turned on him with: "Oh, you! if you would feed them all the way she has been fed they would all give more than they do." She was right; they wanted more feed.

I say here, most emphatically, that those who preach up the doctrine that the cattle are fed too much, when there is a bare possibility that one in a thousand may be, when the other 999 would give a great deal more, if they were better fed. I say that those who preach that doctrine are disloyal to their country. I believe in liberal feeding for another reason. If we only feed them enough to keep them alive that portion is simply thrown away. What would you think of one of our millers, having just enough steam to run his machinery, but not enough to grind. One would be just as unprofitable as the other. If we increase the feed so that a fattening beast will make a solid gain per day, it is out of this extra feed we make all the profit.

But the revenue derived from the cow in beef, butter and cheese are far from being the only sources of profit. The manure, if properly taken care of, is worth fully one-quarter of the receipts; but the wasteful practice of having the manure every year scattered over a quarter of an acre is a criminally wasteful practice. We might, with as much consistency, leave the butter and cheese exposed to the action of the elements, the waste would be very little greater. I am most emphatic in this. It will not pay without the manure is all preserved. To this end the stable floors should be water-tight, and litter enough used to absorb all liquids. The manure should be kept in covered sheds, the floor a little higher than the surrounding land. In the ab-

sence of sheds, a good way is to pile it in square piles, the higher the better, on slightly elevated ground, well tramped, to prevent too high a temperature. There will then be no waste except a little on the outside. The ordinary mode of making what is called barnyard manure should not be even known amongst farmers. More of the profits of the farm are lost from this source than any other. Manure applied to well-cultivated and well-underdrained land is the best bank in which a farmer can make his deposits. Fire cannot burn it. It is absolutely safe. It will draw a larger interest than any other investment. We can yearly make large deposits on the principal, and at the same time the principal will be growing larger. No class of farm animals is as well calculated to make so much of this valuable commodity as the general purpose cow and her offspring.

### The General Purpose Cow.

BY W. ROUGH, OWEN SOUND.

I read with much interest in your April number the paper with the above heading, by S. Nicholson, Sylvan, read before the Dominion Shorthorn Breeders' Association. There are some points which struck me well worthy of commenting on. All cattle men are interested, whether they be producing milk or beef, or both from the same herd. In the course of my experiments during the past eighteen years, many facts have come under my notice. That dairying only must of necessity lead to the slaughtering of all or nearly all the calves at birth is not warranted, for I have reared calves without one drop of milk during their whole lives, when at two years old they were steers as good as were ever in the Toronto market. One of two that I sold in May, 1889, for the London, England, market, which netted me six cents a pound at my barn live weight, never tasted milk, and was pronounced by the purchaser, a large Toronto shipper, as the best he had ever bought. In this case a good beefing and milking Galloway bull had been used.

Mr. Nicholson says, "There are four essential requisites, viz.: Robust constitution, sufficiently hardy to stand our Canadian climate, aptitude to fatten and to be a fairly good milker;" and states that "The Jerseys, Holsteins and Ayrshires are out of the race on account of being non-beefers. The Galloways, West Highland and Devons are out by not being adapted for either; therefore the race is between the Shorthorns, Polled Angus and Herefords, and while speaking of the Shorthorn, we wish to be understood as meaning the Scotch or Aberdeen Shorthorn."

Now, in the last question, there is much room for discussion, the assertions are very sweeping. There are few cattlemen who would not take exception to many of them. But, Mr. Editor, your space is too limited and so is my time to discuss the whole subject, so I will confine my remarks to the position to which the Galloway has been consigned. After many years, during which I have experimented in breeds, rearing, breeding and feeding, searching for just the qualities Mr. Nicholson emphasizes, I am certain I have found them all in the Galloway, and that the Galloway bull will impress these qualities on his get whether Shorthorn, other pure-bred, grade or scrub cows, and in nine cases out of ten the produce will be so near the Galloway, and always without horns, that experts will be often puzzled to say which is the pure-bred and which is the cross-bred or the grade—one cross being enough to stamp the

Galloway on the calf. "The robust constitution and sufficiently hardy to stand our Canadian climate," is shown by Galloways and their grades, the latter running out all winter in these parts, and the pure-breds in the Southwest of Scotland not being stabled during the whole year. Galloways will eat bulrushes if they can get nothing else. "Aptitude to fatten," and not only to fatten but to produce well marbled lean and fat juicy meat was certainly shown in the pure-bred Galloways I have shown at the leading exhibitions for four years, and in the grades shown in 1886 and 1887. Marbled meat is what the present taste is demanding, not the pure tallow which has so often taken prizes in live fat stock shows. "Fairly good milkers."—The Galloway cow, Duchess Louise 1067, that I showed in 1886, when suckling her bull calf Robin Adair 2124, gave, for two months, a patent pail full of milk, rich in butter-fat like a Jersey's, each day besides what the calf took, and he got what he wanted. Miss Steele [523] 3292, a pure bred Galloway cow when suckling her bull calf General Gordon 4789, gave two patent pails full of milk, rich in butter-fat, each day for a month, besides what the calf took. Of course there are many Galloway cows who are not such heavy milkers as the above, this is so in all breeds, even to the fancy milking sorts.

Many an Aberdeen man amongst his cattle breeding lore have I heard say that the Shorthorn owes his shortness of horn to judicious use of Galloway blood, and points to the black nose, which sometimes comes in the best herds, as evidence of the old black Polled blood used for the purpose of adding desirable features in the early Shorthorns, and none the less the short mossy fur underlying the outer hair.

### Protest Against Calf Slaughter.

I have compiled the following table from the last report of the Ontario Bureau of Industries, showing the number of cattle, by classes, in this province:—

	1887.	1888.	In-crease.	De-crease.
Working oxen.....	19,769	18,579	.....	1,191
Milch cows.....	748,321	781,559	33,238	.....
Store cattle over 2 yrs.....	392,580	388,939	.....	3,641
Young & other cattle.....	793,600	745,568	.....	48,032

This table shows a net decrease of 19,626; as between 1886 and 1888 there is a total decrease of 89,535. What I wish especially to call attention to is the falling off of nearly 50,000 in young and other cattle in 1888, compared with 1887. An early estimate made last year (1889) showed a falling off of over 34,000 in the three classes, other than milch cows. During the past season, through Western Ontario, store cattle were in keen demand, and steers are scarce. With an increasing number of cows, recruits for beefing should be plentiful; but the farmer is anxious for an early cheese check, and slaughter the calves as soon as born, or sell to butchers at twenty-five cents a head. In large districts of the country, this calf murder goes on every spring. Some will blame the low price of beef, others the cheese factory system, for this slaughter; but, is it not wasteful and slovenly? Why not, at least, have the calves dropped a month or so earlier and convert them into decent veal? If a farmer will not rear and put a proper finish of fat upon a steer, which he need not be ashamed to see leave his place for the foreign or local market, he might surely do the former.

WM. THOMPSON.

**Berkshires and Yorkshires.**

MR. SNELL'S REPLY TO MR. SPENCER.

In your April issue Mr. Sanders Spencer has, through your good nature, secured a very large advertisement, in which he takes good care to puff his own wares without any attempt to conceal his natural modesty, which is well known where he is known.

I do not purpose to intrude upon your valuable space at any great length in replying to his statements. I do not call them arguments, as I feel sure that any one who reads carefully his letter cannot fail to see that it is a bundle of bold assertions without any attempt at proof. The attempt to leave the impression that the demand for pigs of the improved breeds for the different countries he names is confined to the Yorkshires, is an ingenious subterfuge, and is calculated to mislead only those who are not aware of the facts. I know from experience that, in my search for high class Berkshires in England last year, I had to compete with buyers from nearly all, if not quite all, the countries of Europe he names, and, in addition to these, with enterprising buyers from that greatest of hog-raising countries, the United States. How is it that in that country, where the hog interest is so vastly greater than in any other, the Berkshires and other black breeds constitute ninety-nine one hundredths of the hogs placed upon the markets? In the city of Chicago, the "Hogopolis" of the earth, there are probably more hogs slaughtered in one week than in most of those little European countries in a year. And does anyone believe that the wide-awake stockmen of this great stock-raising country, who have sought out the best of all classes of stock, regardless of cost, would have failed to discover the good qualities claimed for this much vaunted breed of hogs; yet, it is well known that very few of them have found their way to the States. But our American friends buy the Berkshires in very large numbers; they are our best customers for breeding stock, and they are the largest exporters to England of cured bacon and hams. They buy the Berkshires because they know they are best suited to the varied climate of the country, to the wants of its people and of its expert trade. There is scarcely a week in the year that we do not ship Berkshires to the States, all the way from Maine to California, Oregon and Texas. A sow has lately been sold for \$300 to go to the latter named State, after her two litters have been sold for nearly \$600. An Iowa man said to me only a few days ago: "We have no use for a hog that cannot stand out in the sunshine without its skin cracking and blistering, as those white hogs do, till, in some cases, their ears are nearly rotted off." How is it that in England, where Mr. Spencer and his hogs are supposed to be best known, the farmers do not want them? It was my privilege last summer to attend the Wiltshire County Show, one of the principal bacon-curing counties in England. Here the pigs were not classified, all breeds being allowed to compete, and the competition open to all England, yet not a single white hog was found in the show, but a large entry of Berkshires, all the pens being filled.

At the Royal Show at Windsor, the entries of Berkshires were greater than all the white breeds combined. And, on reference to the prize list, I find Mr. Spencer credited with only two

prizes, one second and one third, in the class of Large White breeds.

The crucial test of the breeds is at the fat stock shows, and I would like to know where the Yorkshires were at the Smithfield Club Show last Christmas, where the Berkshires won the championship over all breeds, and had the reserve number for the same, showing that they had at least two pens good enough to beat all other breeds. Surely those English judges ought to know what sort of hogs are best adapted to the wants of the people and the trade. But perhaps they are not so disinterested as Mr. Spencer, who evidently has no axe to grind; and if he had, is so very modest that he would not take advantage of a free advertisement.

**Yorkshires and Berkshires.**

While I am pleased to see Mr. Sanders Spencer take a hand in this controversy, there is one portion of his letter to which I must take exception. He writes:—"Mr. Snell asserts and Mr. Green appears to accept the statement that the Improved Large White Yorkshire is not recognized as a pure breed at the Royal." Mr. Snell's assertion was intended as a disparagement of Improved Large Yorkshires in comparison with Berkshires, and also as an innuendo that the former was not as great a favorite or as pure a breed as the latter. It is true that at the Royal no separate class is provided for the Improved Large Yorkshire, the class being for "Large White," hence there is nothing to preclude any other variety of pig which might come under that definition from competing in it; yet, as a matter of fact, the Improved Large Yorkshires are almost invariably the sole contestants in that class. So far from accepting the statements of Mr. Snell, I entirely rejected it, and pointed out that the fact of there being no special class, was no evidence whatever of their not being recognized as a pure breed by the Royal, and quoted as an analogous instance, the Shire horse, which has only within a few years since been allotted a separate class. In the ordinary acceptance of the term "pure breed" the Improved Large Yorkshire will contrast favorably with any other variety of English pig, but, as I remarked in my former letter, if the term "pure breed" be strictly interpreted, there is probably no pure breed of pigs any more than there are pure breeds of horses, cattle, sheep, etc. There are few varieties of domesticated animals which have not received an outside cross at some early date, and prior to the establishment of herd books and records, it is difficult, if not impossible, to ascertain whether any or what alien blood has been used; but this we do know, that there are at the present time herds and studs of all breeds which have been bred pure and distinct for many years, and have acquired certain desirable characteristics, which they are prepotent in transmitting to their offspring. It is, therefore, a matter of little importance, when this is the case, whether the Shire horse, the Shorthorn, the Improved Large Yorkshire, or the Berkshire did or did not receive an outside cross, some fifty or one hundred years ago, as the alien blood, if any must be now completely obliterated. It is evident the public recognized the merit of the Improved Large Yorkshire, for our young pigs are sold before weaning time, and we get correspondence in reply to our advertisement in the FARMER'S ADVOCATE from as far west as British Columbia to the extreme east of the Dominion. We have the strongest faith in the futurity of the Improved Large Yorkshire in Canada, and are so satisfied with our experience that we have ordered a second importation from England, which we expect in May next.

FRANCIS GREEN, JR., IBERKIP, ONT.

**Care of Foals.**

The season has now come when the complaints of mortality among the young foals will again be heard. Last season was the worst for many years in some sections of the country. That there are causes for these epidemics is generally allowed, and in most of the cases it is not hard to define. In a general way, with the mare running quietly in the yard, not overfed, there is not often trouble, neither is it the case when the mare is worked moderately and moderately fed, but where mares are kept in idleness and fully fed, trouble multiplies fast. The difficulty is caused by the blood being heated. The foal should be carefully watched after birth to see that it has its passages all right. Should it be costive great care in the treatment is required, as very little over-dosing will kill it outright. In this case try injections of warm water with a little oil added, or pass a little lard up the rectum with the finger; a dose of sweet or castor oil is the safest. Should costiveness be anticipated give a dose of raw linseed oil to the mare before foaling. In a case of scours also try mild remedies; a dose of sweet oil will help allay any irritation, and often stop an attack of this kind.

**The Flock Prize at the Late Provincial.**

It is generally considered a difficult matter for judges to please every one interested in the classes when one flock is pitted against another of the same breed, but when several breeds are brought out against each other excitement is likely to run up to fever heat. At the late Provincial, when four flocks, all of different breeds, came out to battle for the first, and only one prize to go round, the winners were likely to have holes picked in them. The judges thoroughly understood that it mattered not which breed they favored in placing the award, their work would be as surely criticised by the champions of those left out in the cold. It is very true that the best general purpose flock was the test, and had the judges desired to express which breed was best for all purposes they need not have drawn the sheep, but held a caucus in one of the offices of the association, and there decided by vote which breed best filled the bill; but, knowing full well that they could as safely judge the handiwork of an artisan by his stripe of politics as decide which of the breeds, according to each individual taste, is most suitable for all purposes, they therefore went leisurely to work and decided in favor of the Cotswold flock, forgetting that their head covering was an abomination to the admirers of bald heads in the Leicesters, and that their long, open fleece did not agree with the ideas of the breeders of any of the Downs. Very useful sheep were the Oxfords, and a credit to their owner; and so too was the handsome flock of Border Leicesters, which showed much skill in breeding. But the judges passed both these excellent flocks and equally useful breeds by, to decide between the two lately imported flocks, Mr. Campbell's Shropshires and Mr. Snell's Cotswolds. After weighing well their merits, finally decided in favor of the Cotswolds. It was on the ground that they were the best and most even representatives of their breed, showing the type that is required by breeders of that particular sort more fully brought out in size, evenness of fleece as well as the superior form in which they were shown.

FRANK R. SHORE, White Oak, Ont.

### Horse Breeding in Canada.

Good live stock or any article of commerce which requires the most skill to produce will command the highest price; this is particularly true in horse breeding. He who can produce first-class carriage horses has no difficulty in disposing of them at satisfactory prices. In this line the breeder who can fill the eye of a connoisseur can obtain nearly any money he chooses to ask. Longer prices will be paid for such horses than for any class excepting winners on the turf. To reach this desired end, the sire to breed to must not only have the requisite qualities highly developed in himself, but must have been bred for generations for this purpose, and in this case the English Thoroughbred, Coach Horse or Cleveland Bay are the most likely to give the best results. These horses have plenty of size and are the popular color, but many of them are not as heavily muscled in their thighs and forearms as we would wish, but they have undoubtedly a well-bred appearance, and plenty of style in the head and neck, which is difficult to obtain in certain breeds of this class. By coupling these horses with the best bred mares, the cross will be one that will be sure to count in the future, which should always be taken into consideration in all lines of breeding. These horses have plenty of ambition; their feet and legs are of the wearing type which must always make them popular. But we would like to impress upon the importers of this class that it is the best we want, horses of good commanding carriage with plenty of quality. Our farmers are every day becoming more alive to the requirements of breeding to the right sires. But good as these horses are in many particulars, the point in which many of our mares are badly wanting is just where too many of our imported coach stallions are also lacking, this is in carriage. The most essential point for park and street display is that of appropriate action. We feel that we cannot enough impress upon the minds of breeders of carriage and coach horses the necessity of developing this quality, which will often hide other defects, and without it the most symmetrical horse is but a poor seller. Harness action, safe and not too high, such as is esteemed in roadsters, and "high up to the throat latch," esteemed for the park and parade. In fact, action may be safe and slow, or safe and fast, without any brilliancy; or it may be brilliant and slow, or brilliant and fast. When a horse can do six miles or twelve an hour with equal grandeur, that is perfection; and a horse that can trot eight miles an hour in good form, bending his knees and hocks, and carrying himself right, will fetch more than a plain brute with no other merit than extraordinary speed.

As each year goes by, time is lost with many capital mares that would otherwise be of the greatest benefit to the country, through being mated to horses that have no point of excellence in themselves, the produce is not equal to the dam. The mare is often blamed when it is the fault of the breeder in not taking pains in the crosses he is dictating. Where mares have size and quality combined, keep building on these and you will at least have a useful horse. Again, if a mare be lacking in any essential point, take care to overbalance the defect in the horse she is bred to.

Just now it seems as though the market for cheap horses in the cities across the lines will in

future be practically closed to us if the tariff is to be changed as proposed to \$30 *per capita*, instead of an *ad valorem* duty of 20 per cent. This will not affect the horse at the value of \$150, and will be still easier on horses valued over this. It behooves horse breeders to be more careful and breed only the best. More care in the breeding will also have to be exercised, as mares and stallions under the new act will have to be recorded or they will not pass in the free list.

### The "Haras National."

A company entitled the "Haras National," have established a stud, where French coach, Percheron and Arabian horses are kept. The office of the company is at 30 James street, Montreal; their stables at Outremont, three miles north of Montreal. One of our staff visited this establishment recently and found their stock first-class. Their stables are among the finest on the continent. This company intend to import and sell French horses; they will also hire them for the season to Agricultural Societies or individuals who desire them. They will import and breed heavy Percherons, roadsters, large Norman carriage horses, a few Arabs, and some Percheron mares. They are also making efforts to discover horses known as "French Canadians," in order by careful breeding to restore them to their ancient footing. A stud book will be opened for that highly prized race. The company request parties who know of any good horses or mares of this breed to communicate with them.

Through the relations which they have established with those localities in France, where the breeding of high-class horses has been made a specialty, as well as through the position and experience of its shareholders in that country, the company will be able to make purchases on most favorable condition.

The French shareholders, of whom the Baron E. de Mendat-Grancey is President, comprise some of the most eminent members of the Great French Society of Agriculturists known as "La Société des Agriculteurs de France. Their knowledge of the region of La Perche and of the other districts where horse-breeding is carried on is of the most thorough character.

It is the company's intention to import only such animals as are of definitely ascertained pedigree, and, in every instance, a careful examination by veterinary surgeons will be conducted at the date of purchase.

The President stated to our representative that the conditions accorded to buyers are and will be extremely liberal, giving them every opportunity and ample time to procure the money for their payments. In fact, by reason of their large consignments and of the considerations here mentioned, they are in a position to sell cheaply. They guarantee their stallions to be sure foal-getters, and free from hereditary defects.

In writing of their business the officers of the company say:—"In France, in the very heart of La Perche, we have a breeding farm, the well-known establishment of Medavy, famous for the excellence of its colts, the very pick of the Percheron races. Five years ago we started, near Buffalo Gap, Dakota Territory, U. S., the ranch of Fleur de Lys, where more than 900 horses are reared at liberty in the open air. The only horses admitted are of Percheron, Norman and Arab race. Two years ago we established at Fremont, Nebraska, a "haras" for the exclusive sale of Percherons, Norman and Arab stallions,

and the product of Fleur de Lys. In that establishment we have sold above one hundred stallions of the above breeds." From these western establishments they hope to supply Manitoba and the N. W. T. with many good stock horses.

During the past month they received from France at their stables at Outremont, Quebec, thirty-six horses. The President, Mr. Beaubier, and Mr. Auzias-Turenne, Managing Director, cordially welcome the public, and particularly all those interested in horse-breeding, to visit their stables and examine their stock. At Montreal a carriage will always be at the disposal of visitors. We wish these gentlemen every success in the undertaking in which they are so enthusiastically engaged, and bespeak for them that patronage and encouragement they so richly deserve. They have recently issued a catalogue of eighty pages, containing full particulars of their business and a great deal of information concerning the breeds of horses they handle; also the pedigree of twenty-two animals. This pamphlet will be sent to any address on application.

### The Canadian Ayrshire Herd Record.

The twentieth anniversary of the establishment of the Canada Ayrshire Herd Record at Montreal and the annual meeting of the Ayrshire Importers and Breeders' Association of Canada, were held in Montreal on the 14th of April, 1890. There was a large attendance of Ayrshire breeders from the Province of Quebec and Eastern Ontario. Several important proceedings took place, particulars of which will appear in the next number.

Mr. Wm. Rodden, of Plantagenet, Ont., presided, and was unanimously re-elected president, although he desired to retire, the meeting was not prepared to elect a successor. Mr. S. C. Stevenson, of Montreal, acted as secretary. He and the Executive Committee were re-elected.

The Secretary-Treasurer's and Executive Committee's reports showed a cash balance in the bank to the credit of the Association. The printing of the second volume is nearly completed and will be distributed as the first volume was as soon as ready. The third volume was opened a year ago at Mr. Stevenson's office, Montreal. Entries were being received, and new forms of certificates were being issued, having thereon the seal of the association. Each pedigree traces directly to pure bred Ayrshires from Scotland.

Several imported Ayrshires were reported having arrived for the district of Montreal. Among the number, Mr. Thos. Brown, of Petite Cote, Montreal, imported and is now the owner of the famous first-prize Ayrshire heifer, winner of the Royal Jubilee Queen's medal. She is known to be the best Ayrshire in Great Britain or America.

Mr. Rodden, the president, submitted a lengthy and valuable report and address on the value and importance of Ayrshires and their various products and tests in Europe, America and Canada, all being far ahead and in some cases nearly doubling products of Mr. Guy's Ayrshires recently obtained at London, Ont. These and other very important, practical and scientific tests and trials will be given to the public in the June number.

If your neighbor has had the enterprise to pay a big price for an imported Draft or Coach stallion encourage him every way you can, as every imported horse is worth thousands of dollars to the community.

### The Dairy.

#### Starting Creameries in New Districts.

At some of the Dairy Association meetings we have attended, several farmers have enquired of us for information as to the cost and the best method to adopt to start a creamery on a small scale in some of the newer sections of the country.

The first step to take is for a few of the leading farmers in the district to talk the matter over with their neighbors. The day is now past when the advantage of the creamery over the private dairy need be discussed. It is now admitted by all parties that the creamery is the best system of butter-making, both for making a more uniform quality, which sells at a higher price, and far more economical in saving labor, thus giving more profit to the producer; the experience of those who have practised under both systems are all in favor of the creamery.

The second step, call a meeting of farmers at some central place and have the subject freely discussed from various standpoints, and the various methods of carrying out the details whether it would be advisable to start on the old principle of gathering the cream from the farmers, or whether sufficient quantity of milk can be got within a reasonable distance as to warrant going to the expense of larger buildings, more expensive machinery, and adopting the centrifugal machine for separating the cream and returning the milk to the patrons. These and other matters should be carefully discussed in each district, as what would be most convenient and profitable in one district might not be the best system in another.

To start a small creamery in a new district where neither money nor cows are very plenty, we would advise to begin as economically as possible; and as cows and money multiplied the buildings and machinery could be enlarged, or, if thought needful, the system could be changed.

To start a creamery of say 40 to 50 cows, on the system of gathering the cream from the farmers, a very small building would serve the purpose—say 20 feet long by 12 feet wide, divided into two rooms, one room for keeping the cream to ripen and the other for churning and working. Some accommodation would need to be provided, either by a cellar or some other underground arrangement for storage, but if a supply of ice is laid in we would advise marketing butter as it is manufactured.

The building must be well built, the studding covered on the inside with felt paper, this recovered with matched and dressed lumber inside, and so much better if the outside of the studding can be done the same way. The building will resist either cold or heat, so that the inside temperature can be regulated as desired, without which it will be impossible to manufacture a uniformly fine quality of butter that will bring the highest price. Two vats, tin-lined, to hold sixty gallons each, a good revolving box-churn, to work by hand, to churn thirty gallons of cream, a common hand butter-worker, and a good enclosed kettle and fire-box, to furnish hot water, with a set of good weighing scales and a small set to weigh salt, as there must be no guess work; two tin pails and two strong pails, for water, with two dippers and a gallon and quart measures, with broom and brushes, etc., for cleaning. The whole cost would be about \$500. Packages for butter should be made to suit the way in which the butter is to be marketed.

The location should be carefully chosen. A clean, dry place, where good drainage can be easily obtained, and where there is plenty of good pure water, either from a living spring or a good well, as it is sometimes necessary to use either cold or warm water to mix in the cream; the water must be free from any taint or smell,

or it would spoil the butter. If the prospects of success were good, a horse-power could be put down to do the churning instead of by hand. Beginning on this small scale there is not much risk nor expense, and if all the patrons strive to make it a success, it will be a success and a profitable one for themselves. Sometimes one or two individuals put up the buildings and furnish it, and charge so much per lb. for manufacturing the butter, and as part payment or consideration they get the butter-milk. A very common way is to form a small joint stock company, and appoint a committee to look after the business, and see that everything is done justly and well.

In this way the cream is gathered from the farmers by some one engaged to do it; the cream is measured at the farm and the skim milk left there; the person who gathers the cream carries a book with him, and enters the quantity of cream he receives at each farm in the book on the spot, and the farmer keeps another of the same, as a check on the other one. Whether the measuring is done by inches on a scale on the side of the can in which the milk is set, or whether it is measured by the gallon, it matters not. Either one or the other must be adopted for all in the same creamery. This is called pooling the cream, and the amount of butter is divided pro rata in proportion to the quantity of cream each has sent to the creamery. It is perfectly fair if the quality of the cream is about uniform. In larger creameries the system of testing the cream as to the amount of butter it contains, and paying according to value, is now generally adopted, but in a small creamery to start with, till a little experience is gained, a few small samples could be churned separately and tested in this way to prevent any serious fraud by anyone. If a small business of this kind can be started near a railway station, where the produce can be shipped by express to a regular market, it would soon establish a market for itself at a good price if customers could rely on having a supply of fine, fresh, sweet butter twice a week, or even once a week, they would gladly take it at a good price, and the demand would increase more rapidly than the supply.

#### Dairy Tests.

BY GEO. RICE, GURRIE, ONT.

In my article of a recent issue to which Prof. Robertson refers, I understood the ratio as between "points allowed," instead of which the ratio was between the profit from each breed, which, of course, materially alters the conclusions arrived at. The question of feed is very important, but hard to settle. The skill of the feeder may prove of great importance; and as the item of feed was so carefully estimated, I suppose the cows in the tests were watched night and day by the parties who had this test in charge. This is necessary, or was the feeding to which so much importance is attached "private," and the testing of milk "public."

Much has been said about the unreliability of private records. But I think many "private" records are supported by as strong proof as "public" ones. The greatest yearly record yet made was by a Holstein cow, Pietertje 2nd, and we give a few of the many affidavits that support the claims made for her:—

Affidavit of Geo. H. Brooks, merchant, Cuba, N. Y.:—Testifies that on the evening of May 17th he saw Pietertje 2nd milked clean, and in just twenty-four hours thereafter closed the twenty-four test, and in the meantime he had seen her milk 112 lbs. 7 ozs. in three milkings.

Affidavit of Rev. W. W. Raftor, Rector of Christ Church, Cuba, N. Y.:—Testifies that within twenty-four hours after seeing Pietertje 2nd milked clean she had milked 107 lbs. 8 ozs. in three milkings, May 21st, 1887.

Prof. J. E. Dewey, of Limestone Academy,

Limestone, N. Y.:—Testifies that on June 19th, after seeing Pietertje 2nd milked clean, he saw her milk 94 lbs. 1 oz. within the following twenty-four hours, just five months from the date of her calving.

Affidavit of Samuel C. Drew, Cuba, N. Y., Jersey breeder:—Testifies that he saw Pietertje 2nd milked dry the evening of Feb. 22nd, 1888, and morning, noon and night milking of Feb. 23rd, 1888, making just twenty-four hours production, in which time she gave 60 lbs. 13 ozs., this being the last milking of the year's record.

The question raised is, Is not some milk more valuable for cheese than other?

In this respect the following test, made by a competent committee appointed by the Nebraska State Board of Agriculture, is instructive. The test was carefully conducted, and furnishes an array of facts perfectly reliable:—

The committee desired to ascertain:

1st. The amount of butter each cow would give (as shown by Short's system of computing butter-fat).

2nd. The amount of full cream cheese a cow would make (as a total solid in chemical analysis).

3rd. The amount of milk each cow gave by weight.

4th. The amount of feed consumed to produce the above results.

Average live weight—Jerseys, 740 lbs.; Holsteins, 1,190.

Average days since calving—Jerseys, 65 days; Holsteins, 110 days.

Average daily butter yield—Jerseys, .85 lbs. per cow; Holsteins, 1.85 lbs. per cow.

Average daily milk yield—Jerseys, 19.75 lbs. per cow; Holsteins, 54.50 lbs. per cow.

Average daily yield of cream cheese—Jerseys, 2.57 lbs. per cow; Holsteins, 6.52 lbs. per cow.

Now, if we increase the average yield of each Jersey by 60 per cent. to correspond with the average difference in live weight between the Jerseys and Holsteins, then we find that pound for pound of live weight a Holstein cow, 110 days from calving, will produce 40 per cent. more butter, 70 per cent. more cheese and 75 per cent. more milk than a Jersey cow, 65 days after calving. That is, a Holstein man owning six cows, weighing 7,140 lbs. in all, could sell about 70 per cent. more butter, cheese and milk than a Jersey man owning ten cows, weighing 7,400 lbs. in all.

As to food consumed the test shows nothing beyond statements of the owners. It was utterly impossible for the committee to stand guard over the various cows for three days to see what they consumed, and one Jersey man making no report a comparison is not possible.

I think this test shows that whilst a cow can make a good showing as a butter producer, it does not show her whole capabilities as a cheese producer, unless due regard is given in that respect. Now, a test that does not show the capabilities of a cow as a cheese producer, and milk as well as butter, does not show the most "profitable cow for the majority of dairymen at the present time in Ontario." The question is does the rules of this test give value for the different properties required in making first-class cheese. If so, I think it would be in place for a "public instructor" to remove, by courteous explanations, the wrong impressions held by breeders. I do not think that quoting "sour grapes" is likely to bring the Ayrshire men to view these tests with more favor; and if they say they will not contest again, and other breeders say ditto, these tests as a comparative test between breeds

will be about as valuable as a "bung hole without a barrel," which is a poor return for the valuable time and treasure given by yourself, and the time and work given by Prof. Robertson, with whom, I think, all breeders would willingly work on the broad platform of "Breed up and feed up." See page 137.

#### Care of Dairy Cows.

The season of the year has again arrived when dairy cows should have a little extra care if they are to do their best for their owner during the coming season. The greatest flow of milk can only be produced under favorable conditions. It is now beyond dispute that if farmers are to prosper they must pay more attention to cattle raising and dairying. The present conditions are as follows:—

First.—Canadian farmers, generally, can make more of their produce from the fields by converting all the coarse grains into milk, and the milk turned into cash, in whatever way is the most profitable according to circumstances and location of the farmer.

Second.—Unless dairy cows are brought out in good condition, and prepared beforehand for a good summer's work, they cannot give the same returns nor do as good work as they otherwise would do if started in proper condition.

The question may be asked, What is the proper condition a cow should be in when she starts her summer's work?

First.—During the winter and spring she should have good, comfortable stabling and be kept clean, and have plenty of pure air to breathe.

Second.—She should be so cared for that her digestive organs will be in the best condition to utilize her food and convert it into milk; her food should be so prepared to suit her taste and requirements that she will consume the greatest quantity she can profitably utilize.

Third.—In order that she may be prepared to do this she should have some grain or chop feed of some kind fed to her, beginning six weeks before her time of calving. When a cow reaches that stage of pregnancy her calf requires more nourishment, and if the cow is not fed she will lose in condition. There is now a greater drain upon her system which will continue until she calves. By feeding her liberally and watering her properly, her digestive organs will be accustomed to digest grain or any concentrated food. It is not necessary she should be fat or fit for the butcher. Common sense will dictate what is good working condition. A few days before she comes in, about half of her grain ration may be withheld till a few days after she has calved, when it should be restored and increased to all she can properly use. Some cows can use more than others, and each cow should have her own allowance, and every cow all it can properly use. This mode of treatment should be continued till the cow gets all the grass she needs. It is not wise to make the change from house feeding to grass all at once; it should be brought about gradually, else the digestive organs will be deranged. If they are allowed to scour they will lose flesh, and give less and poorer milk. Few farmers are careful enough in this matter. In feeding cows, then, it is much better and more safe to scald the chop with boiling water six to ten hours before feeding it; it softens the grains, swells it and prepares it for the digestive organs. The food is more perfectly and easily digested. I don't remember of seeing cows injured with scalded food, but I have often seen them hurt with raw chop or grain, so that they would not eat at all for a few days.

DAIRYMAN.

#### The Dairy Test.

If we have twitted the Holstein men for not appearing at London, and told what we saw and heard at other fairs over the assumed name of Stockman, it certainly cannot in any way interfere with those gentlemen in the way of bringing forward proof or arguments to prove that what we wrote were not facts. Smith Bros. give us a fine list indeed of animals that have stood the test of record-making, but would it not be much to the point to give us also a list of animals that have succumbed to record-making, and we confidently affirm it would be a large one if they choose. I do not understand how they can mistake the meaning of the word "uncontrollable." It would to them seem some method of preventing their cows from running to milk, head horns and hide, all through the teat. We would suggest that they control the bull, if they can't understand it in any other way. They also say "the only trouble they have is in feeding, watering, etc." This we believe, and have said in plain words that it was a considerable trouble—we are obliged for their cordial assistance.

Mr. Bollert's points are poorly taken. If, as he says, we hide behind the target, let him strike the target, perhaps he can pierce it and us at the same time—fire away, Mr. Bollert. As soon as you can prove to us and the readers of the *ADVOCATE* that Holstein milk can be produced for less than cows of other breeds can produce it, we will hoist our colors, "a white flag." I want one straight aim at you. It is not a year since a smart paragraph in *Stock Notes* told us of a famous cow of the Bollert's dropping something unusual even for a Holstein, and in a postscript it was added, "This fine cow has died since writing the above." We can and do sympathise with you, for we have lost more than one in warm weather. We will not croak a bit, but the meaning of "uncontrollable" may dawn on your mind. Mr. Bollert says he likes a story, but likes it complete, we will tell him one complete in two parts, and here it is: A friend from Old England visited us lately, a butcher and dealer in cattle, and talking over cattle generally, he said, "I see they have those Dutch cattle here!" We said, "Yes, do you know anything of them?" He said, "We have handled lots of them; they are poor cattle; their meat is as blue as slate, and we could only sell it to the miners." We said, "But they are good milkers?" He replied, "A good many of them were too near calving when we got them and had to keep them over; but their milk was like their meat, as blue as slate."

This is not our chilled shot; we know when and how to use it. Now, don't call us nasty little names, but stand up like men and defend yourselves, and tell us how much your milk costs you; how many spoiled bags there are; how much milk fever you have; how much parturient apoplexy (nearly the same thing); how many anxious nights the herdsman has, and many other things that big milkers do and need, and last, but not least, what per cent. of water does their milk contain?

STOCKMAN.

An Ayrshire breeder, at a meeting of those interested in this breed, at Washington, Pa., puts it in this way: The Ayrshire cow is one of the grandest of the dairy breeds, but men who are breeding her seem to be really afraid the American people will find it out.

#### How Shall we Improve the Variety of our Dairy Goods?

BY ALLEN PRINGLE.

(Continued from April issue.)

I have before shown how to improve the quality of the milk to be delivered at cheese factories. The next question is how to get the information to the patrons. This must be done in different ways—through the agricultural journals, through factory circulars, official bulletins, etc. I think the most effective method of all would be for the Department of Agriculture to prepare a pamphlet or circular, plainly, briefly and concisely explaining how to increase and improve milk, and get the best quality. These circulars ought to be sent out to the patrons of cheese factories, either directly through the post or through the factory proprietors. And they ought to be sent in the winter when the farmers have time to read and digest them. Such matters coming to them in the hurry of summer is generally laid aside unread. The circular ought also to be sent to them again when the factories open in the spring. Furthermore, it ought to be read to the patrons by the Secretaries at every "Annual Cheese Meeting," so that they may have "line upon line, and precept upon precept." Then the agricultural papers ought to give the subject prominence in their columns; and the *Farmer's Institutes* ought to devote a winter meeting or two to the special discussion of the subject, always remembering to read the circular.

I have now shown how to get pure and rich milk into the cheese factories, and how to reach the people, now comes the last and most difficult job of all, viz.: How to get them to put the knowledge into practice. Here is the rub. Most of us know better than we do in all moral concerns and in most secular. In this milk business I fear we need not appeal to a higher motive than the pocket—"the almighty dollar." We must convince the factory patron that it will pay him financially to improve the quality of his milk to the best. We might appeal to him on moral and hygienic grounds, and did he use the milk in his own family the health consideration at least might have considerable weight, but the milk mostly goes to the factory and is for the public. The patron drinks but little of the milk and eats but little of the cheese—his cousin the Britisher eats it. Aside from the pocket view of the matter, where the moral principle is strong enough it would of course come in here and impel to the right. But "'tis true, and pity 'tis 'tis true," that the average citizen takes little interest *per se* in the quality of provender he furnishes his cousin far off, or even his brother at home, so long as he can make it pay. We must therefore not only present the hygienic and moral argument to the cheese patron that he OUGHT as a matter of right to improve the quality of his milk, but we must convince him that it will pay him in pocket to do so, as it undoubtedly will do, inasmuch as well bred, well fed, well watered and properly cared for cows will not only yield milk of a better quality but in larger quantity, and such milk cooled and purified as indicated above will make a better quality of butter and cheese, which will command a higher price in the market, and thus come back to the farmer's pocket.

Generous feeding of all kinds of stock must be kept up if we would have a full milk pail and egg basket.

**Feeding Roots to Cows.**

A subscriber asks:—"Will carrots, mangel wurzel or sugar beets injure the flavor of butter?" While there are instances in which people have found, or fancied they found, a slight taste in the milk produced by cows that have been fed on such food, we think it perfectly safe to feed them in reasonable quantities. It should be borne in mind, however, that the butter is less liable to be injured than the milk. It is also well to bear in mind that succulency is or should be the chief object in feeding roots, as the same amount of nutriment can be produced and handled much more cheaply in grain, hay and straw than in roots. Grow plenty of roots wherever practicable, but do not by any means substitute them for grain.

**Dominion Dairymen's Association.**

The Dominion Dairymen's Association was called into being by a number of leading dairymen of both Quebec and Ontario. But Mr. Lynch, of Danville, Que., took the most active part, and did the preliminary work necessary by issuing invitations to the leading dairymen to meet in Ottawa at a certain date in 1888. At that time quite a representative meeting of leading dairymen was effected. After a free and full discussion it was the unanimous opinion that the Federal Government should do something to further the prosperity and success of dairying in all the provinces of the Dominion. A grant of three thousand dollars was asked to carry on the work of the Association, as well as the appointment of a Dairy Commissioner to perform the work that was found necessary to do; such work was organization of dairymen in all parts of the Dominion, so as to acquire the best and latest knowledge of carrying on all the work pertaining to the dairy business in a better and more profitable manner; to assist and direct the farmer to produce a better article, cheaper and more of it; to improve the facilities of transport for preserving the quality, both by "rail" and "boat," and also to find out the different wants of the different markets and supply those wants in the best form and condition. The work of the Association will be to co-operate with the Commissioner, to strengthen his hands in approaching the Government for assistance to carry out the above plans, as well as to be a medium of sending out reports to different parts of the Dominion of what has been done, what has been found out, and what is needed. Each delegate attending the Annual Convention is supposed to be the best representative man, to take the best ideas to the Convention, and take back with him the best practical experience of the whole Dominion, and so on from year to year a healthy improvement will be effected at the least cost and in the best manner. These things were considered by thoughtful and observant dairymen more required just now than at any other time, more particularly as the Federal Government has instituted the several experimental farms for the use of farmers. And as dairying has, and will be in the future, the pillar of strength to all classes of successful farming, and the foundation of prosperity, the importance of having that foundation properly defined and constructed at the present time cannot be over-estimated.

The following clauses were adopted as the basis of a constitution at the first annual meeting, 9th and 10th April, 1889:—

1. The name of the new Association shall be:

The Dairymen's Association of the Dominion of Canada.

2. The aim of the Association shall be to promote the general interests of the dairy industry in the Dominion of Canada.

3. In order to become a member of this Association, it shall be necessary for the applicant to be a member of one of the regular district or provincial associations, except in the case of senators and members of the House of Commons, who shall be *ex-officio* members of this Association.

4. The Association shall be under the control of the President, a Vice-President for each of the provincial associations, a Secretary, a Treasurer, and three Directors for each of the provinces of the Dominion, in conformity with the act of incorporation, all of whom shall compose the Board of Directors of the Association, and report to the said Association at its general meeting.

The following resolution was carried at the second annual meeting held in Ottawa from the 17th to the 19th of February, 1890:—

*Resolved.* That delegates appointed by an agricultural society in any district, which has not a provincial or district dairymen's association in active existence, be admitted members of the Dairymen's Association of the Dominion of Canada, and that the President of this Association and the Dairy Commissioner be a committee to draft by-laws for the Association to be submitted to the next annual meeting.

**Cost of a Cheese Factory—A Movable Fence.**

1. SIR.—Give the approximate cost, profits, &c., of a cheese factory with a capacity of 300 cows? We are situated in a new section, where our grain crops are frequently damaged more or less by frost. We are beginning to realize that we cannot make any headway selling a few bushels of oats or other grain, and a few tons of hay. We must turn our attention to other methods.

2. Will you kindly give an illustration or description of a movable board fence?

G. E. G.

1. *Cost.*—A cheese factory of 300 cow capacity can be erected and equipped at a cost of about \$1,500. Where lumber can be purchased for less than \$10 per M, a smaller sum will suffice. *Working.*—A better plan is for the joint stock company, or individual owner of the factory, to charge the several patrons such a rate per lb. of cheese as may be agreed upon, to cover all manufacturing expenses and to provide a dividend for interest on the investment, etc. After that charge has been deducted from the sum realized by the sales of cheese, the balance should be distributed among the patrons in proportion to the quantity of milk which each one supplied. It is customary for the patrons at an annual meeting to appoint the manufacturer, or one or more of themselves, as a salesman or selling committee. *Profits.*—I suppose information is asked for about the profits to the farmers who supply the milk. That the sending of milk to a cheese factory is a profitable practice, is evident from the continuous growth of the cheese-manufacturing interests of Ontario and Quebec. The average returns per cow for the average season of about five and a-half months is lamentably low, between \$22 and \$25. Many patrons, who keep good cows, that are well fed and looked after, receive from \$35 to \$40 per cow for six months' milk. Cows of enlarged milking capacity, fed upon cheap feed in the form of fodder corn and ensilage, are needed to increase the profits.

2. Will some of our subscribers send us an answer to the enquiry regarding the movable fence?

**The Farm.****How to Keep Up the Fertility of Our Farms by Breeding Cattle and Sheep, and Feeding for Profit.**

BY CHAS. SIMMONS, DELAWARE, ONT.

Prepared for the late meeting of the Dominion Shorthorn Breeders' Association.

In breeding cattle it requires great care and perseverance. If a man has not a special taste for it he never will succeed. In fact it may justly be called a science; and when we consider the great results of Collings, Bates and Booth, of England; of Cruickshank, Campbell, Mars and Duthie, of Scotland, and what they have achieved in fashioning types of the different families of the Shorthorn—now scattered all over the continent of America—those types are known by all close observers by their characteristics. In the Bates line they are easily recognized by all who make it a study. The same can be said of the Booths. Those strains and their branches have taken the lead for a great many years, and are highly prized by a large number of the breeders of to-day.

The Scotch Shorthorns have been built up out of the above families by using sires of a uniform type and character for a number of years. In the hands of the renowned Messrs. Cruickshank, Campbell and others, breeders of Aberdeen, they have become famous, and are very popular in Canada, and are taking the lead among our American neighbors. They are known by their compact, thick bodies and feeding qualities.

As I stated, breeding is a science. He who has become skilled can change the character of his herd by using sires of a uniform stamp for four or five crosses. For example, if you want a herd of cattle with a long head, or what is called stag-horned, a herd light in the crops and heart girth, or flat ribbed, low and bare over the loins, short in the quarters, light in the flanks, a big tail or long legged, you can establish any of those characters by using a sire with the above defects, or good points, if you so call them. Therefore I maintain the whole matter rests with the breeders in choosing the sires of their herds. Some breeders put great stress on a long pedigree, or will overlook many defects if he finds certain families are in his pedigree, or will use a bull should he be kin to some other that had been sold up in the thousands, or simply because Mr. So-and-So had one of that line of breeding in his herd.

All lovers of good cattle respect a good pedigree, and especially so when the animal is a good representative of a breed, and has good representatives on the side of both sire and dam. A bull, with four or five crosses on top of exceptionally good quality, will be an impressive sire in a herd. As proof of this, I mention the celebrated Barmpton Hero. I will mention a few of the many sires which have left their mark in Canada:—Bell Duke of Oxford, imported by George Miller; an Oxford, owned by Col. Taylor, at London; Crown Prince of Athelstane 2nd, imported by the Hon. David Christie; Royal Barmpton, imported by Mr. John Dryden; the Prince of Northumberland and Wellington, imported by Mr. John Isaac, and Vice-Consul, imported by John Miller & Sons, were and are impressive sires. So it may be said of females—the Queen of Athelstane, the Rose of Strath-

allan and many other families, the females of which have been the foundation of some of the best herds in Canada. Of late we have the celebrated Bow Park herd to the front with a herd of females of wonderful excellence. The question is, How can we make breeding pay? My opinion is that if you succeed you must shun as many of the points or characters that I first referred to, in your purchases of sires, and, if possible, every one of them, as I call them all defects. Pure bred of any breed or family of cattle in the beef lines that have any of the defects are not so valuable in any of the markets of the world. Among Shorthorn, either in male or female, should they have one of the defects mentioned, it lessens their value \$25, if a couple or three \$50, should they only be slight. Therefore you cannot be too cautious in choosing a sire. Now, that we believe the cattle industry has reached the bottom, and the trade has come back to practical men, the men of the past are no more among us, who were operating in a gambling way regardless of intrinsic value. Men who are breeding for the love and honor of their profession, and for the great interest they take in maintaining and perfecting the breed they are interested in, as was done by their predecessors of yore, are the men who can and do make it pay. I maintain the skilled breeders can make fair profits at from \$100 to \$200 for calves and yearlings, if he can buy stock males of the right stamp for \$200 to \$300, and females from \$100 to \$400.

[TO BE CONTINUED.]

#### Our Pastures.

The most expensive manner of feeding stock on high-priced land, is the way pasturing is too often done, by having bad stands or by freezing out, as much of the clover does. It requires entirely too much land to carry a given amount of stock, and any grass that helps to thicken the bottom or add to the growth is what is required. Orchard grass on suitable soils will do much to assist us. The native grasses, in favorable seasons, do very well in some localities, but there are times when these fail entirely to head. A rapid grower, like orchard grass, comes on well, and should always form one of the sorts in the pasture mixture. When cut for hay it springs up immediately and makes a rapid growth a few days after the mower has passed over it. Mr. John Dryden, M. P. P., one of our most advanced agriculturists, thus writes:—"I have used orchard grass for some years in two fields for pasture. It is combined with other grasses, and has given excellent results. It has stood the winter well, grows rapidly in the spring, and provides pasture at least a week earlier than our common grasses. It will not only carry a heavy stock, but really requires to be kept down early in the season in order to give the best results later on. It not only starts early in the season, but readily and quickly recovers its freshness at any time when the stock are removed. No one who contemplates grazing the same pasture for a number of years can afford to be without it."

Mr. J. C. Snell, the noted stockman, speaks of it as follows:—"I think well of orchard grass only as a permanent pasture. It is very early in the spring, and should be grazed short in May and June and not allowed to grow strong, as it is coarse, and stock do not like it when it gets to that stage. Then if stock were kept off it till late in the fall and allow it to get well forward, it would make good, rough pasture in the months of November and December after other grass had failed. If used for hay, it should be cut very early before it gets strong and hard, or stock do not care for it."

#### Education of Farmers' Sons.

BY WM. J. NESBITT.

There is an idea that seems to prevail among people that farmers as a class are not as intelligent as other classes in the country, or, perhaps, as some of their city cousins, and the old idea that some of the pioneers used to retain is in some cases the presiding thought in their minds, viz., farmers do not require anything but a very meagre education, and were they to acquire it it would only make them pranky and egotistic. Such an idea as this is fast passing away; fathers and mothers, as well as young people, are commencing to see that in order for them to take their place and battle with the world, that is moving so rapidly, they must have a fair education. Yet, many farmers seem to have a very limited idea of what a farmer ought to know. The opinion in general is that a common school education is quite sufficient for one who is only to be a farmer. It is not strange, then, that in the minds of our young people to acquire a good education implies engaging in some other pursuit. Nor is it a matter for surprise that the bright, ambitious lads, who would give grace, tone, and a more honorable standing to farming, should leave the farm for other pursuits. There is a great number, in fact too many, who have imbibed the idea that to obtain a sufficient education to enable one to appear to advantage in public life his youth must be spent within classic halls. Though this should be of material and substantial benefit, it is not the great essential in making a man. A youth who, till he has reached the years of his majority, has been hedged within the immediate circumference of some college, is not possessed of that knowledge of men and things indispensably necessary to enable him to grapple with the real difficulties of life. He is liable to be imposed upon at every turn of life, and though he may have an extraordinary fund of rhetoric, science, mathematics and fine sense, if he lacks common sense he is like a ship without a rudder. Young men on the farm should know all that is to be known on the farm in regard to the proper utilizing of every means for the benefit and improvement of both farm and stock, and with such a periodical as the FARMER'S ADVOCATE so available no person can plead innocence or ignorance in this connection.

And if more refined studies can be worked between the branches absolutely indispensable so much the better, for all who may can drink at the pure fountain of knowledge, for ignorance is a voluntary evil.

By a proper improvement of time the farmer's son may lay in a stock of useful knowledge that will enable him to take a stand side by side with those who have grown up side by side, and in the full glow of far superior advantages. In the long winter evenings, in place of spending them around the post office, or, perhaps, in the hotel, as some are wont to do, but by a proper utilizing of the spare moments with a supply of books and an invincible determination a person can make surprising progress. With pertinacity like Godfrey Saxe, "I'll find a way, or make it," it's a very difficult thing he won't surmount. Of course, some think because they can't attain to this point in the course of a few days they grow disheartened and give up in despair, forgetting:

"The height by great men reached and kept  
Was not attained by sudden flight:  
But they, while their companions slept,  
Were toiling upward in the night."

—Longfellow.

Hence in order for a farmer to keep pace with the agricultural world and retain his standing with the outside world, it is absolutely necessary for him to have a fair and profitable education in the different capacities a farmer may be placed in. It has been advocated very recently by learned as well as medical men that anatomy, physics and hygiene should be taught in our public schools. If some of these studies could be introduced into the farmers' homes they would be of material benefit to him. But laying down rules would only be entering into something without fundamental truth. And if some are to have their choice in the matter, they must attend to these requirements:—1. Abate the task work of labor. 2. Aim at raising the maximum of crops and securing corresponding profits. 3. Surround the work with the exhilaration of intellectual progress.

Let the country boy be as well educated in essentials for the farm as his city cousin for the bar, which will increase rather than hinder his success. Then, indeed, will farmers realize that for health and for substantial wealth, for rare opportunity of improvement, for long life and real independence, farming is one of the most worthy businesses in the world.

#### Lucerne or Alfalfa.

The uncertainty of pasture from the native pasture grasses in many sections teaches us the necessity of looking for some other means of adding to the food supply through the dry summer weather. Amongst those in high favor for soiling purposes is lucerne, and those who have given it a trial speak in its praise. The difficulty is in getting a stand, as it is delicate the first year and is very apt to be choked by stronger growing grasses. A perfectly clean piece of land, free from weed seeds, should be chosen. It loves a deep, rich loam, with porous subsoil; does not do well on heavy, cold clay. It should not be sown until the weather is fine and the land warm. After once getting a stand it does not heave with the frost as other clovers do, but when sown with other grasses it very much improves the quality for soiling, making a rich, succulent ration, on which all kinds of stock thrive. It is particularly good for the land as it draws heavily from the atmosphere, and its long roots go down deep in the subsoil, therefore it is not affected by dry weather. It is the only crop that can be grown for hay in California, Arizona and Utah. It is said to be as dangerous as clover in causing hoven in cattle pasturing upon it, as they eat greedily of it, and, therefore, requires due care when a full bite is to be obtained. An over feed when soiling with it has proved fatal, as stock are particularly fond of it. Mr. J. C. Snell, of Edmonton, says of it:—"I think highly of lucerne, and believe it is a valuable plant, as it is tenacious of life, will remain in the ground for many years, and if cut early makes first-class hay. I have some on a dry hill side that has been growing there for seven years, and in the driest summer it grows three feet long, and is vigorous yet. Stock is very fond of it. To get the best results with lucerne as a soiling crop, it should be cultivated in drills on rich land, when it may be cut from three to five times in a season, and there is no better green food for soiling purposes, especially for sheep, but cows are also very fond of it."

There is very little land that is not benefitted by underdraining. It is specially advantageous in clay soils.

**The Corn Question.**

BY JAMES GRAHAM, PORT PERRY, ONT.

In the February number of the *ADVOCATE* I noticed two communications, one from the Province of Quebec, the other from Nova Scotia, complaining that they no longer can make beef at a profit. It is a dead industry, and as a remedy they advocate the removal of the duty on corn and other feeding stuffs to enable them to raise beef to compete with that shipped there from Chicago. Now, suppose the duty removed, would the dead meat cease to be shipped there. No, it would still find the same market, simply because the present duty does not raise a barrier sufficient to stop the exportation trade. Therefore I think it a fair statement to make that it matters not from what country we import from to convert into meat. The same country can export their dead meat to the same market and be able to under-sell the importers, for the simple reason that the imported meat is the manufactured article and carries less freight. Now, sir, when the subject of the removal of the duty off corn was disposed of in the House, we expected that the matter had received its quietus for a time. However, it appears such was not the case, for I notice in the March issue of your journal two articles on the same subject bearing on the repeal of the duty off corn. Now, sir, that duty was placed on corn by the voice of the farmers of this country; and I, as a farmer, fail to see that it would be to our interest to have it removed. I have no sympathy with the Act giving the rebate to distillers on corn. It certainly would be a suicidal act for us as farmers to advocate the repeal of the duty with the view of giving our coarse grains a less market value. Is our position as farmers to-day better on account of the present low prices? Is trade better? Then, if not, why advocate the adoption of a scheme with the view of still further reducing the market value. Now, you must admit, that apart from the price of coarse grains in the market, the price of dead meat gives the value to grains fed on the farm. Take for instance the price of beef all over this part of the country last year, and the present, with the exceptions of the months of May and June last, was less than three dollars per hundred live weight. Now what price could the feeder receive for the grain fed these cattle? Why a mere nothing. Would our position as farmers, manufacturers or business men be improved by the constant drain on the capital of the country to pay for imported corn? If not, why advocate such a measure. You say we must change our system of farming, we can no longer compete in the grain markets of the world from the productiveness of some countries, cheap labor in others, and such like. Now, in such statements, we do not agree. I am sure it is freely admitted, all things considered, we have one of the finest countries. Our climate is such that man can enjoy life to the highest degree. Our soil is of the most productive kind; and no country can raise roots for feeding purposes more cheaply than we can. Our climate and soil is equally as good for grain. The total failure of a crop here was never heard of. We can produce wheat, barley and oats at a less figure than any known country, notwithstanding statements to the contrary. Now, in reference to these cheap feeding stuffs of the West, they are all included in the one word—corn—which doubtless can be grown cheaply, and has good

feeding qualities. I see it is from repeated tests, fairly established, that a bushel of corn fed under favorable circumstances will make nine pounds of pork live weight. This, at four cents per pound, gives corn a market value of thirty-six cents. Now it is only certain seasons that pork is worth four cents live weight, therefore it would be a risky business to take corn at thirty-six cents per bushel and get paid for trouble of handling. I confess we cannot do without corn for green feed. We have nothing equal to it. But from reports given I fail to see any who can grow cheaper feeding stuffs than we can. We are not confined to one article of diet to feed. Now, as to the value of growing corn, I will give you a report which I am sure you will willingly accept. It is that of John D. Gillett, Ill. The farm contains 12,000 acres. He had about 4,000 acres of corn grown annually under this system:—He had about 20 tenant houses on the place. Has the corn grown for him, he taking it, delivered in the crib, at 15 cents a bushel, if the grower furnishes everything but the land. If Mr. Gillett furnishes the seed, teams, implements, everything but the human labor, the price paid for the corn is 10 cents per bushel. Now this to some would appear to be very cheap feed, and I believe would pay when fed on the farm. Now allow me to place peas here as an offset to corn. I will submit the whole operation to you, so that you will be left without a doubt on your mind that we are able to stand the pressure against the outside world. Our mode is, we use the double-riding sulky plow. Any old man will plow four acres per day, and will do it equal to or better than can be done by any walking plow. The other work will be all done by single teams, and will increase the cost of the human labor the same as the corn, and to save figures will take a 20-acre field—To plow and cross-plow, ten days, at 75c. per day, \$7.50; one and a-half days' drilling, and one day to smooth the ground with the harrows, and one rolling, 3½ days. Now, to harvest, we take the Tolton pea harvester, manufactured by Tolton Bros., Guelph. Two boys will cut seven acres per day. They change, ride and throw back six days, at one dollar per day. To draw in we will send out two teams and six men. We will give them three days, say eighteen days' work. We now find the 20 acres of peas in the barn at a cost of \$33.62. We will base our calculation on 28 bushels to the acre—560 bushels. If 560 bushels cost \$33.62, what will be the cost of one bushel? Ans. Six cents. Before closing, I ask to direct your attention to a few remarks taken from Professor Wallace's reports on Indian crops and exports. He refers to the unsuccessful efforts to improve agriculture in India, and that there is no reason to expect the growth and export of India to increase at anything like an alarming rate. With the extension of railways, he admits, new wheat-growing districts will be tapped; but, he goes on to observe, the supply of easily available land is by no means unlimited, and the drawbacks and disadvantages are far more numerous than most people suppose. There is the imminent danger of ruin from drought, where irrigation is not practiced, and where it is great damage is often done by rust. Early frosts frequently reduce the yield and injure the quality of the grain if they fail to destroy the crops. Frogs, rats, locusts and weavel are also mentioned as sources of loss to the Indian wheat grower. Then, in the cultivator's efforts to extend the area of the wheat crop, he is hampered by many difficulties. New districts are often unhealthy, or deemed so by the superstitious and easily frightened natives, whose clannish desire to be at home renders any excuse good enough for them when they want to run away from a new settlement. Now, when we take into consideration the many drawbacks that the farmers of other countries have to contend with, I fail to see why the Canadian farmer could be driven from competing in the grain markets of the world with all the advantages we possess, too numerous to mention here.

**Application of Chemistry and Geology to Agriculture.**

BY JAMES MILLER, MEAFORD.

As it is my intention to write a moderately long synopsis of the above subject, it will not be out of place here to give a few preliminary remarks, which will be appropriate at the outstart. As the breast is to the child, so is agriculture to the fifteen hundred millions of men depending upon it for their very substance—in the prosecution of which nine-tenths of the fixed capital of all civilized nations is invested, and upon which, perhaps, three hundred millions of men expend their daily toil. Is it any wonder, then, that the investigation of the principles, on which the rational practice of this art is founded, ought to have commended the principal attention of the greatest minds? To what other object could they have been more beneficially directed?

But, at certain periods in the history of the country, the study of agriculture becomes more urgent. When a tract of land is thinly settled, like Canada, a very inferior system of culture will produce not only enough of food for the population but for the partial supply of other countries as well. But, when the population becomes more dense, or the land becomes exhausted, the same imperfect or sluggish system will no longer suffice, considering, too, the increased supply over the demand, as well as the cheapness and facility of production on unexhausted lands. It is well for us to make the best of our situation and resources. The land must be better tilled; its special qualities and defects must be studied, and means must be adopted for making the best returns from every part susceptible of cultivation. Canada is now in this condition. Better agriculture is now of vastly more importance to us than it was during the Russian or American wars, when prices were high and the land was virgin soil, and therefore yielded more abundantly. The invention of improved agricultural machinery, as well as the better and more economical mode of using them, have all tended not only to the raising of crops at a less cost, but on a greater scale. Where would we be if we had again to resort to the sickle at current prices, and the present yield of grain per acre? Can it be doubted but that, by a better system of drainage, deeper ploughing, and more abundant supply of fertilizers, the present yield of our Canadian land can be doubled, when that of Great Britain, after centuries of tillage, was made to yield double its value by such means? There is something in the saying that we, as Canadians, are too well off, when we feed a cow on five acres, when we could, by a little forethought, make one do the work. Let the example of the Chinese teach us a lesson, not that I should wish to see the Canadians live as do the Chinese.

In China we see a people, whom we call semi-barbarians, multiplying within their limits till their numbers are almost incredible, practicing in the most skilful manner various arts, which the practice of modern science has but recently introduced into civilized Europe and America. Cultivating thin soil and stimulating its fertility by means, which we have hitherto neglected, despised, or been wholly ignorant of, thereby making their soil yield an increase in proportion with their population.

Experience and example, therefore, encourage

us to look forward to still further improvement in the art of culture, and independent of such as may be derived from mechanical principles. Theoretical chemistry seems to point out the direction in which important advances of another kind may be reasonably looked forward to. And what more important subject could engage the young mind taught in our schools than the all important subject of agricultural chemistry? The Chinese are said to be not only familiar with the relative value and efficiency of the various manures, but also to understand how to prepare and apply, without loss, that which is best fitted to stimulate and support each kind of plant.

How few practical farmers in Canada are acquainted with what is even already known of the principles of the important art by which they live? Trained up in ancient methods—attached generally to conservative ideas in every shape—the practical agriculturists, as a body, have always been more opposed to changes than any other large class in the community. They have been slow to believe in the superiority of any methods of culture which differed from their own, from those of their fathers, or of the district in which they live; and, even when the superiority could no longer be denied, they have been almost as slow to adopt it. But I hope the awakening spirit will soon make itself felt, and old prejudices die out, so that the noblest of callings receive that just position and recompense which so rightly belongs to it.

[TO BE CONTINUED.]

### Veterinary.

#### Veterinary Questions.

Dear Sir,—As you offered in your first issue to answer veterinary questions, I hereby send you the following:—

1. Mare five years old, in foal, standing in stable, is badly swollen in one hind leg, a few sores about heel, but not at all bad looking.
2. Mare five years old, sweats profusely, with but slight exertion, coat pretty heavy.
3. What is cause of quivering about fore-quarters, say next morning after a day's work.

SUBSCRIBER, Morden, Man.

1. You should have given a more extended description of the case, such as mentioning whether the mare is in high, middling, or low condition, and whether the swelling of the leg occurred suddenly, or appeared gradually. A mare being in foal often makes the successful treatment of such cases somewhat difficult. Give, in a small bran mash morning and evening for one week, hyposulphite of soda half an ounce. Use following lotion by hand, rubbing it well into the leg (downward) morning and evening, acetate of lead two ounces, tincture of arnica four ounces, alcohol four ounces, fluid extract belladonna one ounce, water sufficient to make one quart. Apply flannel bandage firmly after each rubbing. Give moderate walking exercise every day.

2. Debilitated system, perhaps from insufficient or unwholesome food, torpid liver, worms, etc. Give morning and evening, ferri sulphate one drachm, soda bicarbonate one drachm, potash nitrate one drachm, gentian pulv. one drachm. Give in the morning in good sound oats, and at night in a well scalded bran mash. Continue treatment for one week. Give regular, but not heavy, work.

3. Muscular weakness—system needs toning up. Give as per directions in No. 2.

### Garden and Orchard.

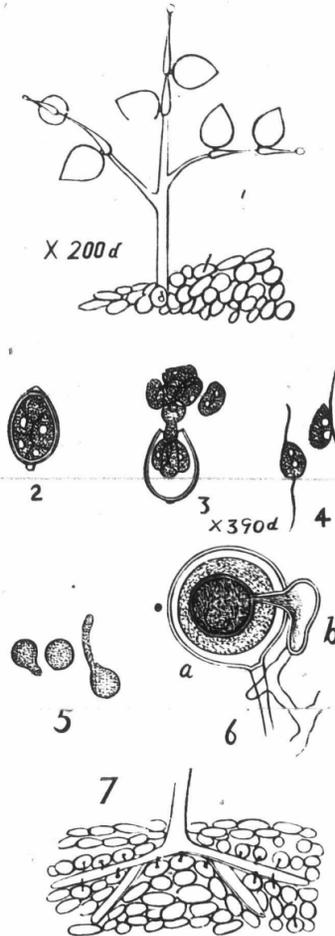
#### Parasitic Plants—The Farmer's Microscopic Foes.

J. HOYES PANTON, M. A., F. G. S.

(Continued from March issue.)

In this paper we shall discuss the life history of the so-called potato rot (*Phytophthora infestans*). The minute spores from which this fungus develops, reach the potato plant, usually the leaves first, but may also develop on the stem and even upon the tubers. Here they

FIGURES ILLUSTRATING THE HISTORY OF *Phytophthora infestans* (POTATO ROT.)



1. Fruit bearing structure with conidia upon it.
2. Conidium breaking up.
3. Contents of conidium passing out.
4. Zoospores capable of moving about.
5. Zoospores, having dropped the tails, beginning to grow.
6. a Oogonium. b Antheridium, the process of fertilization.
7. Vegetative part of the fungus growing between cells, into which the haustoria have penetrated.

germinate and penetrate the tissues, working their way between the cells, from which they extract nourishment by means of little structures (haustoria) growing into the cells. In the course of time the tissue of the affected part becomes permeated by a mass of colorless thread-like structures (hyphae), the whole spoken of as the vegetative part of the fungus and named the mycelium. Consequently, in a short time the plant weakens, and shows where it is affected by the parts dying. This is indicated by the

tops presenting a blotched, brownish, spotted, dead appearance. A close examination of the potatoes at this period with the microscope will show innumerable slender stems growing up through openings (stomata) on the surface of the leaves of the affected plants. These are the fruit-bearing parts of the fungus; they branch, and in some respects resemble trees in miniature, bearing upon their branches pear-shaped bodies (conidia) from which the fungus is developed. These are produced by millions when the conditions are favorable, such as moisture and heat. When ripe they separate from the stem, and being very light pass into the atmosphere, where they are wafted about, many of them finally reaching the ground or settling upon plants. If considerable moisture and heat be present the contents of a conidium undergo a change, the mass breaks up into several portions, the pear-shaped body (conidium) bursts and the little clumps develop upon them a couple of tail-like structures. These peculiar bodies (Zoospores) are able to move about, but only in the presence of water, hence the need of a large amount of moisture for the propagation of this fungus. From this tiny form of spore as soon as it reaches a suitable place, the vegetative part (mycelium) of the fungus will develop among the tissues of the plant, between the cells, and in time again give rise to the tiny tree-like structures, which make their appearance through pores in the leaves. This form of reproduction (asexual) in the plant is very rapid, and seems to be followed during the summer months. But there is another form followed later in the season, the object of which seems to be to carry the trouble into another year. This takes place among the thread-like structures (hyphae) in the tissues of the plant (host) and gives rise to the so-called resting spores, which serve to keep the species over certain periods, while the spores already considered are produced rapidly so as to hasten the spread of the fungus under favorable conditions.

In this form of reproduction (sexual) a round-like structure (Oogonium) develops, and at its side another organ (Antheridium) arises; the elements of the latter intermingle with those of the former and the result is fertilization takes place and an Oospore (the resting spore) is produced. This remains until another season, when it gives rise to the fungus, which, during the summer season, is developed more rapidly by other spores (Zoospores) already described. This sexual form has been doubted by some, but is maintained by others. There is no doubt but that it has been discovered in some species closely allied to the potato rot, and by some it is asserted that it has been discovered here as well. In *Phytophthora infestans* we have a plant of a very low order indeed, incapable of preparing food from the mineral kingdom, but growing upon other plants, feeding upon their juices and eventually destroying them.

A wet season supplies conditions well adapted for its growth, and hence we find the "rot" associated with such weather. There is no doubt that many spores are always present, but are prevented from being a source of trouble because the weather is not suitable for their development.

It has been maintained that the thread-like structure of the fungus is sometimes perennial and hardy, and that from fragments of it new fungi may arise.

Remedies:—The "rot" usually appears in the early part of August, and if the weather is favorable its spread is very rapid. Hence it is important to examine the plants about that time for the appearance of the brownish spots on the leaves that indicate its attack.

1. As soon as discovered dig the potatoes, or the disease will soon reach the tubers.
2. Grow early varieties.
3. Keep the potatoes as soon as dug in a cool, dry place, thus surrounding them with conditions unfavorable for the growth of the fungus.

4. Potato stalks affected should be gathered and burned.
5. Use none but good seed. It is advisable to get it from unaffected districts. Plant in well-drained land.
6. Avoid planting upon heavy clay soil, but prefer a light, dry, friable one. This presents the fewest conditions suitable for the growth of the fungus.
7. Where it has been found certain varieties resist the attack better than others, by all means use them.
8. Some chemical compounds have a very destructive effect upon fungoid growths, notably sulphate of copper. An application of this in all likelihood will be successful. The following sprayed upon the plants has given good results:—(a) 6 lbs. copper sulphate in 16 gallons of water, 4 lbs. lime in 6 gallons water; mix the whole, and spray on affected parts. (b) 1 lb. copper sulphate, add two gallons hot water to dissolve it, let cool and then add 1½ pints commercial ammonia, and dilute to 22 gallons.

**How to Grow Some of the More Delicate Fruits in Northern Sections.**

BY ROBERT HAMILTON, MONTREAL, QUE.

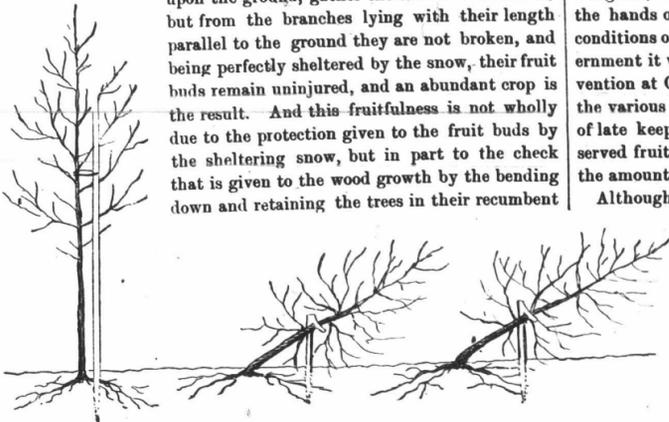
As every farmer wishes to grow some good fruit if he only knew how, and in most cases does not attempt it, because of the difficulties and uncertainties about it, I will give you a short account of what has been done to assure the fruiting of some of the best sorts of plums in a district where the cold is severe enough to deter any, but the most persevering and determined, from attempting anything in that way.

The chief hindrance to the production of the finer fruits in the colder parts of our country is the lack of hardiness in trees of the most valuable sorts of the luscious blue, green and yellow plums of Europe. Most of these are inherently tender. They could not by any process with which we are acquainted be so acclimatized as to be able to successfully resist the severe and long continued frosts that they are subject to in this country. And the knowledge of this fact is sufficient to prevent most men from trying to grow plums or other fruits of similar hardiness. But the old saying, "Where there is a will there is a way," is in point here. There may be more ways of inducing our plum and pear trees to show their capabilities than by (however generous it may be) the usual treatment. Since they are too tender to produce their luscious fruits freely and abundantly in our keen atmosphere, they may be surrounded by such conditions as to set the elements at defiance. And that is just what an ingenious countryman of ours has succeeded in doing. There is nothing really new about his method. It is merely treating a stiff growing tree, as we have all along treated our grape vines and other soft growing plants that could submit to this treatment without injury.

Mr. Sharpe, a fruit grower of Woodstock, New Brunswick, has been unusually successful in growing plums in a very cold region, and has patented his methods and plans, so that they are at the disposal of anyone who cares to attempt to

do likewise. His success has been so perfect and his work on so large a scale as to leave no room for doubt of its entire practicability. It is not limited to one or a few varieties, but has fully succeeded with most of the finer and better known sorts.

What are the methods that have proved so successful? They begin with the planting. As the trees are to be bent down to the ground in the fall, to be sheltered by the snow, they have to be so planted as to admit of bending without injury, and this can be done only by directly training the roots in such directions as shall not interfere with it. The trees are always bent southwards, and the roots, to allow of this, are directed to the east and west—any large roots on the north and south sides are removed. In the fall all that is necessary to do is to take a spadeful or two of earth from the south side and gently bend the tree down and fasten it there. This may be done by weighting or, better still, by means of a strong crooked stick driven well into the ground. A plum orchard treated in this manner, where as in Mr. Sharpe's the trees are planted rather closely, has the appearance of a brush pile in the fall. The trees, laid almost flat upon the ground, gather the snow and retain it, but from the branches lying with their length parallel to the ground they are not broken, and being perfectly sheltered by the snow, their fruit buds remain uninjured, and an abundant crop is the result. And this fruitfulness is not wholly due to the protection given to the fruit buds by the sheltering snow, but in part to the check that is given to the wood growth by the bending down and retaining the trees in their recumbent



THE POSITION OF MR. SHARPE'S TREES IN SUMMER AND WINTER.

position till after blossoming. Instead of a vigorous wood growth numerous fruit buds are produced; these, duly protected, are in turn followed by the fruit.

The trees treated in this manner are, after blossoming, raised up and fastened to strong stakes driven into the ground beside the trees for that purpose.

As far as appears at present there are no special varieties that are better adapted to this treatment than others. All the sorts that are grown in the most favored regions of our country submit to this treatment and thrive under it, and when the trees become so large as to be unmanageable they may be permanently fastened down. Although only plums have been tried in this way, there is no reason to suppose that cherries and pears may not be made amenable under such treatment.

In another paper I may give some methods of dwarfing fruit trees so as to suit them better to this bending down.

Complaints of slow sales for the common sorts of imported draft horses is complained of. This is right. Men that import cheap horses should be left out of the race. Very different with those who have bought the good ones. The fact is our people are becoming more expert judges, and the demand for good ones was never better.

**Dominion Horticultural Society.**

The success attendant upon the winter meeting of the Montreal Horticultural Society, held at Quebec in the winter of 1887-88, led the president of the society, Prof. Penhollar, to suggest the desirability of bringing together at Montreal representatives from the various provinces of the Dominion. Measures were at once adopted to secure this result, and the Dominion Government was petitioned through the Hon. Mr. Carling for a grant in aid of the work contemplated. During the following spring and summer Mr. Chas. Gibb, Mr. Wolverton and Mr. C. R. H. Starr took a most active part in endeavoring to accomplish this result, but for various causes their efforts were unsuccessful. The following winter the Montreal Society determined to renew their efforts, being convinced that the nature of the work to be accomplished by such a convention was of sufficient importance to warrant more than ordinary effort. Through the representations of the president of the Society, aided most warmly by the Hon. Mr. Carling and various members of the House and Senate, a bill was passed granting \$2,000 in aid of the fruit industry of Canada. By a general vote of all the delegates, all details of organization were left in the hands of the Montreal Society. Under the conditions of a special grant from the general government it was found necessary to hold the convention at Ottawa, and to include, in addition to the various papers to be presented, an exhibition of late keeping varieties of fruits, as well as preserved fruits of various kinds. For these prizes the amount of \$400 was offered.

Although no permanent organization was contemplated in the original plan, yet the success of the Ottawa meeting was so grand and so far beyond the most favorable anticipations that a permanent organization was found to be necessary. Accordingly a provisional organization was affected under the name of the Dominion Horticultural Society, which for the coming year would be operated under the following regulations to

serve as a basis for a complete constitution:—

1. The officers of the Society shall consist of a president, a vice-president for each province, a secretary, treasurer, and a corresponding secretary for each province, and a statistician.
2. The President shall be elected by the Society at its annual meeting, and hold office for one year.
3. The presidents of the Provincial associations shall be *ex-officio* vice-presidents of the Dominion Horticultural Society, and in the event of the president of any Provincial association being also president of the Dominion Horticultural Society, then the first vice-president of the Provincial association shall be vice-president of the Dominion Society. Where no Provincial association exists, the vice-president for that province shall be elected by the Executive Board.
4. The Secretary-Treasurer shall be elected by the Executive Board, and shall hold office for one year.
5. The Corresponding Secretary for each Province shall be appointed by the Vice-President for that Province.
6. Members of Provincial associations are entitled to membership in the Dominion Horticultural Society.

tural Society upon payment of an annual fee of one dollar. Persons not members of any Provincial Fruit Grower's Association may become members of the Dominion Horticultural Society upon payment of an annual fee of two dollars.

7. For purposes of representation in convention the various provinces are entitled to vote as follows:—British Columbia, 2; Manitoba, 1; Northwest Territories, 1; Ontario, 6; Quebec, 4; New Brunswick, 2; Nova Scotia, 3; Prince Edward Island, 1.

Under the above rules the following officers were elected for the year 1890:—President—Prof. Penhollar, Montreal. Vice-Presidents—Nova Scotia and Prince Edward Island, Wm. Brown, Charlottetown; New Brunswick, L. S. Peters, Queenstown; Quebec, Chas. Gibb, Abbotsford; Ontario, A. M. Smith, St. Catherines; Manitoba, Mr. Frankland, Stonewall; Northwest Territories, Mr. Harrison; British Columbia, Mr. Browning. Secretary-Treasurer—W. W. Dunlop, Montreal. Statistician—Mr. Geo. Johnston, Ottawa. Executive Committee—Prof. Penhollar, W. W. Dunlop, L. S. Peters, L. Woolverton,

#### Fruit as Food.

BY L. WOOLVERTON, GRIMSBY, SECRETARY OF THE FRUIT GROWERS' ASSOCIATION OF ONTARIO, READ BEFORE THEIR LATE MEETING.

One of the best ways of increasing the selling price of our fruits is to educate the public into a freer use of them. Fruits are too often looked upon as mere luxuries, agreeable to the taste but useless when nourishing food is required. We find the citizen buying meat and potatoes regularly, but the fruits are only purchased occasionally as a special treat. When the family go from the city to the country in summer time, the mother is in constant anxiety about the amount of fruit her children consume, and is surprised when the dreadful results anticipated do not follow. This craving which children have for ripe fruit is one proof of my first point, viz.: (1) *The free use of ripe fruits at our meals tends to health and longevity.* No doubt there are many persons present who can verify this position from actual experience. I have heard men say that in the autumn, when harvesting grapes and eating freely of the fruit, they have noticed an increase of weight of from five to fifteen pounds. So well acknowledged has the healthfulness of the grape been, that, in France and Germany, patients are treated with what is called the Grape Cure, for many diseases due to overfeeding. A French physician says that nothing does more to rid him of his patients than the daily use of fruits; and another says that since the apple has been more freely used in Paris, there has been a decrease of dyspepsia and of bilious affections. We all know with what avidity the fevered patient sucks the cooling juice of the ripe cherry. We have already, in a previous paper, referred to the healthfulness of the currant, in dispelling headaches and reinvigorating the system.

Not only on the score of health, but also on that of economy, we can speak a word for the use of fruit. Meat is one of the most expensive articles of diet, and in summer time not the most wholesome. Indeed some physicians trace autumnal diarrhoea to the use of meat in the hot weather, giving rise to alkaloids which are purgative in their effects. The fruit often gets the blame for what is due after all to the meat. A grain and fruit diet, according to an eminent English physician,

is in summer more healthful and less expensive than a meat diet. Fruit contains the elements necessary for the nourishment of the body, as will be seen from the following table, showing the composition of the strawberry, viz.:

Water	87 per cent.
Sugar	14 " "
Free Acid	1 " "
Nitrogen	0.4 " "
Insoluble matter (¼ per cent. of which is ash)	7 " "

Who objects to being convinced of the healthfulness and economy of the strawberry in summer as contrasted with a meat diet!

Professor Faraday says, "Let every family in autumn lay in from two to ten, or more, barrels of apples, and it will be to them the most economical investment in the whole range of culinary supplies. A raw mellow apple is digested in an hour and a-half, while boiled cabbage requires five hours. The most healthful dessert that can be placed on the table is baked apple. If taken freely at breakfast, with coarse bread, and without meat or flesh of any kind, it has an admirable effect on the general system, often removing constipation, correcting acidities, and cooling off febrile conditions, more effectually than the most approved medicines. If families could be induced to substitute the apple—sound, ripe and luscious—for the pies, cakes, candies and other sweetmeats with which children are too often stuffed, there would be a diminution of doctors' bills, sufficient, in a single year, to lay up a stock of this delicious fruit for a season's use."

The moral of all this is: "Let every farmer plant a fruit garden with such a selection of varieties, as will furnish him with a constant succession of fresh fruits for his family; and let every townsman make arrangements for a constant supply of fresh fruit from the fruit market."

The second point I want to emphasize is this, (2) *Apples form one of the most valuable articles which can be given horses and cows in connection with their daily allowance of food.*

In point of nourishment alone, they are equally valuable with carrots for horses, and with turnips for cows; and more valuable than mangolds, pound for pound. On page 95, of the report for 1887, will be found a table prepared by Prof. L. B. Arnold, in which he shows that ripe apples have a feeding value equal to one-third the value of hay, or about 16 cents per 100 lbs. I believe that this is far too low an estimate, and in this I am supported by a Mr. E. H. Hutchinson, an American farmer, who says: "For the general purpose horse of the farmer, I know from actual experience that apples are valuable food. I have had horses that were in very low condition, from worms, entirely freed from this trouble when running among apple trees, where they eat all they want. I believe that a horse not at hard work would do as well on four quarts of oats and a peck of apples as on a peck of oats. If this statement is true, it would give apples a feeding value of about 24 cents a bushel." It will be observed that we have here a practical farmer giving apples about six times the value which Prof. Arnold has allowed to them, viz.: 24 cents per bushel or 48 cents per 100 lbs. Now if this can be proved it will open up a new way of disposing of a large portion of our apple crop, and increase the value of the farmer's orchard. If apples can be shown to be worth anything like fifty cents a bushel as food for stock surely we need not fear over-production, or market gluts.

[TO BE CONTINUED.]

#### Garden Culture of the Rose.

The late Peter Henderson shortly before his death gave the following plain directions for the culture of the rose. Our readers will of course understand that the most intelligent cultivation will sometimes prove a failure, owing to adverse seasons or unfavorable soil and location; but under ordinary conditions, if the instructions given below are followed out, success should follow:—

To obtain the best results roses must be planted where they will have the full benefit of sunlight, even in a slightly shaded place they never do so well. The soil should be dug to the depth of at least one foot, and thoroughly mixed with not less than two inches of well rotted stable manure; in the absence of stable manure bone dust should be put on at the rate of ten lbs. to every 100 square feet of surface; this should be well incorporated with the soil to depth already named.

The best time to plant is in May or June according to latitude. Pot-grown plants that have had a partial rest during winter are by all odds the best to set out, as they are in condition to take root in the soil and grow at once after being planted. We are so firmly convinced of the superiority of this system of culture that we grow all our Roses in this way, and ascribe the uniform success obtained in planting our roses (as compared with dormant stock lifted from the open ground) to this cause alone. In planting, it is only necessary to make a hole a little larger than the ball of earth on the plant, and after it is set in, *firm the soil well around the roots*, otherwise the dry air will shrivel them up and prevent their development. Never set the plants out if the ground be wet and soggy, but wait until it is fairly dry. After planting give the soil a thorough soaking, and should the earth around the plant be dry it should be thoroughly saturated with water a day or so before planting.

The first season of planting, the roses should be set about one foot apart each way; the next season, if desired, one-half of them may be moved and planted in another place, as the growth that they will make the second year would be sufficient to fill up the space.

The Hybrid Perpetual class of roses should be pruned back to two or three buds or eyes each season; the pruning may be done at any period from the time the leaves drop in November until April. The Tea roses, however, require but little pruning, simply thinning out the shoots where they have grown too thick.

When roses are received from the florist in mid-winter, they should be placed in boxes of any good, rich earth, or in flower pots of a size suitable for the roots, given a good watering, and placed in a temperature, if possible, not to exceed 50 degrees at night, although when the sun is shining through the day 10 or 20 degrees more will do no injury. The amount of water necessary must be determined by their condition—if growing vigorously, and the weather is bright, water may need to be applied each day; if they have not begun to grow freely, and the weather is dull and moist, they may not require water more than once or twice a week. If there is no glass structure such as a greenhouse or pit to place them in, they will do very well placed in some light window facing the east or south; in this condition they will bloom during the winter

and spring. If then wanted for out-of-door planting, they should be planted in the open ground after it has been prepared as directed. When roses are received from the florist at the planting season they should be shaded from the sun for a few days after planting, as being boxed when sent by mail or express, they require this protection from the bright sunlight until they get partly established in the ground.

Roses are described in catalogues under the head of Hardy Hybrid Perpetuals, Hardy Climbing Roses and Tea or Monthly Roses, so that the buyer will be able to distinguish to what class they belong and have them treated accordingly, or order from such classes as are best suited to the district in which they are to be planted.

Hybrid Perpetuals and Hybrid Teas will stand the winter with but slight protection (by a covering of four or five inches of dry leaves, or straw and earth, in November), but Teas, Bourbons or Bengals, which are all of the tender Monthly class, would not be hardy in any district where the temperature falls lower than 25 degrees below the freezing point. Such roses, when grown in the north, can be lifted in October or November and placed in pots or boxes, and if given plenty of light, such as being placed in a light sitting room or in a green-house, will bloom throughout the winter.

[TO BE CONTINUED.]

### Paris Green as a Remedy for the Curculio and Codling Moth.

BY F. G. H. PATTISON, GRIMSBY, ONT.

Paris green used in proper quantity and at the right time is a very efficacious remedy for these insect pests. The fact is not so well known amongst farmers and fruit growers as it ought to be. If it were, the large amount of wormy fruit now to be seen upon our markets would be materially lessened. It was first used, I believe, on the other side of the line some eight or nine years ago and soon spread into Canada. The number of those spraying with it is increasing every season.

The writer first began to use it about five years ago, and is convinced from repeated experiments that a proper use of it will save from 50 to 75 per cent. of the apple crop; about the same proportion of the cherry and pear crops, and in the case of plums will, most seasons, make all the difference (at all events in many sections) between a full crop and none at all.

You may jar your plum trees every morning for about three weeks and catch the insects in cloths, but most people consider this a rather tedious operation, especially in this age of steam, electricity and labor saving implements.

You may also grow your plum trees in a chicken yard, but this, while it may answer well enough for a private grower with a few trees, is impracticable for a large commercial orchard.

The poison should be applied to the trees by means of a force pump fixed upright in a barrel by screws fastened into the lid, and provided with a hose and nozzle. These pumps are easily procurable, both in Canada and the States. Prices range from about \$3.50 up to \$12 and \$14, according to power, &c.

A 40-gallon barrel is a convenient size, but a larger or smaller one can be used if preferred. A small portion of the lid should be removed to allow the water being freely and easily poured into the barrel, but not more than is necessary in order to avoid any spilling or splashing.

The barrel and pump should then be placed in the vehicle prepared for it (a Democrat or one-

horse cart is preferable, but a wagon will do) and firmly fixed there by means of ropes or chains to prevent shifting.

It requires two men to work the apparatus properly, one to drive and spray, the other to pump and stir, for the water must be kept constantly stirred, as otherwise the strength of the Paris green will all go to the bottom.

Caution must be observed, however, in using this poison, as, if used too strong, it will destroy the foliage and, perhaps, kill the trees, whilst if used too weak it will not produce the desired effect. The following are about the proper quantities if the Paris green be pure:—

For apples and pears, one ounce to twelve gallons of water. After spraying for some time slightly reduce the quantity, as there is always a sediment left in the barrel each time it is filled, so that if the quantity of fresh poison added be not slightly reduced, the mixture will gradually grow stronger than at first. For plums and cherries one ounce to thirteen gallons will be quite strong enough.

In purchasing the Paris green care should be taken to obtain a pure brand, as several of the brands now placed on the market are much adulterated and of inferior quality.

If the trees in the orchard are of good size, drive up one side of each row, spraying, and again down the other side of the same row, still spraying. By this means each tree will get a thorough dose of the poison, and it will be evenly distributed all over it, which is important. In the case of small trees this will not be necessary.

The proper time for spraying varies a little for the different kinds of fruit. Apples should be sprayed twice; first when about the size of finger ends; second, just before the apple turns over to hang down.

Cherries soon after the fruit sets; repeat in a week or ten days' time.

Pears should be done earliest of all, as the Curculio, generally speaking, makes its first appearance upon them and is the cause of the numerous gnarly and twisted specimens to be seen in our orchards; repeat as for cherries.

Plums, first application immediately after the blossoms drop; repeat at intervals of from six to ten days, for from four to six weeks, according to the weather, but where there is not time for so much, two applications, or even a single one, will be found very beneficial.

Care should be taken to select settled weather, if possible, for if heavy rain follow within 24 hours after the application, it will render it of little or no use, the spraying will have to be done over again. There is little or no danger to be apprehended to live stock from feeding on the grass in an orchard which has been sprayed, even immediately after the application. This has been proved over and over again by actual experiments.

To be on the safe side, however, an interval of from four to five days may be allowed to elapse after the application before turning live stock into the orchard.

In conclusion, I do not hesitate to say that there is nothing a fruit grower can occupy his time with—more especially if he be possessed of a plum orchard—which will return him better cash results in the same season than the proper application of Paris green to his trees.

The farmer who keeps dairy records does not complain so much about low prices as the man who does his work by guess or at random. The study of figures will often indicate a remedy for low prices.

## Poultry.

### Poultry Breeding.

That every farmer should invest heavily in pure bred poultry is not advisable, not that mongrels and dunghills are as profitable as pure bred birds, for experience demonstrates that they are not, but because in any case it is best to creep before walking, and to invest in an expensive flock of fowls without having a knowledge how the money is to be made out of them is a great mistake. Pure bred birds cost big money, and are not likely to yield a profit if their eggs are used for the table or their flesh sold on the market, notwithstanding the fact that in most instances they are best for that purpose. If pure bred fowls are to be kept, they should be made to yield a good return by selling eggs for hatching and young birds for breeding purposes. There is no reason, however, why any farmer should not invest in a sitting of eggs of some pure bred variety best adapted to his wants, or even a pair or trio of pure bred fowls as a nucleus for a good flock. Few lines pay better in Manitoba than poultry, and the best only is "good enough." Where this is not convenient or practicable, the best hens should be selected and bred to a pure bred cockerel. From the chicks of this mating select the largest pullets and breed them to the same male the next season. The chicks will then be three-quarters pure, and another cockerel of the same breed used in the same way will make the flock to all intents and purposes pure bred.

### Poultry Culture.

BY JAMES ANDERSON, SPRINGFIELD FARM, GUELPH, ONT.

The rapid strides which have been made in poultry raising in our Dominion during the last decade is something wonderful. Some eight or ten years ago our Ontario Poultry Association was formed, and a government grant of some \$600 annually was got through the influence of our late member, the Hon. Peter Gow, which gave a great impetus to scientific poultry culture. Now we have established all over the Dominion well conducted and prosperous exhibitions of poultry, counted by the score, which seem to succeed without the aid of government support, showing the great interest there is taken in the business. In looking over my Poultry Review I find the names of some ninety professional breeders of poultry advertising there, a great many of them making their living by poultry, and all seemingly making money by it. The number of eggs exported last year from Canada was something fabulous. In the December number of the Poultry Review I read:—"A special egg train of 24 cars passed over the Grand Trunk on Saturday for New York via the Delaware, Lackawana & Western Railway. These trains are guaranteed to make the run from Hamilton to New York in 25 hours. The shipment was a single consignment from Strathroy, Ont., and the total number of eggs in the consignment is over 31 millions." Now, you may imagine when from one locality this number is shipped, what must be the wealth from eggs alone obtained from the whole Dominion. I also read in the FARMER'S ADVOCATE for March that no less than 70 tons of Canadian turkeys were shipped in a single day last fall for the Liverpool and London markets. So you will see by this that if the poultry business does not interest the

farmers of Canada, their wives and daughters, it should do so, as it is rapidly becoming one of our leading sources of wealth.

I will now give you my experience of some 25 years in poultry raising. My first investment in first-class poultry was about the year 1862. I then procured two pairs of the finest light and dark Brahmas in this part of the country at that time. I have bred six or eight of the leading varieties of fowls since, and I consider the Light Brahma still to the front as a general purpose fowl; the second, the Plymouth Rock, for farmer's use. Mr. O. H. Pick, of Montrose, Mass., says he has kept all the leading breeds of fowls and considers the Light Brahma superior to any other, and that his neighbors are of the same opinion. Their flesh is white and tender and excellent for the table. They come early to maturity, and lay larger eggs and more of them during the year than any other sort. With the mercury varying from 5° below to 15° above zero, he has received nine eggs a day from twelve laying hens. He feeds oats, wheat screenings, boiled potatoes, with bone meal mixed, and beef scraps. Another fancier with 26 hens got the large quantity of 1,218 eggs in three months—in January 353 eggs, in February 452, in March (with five of the hens sitting) 413 eggs. They averaged 13 eggs per day for the three months; were fed three times per day, twice grain, once scalded meal mixed with scraps, plenty of clean water and ground bones. I also use the Light Brahmas for setting my early duck eggs under, and also my goose eggs, to get early birds for show purposes. They are so large and have so much down among the feathers they keep the eggs at a regular temperature; they are quiet and sit steadily. The White and Brown Leghorns are better layers, also the Black Spanish, but are very tender and get their combs frozen during our severe winters unless kept in a very warm place. I have also tried the Games. They are good layers and their flesh is delicious, being almost as toothsome as an English pheasant when properly cooked, but they are too pugnacious altogether. The Hamburgs lay numerous, but very small eggs. I have had no experience with the Houdans, but believe they are good layers and fine large table fowls. The Black Minorca is a fine bird, excellent layer, but, like the Black Spanish, is tender. The Light or Dark Brahma or the Plymouth Rock is the best fowl for farmer's use, in my experience, and can stand our severe climate better than any I have yet seen.

[TO BE CONTINUED.]

Wide-tired wagon wheels are good roadmakers. A flock book for Southdown in England is now talked of.

There is very little land that is not benefitted by underdraining. It is specially advantageous in clay soils.

It is reported that values in store cattle have gone up nearly one-third in a year in many of the stock feeding parts of the west.

Do not forget your coal oil can; put coal oil on the roost early in the morning, about twice a week, and keep the lice from your fowls.

Grey horses are preferred by many of the London millers for their class of work, just as blacks are preferred in the coal delivery trade, now a very extensive one.

It is better to not breed at all than to raise a cheap, worthless colt when there is such a great demand for big heavy horses and large stylish coaches at good big prices.

### Family Circle.

#### Laughter.

Laugh, and the world laughs with you,  
Weep and you weep alone;  
This sad old earth must borrow its mirth,  
It has troubles enough of its own.  
Sing, and the hills will answer;  
Sigh, it is lost on the air;  
The echoes bound to a joyful sound,  
But shrink from voicing care.

Be glad and your friends are many;  
Be sad, and you lose them all;  
There are none to decline your nectared wine,  
But alone you must drink life's gall.  
There is room in the halls of pleasure  
For a long and a lordly train,  
But one by one we must all file on  
Through the narrow aisles of pain.

Feast, and your halls are crowded;  
Fast, and the world goes by;  
Succeed and give, 'twill help you live;  
But no one can help you die.  
Rejoice, and men will seek you;  
Grieve, and they will turn away;  
They want full measure of all your pleasure,  
But they do not want your woe!

—Dr. Joyce.

### HOW I WROTE MY NOVEL.

WRITTEN FOR THE RURAL PRESS BY MAID-OF-ALL-  
WORK.

I made up my mind to write a novel, and as harvest was over, and the wheat sold, and the work all done and everything quiet on the farm, I thought it was a good time to begin it; so I took my note-book and rocking-chair and went out into the orchard, under the trees to think it over. As I sat there eating figs, I decided who I should have for my hero; that was short work. Willie Kimball was my favorite of all the young men in the neighborhood. He was tall, well formed, frank and manly in his bearing, a little reserved for his age, but always kind and courteous, and as his father's large farm adjoined ours, I had seen enough of Willie to like him exceedingly.

Willie had a stepmother with whom I had no acquaintance, but Willie used to drop in sometimes on winter evenings, instead of going to town, to read our papers or play chess with the Granger. He was a favorite among the girls and was welcome everywhere, but in selecting him for the hero of my novel I took into consideration the fact that his father was well-to-do and would probably deed him the quarter lying next to us when he was twenty-one. Then I fell to wondering if my stately friend Miriam Grey, who, being a city girl, would make a splendid heroine for my story, would in reality be a good match for him, when suddenly two soft arms fell about my neck and two cherry lips touched my cheek.

"My lady-love, what are you dreaming about now?" This was Dolly Dunton in her new blue calico dress, a bunch of white roses on her breast, smiling into my face as pretty as a picture, and bright and loving and fascinating as ever. I was always glad to see Dolly, though I should never think of putting her into my novel. She was such an every-day, friendly good sort of a girl, with nothing romantic about her. She was an orphan with no pecuniary prospects, but her aunt, my neighbor, gave her a good home and such advantages as the town school afforded.

Dolly loved flowers and colors, and as soon as I felt her soft kiss I knew what she wanted. She wanted that first lesson in painting I had promised to give her, for Dolly was always handy and willing to help me, and I was glad to impart to her my scanty knowledge of oils and coloring. I gave a little sigh over my interrupted thought as I slipped my notes out of sight. Dolly carried my chair in and we set up the easel in the spare room and went to work in good spirits. My pupil was very apt and happy in her work, so that I became newly interested in painting, and started another picture to fill up the spare moments. When it grew too late to work, it was time to hunt the eggs and get the supper; so I had no more time that day for my novel. I agreed, so loving and importunate was Dolly, to give her one day in the week for painting, in return for which she was to come on Saturday and do my baking and sweeping, while I drove to town and attended to my trading and society duties.

There was no more time that week for my novel, for one day I washed, and one day the Granger made over the chicken-house, and I spent the day talking to him and doctoring sick chickens. Then Saturday and Sunday came, which are always crowded days, any way. Monday, some company came and spent the day, and Tuesday I washed and baked, and Wednesday morning everything looked fair for me to go to work on my novel. I had received a letter from my friend Miriam Grey saying she would surely come to the country as soon as the first rains had laid the dust, and I thought what a good opportunity I would have to write up a romance between her and my handsome Willie. Miriam's father was a lawyer with money, and I could easily work him up into a parent who would never, never consent to giving her to a plain farmer, and, with Miriam's fine culture and conscientious-

ness, she would worry herself to a shadow before she would disobey her father, whom she loved loyally.

So I sharpened my pencil and fell to work painting Miriam in a sky-blue tea-gown walking in my garden with Willie in his best, he saying bribe, laughable things and snapping his riding-whip in the air. I had barely written ten lines when the Granger came striding into the house, evidently in a high state of excitement by the way he slammed the door. He rushed into the room with a gust of air.

"Betsy, I have engaged the barley-grinders, and they will be here to-night."

I rose up in horror. Nine men to supper and not a loaf of bread or a pie or cake, or a bit of fresh meat in the house. "John, how could you? Why didn't you let me know?"

"Couldn't help it, Betsy. Kimball got through with his other job sooner than he expected, and he wants to do this and discharge his crew. They will be here all day to-morrow."

As I usually had help in harvest, I was naturally upset at this sudden invasion. But John was most obliging. "I'll do anything you want, Betsy, only set a good table; the Kimballs expect it."

It was no more than right that I should make an effort for my neighbor and his crew of men. I knew I could depend on Willie and his father for thanks and appreciation, any way; so while I rolled up my papers and hid them in a drawer I laid my plans for supper. I told the Granger to hitch up the cart immediately and go to town for fresh meat, and on his way to stop and ask Dolly Dunton if she would come over and help me out. Then I hunted the eggs, and built a fire, and skimmed the milk, and cooked three pans of sour milk and made some cottage cheese, and had my jelly cake partly done, when the Granger came back, his cart loaded with meat and grapes, and Dolly under a large sun hat as pretty and sweet as ever in a dainty white blouse, and all her skirts rustling as if they had come from a French laundry. In a twinkling she had her gloves off and her arms in the flour-barrel and began mixing up piecrust without waiting or asking questions. And I admired her so much that I couldn't help putting my arm around her slim waist and giving her a good hug as I brought her a can of berries for the pies.

Our supper was a success. The biscuits were light, and the steak was tender, and everything just right, and Dolly and I stepped out into the cool of the evening to congratulate ourselves while the men filed into the lighted dining-room. Willie managed to spy me and came to give me his hand before going in. Dolly slipped behind me with her hand in mine as he came up, and I could see his face light up with pleasure at her pretty, modest action as he said: "And Miss Dunton, too; how shy you are!" She gave him her hand and said nothing, and when he went in she was still as a mouse by my side.

"Are you tired, Dolly?" I said.

"O dear me! no. I am so glad to come and help."

It was after nine o'clock before we had all the work done that night, though Willie insisted on coming in and wiping the dishes for Dolly, although I begged him not to trouble himself.

Then we took time after supper to have a few songs at the organ while the men sat outside in the moonlight to listen. But Willie and Dolly kept making mistakes over my shoulder—said they couldn't see the words; so I sent Dolly to bed and ordered Willie out of the house. He rushed back to thank me for a very pleasant evening. I was tired, and I fear Dolly was too, for as she stood in the stairway with the lamp in her hand to bid us good night I thought her eyes were over-brilliant and her cheeks too red.

Willie went home before dinner the next day, and as Dolly looked tired and dispirited in the afternoon, I let her go home too, and prepared the supper, the last meal for the men, myself. Then I had extra scrubbing and housecleaning to do, and I was just getting rested when the Granger took a notion to go over to Farmerton, about thirty miles distant, to visit several families of relatives we had there. He said he wanted to trade buggy-teams with a man over there, so we had best take the buggy and go over. So I had to look over our visiting clothes, and starch and iron our dusters, and cook up a lot for the hired man to eat while we were gone. So I hadn't any time to think of my novel then, and after we came home from our week's trip I was very tired for a few days, and then some friends came and spent a week with us, and then, before I knew it, County Fair came on, and we had promised to go, on account of the exclusion of bars by the temperance folks. I exhibited my grandmother's quilt, some old lace, and some canned fruit, and it all took time. We drove eighteen miles and staid three days, and when we came home from that, everything we had was dirty or needed fixing over, so that the winter-seeding commenced on the farm and we began to have three hearty meals a day before I had any time to think of my poor neglected novel. But Willie went to the County Fair with us, and I took Dolly along too; and I noticed that he was growing more of a gentleman every day, so kind and honest and upright.

With the Ladies' Aid Society in town, and Dolly's lessons, and the winter flannels to make, I was busy for awhile, but I managed to get time for a little writing; so I fell to work describing Miriam Grey. She was a charming girl, pure and gentle and refined, and well-read; but thus far in life she had put her whole soul into her musical studies. I felt that now she needed an experience to find a soul; so I thought I would have them meet in Music after their meeting at my house, she as a student of music, he as an American traveler, and

there they would love and quarrel, and finally, after many sorrows and adventures, meet again at my house only to be parted by her father.

However, I had not made any progress in my work, when we had a lovely early rain and I knew Miriam would be up. Then I made up my mind to paper the spare room, and with going after the paper and everything, that took several days of time; then I cooked up a little in advance so as to have time to drive her around. She was coming on the morning train and I had to meet her myself, as neither the Granger nor his man could take time from the field. When the Granger went to hitch up Mary for me before going out to work, he found her so lame she was unfit to drive, so he came to the kitchen door to ask me if I was willing to drive Jo. Jo was a balky old horse, perfectly gentle as a usual thing, but he had spells of stopping in the middle of the road and standing there unmoved by whipping or coaxing till the spirit of horseflesh moved him to proceed. Once started, he would go furiously for fifteen or twenty yards, then jog down to his usual pace. Any one who did not know the horse would be frightened to death. I never liked to drive Jo when I had company, for fear of one of his tantrums; but there was no help for it, so I had him curried off to look as well as he could and went to meet Miriam.

Miriam was there and looked as stately and stylish as ever in a black suit and an English walking hat. I put her in the buggy and drove to the butcher-shop and bought some meat, and to the grocery and got some San Diego honey and some rucing, and then drove out of town in a hurry, for I thought I would be late about dinner.

When we were about half-way home, chatting gaily, Miriam let her veil float out of her hands into the air, and I stopped Jo to get it. When I was ready to go again Jo wasn't. He wished to remain where he was. I was afraid to whip for fear he would kick, so I slapped the reins on his back and coaxed and clucked, but he only looked angry and stood still. Miriam began to look anxious, so I got down and took him by the bit to coax him a little. He was quite willing to go that way and almost trod on my heels. I led him along a few moments, then stopped him to go back to the buggy; but before I could get in, Jo suddenly decided to go and was off. Miriam screamed, and I saw her reach for the reins, but they slid over the dashboard. I knew at once that she would be all right if she only sat still, for I was sure Jo would stop inside of a mile. Nevertheless I was frightened enough, and hurried on as fast as I could. Then I saw a cart coming on ahead, and I was afraid Jo would shy to one side and tip the buggy over in the ditch. Then I saw Miriam stand up as if she would jump, and she did jump, but just at that moment the driver of the cart sprang out, caught Jo by the bit, and Miriam had hardly touched the ground when he took her in his arms. It was Willie, handsomer than ever in his blue working blouse, and when I reached them, Miriam was just opening her eyes from a faint and he was supporting her. I thought he showed good sense in not leaving her on the ground in that elegant dress.

When she had recovered, I saw that she was still afraid; so Willie said he would take her in his cart, and I drove off with Jo all right, and I said to him as I slid the harness from his high back: "Poor old Jo! you are not a prize horse, but you've given me quite a lift in my match-making scheme." Willie came over that evening to see how Miss Grey was, and a few evenings after he came again, and while I was washing the supper dishes and making the hash and grinding the coffee for breakfast, Miriam found out that Willie's fine tenor blended well with her voice, and after that we had a feast of music; and I held my breath with joy when she told him to come over often, and she would send for some new music.

Miriam told me after he went away, and while I was resting on the lounge by the fire, that if she could help any one in music she considered her time well spent. She sat before the fire on a foot-stool, her soft grey draperies falling about her, her head resting on the cushioned arm of a chair, with her face thrown into the strong firelight, and I fancied I saw a new light on her face, a happy, sweet light, but toned down gently as if it dare not show itself.

[TO BE CONTINUED.]

Bells were a favorite addition to the caparisonment of a horse in the early times of chivalry.

Life to be worthy of a rational being must be always in progression. We must always try to do more or better than in time past.

A cure for dyspepsia will be found by taking a teaspoonful of glycerine in one tablespoonful of cold water before meals three times a day.

There is no perpetual morning. No clouds remain fixed. The sun will shine to-morrow. There is no true happiness outside of love, and self-sacrifice is rather outside of love, for it includes the other. That is gold and all the rest is gilt.

The word farm is derived from the Saxon, "fearme," which signifies "victus," food or provisions; as the tenants anciently paid their rents in victuals and other necessaries of life. Hence, a "farm" was a place which supplied its owner or lord with provisions.

### Minnie May's Dep't.

#### In Memoriam

ON THE DEATH OF FRANCES COMBA, AGED 9 YEARS AND 8 MONTHS; DIED MARCH 21, 1890.

The bright sun was calmly descending  
To his beautiful couch in the West,  
And shedding a warm, crimson halo  
O'er nature, just sinking to rest.

When unto a home, oh! so happy  
Came a messenger—all held their breath—  
'Twas the Angel with amaranth garland,  
Whom mortals name tremblingly—Death.

He called not, nor asked leave to enter,  
But onward unerringly sped  
To the room where a pale child was lying,  
Then paused by the little one's bed.

And thus unto her did he murmur:—  
"Dear little one, long hast thou lain,  
Thy suffering with fortitude bearing,  
But this eve I shall take you from pain."

And o'er the pale features he breathed,  
And his hand softly laid on her head;  
She smiled—but no word spoke in answer,  
Ah! Frances, your dear one is dead.

Then away, far away soared the Angel,  
And left the sad mourners alone;  
The smile on the child's face still lingered,  
But soon will that face, too, be gone.

You weep! yet oh! parents who loved her,  
If to you the power were given,  
Would you try to re-fasten the life-thread  
That God's Holy Angel has given?

Ah! no, for on earth is but sorrow,  
And your weary one now is at rest;  
To the Reaper, then, bow in submission,  
For God's will is ever the best.

And o'er the small mound in the church yard  
The flowers of spring will soon bloom,  
As pure and unsullied, her spirit  
Will blossom anew from the tomb.

—Ada Armand.

Pakenham, March 25, 1890.

#### MY DEAR NIECES:—

There is an old belief that if you wash your faces in dew on a May morning you will neither tan nor freckle all the summer. And as it will necessitate your rising before the sun it will be a good habit to continue, for the loveliest hours of the day are the early morning hours. With this month comes an increase of our duties both indoors and out, for our country homes are no unwilling anchorage, but our very own lands and owned by us, and all the labor and thought we bestow upon them, adds just so much more to their value. Every tree we plant, every vine we train, every flower we grow endears this home to us more and more.

After the long winter months, with storm sashes up and stoves burning, the house requires a thorough purifying. And tho' much has been written in laughing sarcasm upon the upsetting of a house during this process, we must let them laugh, for we know how sweet and fresh the house is when it has been thoroughly purified from the smoke and dust of winter. Of course we know how much easier it would be to do a little at a time, but as extra help is usually hired for a few days advantage must be taken and all hurried through while the help is at hand. Try and have all sewing for summer finished, little dresses altered, new ones made and all wearing apparel for young and old so arranged that you will not be obliged to worry over it in the warmest weather. You will find enough to do in the weekly mending, and dairy, flowers and poultry to manage. It is a good plan to fold all winter garments, after airing them well in the sun, down in a large trunk or packing case with some moth preventative between, such as cotton batting soaked in spirits of turpentine, or scatter black pepper between and cover securely. You will find this a better plan than hanging over

the clothes line and beating them two or three times during the summer. This plan will save both time and strength, and whatever does that prolongs life.

The diet of a family requires a material change as spring advances, and the housekeeper will observe a disinclination for the more solid meals that were eaten with such vigorous appetites in cold weather, but in a farm-house there need be no difficulty, as all that is required grows on the farm—salads, green onions, stewed prunes, apples in every form, rice, hominy, sago—are all within reach. And with an abundance of milk, eggs and butter, such as every farm house can command just now, no end of nice, light, wholesome dishes can be made and will be relished by the busy workers and more restful slumbers will ensue. Do not think it extravagant to retain a quarter of that fatted calf for family use, tho' it was all intended for market, and cook a sweet-bread for father and see how he will relish it. Veal is as easily digested as any other animal food if properly cooked. Where it causes indigestion is because it has been served underdone. Now, my dear nieces, I shall leave you to your many duties, pleasant and otherwise, and with a hope that your lives will be as bright and sunny as this lovely morning in May.

MINNIE MAY.

#### Fashion Notes.

Small mantles are still in favor and can be made up to suit the taste of the bearer of silk lace, velvet, plush or cloth, and the trimmings can be chosen from a dozen different styles, in feather trimming, chenille fringes, jet or gimp, but jet is pronounced too heavy.

In shoes there is a most comfortable article in the common-sense shoe, broad toed and low heeled; and in slippers the same improvement is noticed. House slippers usually have a flat bow or steel ornaments, but they are worn quite plain as well. Street shoes never have any decoration.

Velvet seems to be the favorite trimming for dresses. For instance, a pale gray dress has green velvet sleeves. It must always be of a contrasting shade, but these do not promise to become popular, as the sleeves are worn very large and velvet is rather expensive, a pair of sleeves often costing as much as the whole dress.

In dresses all shades can be had from lovely moss greens to bright red or blue, and the materials are equally lovely, cashmere as soft as wool, nun's veiling, Henrietta cloth in all colors, beautifully soft checks of all shades, combination dresses made up with plain or fancy colors. There never was more variety to choose from, for all are alike fashionable. And as it takes so much less to make a dress in those graceful straight folds, one can afford to buy a little better material, as it always lasts longer and wears better than the cheaper dress goods.

Of all the dainty bonnets, those of spring are the daintiest, small and jaunty, large and serviceable, to suit all ages and styles, purses and tastes. There are some fifty distinct styles, and it would be impossible to tell which is prettiest. The taste seems to incline to flowers as a garniture to a black hat of straw; has a wreath of pale pink roses, another of Lily of the Valley, while another looks gorgeous with a wreath of cowslips. Some hats have two or three large plumes adorning them, but they are always high-priced. Bonnets in black, white and turban are trimmed with flat bows of ribbon, or lace and flowers. Strings can be worn if preferred, but even bonnets can be worn without.

**Recipes.****CREAM PIE.**

Beat thoroughly together the white of one egg, half a teacup sugar and tablespoon of flour, then add one teacup of rich cream; bake with a bottom crust and grate nutmeg over.

**BARLEY PUDDING.**

Soak half pint of barley over night; boil in the same water until soft, then mix a nice custard of eggs, sugar and milk; pour into a pudding dish with the barley and grate a little nutmeg on top. Bake until done.

**STEAMED PORRIDGE.**

Put one quart of water into a large bowl; add one pint of oatmeal and a teaspoon of salt; put into a steamer and steam four hours. This will keep good for several days, and the quantity required can be heated in the steamer for breakfast.

**SPRING PUDDING.**

Boil one teacup of sago in enough water to absorb without making it too thin; slice four large sour apples in a pudding dish, sprinkle with sugar, pour the boiled sago over the apples and bake in a moderate oven; to be eaten with sugar and cream.

**LEMON PIE.**

Beat the yolks of two eggs with four table-spoons of sugar; squeeze in the juice of two lemons and the yellow rind grated off; bake on a crust and add the beaten whites, mixed with two table-spoons of sugar as a meringue; brown slightly on top.

**POTATO SALAD.**

Boil four large potatoes, slice them, peel one large onion, cut in four and slice with the potato, mixing well; add a teaspoonful of salt, one of black pepper, a little mustard and a half teacupful of vinegar; garnish with hard-boiled eggs, sliced on top. This is nice for tea.

**BAKED APPLES.**

Pare and take the cores out of six large apples without quartering them; place in a pudding dish, fill the holes where the cores were taken out with sugar and a little piece of butter on top; sprinkle a pinch of ground cinnamon over; add a teacup of water and bake until soft.

**CLOVER VINEGAR.**

Put a large bowl of molasses in a crock and pour over it nine bowls of boiling rain water; let it stand until milk warm; put in two quarts of clover blossoms and two cups of baker's yeast; let it stand two weeks and strain through a towel; nothing will mould in it.

Nothing is impossible to industry.

Knowledge is power, no doubt, but one should know how to apply the brakes.

When white-washing your cellar add one ounce of carbolic acid to each gallon of wash before applying.

Happiness lies concealed in our duties, which, when fulfilled, give it forth as the opening rose gives forth fragrance.

**CHAMOIS FOR EYE-GLASSES.**—Cut out two circular pieces of chamois-skin about the size of a silver dollar, bind the edges neatly all around with narrow ribbon, and fasten the two pieces together with tiny loops of the same ribbon at top. On one side print with a soft lead pencil, and then go over it with pen and ink, the following: "I make all things clear." This will be a useful gift to grandma, whose dear eyes are getting dim; but her glasses will shine all the brighter when the tiny, fairy fingers of some loved grand-daughter form the chamois for her.

**Gardens.**

In travelling through the country one cannot help noticing how very few farms have any sort of a garden. Being a farmer's sister, and having had some years' experience on a farm, I know that a garden, if it does exist, owes most to the care of the women-folk, and necessarily increases their work, which is often too heavy before. Still, a garden is not only a convenience, but an economy besides. In the hot, close July days one turns from pork or meat of any kind, and what's nicer than a fresh salad, new potatoes or green peas? To begin with, the garden should be quite near the house, for where help is so hard to get and keep, every step counts, besides, if near at hand, one is often tempted to step out for a breath of air, and while out it seems a pity not to pull up some weeds or loosen the earth around the young plants. Children are of great use in gardens, and most farm houses have two or three little ones, whose holidays sometimes seem too long for them and their mothers, but it should not be made *work*—play rather. Give each child a little plot of ground for its own use, and watch the results. In years to come a little beginning like this may have more to do in changing the face of the country than we could possibly imagine, besides benefitting the children themselves.

My mind travels back to a little old town in England; to a funny old house where we were all born; it stood right on the street, but at the back was a big garden which was our delight, there we all had our own garden, besides a gymnasium for the boys, and swings for the girls; a sheltered nook under the laurels was kept for our pets' cemetery, and many a mournful procession wound its way round the grass-plot and up through the ivy-covered archway to the vaults, following the wheelbarrow with a dead bird, hidden from sight in a copy-book coffin. About the middle of the garden stood a big horse-chestnut tree, which was sometimes a *man-of-war*, manned with wooden guns and young Jack Tars, and sometimes the famous tree in which the Swiss Family Robinson lived after their shipwreck. At the bottom of the garden was the old town wall, towering up above the quays and warehouses beneath; the wall itself covered with moss and lichens, with clumps of sweet-smelling wall-flowers growing between the stones. The town was a fortified one in the time of the Romans, and the ruins of the old castle still exist, incorporated into the County Gaol. In the stable-yard were our rabbit-hutches and poultry-houses, but between rats and cats the chickens had a bad time of it.

As years went on we left the old home, and in Canada found a new resting place. The old love of gardens still clings to us, and our spare moments (they are not too plentiful), are spent in beautifying our grounds and verandahs.

After the walled-gardens and carefully cultivated pleasure-grounds of older countries, these small attempts do not amount to very much, but "Rome was not built in a day," and as the Scotch proverb says, "We must creep afore we gang," so with gardens and everything else.

Nothing makes a greater difference than a few creepers round the porch or verandah posts. They screen the hot sun from the windows, and the greenness of itself makes one feel cooler, and then, too, they are so easy to get and to grow. A root of hops makes a singularly effective and

pretty climber, with its graceful clusters of blossom, and when the leaves begin to look brown and shabby in the fall, the frugal housewife is glad if the children will gather the hops to be dried for winter use. Most people need hops for yeast, and for severe toothache there are few things better and more soothing than a hop poultice, put up piping hot.

The Virginia creeper is another rapid grower, and is supposed to keep away flies and damp. Every one knows the beautiful colors it assumes in the autumn, only equalled by the soft maple tree tints. The various orders of the clematis tribe are very handsome, but unless one has a friend to give one a root to start with, they cost money, and I want to talk about cheap gardening for country people. Five cents spent in a packet of sweet peas will give a succession of fragrant bloom, if they are not allowed to pod too early in the season. The flowers should be frequently gathered, and placed in water in the inner kitchen, where everyone can see and smell them. If carefully sticked (and this is something the boys might do), they make a nice screen, dividing one part of the garden from the other, and there are few people who do not love the sweet-old-fashioned smell of sweet peas, barring, perhaps, a few ultra-fashionable folk, who esteem even flowers only as they may be the fashion. Scarlet-runners, or French beans, and the well-known convolvulus major, or morning-glory, are cheap and showy climbers, besides, the pods of the French beans, sliced finely and boiled, are a delicious vegetable, when earlier vegetables are going over, and the later ones not quite ready for use.

For a perpetual show of bloom, from the time the snow goes off till it comes again, nothing is better than the pansy. The phlox drummondii and the coreopsis are easily and cheaply grown; while for fall flowering few flowers are better than the ten weeks' stock, in various colors, and China asters; scarlet geraniums bloom well till the early frosts come, and then they should be taken up in pots for the window-gardens, or hung up dry in the cellar till spring. The difference a few pots of flowers or bulbs make in the cheerful appearance of a window can hardly be over-estimated. "Looks as tho' some one with hands lived there," old nurse used to tell us.

Perhaps the lack of pleasing surroundings has something to do with the vexed question of "Why the boys leave the farm?" See in towns, when people move into a new house, their next *move* is to get the garden straightened up and properly fixed. How pleasant it is to sit in the evening (when you can get time to sit), and look on a strip of garden with its bright flowers and promise of winter vegetables, rather than is so often the case on a yard full of burdocks, rank grass and thistles, bounded, perhaps, on one side by the woodpile, and on the other by the rubbish heap.

In one garden I know, in the Old Country, there is a row of little beds, one more than there are children in the family. It is the dead child's, on that account tended lovingly, and planted each year with his favorite flowers, long after the other children have grown up and gone to homes of their own. Farm life in this country is too full of duties and hurry to leave much time to cultivate the lighter graces of life. The home life, which is so charming in England, is not to be had here in the same measure; but let us all try and make the beginnings of a garden, and the rest will come in time. DYNA.

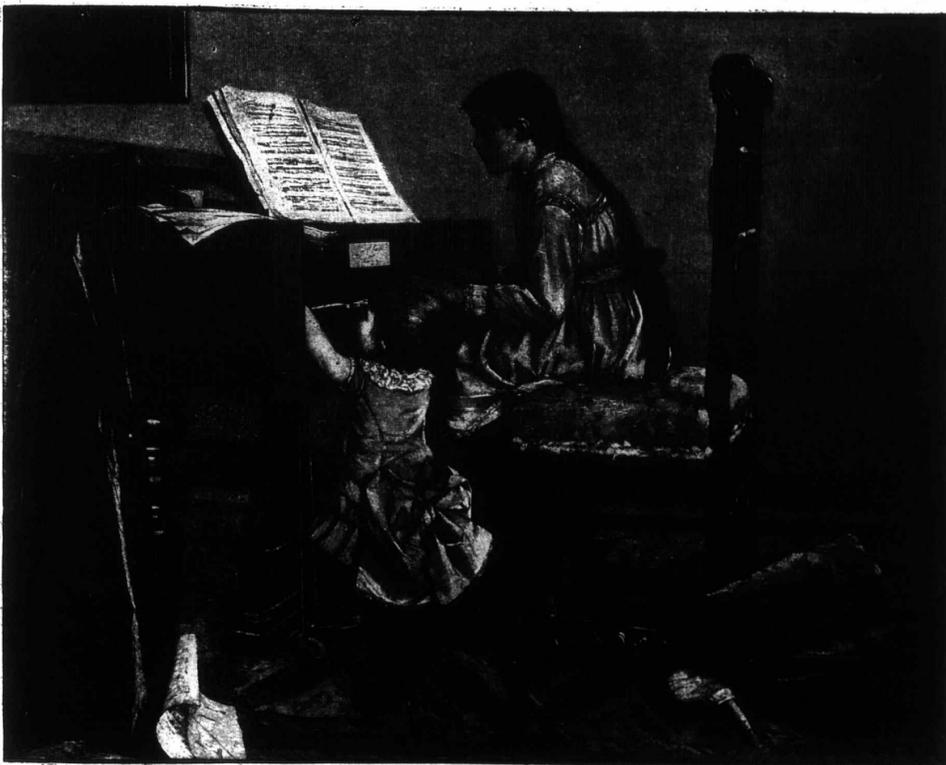
### The Child Musician.

Where do all the girls who take music lessons go to? For who of us can find among our married lady acquaintances the sweet singers and tasteful players of the girls we used to know? Those girls who practised so faithfully on the organ, or it may be on the old melodeon of their mother's time, waded through scales and chords, and made the old instrument, untuned as it was, make a pleasing accompaniment to the young voices, which, with practice, grew rich and full, and in what musicians call "good voice." Then the longing for the piano was granted, and great, indeed, was the enjoyment in those evenings in the old home before the family tree was broken up and the grafts drifted off to homes of their own, when the neighboring young people came in and the music was interspersed with joke and conversation, lightly spoken then, but whose memory is often recalled and ever pleasingly. Then the brilliant player—the leader in mirth, music and merriment—left, and the practice hours grew less and less, and, with household cares and motherly responsibility, the piano was closed and the mother was "out of practice."

There are those who give their lives to music, but they pass from the amateur to the professional and live for and in their work, for they love it—must love it—for only

that will make the true musician struggle, and work, and strive and long, and put the whole soul into the playing till the difficulties of the grand masters are overcome, and the loftier, higher conceptions of his own soul he attempts to put in sound. Who has not heard of that musician who, in trying to bring forth the grand beauty his soul conceived, died with his fingers on the keys?—too grand for earth: what was begun here was finished in heaven. It is not to eulogize the latter nor to condemn the former this article is written, but to call attention to the young, studious face at the instrument, as she observantly regards the notes on the piece before her, her whole attitude portraying earnestness in her work. That straight, high-backed chair may not be so convenient as a music stool, the instrument no piano of latest design and handsome casing with Aeolian harp combined,

but, making the most of what she has, she paves the way for future and better things. One Canadian girl, Miss Nora Clench, of St. Marys, Ont., has won honors with her violin music in other countries besides her own, and there is room in the front musical ranks for more of them to follow. This, however, is not the highest ideal we would have our young player aim at. That she has drawn—attracted by the music—the little one from the playthings across the room to her side, shows that her one auditor appreciates it, and child-like wants to share the enjoyment of making sweet music. The little one is imbibing the taste the elder sister shows, and the songs now sung in lisping accents will become a part of that little one and their spirit will be inculcated, and through life their influence will be ever there. So elder sister, choose only the sweetest and the best, let



THE YOUNG MUSICIAN.

your voice never be heard in that which is not musical, maidenly and sweet.

That teacher who taught in song "The Matchless Story" lives in her pupils lives to-day. She nor it will ever be forgotten. Like Beethoven, the composer, who, when old and deaf, was travelling and stayed over night in a home where the musical family gathered round, and, in trying to produce the rare symphonies of the piece, their feelings found vent in tears. Too deaf to hear, he saw the effect, and asked for the piece, which, when given, was much surprised to find it of his own composing. So, when she arrives in Heaven, she shall be surprised to know of the effect of the teachings of other days.

KATE ROBERTSON.

Tea-caddy is a corruption of the Malay name of a Chinese weight reckoned at a pound and a third, avoidupois. The name of this weight is nati, called by Europeans, catty or caddy.

### The Life of a Girton Student.

An early breakfast, served from eight to nine (some industrious students begin their day with a private breakfast at five or six, and only partake of the college meal as an afterthought), is followed by a morning devoted almost without exception to private study, or to attendance at lectures given in college by the resident lecturers, or at the numerous courses in Cambridge now thrown open to women. The early hours of the afternoon, which by common agreement of the students are considered "noise-hours," are usually given to recreation, tennis being the most popular form of outdoor amusement, and pianos, with an occasional fiddle, having full swing indoors. After luncheon, coffee parties are also a common occurrence, the entertainment being of the most informal description, while the hostess seldom scruples to dismiss her guests or leave them to entertain themselves if she has work or lectures on hand.

From three until six o'clock dinner silence reigns again in the college. Many classical and mathematical lectures are given at this time by Cambridge lecturers, who come out to the college for the purpose, and the students who have not lectures usually, though not so universally as in the morning, devote a part or the whole of these hours to private study. After dinner, again informal coffee or

tea parties are frequent, and friends generally meet in a haphazard kind of way, which, perhaps, may be best described as "loafing" into each other's rooms. In the May term this "loafing" takes place round the grounds, and an interesting study of shawls might be made from the windows overlooking the lawn and tennis courts.

The formal social duty of calling on freshers is performed in this after-dinner hour, most of the college business is transacted, meetings are held, and subscriptions to the various societies paid. In the May term it is the favorite hour for tennis, and in all three terms the fire brigade has a fortnightly practice immediately after "Hall." (Some of the poorer specimens of Girtonians think this a little severe, as the practice often includes a double quick march from end to end of the long corridors; but the

officers are inexorable, and catalogue all who brave their scorn and fight shy of the brigade as "ill or lazy.") From half-past seven to nine are "silence hours" again, and then, or later in the evening, an hour or two's work is commonly done—freshers with "little-go" on the brain are reported to get in four or five before retiring for the night, but they generally learn in a term or two that it does not pay.

Nine P. M. is the orthodox hour for knocking off work and for the more elaborate forms of social intercourse, club meetings, occasional dances, small debates and so forth—above all for the regulation formal tea party. There are certain points about this entertainment peculiar to college life if not to Griton, notably the fact that the guests bring, not their own mugs merely, but a whole trayful of refreshments. The college custom is to send to all the rooms a tray with a roll and butter and the materials for whatever beverage—tea, coffee, cocoa or plain milk—is preferred by each student, and this custom greatly facilitates the discharge of the social duty. For it is understood that when a student gives a nine o'clock tea party all the guests take their own trays, the hostess providing only the hot water and such luxuries as cake and jam.

This at nine P. M., in all the corridors is presented the striking spectacle of students hurrying in all directions—sharp corners are very dangerous at this time—to their respective entertainments, balancing trays in one hand, and in the other—unless their are such old hands as to know the college blindfold and avoid all pitfalls of boots, water-cans, and unexpected angels—carrying candles in case the festivities should outlast the college lights. It is at these parties that new students are first initiated into college society, and so strong is our instinct of hospitality that the "freshman" must be of a remarkably gregarious disposition who does not find tea parties, which she experiences in their most formal tedious aspect, grow decidedly monotonous after a few weeks.—[Women's World.]

#### Woman's Fathomless Love.

They say that Frenchmen understand the art of love-making better than the men of any other nation. As to that I cannot say. I never was a Frenchman. They may understand the finesse, the skill, the subtlety of it, but unless they possess the adroitness to conceal even this delicate machinery from the eyes of the beloved object, they too would fall short of perfection.

No woman likes to feel that she is being maneuvered with; else she suspects that the man possesses altogether too much skill, that he has had entirely too much practice, says a writer on the art of love-making. Real love-making requires the patience, the tenderness and the sympathy which women alone possess in the highest degree.

Gauged by a woman's love, many men love, marry and die without even approximating to the real grand passion themselves, or comprehending that which they have inspired, for no one but a woman can fathom a woman's love.

It is woman's duty to cultivate flowers in the door-yard and vegetables in the garden, for flowers add greater beauty to household affairs and make everything look bright, cheerful and happy. It detracts in no sense from a woman's modesty to work out of doors, and the exercise thus taken produces the strength necessary to withstand the fatigue of other duties.

### Uncle Tom's Department.

#### A Modern Journalist.

He was up in mathematics, had a taste for hydrostatics and could talk about astronomy from Aristarchus down;

He could tell what kind of beans were devoured by the Chaldeans, and he knew the date of every joke made by a circus clown.

He was versed in evolution and would instance the poor Russian as a type of despotism in the modern age of man;

He could write a page of matter on the different kinds of batter used in making flinty gimcracks on the modern cooking plan.

He could revel in statistics, he was well up in the fistics, knew the pedigree of horses dating way back from the ark.

Far and wide his tips were quoted and his base ball stuff was noted. In political predictions he would always hit the mark.

He could write upon the tariff and he didn't seem to care if he was called off to review a book or write a poem or two;

He could boil down stuff and edit, knew the value of a credit and could hustle with the telegraph in style excelled by few.

He could tell just how a fire should be handled; as a liar he was sure to exercise a wise discriminative taste.

He was mild and yet undaunted, and no matter what was wanted he was always sure to get it first yet never was in haste.

But despite his reputation as a brainy aggregation he was known to be deficient in a manner to provoke.

For no matter when you met him he would borrow if you let him and he seemed to have the faculty of always being broke.

—Tom Masson.

#### MY DEAR NIECES AND NEPHEWS:—

There is an old Roman proverb which, when translated, reads, "The cat loves fish, but will not wet her paws." There are treasures of knowledge, treasures of gold and silver, treasures of fame, within the possible grasp of all my nieces and nephews. But there are some things you do not like between your hand and the object sought. They are patience, pains and trouble. Early rising, doing hard work with ungloved hands, and doing everything well, will surely woo them to you, but shirking, thinking there is plenty of time by-and-bye, or "waiting for something to turn up," will drive them away. Are you ready to begin? There is no time like the present—this beautiful month of May, with its May flowers, its May-day and in your "May-time" of life all nature has burst forth anew, and would it not be strange that the height accomplished in nature, even ourselves, made in Our Maker's image, should alone stay as he is and this one life of his be allowed to go out "unhonored and unsung."

One of the relics of Eden we have left us yet is the beauty of a May morning, as the roseate dawn of a rising sun shows the diamond bedewed leaf, plant or flower, when the new day is attended in by a full orchestra of the songsters of the wood, and the air is sweet with the aroma of wood violets and opening roses. May the fresh young faces of my readers have pure hearts and attuned voices with which to greet this opening May, and may each niece, if not a Queen of May, be at least "queen of herself in maiden dignity" and each nephew be a king established on the basis taken by the poetess:—

"There is nothing so kingly as kindness  
And nothing so royal as truth."

My older nephews can understand this; those who have climbed farther up the hill of life, but those so busy with kite and top and ball may not quite understand what Uncle Tom means, while that poor little toddler carrying pussy in his arms knows nothing about it. Show them by practice what it means and they will understand

far better than words can tell them. And do be careful of your conversation. Get something nice to talk about before the little ones and see what a difference it makes on the whole family. "Sometimes it seems if the conversation is not about horses it is about the neighbors, and if not about the neighbors it is about horses," was the mental comment of a bright young girl who was forced to spend some of her time in a farmer's home. She loved the country quiet, but the barren and destitute state of the conversation left no refreshing vine to cover the naked rocks of every-day life.

It was the late Lord Beaconsfield who wrote in his book "Lothair":—"I have been in Corisanda's garden and she hath given me a rose." In our daily work we too may pluck some beautiful flower. "What!" you ask, "find anything beautiful in planting potatoes, sowing corn—broadcast or in hills—digging, ploughing, harrowing and the never ceasing round of duties in this work-a-day life on the farm?" Yes, even in these, as well as among the crocuses, hyacinths and tulips on the front lawn. The tools you use are simply hoes, rakes or spades, as the case may be. The horse you drive is much above them, being possessed of life and power. But you stand over all, able to think and with gifts to see and love the beautiful and true. Cowper says:—

"I would not have a slave  
To till my ground."

But some boys and girls seem to rest content to be slaves, not using all the powers God has given them, simply existing, letting others think for them.

You all know the story of "Barbara Frietche," how after the flag she loved was fired at, she bravely took it up and waved it, and it was allowed to wave for her sake and for her bravery. It takes this quality to stand alone, even in thought, and more in word and action from others, and to be brave and diligent and true in the use of all our God-given powers.

In a few weeks some of "the boys" of the farm are going to take their degree of bachelor of the science of agriculture; others have won gold medals for their work, and in the future years "Uncle Tom" hopes to find his nephews taking just such tributes of their talents and worth, and his nieces, with student's gown and cap, winning similar honors in some ladies' college or seminary.

But your venerable uncle is off on a reverie, and is anticipating the future, so he must close.

Ever your affectionate

UNCLE TOM.

He whose friendship is worth having must hate and be hated.

What is that you cannot see, altho' it is always before you? Your future.

An old offender was once introduced to a new American country justice as "John Simmons," alias Smith, alias Jones. "I'll try the two women first," said the justice. "Bring in Alice Jones."

Mother—"Well, did you get that situation as office boy?" Little son—"Nope." "What was the matter?" "Don't know. The gent is a lawyer, and he asked me if I was a good whistler, and I told him I was the best whistler on our street, and he said I wouldn't do. Guess he must want a reg'lar professional."

**We want Good, Live AGENTS to Canvass** for the "Farmer's Advocate" in every locality in the Dominion and United States. Sample copies and subscription blanks free to canvassers who mean business.

**Puzzles.**

1—Mention a sentence containing eight words with all the letters of the alphabet, with the additional letters u, two l's and two e's.

MATTIE D. WOODWORTH.

2—A NOVEL SQUARE.

ACROSS.—1. Vulgar talk.  
2. A shelter.  
3. A place of public contest.  
4. Sudden fright.  
5. To rub out.

The primals constitute a word used only when in conjunction with others; finals, goodness, connected, a disgraceful person; primals beheaded, a covering for the shoulders; finals beheaded, a contest; connected, a point of land in Newfoundland; primals beheaded again, an animal; finals beheaded again, a unit on cards; connected and beheaded, quiet.

FAIR BROTHER.

3—CROSS-WORD ENIGMA.

In loose but not in free,  
In you but not in me,  
In lock but not in key,  
In ankle but not in knee,  
In money but not in fee,  
In four but not in three,  
In river but not in sea,  
In bean also in pea.  
My whole is a kind of tree.

FAIR BROTHER.

4—Behead quick and leave a market,  
Behead again and leave a trade,  
Transpose and leave an animal,  
Transpose again and leave a sailor.

MATTIE D. WOODWORTH.

5—ILLUSTRATED REBUS.



6—DIAMOND.

We hear the puzzlers often speak  
Of the lovely "diamond" green,  
But for months gone by, in puzzles  
Not a diamond have we seen.  
So now I send this one in rhyme:  
'Twill please you all, I ween.  
In the ADVOCATE, that journal rare,  
Is the first one of this tribe.  
If you are "clever" at guessing this,  
My second will you describe:  
A "truth self-evident" is my third,  
And in my "estimation" is my third,  
He excels who "labors" hardest  
In any occupation.  
In the woods my sixth you'll find it,  
But it you must curtail.  
In earnest "endeavor" my seventh is  
The answer to get, don't fail.

ADA ARMAND.

7—PHONETIC CHARADE.

Fairbrother, what an awful tease you're getting all the time.  
Telling on poor Cousin Harry: you say his going to PHIME!  
You boast of loving Canada! (Don't take me for a clam  
To believe all that), and you gone off to live with Uncle Sam.  
But then that news you told us I'm sure your heart rejoices:  
When you named Lucy, had you heard that cunning hum of voices?  
Perhaps you just used Harry's name, whereas you meant yourself.  
But were too shy to say so—Oh modest little elf!  
Indeed, I can't help thinking that you did mean no other.  
If anyone's going to tie the knot, 'tis Drusilla's big Fairbrother.  
I guess ALL is the United States that you were going to:  
But you are of sufficient LAST to know what you should do.

ADA ARMAND.

8—ANAGRAM.

I've joined the band of puzzlers  
That work for Uncle Tom.  
My cousins are very clever:  
But I'll try to get along,  
Though if at first I don't succeed,  
Since I have made a start,  
And doing my best to get along,  
'I leave not' now the art.

LUCY CUNNINGHAM.

9—DOUBLE LETTER ENIGMA.

Down in Maryland you'll find me,  
And in Canada so free;  
And if you watch me very close,  
In Germany I'll be.

Give ear ye maidens unto me,  
A TOTAL queen select;  
And as she sits upon her throne,  
Show unto her respect.

Prepare a garland if you will,  
To place upon her head;  
And choose the best of flowers,  
Around her for to spread.

FAIR BROTHER.

10—CHARADE.

On taking up the ADVOCATE,  
I now and do declare,  
It almost made me stand aghast  
To see my name not fair.

Of course, 'twas given as a pun,  
Or pun sent him, it said;  
But surely I think our cousin  
Meant punishment instead.

As to making puns on puzzles,  
I really must confess:  
I sometimes COMPLETE the job,  
Though not a poetess.

Of course, our cousin's name stands high,  
I LAST it as no slur;  
And in this puzzle carnical,  
I wish success to her.

Another name that I observe,  
PRIMAL, a puzzle too,  
Asking pardon at our hands,  
Is that of Cunning Lou.

I would like to hold an office,  
If nothing else than reeve,  
Though I really don't deserve it,  
You can easily perceive.

For I've severed my connection  
With Canada, to roam;  
Still, I will be ever loyal  
Unto my native home.

FAIR BROTHER.

11—ENIGMA.

Within "a house" my first always found,  
E'en it be a castle,  
Without my aid no merchant known  
Is able, though sharp he be, "to sell."

In "Ada Armand" my second is found,  
But shuns that fellow Fairbrother;  
And although at puzzles both are good,  
Without my aid they would never make "another."

My third you'll find in the "bright sun" by day,  
And "artificial light" by night,  
But never in the stars clear rays,  
Whenever they appear in sight.

My fourth in "sugared sweets" is ever rolled,  
But shuns a cup of tea;  
In company with gnats I am,  
But never associate with a bee.

Fifth is in "the climbing roses" that around the window twines,  
And forms a rustic bower;  
In the "humming bird" that has entered in,  
But still I'm not within the "blushing flower."

Last will be found in the "vine-clad farm house" early morn,  
Where the birds the silence are breaking;  
And in "the maid" that blows the horn,  
But not in "the cook" that does the baking.

My whole is an intricate history,  
Based and built on mystery;  
Sought for this secret which alone,  
Ceasing to be as soon as known.

HENRY REEVE.

**Answers to April Puzzles.**

1—	D A T U M	2—2	3 4 5 6
	D E I T A T E		4 5 6 2 3
	E N C O R E R		6 2 3 4 5
	A D E N O S E		3 4 5 6 2
	L O R E		5 6 2 3 4
3—April Fool.	5—V E T O	11—B E A R	
4—On a good bargain think twice.	I O U	D E A R	
6—Punishment.	C O U R I E R	T E A R	
7—Can-ada.	T R O O P E R	S E A R	
8—Par-don.	O L I O	P E A R	
9—Carnival.	R E A L I T Y	H E A R	
10—Severed—De-served.	I D E A	W E A R	
	C A U S T R A L	R E A R	
	R O A M	N E A R	
	E C H O	G E A R	
	G R O A T	F E A R	
	I R I S	Y E A R	
	N E C T A R I N E		
	A N O T H E R		

**Names of those who have Sent Correct Answers to April Puzzles.**

Mary Woodworth, Mattie Doby, Woodworth, Clara Rillance, Robert Wilson, A. Russell Boss, Mary Morrison, Dorothy Fox, Fred. Garbutt, Drusilla A. Fairbrother, Archd. McIsaac, Lucy Cunningham, A. Howkins, Henry Reeve, Elfinor Moore, Sarah Moorhouse, Morley T. Boss.

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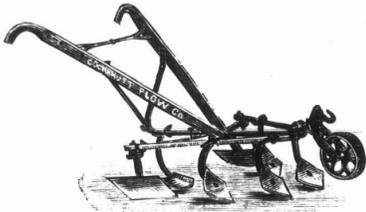
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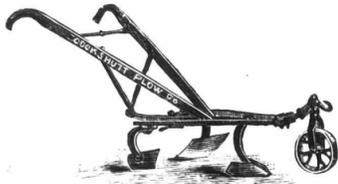
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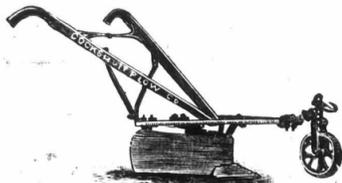
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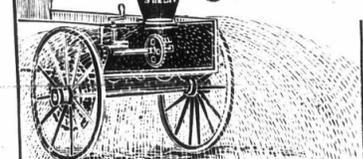


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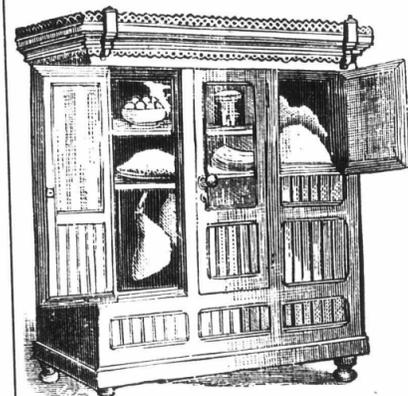
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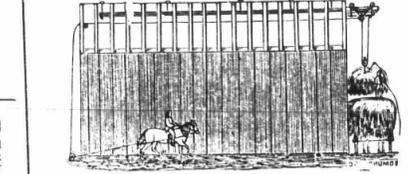
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Each stallion guaranteed a breeder. Prize-winners and the get of prize-winners compose our shipments. Grand style, clean legs, sound feet, together with fine action and perfect constitution are characteristics found in every one of our horses. Intending purchasers should see our stock. Terms made very easy. Visitors always welcome. Catalogue on application.

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Now on hand and for sale a choice collection of pure-bred stallions and mares, which are winners at all the biggest shows, and gets of such famous sires as Top Gallant, Jordarshaw, Old Times, Sir Hilderbrand, St. Malcolm, Baron O'Threeave and Lord Hopeton; also a few choice Shetland and Highland Ponies. Visitors always welcome. 285-y

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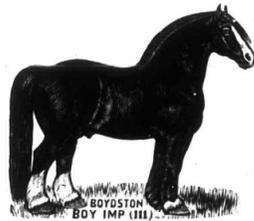
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Durham and Ayrshire Cattle, Berkshire and Chester White Pigs, Shropshire and Cotswold Sheep.

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 291-f-OM  
 Athelstan, P. Q.

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Breeders and Importers of FASHIONABLY BRED CLYDESDALES



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Pure-Bred Registered Clydesdales & Jerseys

Bred from pure imported stock. Young stock for sale at farmers' prices. 283-y-OM  
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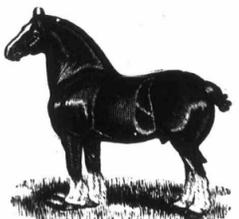
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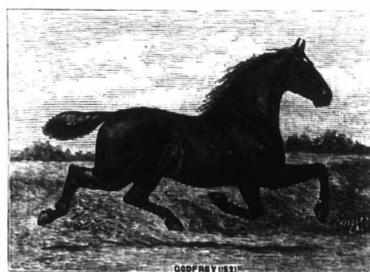
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Comprising my importations for 1889, are now on exhibition at

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This collection embraces all the FIRST and SECOND PREMIUM STALLIONS (with one exception); the First Premium for best Collection of Stallions; a majority of First and Second Premium Mares; shown at the greatest of all Percheron Shows, held at La Ferte Bernard, from May 29, to June 2, 1889. The quality of this stock is guaranteed superior to any importation that ever crossed the water. In addition to the superior Draft animals which have ever characterized my selections, particular attention has been given to the selection of Coach Stallions, which is the largest ever brought from France by any importer. Conspicuous among this lot is the selection made from the famous stable of Edward de-la-Ville, being the only party that was willing to pay the price that would bring the quality of horses handled by Mr. de-la-Ville to this country, he having been the recipient of more show ring honors than any other owner of Coach horses in Normandy. It will be to the interest of intending purchasers to make a careful examination of quality and prices before buying. I desire to impress upon my customers that, as heretofore, I was the first American buyer in France this season, and my selections are made from the leading Stud, and having the first choice of all of them, I spared no expense to secure the best. All stock fully guaranteed. Favorable prices and terms. For particulars, address,

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**YOUNG and BREEDING STOCK for SALE** at prices to suit the times. A call or correspondence solicited. Pickering is my station on the G. T. R., and Claremont on C.P.R. 286-y



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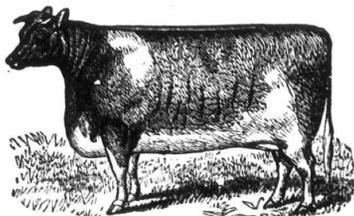
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Extensive breeders and importers of Clydesdales, Shorthorns and Shropshires. Business established in 1848. We always have on hand and for sale a large number of imported, and home-bred animals. A visit, or correspondence solicited.  
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-AND-  
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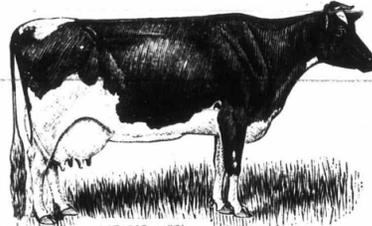
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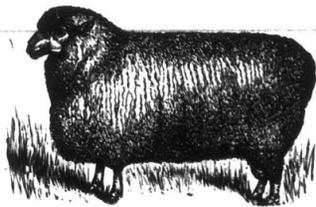
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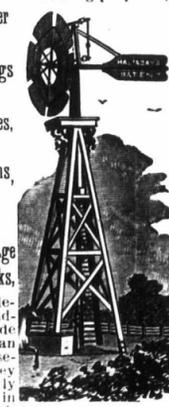
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This Pad closes Hernia as if your extended hand was drawn together, closing the aperture. Truss is held positively without friction day and night, and healed like a broken leg. There is no duty to pay, which many Canadians found more expensive than the truss. The easiest, most durable, and cheap Truss. Sent by mail. Send stamp for book. CHAS. CLUTHE, Mfr., 134 King St. W. Toronto. O-A-282

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This is the most complete and perfect working Harrow made. It has no equal in reliability and effectiveness.

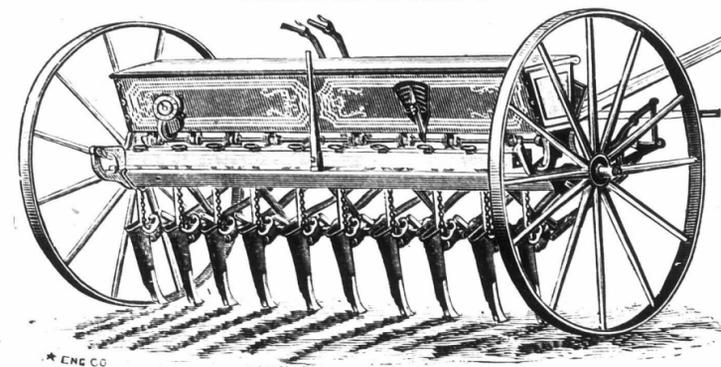
The disk gangs are connected with the main frame by a ball and socket joint, in such a manner that each gang is free to conform to the uneven surface of the ground, and can be taken apart for transportation or storage, without the use of any tool, in one minute.

It is in all respects the very best harrow manufactured, and will give perfect satisfaction in every case. For further information and circulars, address

**WILSON MANUFACTURING CO., HAMILTON, ONT.** 291-e

**Hoosier Steel Frame Grain Drill**

Over 25,000 Hoosier Drills and Seeders with our Positive Force Feed in use in Canada.



**GUARANTEED THE BEST IN THE WORLD,** and the only drill that can be instantly regulated to run the desired depth in hard and soft ground while moving.

**THE HOOSIER IS THE ONLY DRILL** that sows all kinds of grain and seeds evenly, and at the depth desired in all kinds of soil.

**THE HOOSIER IS THE ONLY DRILL** that commences to sow the instant the horses move.

**THE HOOSIER HAS THE ONLY POSITIVE FORCE FEED,** and the only drill that deposits the grain evenly just the depth you want it in hard or soft soil. **REMEMBER THIS:**

**THE HOOSIER COMBINED DRILL** with cultivator teeth is the best cultivator made, and is the only implement made with the teeth on independent draw bars that can be set for hard and soft land while the team is in motion. **THE HOOSIER** is lighter on the horses than any other Drill made. The points of excellence in the **HOOSIER** that other Drills do not have are worth more to the farmer than any Drill in the world.

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280-f-0 **NOXON BROS. MFG. CO. (Ltd.), Ingersoll, Ont.**

**\$1,500.00**  
— WORTH OF —  
**STOCK, IMPLEMENTS, ETC**  
GIVEN AWAY!  
For Procuring New Subscribers to  
the FARMER'S ADVOCATE.

**CONDITIONS:**  
1st. Cash must accompany all lists of names.  
2nd. In all cases to secure these prizes the names sent in must be new subscribers. *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 and upwards, 40cts. each.

**STOCK.**  
For 150 new names we will give a Hereford Bull (fit for service), valued at \$150, bred by R. J. Mackie, Oshawa.  
For 150 new names, a Shorthorn Bull (fit for service), bred by James Graham, Port Perry, Ont.  
For 150 new names, an Ayrshire Bull (fit for service), bred by Thomas Guy, Oshawa, Ont.  
A Heifer of any of the above breeds will be given for from 100 to 150 names, according to quality of animal.  
For 35 new names we will give a pair (or single animal for 20) of Improved Large Yorkshires, from 6 to 8 weeks old, bred from imported English stock by Ormsby & Chapman, Springfield-on-the-Credit, Ont.  
For 30 new names, a Shropshire Ram or Ewe Lamb, bred by John Miller & Sons, Brougham, Ont., or Jno. Dryden, M. P. P., Brooklin, Ont.  
For 30 new names we will give a Cotswold Ram or Ewe Lamb, bred by Joseph Ward, Marsh Hill, Ont., or David Birrell, Greenwood, Ont.  
For 30 new names will give a Leicester Ram or Ewe Lamb, bred by Jeffrey Bros., Whitby, Ont.  
For 25 new names we will give a Berkshire Sow or Boar 6 months old, bred by J. C. Snell, Edmonton, or J. G. Snell & Bro., Edmonton, Ont., or by Wm. Linton, Aurora, Ont.  
For 10 new names we will give a pair, or for 5 a single bird, of any of the following breeds: Light Brahmans, Dark Brahmans, Langshans, Black Red Games, any variety of Leghorns, Wyandottes, Dorkings, Spanish, Bantams, Ducks, etc. Eggs will be given as prizes when desired from the yards of Wm. Hodgson, Brooklin, Ont.  
We will give as subscription prizes young animals, either male or female, of any of the following breeds: Shorthorns, Herefords, Galloways, Ayrshires, Jerseys, a bull or heifer (of fair quality), purely bred, for 100 new subscribers, accompanied by \$100. We can also supply home-bred or imported stock of any desired breed, age or quality. In all cases we will guarantee satisfaction as to the quality, breeding and value of the animal. We will give very liberal terms to agricultural and other societies, and farmers in new sections, special inducements in sheep and poultry. Write for particulars.

**IMPLEMENTS, ETC.**  
For 110 new names a Bain Farm Truck, value \$75, manufactured by Bain Wagon Co., Woodstock, Ont.  
For 65 new names a Patent Iron Frame Section Spring Tooth Cultivator, value \$36, manufactured by J. O. Wisner & Son, Brantford.  
For 110 new names we will give a first class wagon, value \$75, manufactured by the Chatham Manufacturing Co., Chatham, Ont.  
For 75 new names we will give one of the celebrated Westward Ho Sulky Plows, value \$40, manufactured by Copp Bros., Hamilton, Ont.  
For 125 new names we will give one of Halliday's Standard Wind Mills, value \$75, manufactured by the Ontario Pump Co., Toronto, Ont.  
For 140 new names we will give a Hay Loader, value \$75, manufactured by Matthew Wilson & Co., Hamilton, Ont.  
For 100 new names we will give a large Straw Cutter with Carriers attached, value \$55, manufactured by B. Bell & Son, St. George, Ont.  
For 40 new names we will give a large Agricultural Furnace, value \$22, made by the Gowdy Manufacturing Co., Guelph.  
For 65 new names we will give a new Fanning Mill, value \$35, manufactured by Manson Campbell, Chatham, Ont.  
For 90 new names we will give one of Osborne & Co.'s large Stock Scales, value \$50, capacity 4,000 lbs., manufactured by Osborne & Co., Hamilton, Ont.  
For 40 new names we will give a Winchester Repeating Rifle or a Breech-loading English Shot Gun of latest design and good quality, or 10 new names we will send an imported Breech-loading German Rifle.  
For 40 new names we will give the Model Harness, valued at \$20, manufactured by the Farmers' Supply Co., 176 King St. East, Toronto.  
All stock or goods shipped free on board the cars.

**Ontario Veterinary College**  
TEMPERANCE STREET, TORONTO.

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

**BOYS FOR FARM HELP!**

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

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

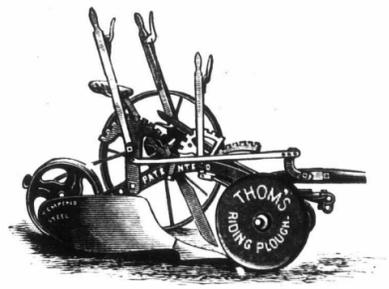
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*Business College*

The oldest and most reliable of its kind in the Dominion. All subjects pertaining to a business education thoroughly taught by able and experienced teachers.

C. O'DEA, Secretary.

**The Watford Riding Plow.**



PATENTED.  
The greatest improvement in Sulky Plows ever seen. We manufacture the Standard Walking Plows of the Dominion, Nos 4, 5, 7, 8 and 30; also the strongest and best working Twin Gang on the market. Farmers, ask for the Famous Watford Plows. None genuine unless stamped "Watford" on the handle, and "Famous" on the land side.  
THOM'S IMPLEMENT WORKS, Watford, Ont.  
Established 1875. Send for circulars. Agents wanted in unoccupied territory. 292-f

**MANITOBA**  
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**FARMS FOR SALE!**

Around Winnipeg, and in the best districts, on terms most favorable to actual settlers.  
Write for Descriptive Catalogue and Price List, including map of the province.

**LOANS!**  
At lowest Current Rates of Interest, to enable Farmers to Purchase Land, Buy Stock, etc.

OSLER, HAMMOND & NANTON,  
291-1-0M 381 Main-St., WINNIPEG.

**STOCK GOSSIP.**

In writing to advertisers please mention the Farmer's Advocate.

The Provincial Agricultural and Industrial Exhibition, of the Province of Prince Edward Island, will be held on the Driving Park and Provincial Exhibition Association Grounds, Charlottetown, on Tuesday, Wednesday, Thursday and Friday, the 30th of Sept., 1st, 2nd and 3rd of October, 1890.

Mr. Joseph Vance, of New Hamburg, the importer of Clydesdales, reports the sale of his grand Clydesdale stallion, Wigtown Lad, to Charlton Bros., of Duncrief, for \$2,300. Wigtown Lad will head the Charlton Bros. celebrated herd of mares, and compete for the \$1,000 herd prize at Chicago next fall.

E. D. George, Putnam, Ont., writes:—The demand for the popular Chester White is ever increasing. I have sixty-seven spring pigs up to date. The recently imported sow, Ohio Girl, bred by C. H. Greig, Akron, Ohio, farrowed ten beauties April 19th, sired by Hill Top, the most successful Chester hog in the W. S. show ring last season.

W. Kough, Travertine Farm, Owen Sound, Ont., in a recent letter, says:—Mr. Alfred Mann, of Bowmanville, was at Travertine on the 25th March, and purchased the following Galloway yearlings, a bull and a heifer: The Baron 6117, bred by W. Kough, sired by Claverhouse imp. (4250) 4614, dam Duchess Louise 2nd 2890; Sybil K. 3rd 5308, sired by Stanley 2nd (Ontario Experimental Farm) 2837, dam Sybil 2nd imp. (10,088) 4619. The Baron gained second at both Provincial, London, and Toronto Industrial last year, and Sybil K. 3rd was third at Toronto Industrial last year.

R. Delbridge Winchelsea writes:—The demand for Berkshires appears to be as brisk as ever. I have made the following sales of late:—One boar and four sows to George Green, Fairview; one boar to J. Perkins, Exeter; one boar to W. J. Sanders, St. Thomas; one boar to James Martin, St. Mary's; one boar to August Eckmiller, Brothsgam; one boar to James Johnson, Bayfield; one boar to F. H. Schoals, Constance; one boar to Mathew Morlock, Crediton; one sow to J. Andrew, Churmah, Manitoba; one sow to D. R. McLennan, Lancaster; one boar to J. Hooper, Blanchard; one boar to H. Edwards, Belgrave; one boar to J. Roe, Exeter. I have purchased two imported boars and one boar and one sow (Canadian bred) from George Green, Fairview. My pigs are all bred from George Green's stock, except the imported ones.

Mr. Wm. Goodger, of Woodstock, Ont., places his advertisement of Improved Large Yorkshires with us in this issue. He commenced his herd by the purchase from Messrs. Ormsby & Chapman of a pair of pigs tracing to the Holywell Pearl family, one of Mr. Sanders' Spencer's strains, and subsequently added to it by the purchase from Messrs. Green Bros. & Brethour, of Innerkip and Burford, the fine young sow Maiden, imported in dam and bred by Mr. F. Walker-Jones, Esq. Maiden is sired by Clansman (Vol. VI.), also bred by Mr. Walker-Jones, and sold by him to the Earl of Ellesmere. Mr. Goodger is a firm believer in Improved Yorkshires, and says that having had considerable experience with Berkshires, he finds that the Improved Yorkshires will feed on less food than the Berkshires. The following are recent sales made by him:—Boar to John Cowan, Bright, Ont.; sow to J. E. Frith, Princeton; sow to Charles Sewell, Woodstock; pair to James Goodger, Woodstock; and two boars to Green Bros., Innerkip, Ont.

Messrs. Brown Bros., Springville, Ont., write:—We desire to report through your columns the following sales of registered Berkshire swine and Shrop sheep:—Two shearing rams to Mathewson Bros., Bradley, Dak.; one ram to David Tully, Fowler Corners P. O., Ont.; one ram and two ewes to S. Hatchett, Peterboro P. O., Ont.; two ewes to A. Humphries, Keene P. O., Ont.; one ram to James Laing, Fraserville P. O., Ont.; one ram to George Young, Peterboro P. O., Ont.; five ewes and one ewe to R. Graham, Cayvanville P. O., Ont.; three ewes to R. Moncrief, Springville, P. O., Ont.; one boar to John Clarke, Moosoma, Northwest Territory; one sow to Edward Sutton, Ida, Ont.; one boar to Richard Sanderson, Selwyn, Ont., and our prize winning boar to S. Coxworth, Whitevale, Ont. We also succeeded in gaining all the first prizes in the registered Berkshire class at Peterboro against strong competition. Our stock is doing well. We have a good deal of inquiry for choice animals.

Mr. C. M. Simmons, Ivan, writes:—My herd of 35 Shorthorns are doing well. I have a few of the thick blocky sort left and have sold a No. 1 thick roan bull calf to Thomas Jackson, Port Stanley, got by Aberdeen, Strathallan, dam Daisy of Strathallan, 2nd by Dr. Strathallan, 3rd; one red roan bull calf to McDermid & Barber, of Fingal, he is expected to be the champion of Lake Erie shore, got by Sir Christopher = 357 =, dam Daisy of Strathallan by Victor Regalis imp. (4295); one red bull calf to Thos. Wyatt, of Springbank, got by Sir Christopher = 357 =, dam Eliza 12th, by Duncan = 1732 =; one red bull calf to D. Clifford, St. Palls, got by Aberdeen Strathallan, dam Mary Anne, by 3rd Crown Prince of Strathallan; one to James McVey, Plover Mills, a roan bull calf by Sir Christopher = 357 =, dam Brokenhorn, by 3rd Crown Prince of Strathallan, births. Have eight red calves of both sexes of exceptionally good quality, with four more on the road sired by the prize winning bulls that head the herd. I have also disposed of 24 head of Berkshire swine; a part of them went to the American side; balance to Ontario breeders.

We want all of our old subscribers to send in some new subscribers and get some of our premiums.

**STOCK GOSSIP.**

Mr. Wm. Beattie, Wilton Grove, Ont., so well known in Shropshire circles, will visit England during this month, and will select and import a considerable number of his favorite sheep, the Shropshires.

Mr. J. L. Campbell, Simcoe, Ont., in a recent letter says:—My stock have all wintered nicely. The bull advertised in other columns has left progeny that will be heard from in future show rings. My Oxford-Downs are doing very well, and as soon as the local demand for them decreases, I shall have to advertise them in your valuable paper.

The seventh semi-annual sale of the Wyton Stock Breeders' Association (Holstein-Friesian cattle) was largely attended with brisk bidding, though prices realized were not high. One cow was sold at \$100 and three heifers (one being but eight months old) at \$42.50, \$52.50 and \$57.50 respectively. Other females offered were withdrawn, bids not reaching the mark. Fourteen bulls were sold, all but one being under a year old. The highest price paid was \$90; the average a trifle over \$51.

Robert Watson, Belmont, recently purchased from Mr. Thomas Guy, of Oshawa, a very fine young Ayrshire bull, (Star of Sydenham). This is one of the finest animals ever introduced into that section of the country, and farmers interested in high class stock should see him. Mr. Guy's herd is too well known to need any comment, as they generally take first place at the leading exhibitions. Violet (dam of Star of Sydenham) took first prize at London and all the leading fairs, and his sire (Butterfly of Oshawa) took the silver medal at the Western Fair and all leading fairs. This calf is exceptionally well-bred, being from first prize stock on both sides down to great and great-great dams and sires. Mr. Guy says that this is as fine an animal as ever was shipped from his farm, and those who have seen him are unanimous in saying that he is the finest ever brought into that community.

H. C. Hallman & Co. write us:—Our Holstein-Friesians are wintering nicely. We have the choicest lot to select from we ever had, both in males and females. We have a nice lot of spring calves dropped and very richly bred. The cow Princess Margaret (butter record as a 4-year-old 20 lbs. 1 oz. butter in one week) has dropped a very fine heifer calf, sired by the great show bull Prairie Aaggie Prince, which for quality and breeding has no superior in the Dominion. We sold a very choice and richly bred bull, Baillies 2nd's Arle's (lothild, to head the herd of W. Shunk, Sherwood, Ont. He traces twice back to the champion butter and bull of America, Netherland Prince, also to the great Clothilde, milk record 26,021 lbs. in one year and 25 lbs. 10 1/4 oz. butter in one week, and to the Arle's family equally as choice. We also sold the imported cow Wotherwall to Mr. Henderson, Dundee, a good milk and excellent breeder. We have still a very choice lot of young bulls and heifers very suitable for foundation stock. Send for our catalogue.

Messrs. Bollert Bros., Cassel, Ont., write us that their herd of Holstein-Friesians has been greatly strengthened by the birth of some valuable calves. Gelpertje, who has a milk record of eighty-four pounds daily, and nineteen pounds of butter in seven days on grass alone, dropped a beautifully marked bull, sired by Sir Westwood's Earl Neptune, which last year as a two-year-old gave forty-eight pounds in a day, and to the same sire, Sir Westwood's Bonnie Queen 3rd, who averaged forty pounds per day last season as a two-year-old, dropped a very fine bull, by the same sire; and Jennie B. a bull, by Barnton. The value of these calves will be better understood, when we say that the fifteen cows (including a two-year-old heifer), to which Sir Westwood's pedigree traces, have an average milk record of eight-six and a-half pounds in a day; eight of them, all that were tested, produced 19 lbs. 6 oz. of butter in seven days. The latter two heifers, Jennie E. and Bonnie Queen, we found it impossible to dry, they had to be milked regular till dropping their calves again.

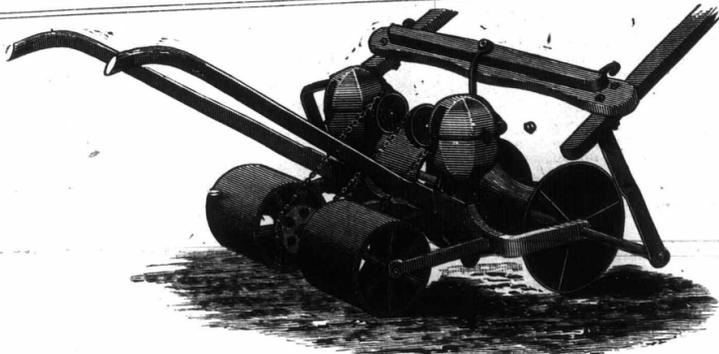
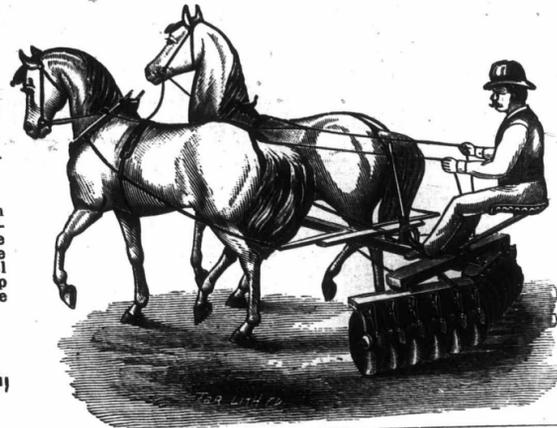
The Excelsior Stock Farm stables are situated on the corner of King and Clarence streets (London), and it is well worth paying a visit and examining the stallions in the stud, and also a lot of mares, fillies and colts. Messrs. D. Ferguson & Bros. deserve great credit and a good share of patronage from the breeders of this section after being enterprising enough to secure the public the advantage of each class, and giving the stallions at as small cost as possible in consideration of the individual merits and high breeding in the pedigrees of each. They also offer their patrons a colt stake annually, to be entitled "The Excelsior Stock Farm Stake," to consist of a purse of \$100, to be competed for by the produce from their trotting stallions, and will be divided as follows:—First, \$50; second, \$30; third, \$20; the inaugural stake to be trotted for at the London Exhibition, 1893. They offer this as an inducement for owners of good mares, as they feel quite confident that their stallions are trotters and will sire speed. The standard-bred and registered trotting stallions are as follows:—Morelight (3357), four years old; trial, 2.41; sired by Twilight (315), dam by American Clay, &c. Sardine (3004), sired by Socrates (287), dam by George Wilkes (319); record, 2.22. Abelard (1846), sired by Marie (339), and their imported and registered Clydesdale stallion Aberdeen, who is a grand specimen of his class, and is pleasing all who see him. All farmers and others should call and examine those stallions before making selection for the coming season.

**THE UNIVERSAL VERDICT**  
—THAT—  
**COSSITT'S**  
**DISC HARROW**

With its patent adjustable scrapers is the best on the market.

We still keep up our reputation for turning out the latest improvements in Steel Frame Spring-tooth Harrows, One and Two-horse Buckeye Model Mowers, Ithaca Self-dump Horse Rakes, Tiger Horse Rakes and Single Reapers.

**G. M. COSSITT & BRO.,**  
BROCKVILLE, ONT.  
291-c



**TURNIP SEED DRILLS**  
Sows two rows at once at any required depth.

**LAND ROLLERS**  
With two large, wooden rollers, having iron ends, and rolling eight feet of land, frame and drums made of seasoned oak.

**MOWERS**

With all the latest improvements.

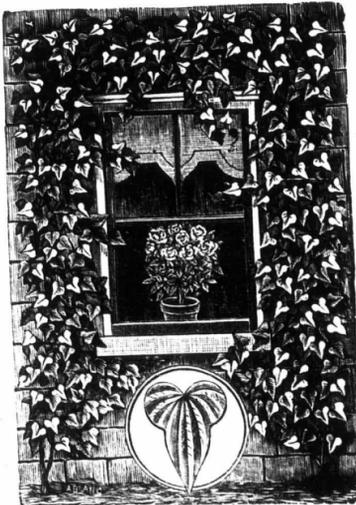
**PLOWS OF ALL KINDS**  
ETC., ETC., ETC.

MANUFACTURED BY  
**THE GOWDY MFG. CO., GUELPH, ONT.**  
292-b-OM  
SEND FOR CATALOGUE.

**BEAUTIFY YOUR HOMES!**

WE HAVE A QUANTITY OF CINNAMON VINE ROOTS ON HAND  
THE MOST DESIRABLE CLIMBER IN CULTIVATION.

This is a beautiful climber, possessing the rare quality of emitting from its flowers the delightful odor of cinnamon, and very appropriately called the "Cinnamon Vine." Perfectly hardy, the stem dying down every autumn, but growing again so rapidly in the spring as to completely cover any trellis or arbor very early in the season. It is as easily cultivated as the Madeira Vine, has no insect enemies, and is not affected by drouth. It is propagated from roots or bulbs which will make from 10 to 20 feet of vine, and with its beautiful heart-shaped leaves, bright green peculiar foliage, and clusters of delicate white flowers, sending forth a delicious cinnamon odor, renders it by far the most desirable climber in cultivation. Planted near a door or window, and the vine trained over and about it makes an ornament worthy the admiration of all. The tubers are frequently over two feet long at two or three years of age, and run straight down in good, deep soil, — flesh whiter than superfine flour and equally as good for table use as the best potatoes. This plant may be planted with every prospect of success any time during April, May or June. We will send, post-paid, securely packed, three roots of this plant to any subscriber who will send us one new yearly subscriber, or we will mail three roots to any subscriber who fails to get a new name if he will prepay his own subscription to January, 1892.



A Window Decorated with Cinnamon Vine.



**NO SOIL FARM CHEAP,** BLIZZARDS, CYCLONES, The **FINEST, RICHEST** long line of expensive freights but right at the door for farmers in the World **BEST PAYING MARKETS** in Michigan. How to get a long time, easy payments, and full information, address **O. M. BARNES, LANSING, MICH.**

**DR. CARVER 7369, Rideau Stock Farm PALM LEAF 7634,**  
 two-year-old record 2.40. Foaled 1887.  
**KINGSTON, ONT.** BY PANCOAST 1439.  
 By New York Dictator, (trial) 2.25½. Sire of Patron, 2.14½.  
 Standard-bred Trotting Horses, Dam—Augusta.  
 Registered Holstein (H.F.H.B.) Dam of Chanter, 2.20¾.  
 and Jersey Cattle (A.J.C.C.) Dam of Shallcross, (trial) 2.33.  
**YOUNG STOCK FOR SALE.** 2nd dam—Jolly Mills.  
 F. A. Folger, Box 579. Send for catalogue. Dam of Orange Girl, 2.50.  
 Walkill Chief, etc.

**Imported Clydesdale Stallions and Mares for Sale.**

Highest Prize Winners in the Leading Shows of Scotland and Canada,

AND THE GET OF FAMOUS SIRES

Such as Lord Erskine, Darnley, Old Times, McCammon, Prince Lawrence, Lord Hopton, Bold Magee, Sir Wyndham, Good Hope and Fireaway.

Prices Reasonable. Catalogues Furnished on Application.



**ROBT. BEITH & CO.,**

**BOWMANVILLE, ONT.**

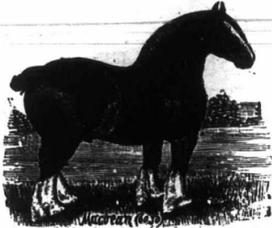
Bowmanville is on the line of the G. T. R., 40 miles east of Toronto and 294 west of Montreal. 289-y

IMPORTED AND REGISTERED

**CLYDESDALE AND HACKNEY**

STALLIONS AND MARES

Constantly on hand, and For Sale at Reasonable Terms.



Our last importations comprise a large number of one, two, three and four-year-old registered stallions and mares, the gets of such sires as Macgregor (1887), Darnley (222), and Prince of Wales (673). Also a few choice **SHETLAND PONIES.** Correspondence solicited, and visitors always welcome.

**GRAHAM BROTHERS**

Twenty-five miles east of Toronto, on the C. P. R. 280-y **OLAREMONT, ONT.**

**T. W. PALMER'S LOG CABIN STOCK FARM!**

**150 PERCHERONS, 100 JERSEYS.**

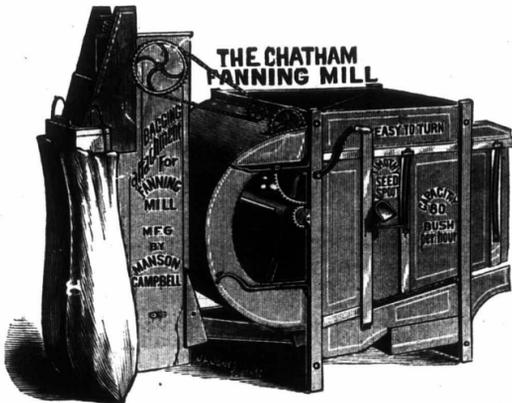
To be Disposed of this Season.

For catalogues and particulars address

**4 MERRILL BLOCK, Detroit, Mich.**



**THE CHATHAM FANNING MILL FOR 1890,**



Has some valuable improvements, and the following sales show that it still takes the lead in all parts of Canada. An order has been booked this month for sixty-five mills and baggers to go to London, England.

2,000 MILLS SOLD IN 1886  
 2,300 " " 1887  
 2,500 " " 1888

3,600 Mills and 1,500 Bagging Attachments sold in 1889.

More than three times as many as have been sold by any other factory in Canada.

The Bagger is now run with chain belt that will not slip.

My new Patented Attachment for taking clay out of beans works first-class. For full particulars apply to

**Manson Campbell,**

283-a-OM CHATHAM, ONT.

**STOCK GOSSIP.**

Mr. J. S. Bray, of the Portage Plains, recently purchased from Green Bros. of Innerkip, two young sows and a boar of the Improved Yorkshire breed. Mr. Bray learned of the merits of this breed through the **ADVOCATE.**

In consequence of our forms being closed, an account of the Shorthorn herds of Messrs. Cargill & Sons, Cargill, Ont., and also Messrs. Richard Rivers & Son, Walkerton, will be given in the June issue. For particulars see their advertisement.

Mr. Henry Wade, Secretary of the Agricultural and Arts Association of Ontario, and numerous Canadian records, will sail for England this month, and will visit the great English shows. We hope Mr. Wade will enjoy his trip—he richly deserves a holiday.

Mr. Thos. Chick, of Dorset, England, whose advertisement appears in other columns, is endeavoring to start a Flock Book for "Horned Dorsets." Some notes written by Mr. Chick concerning this valuable breed will appear in an early issue of the **ADVOCATE.**

We would call the attention of our readers to the advertisement beginning in this number, of the stud of Clydesdales owned by A. B. Scott & Son, Vanneck, Ont. These gentlemen are breeding the modern and improved type of Clydesdales, and those who wish to purchase really first-class colts or fillies from the best imported stallions and mares of the most popular breeding, should give them a call. In next month's issue we will give a more detailed account of them.

Mr. Daniel DeCourcey, Bornholm, Ont., breeder of Ohio Improved Chester White swine, should be able to supply his customers to their satisfaction during the coming season. As according to his statement he has over twenty sows to farrow this spring. He has used seven different imported boars, so that there will be no difficulty in getting pairs or trios not akin. With the well-known quality of his stock, and the success he has had at the shows, purchasers should place their orders early, with the assurance that they can be well supplied.

Mr. Peter Arkell, Teeswater, Ont., one of the largest importers and breeders of Oxford-Down sheep, and also Shorthorn cattle, reports the sale of the imported bull Red Prince, and four helpers, also one Oxford-Down ram. These go to Mr. John Mincey, Hopeburn, Man. Mr. Arkell has wintered a large flock of sheep this winter. His flock of forty registered breeding ewes have over sixty lambs, some of which have made great growth—twenty lambs averaged thirty pounds at thirty days, and one weighed forty-four pounds at that age. One lamb turned the scales at fifty-seven pounds on the 1st of April.

The Dominion Line of Royal Mail Steamers offer excellent facilities for the conveyance of live stock. The steamers are all steady at sea, have lofty 'tween decks and splendid ventilation, having been built specially for the trade. The Manager writing us says—Owing to our large passenger traffic absorbing most of our space during the early months of the year, we have decided to offer four steamers to the trade for the conveyance of horses, &c. Extra steamers will be reserved at any time should sufficient inducements offer. Importers are invited to correspond with the Montreal agents, Messrs. D. Torrance & Co., No. 8 Hospital Street, before leaving home, when they will be pleased to provide them with a free pass to Liverpool, provided they are favored with their shipment.

Smith Bros., Churchville, Ont., send the following—All pure bred registered Holstein cows and helpers of our herd made on an average 3378 lbs. of milk from January 1st to April 1st, and among these were 3 two-year-olds. We sold to Agricultural College, Guelph, America's Grandson and Alvo; he is from Modest Girl 3rd and America's champion, M. G. 3rd gave 41 lbs. of milk in one day, and 1563½ lbs. in January as a two-year-old; her dam gave 10,225 lbs. 15 oz. in a year; her sire is Prince Anggie Wayne, whose dam gave 19,123¼ lbs. of milk in a year, 18 lbs. 12 oz. of butter in a week, and 76 lbs. 12½ oz. in 30 days. America's Grandson's grand dam on sire's side gave 21 lbs. 10 oz. of butter in a week, 97 lbs. of milk in a day; 904 lbs. of milk in 10 days on grass alone. Alvo is from advanced registry stock, with good milk and butter records to their credit. We sent to H. & J. A. Macaulay, Harriston, Slepke 4th. Mink Mercedes, dam of Slepke 4th, gave 41¼ lbs. of milk in one day, 3,242 lbs. in 90 days, and 1384 lbs. of butter in a week; sire Mink's Mercedes Baron. With him go Hijke 4th and Young Wieblen-Hijke 4th's dam gave 65 lbs. of milk in one day, 18 lbs. of butter in a week. Young Wieblen is from advanced registry stock, which shows that her ancestors made satisfactory records. Then we sold to Thomas Butler, of Dereham Centre, a very fine young bull, from our prize-taking cow Bell of Orchardside, who gave 1637¼ lbs. of milk in 30 days as a two-year-old; she is in the advanced registry; her dam gave 17,021 lbs. of milk in a year; sire, our Duke of Edgely. A grand young herd goes to Mr. McNiven, Winona. Slepke 3rd's Mink Mercedes, dam Slepke 3rd, who gave over 9,000 lbs. of milk in 10 months; sire, Mink's Mercedes Baron. Maud Teusen, whose dam, Cornelia Teusen, gave 19 lbs. of butter in a week, and 2,117½ lbs. of milk in March; sire, Duke of Edgely. Lady Marringa 2nd, who is strong in the Billy Boelyn and Ondine blood; Ondine gave 90¼ lbs. of milk in a day, Margaret 4th, whose dam gave 9,601½ lbs. of milk in 144 days; and Witzde Sjut, who come from the Pel family. One our most promising two-year-olds dropped a heifer calf last week, and now is giving from 38 to 40 lbs. a day, and has not reached nearly her best.

## STOCK GOSSIP.

Read the advertisement of Star Manufacturing Company in another column. Write them for full particulars about their seeder.

Mathewson Bros., Bradley, South Dakota, write us as follows:—We have closed out our entire flock (eighty-three recorded Shropshires), and sheep business to Mr. A. O. Fox, of Oregon, Wisconsin, the well-known importer and breeder of Shropshires. Mr. Fox is one of the pioneer sheep breeders of Wisconsin, and has handled this breed of sheep extensively for years upon his 1000-acre farm. He takes front rank among sheep men as one of the best posted and most reliable breeders in the States. We take pleasure in recommending our friends and old patrons who may be in need of choice sheep, to visit Mr. Fox's farm, or correspond with him before placing their orders elsewhere. See Mr. Fox's advertisement in other columns.

Mr. J. C. Snell sends the following:—Mr. James W. Millard, Knoxville, Ia., writes: "I see by the April 2nd issue of The Breeder's Gazette that Mr. J. E. Jewel has an Oxford Down ram lamb which at one month old weighed twenty-six pounds. Now I can beat that. I have a pure-bred Shropshire—No. 7015 Shropshire Registry—which was two years old last March, and on Feb. 16 she dropped a pure-bred ram lamb, which on March 16, just one month old, weighed exactly thirty pounds, or six pounds better than Mr. Jewel's lamb at the same age. Who next? The "next" appears to be Mr. Owen C. Pugh, Venedocia, O., who sends this: "In last week's Gazette Mr. J. E. Jewel, of Aurora, Ia., gives twenty-six pounds as the weight of his Oxford Down lamb at thirty days old. I have a pure-bred Cotswold lamb, dropped March 1, which weighed forty-two pounds when thirty-five days old. I have another lamb, dropped March 18, which, when seventeen days old weighed thirty pounds. The Cotswold takes the lead."

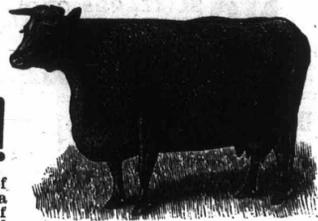
SALE OF HORSES IN ENGLAND.—The tenth annual sale of pedigree Clydesdale horses, Shetland ponies, cobs, etc., the property of the Marquis of Londonderry, took place April 3rd. The Shetland ponies were chiefly from the breeding farms in the Shetland Islands. The Clydesdales offered were well able to sustain the high reputation of the stud. The sale was started with the Shetlands, the total number (61) realizing £1,566 12s., the prices varying from 19 guineas to 55 guineas. The Clydesdales brought a sum of £1,192 16s. Mr. Deuchar, of Newcastle, bought Star, in foal to Castlereagh, for 410 guineas, the highest price realized for a mare. Mr. David Hiddell, Paisley, purchased Regent and Conspiracy, two fine stallions, for 310 guineas and 500 guineas respectively, and Mr. Hunting, South Hetton, bought St. Bede, another stallion, for 250 guineas. The other lots sold well. This sale will give Canadian buyers an idea what our importers have to pay for good stock in Europe.

Dundas & Grandy, Springville, Ont., writes as follows:—We have found an increasing demand for the better class of Clydesdales, having sold since our last report the following stallions and fillies:—Messrs. Bailey Bros., of Carberry, N. W. T., and Peterboro', Ont., take four head, viz., Glenorchy (5820), which won first in the two-year-old class at the C. C. A. S., Toronto, 1888; MacNair (6052), Maggie Brown (imp.), vol. XI., and a Canadian bred mare, which had been a noted prize-winner. Mr. C. C. Walker, Keosauqua, Iowa, takes Kilmaurs (5912), a worthy son of the famous Lord Erskine (1744). Mr. J. H. Clark, Alameda, N. W. T., makes a happy selection in Mariner (6073), which won third prize at the C. C. A. S., Toronto, 1888. Mr. P. McDermott, of Almonte, Ont., is the fortunate purchaser of General Wolfe (5800), which stood second in a strong class of three-year-olds at the last Industrial Exhibition. He has wonderfully developed since then, and to-day it is doubtful whether there is a horse in Canada that he could not wrestle the first honors from. The beautiful filly, Hutton Fancy, goes to Mr. S. McGerrigle, Ormstown. At the last Toronto Industrial she won third prize in an exceedingly strong class of two-year olds. This is without doubt one of the best mares we have ever imported. Lady Bute found a home in the stables of Mr. John Whitfield, Cavan, Ont. We have still on hand a large number of imported mares, which are offering at prices to suit the times. Our stud horse this season will be General Arthur; he is own brother to the famous General Neil, which has few equals in Scotland. General Arthur is a horse of rare quality throughout, in combination with great substance.

H. CARGILL & SON,  
CARGILL, ONT.,

BREEDERS OF SCOTCH-BRED

## Shorthorn Cattle!



With Campbell, of Kinellar, bull, imp. Albert Victor, at the head of the herd; also several imp. Urva, also bred at Kinellar, and a daughter, and grand daughters of the sweepstakes cow Rose of Strathallan 2nd, and other useful sorts. A nice lot now on hand for sale. 238-y-OM

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Mica Roofing

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It is Cheaper than Shingles.

Water Proof and Fire Proof.

**USE**  
MICA PAINT

To Repair Leaky Roofs.

Shingle, Iron or Tin Roofs painted with it will last twice as long.

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Is put up in rolls of 108 square feet each, 36 feet long by 3 feet wide, and costs 2 1/4c. per square foot, thus affording a light, durable and inexpensive roofing suitable for buildings of every description, and can be laid by ordinary workmen. One man will lay ten square in a day, which brings the cost of Mica Roofing about 75c. per square cheaper than shingles. Special terms to dealers who buy our Mica Roofing to sell again. Orders and correspondence answered promptly.

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292-F-OM

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

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

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

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Address BAIN WAGON CO., Woodstock, Ont.

## MANITOBA LANDS FOR SALE

## BY D. A. ROSS &amp; CO.

ESTABLISHED 1877.

We have over 1,000,000 acres for sale in the best districts in the Province. 200 improved farms for sale. We are sole agents for the sale of lands of four loan companies, and consequently can give you some cheap farms and easy terms of payment. We have been inspecting lands for loan companies and private individuals for the past twelve years and know every farm within a radius of 50 miles around Winnipeg. Parties buying from us get the benefit of our experience. Send for list of land or any other information. Large blocks of land a specialty. References—British-Canadian Loan Co., Canada Landed Credit Co., Freehold Loan & Savings Co. (Ltd.), Manitoba & North-west Loan Co.

D. A. ROSS &amp; CO., 2 William St., Winnipeg.