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# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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\* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.\*

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VOL. XXIX.

LONDON, ONT., AND WINNIPEG, MAN., MAY 15, 1894.

No. 358



PORTRAITS OF EIGHT SUCCESSFUL LIVE STOCK EXHIBITORS  
AT THE BRANDON, MAN., SUMMER FAIR.



## EDITORIAL.

## Our Portrait Page.

The portraits of eight successful live stock exhibitors at the last Brandon (Man.) Summer Fair adorn our illustration page in this issue. Several of the faces will be familiar to many in Ontario and other Eastern Provinces, where they are well and favorably known. The group includes the following:—D. F. Wilson, Brandon, breeder of South-down sheep, and poultry; Alex. D. Gamley, Brandon, Leicester sheep; A. E. Rome, Nesbitt, Clydesdale and Coach horses; H. T. Munn (of J. D. McGregor & Co.), Brandon, pure-bred Draught and Carriage horses, Angus cattle and Tamworth swine; Henry Nichol, Brandon, Clydesdales; John E. Smith, Brandon, Clydesdales, Shorthorns and Hereford cattle; J. A. S. MacMillan, Brandon, Shropshire sheep; Thos. Walker, Carman, Holstein cattle.

A central agricultural experiment station and four or five branch stations are being established in Japan.

Mr. Valancey E. Fuller, formerly of Hamilton, Ont., has been elected Vice-President of the American Jersey Cattle Club at the annual meeting in New York.

Prof. W. B. Barrows has been appointed Professor of Zoology and Entomology and Curator of the Museum at the Michigan Agricultural College, to succeed Prof. A. J. Cook.

The Michigan Experiment Station has recently established a poultry department. It will be in charge of H. S. Dunning, who has had a large experience in practical poultry raising.

A law suit brought by the Society for the Prevention of Cruelty to Animals against Mr. T. E. Cross, of Poughkeepsie, N. Y., for dehorning milch cows, was decided in favor of the defendant, the jury being out only five minutes.

Mr. F. L. Houghton, who succeeds Mr. T. B. Wales as Secretary of the American Holstein-Friesian Association, has moved the offices from Boston to Brattleboro, Vt. Mr. Houghton is editor of the Holstein-Friesian Register.

Dr. L. L. VanSlyke, of the New York State (Geneva) Agricultural Experiment Station, whose extensive work on dairy problems is well known, announces that he has begun to prepare a textbook on the "Elements of the Science of Dairying."

From 200 to 300 horses are killed weekly at an abattoir on the outskirts of Brooklyn. The meat is shipped in bulk, pickled, to Europe. Nothing but good healthy horses are used, two veterinary surgeons being employed to inspect the animals, which come in from Philadelphia, Newark, Lancaster, Pa., as well as New York and Brooklyn.

A rapid extension has been made in the manufacture of butter and cheese in factories in the Maritime Provinces during the past two years. To meet the needs of the dairymen of those provinces, the Dominion Dairy Station, at Sussex, N. B., is to be used as a dairy school. A dairy school will also be established at Nappan, N. S., early in the season.

The Weather Bureau of the U. S. Department of Agriculture has been enlarged in organization by the addition of a division devoted to the subject of meteorology in its relations to soils, especially the conditions of heat and moisture of the soil, and their relation to crop production. Prof. Milton Whitney, of the Maryland Station, will be chief of the new department.

Prof. J. W. Sanborn, of the Utah Agricultural College, has resigned his presidency, and returned to New Hampshire, his native State, to accept an agricultural editorship, and also the management of his family estate of 1,640 acres at Gilmanton, which he proposes to use as an experimental farm, for the demonstration, on a large scale, of modern scientific contributions to agriculture.

The Immigration and Colonization Committee of the House of Commons, Ottawa, has adopted a report from a sub-committee as follows:—"That it is desirable that substantial aid be granted to any company or companies who may undertake to establish and operate abattoirs and refrigerators in connection therewith for the purpose of slaughtering and the preservation of meats in a fresh condition for exportation."

## CANADA'S COLUMBIAN VICTORS.

## How the Public Appreciate Our New Premium Picture.

From far and near encomiums continue to flow in expressive of the admiration excited by Canada's Columbian Victors, our new premium, wherever it has gone.

## NEWSPAPER COMMENTS.

"The victorious Ayrshires made a grand display at the World's Fair, and only second to the reality is the beautiful engraving entitled 'Canada's Columbian Victors,' issued by the Wm. Weld Co., publishers of the FARMER'S ADVOCATE, London. It is a group of thirteen pure-bred Ayrshires, correct portraits of the animals that won the honors of the fair. The artistic work of this picture is highly creditable to Mr. F. Bridgen, who has brought out the fine points of the individual and the breed in a most admirable way. The enterprise of the publishers in producing a work of such excellence is also deserving of marked recognition.—The Globe, Toronto, Ont.

"Canadian cattle breeders were very successful at the World's Fair, Chicago, as they carried off many prizes. The exhibit of Ayrshires was especially good, and the honors awarded them exceeded anything anticipated by our breeders, as out of \$2,035 in prizes they carried off \$1,885. The Wm. Weld Co., publishers of the FARMER'S ADVOCATE, London and Winnipeg, have just published an excellent engraving of the winners, which belonged to herds in Ontario and Quebec. The engraving is most artistically executed, every detail of shading and grouping being carefully considered and arranged by the well-known live stock artist, Mr. F. Bridgen, Toronto, who stands at the head of the profession on this continent. The enterprise displayed by the publishers of the FARMER'S ADVOCATE will, no doubt, be keenly appreciated by our breeders and dairymen, who are offered an excellent opportunity of securing a valuable memento of the great live stock contest at Chicago, where competition was open to the world, and where Canadians proved their superiority as cattle breeders.—The Mail, Toronto, Ont.

"The FARMER'S ADVOCATE publishes an interesting engraving entitled 'Canada's Columbian Victors.' The animals portrayed won high honors at Chicago last summer, the grouping and shading is artistic, and the individual characteristics are faithfully brought out.—The Witness, Montreal, Que.

"The FARMER'S ADVOCATE, of London, Ontario, Canada, has favored us with a very pretty illustration of 'Canada's Columbian Victors,' the 'Prize Winning Ayrshires' at the Columbian Exposition. The herd (thirteen in number) is composed of as perfect types of this well-known breed of cattle as may be found (possibly) in the world.—Drainage Journal, Indianapolis, Ind.

"The publishers of the London FARMER'S ADVOCATE have just issued an engraving of a group of pure-bred Ayrshire cattle, which won such a large number of the prizes at the Chicago Fair. It is a handsome engraving, and will serve as a permanent memento of the success of Canadian cattle at the greatest exhibition the world has ever seen.—Tilsonburg Liberal.

"The FARMER'S ADVOCATE has issued a capital plate of the prize-winning Ayrshires at the World's Fair, which will make an interesting addition to the adornments of every farm house in Ontario.—Algoma Pioneer.

## PERSONAL OPINIONS.

"I received your picture 'Canada's Columbian Victors.' It is a good one, and well may the men feel proud who have their cattle shown in it. Have you any of the pictures left, entitled 'Canada's Pride?' I would like to get one."

THOMAS A. BOWLES, Frazerville, Ont.

"The beautiful engraving entitled 'Canada's Columbian Victors,' which for life likeness and artistic beauty is seldom equalled, and never excelled by any, will long serve to commemorate the great success of our young country at the World's Exhibition."

CHAS. CALDER, Brooklyn, Ont.

"Many thanks for your picture of the 'Columbian Winners' which you sent me some days ago. I consider it a very fine engraving and worthy of being framed for any farmer's home."

H. I. ELLIOTT, Danville, P. Q.

"We are very much pleased with Canada's Columbian Victors."

JAMES S. SMITH, Maple Lodge, Ont.

"Please accept our thanks for a copy of your engraving entitled 'Canada's Columbian Victors.' It is a very meritorious illustration, and I shall endeavor to have it framed and placed available to visitors here."

C. S. PLUMB,

Director Purdue University, Agl. Experimental Station, Lafayette, Indiana.

"Please accept our best thanks for the very handsome picture 'Canada's Columbian Victors.' We have got it framed and hung up in our office where it will bear testimony to the excellency of Ayrshire cattle, and to the enterprise of the FARMER'S ADVOCATE in producing a picture of such merit."

DAVID MORTON & SONS, Victor Soap Works, Hamilton, Ont.

"Accept my thanks for the handsome engraving entitled 'Canada's Columbian Victors.' I have had it framed and intend to hang it up in the agricultural recitation room."

H. B. GOODELL,  
Massachusetts Agricultural College, Amherst, Mass.

"We received the engraving 'Canada's Columbian Victors,' and return our thanks for same. We are much pleased to see that our Dominion has done so well in the Ayrshire cattle line, and we are glad that there is a FARMER'S ADVOCATE to send throughout the country so pleasing a memento of her success at the Chicago Fair."

THE JOHN ABELL,  
Eng. & Mach. Works Co. (Ltd.) Toronto.

"Have received a copy of your beautiful premium picture, 'Canada's Columbian Victors.' Please accept my thanks. I am proud that Canada has such fine Ayrshires to exhibit, and proud of the enterprise of the ADVOCATE issuing such an excellent picture of them."

G. W. CLEMONS,  
Sec.-Treas., Holstein-Friesian Association of Canada.

"Many thanks for the handsome engraving which you so kindly sent me. I regard it as something well worth keeping, and in future it will hang on the walls of my 'sanctum' encased in a neat frame. It is a beautiful engraving."

JOHN D. MACDONALD,  
Editor and Publisher "The Advocate,"  
Picton, N. S.

"Please accept thanks for your premium of 'Canada's Columbian Victors' which I have just received. It is a very handsome premium and far more than I could reasonably expect."

GEORGE ALLAN,  
North Nation Mills.

"We hereby acknowledge receipt with thanks of 'Canada's Columbian Victors.' We consider it a very fine sample of art, and are sure you could not have chosen a more appropriate article as a premium for your valuable publication."

WATERLOO MFG. CO.,  
Waterloo, Ont.

In order to secure a copy of this beautiful engraving a reader has only to secure the name of one new subscriber to the FARMER'S ADVOCATE and forward it to us, accompanied by \$1.

The English Official Gazette announces that Canadian cattle imported into England will be marked at the ports of arrival, and that they will be isolated and killed at special abattoirs. The carcasses of such cattle are not to be removed without the permission of the Board of Husbandry. The lungs of these cattle are not to be touched until examined by the inspectors. This order goes into effect on May 15th.

Readers of the FARMER'S ADVOCATE interested in fruit growing, either on a large or small scale, should carefully preserve for frequent reference during this season, the "Spray Calendar," published in our issue of April 15th. It tells when and how the applications should be made to the various varieties, and provided with a good sprayer, successful war can be waged by the gardener or farmer against insect and other foes.

In his regular letter, which appears elsewhere, our correspondent, "Scotland Yet," practically owns up to what has been all along asserted regarding the purpose of the British embargo against Canadian cattle. The Old Country feeder, he says, has now to buy his stores "in a protected market"—but he has to sell in a "free market" in competition with Chicago dressed meat. Why not call the embargo by its right name instead of slandering the healthy herds of Canada and going through never-ending "investigations" and "examinations?"

Advices from England are to the effect that hay has maintained a high price, but complaints have come that the presence of pieces of wire in shipments of Canadian hay have caused injury to stock in several places. Unless care is taken in the packing in future, the reputation of Canadian hay will be injured. There are persons only too ready to make use of any flaw of this kind to decry Canadian hay. At the inception of the trade it is most important that no mistake of this sort be made, otherwise it may be damaged for a long time to come.

Pennsylvania is after the oleo interests with vigor. State Dairy and Food Commissioner Reeder has filed his first report at Harrisburg, instituting 56 civil suits for recovery of penalties and 45 involving criminal prosecution. Fully 50 per cent. of the samples of suspected butter submitted to test by Mr. Reeder proved to be oleo. There are 600 creameries in the State, and 1,800,000 acres devoted to the dairy interest. The entire capital invested is \$120,000,000, and the value of the annual butter product is \$20,000,000. Decisive work, such as Mr. Reeder has undertaken, is what is wanted, and the dairy interests of the State should pool their issues and back him in his fight.



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**"You Should Have It."**

Under the above heading the Goderich Star makes the following observations:—"The FARMER'S ADVOCATE is one of those publications that, once tried, will be found indispensable to the farmer, stockman or even the gardener or horticulturist. The issue for April 15 is particularly timely and valuable in the subjects presented. The information given for the orchard is very full and from the best authorities; there are hints from the leading packers on the now rapidly-growing hog industry; the dairy is well presented in a variety of points, and poultry and bees are each noticed by leading authorities. In fact, you will be interested and repaid by a perusal of this number, which is a representative of the character of this old and reliable publication. Send a postal card to the Wm. Weld Pub. Co., London, for a sample copy.

**Stock Breeders at Ottawa.**

On Tuesday evening, May 2nd, the following gentlemen left Toronto for Ottawa, as a deputation to interview the Dominion Minister of Agriculture: Messrs. Arthur Johnston, of Claremont; John I. Hobson, of Mosborough, and Henry Wade, Secretary of the Agricultural and Arts Association. At Myrtle they were joined by Robert Millar, of Brougham, and at Ottawa by Mr. J. Y. Ormsby, of the Province of Quebec, and also Joseph Featherstone, M. P.; Jas. Rowand, M. P., and W. C. Edwards, M. P., representing various live stock associations. Besides the gentlemen above named, there were appointed on the same deputation Richard Gibson, President of the Shorthorn Association and Vice-President of the Dominion Cattle Breeders' Association; F. W. Hodson, Secretary of the Dominion Sheep and Swine Breeders' Association, and D. E. Smith, Secretary of the Dominion Cattle Breeders' Association; but, unfortunately, owing to other pressing engagements they could not attend.

The object of the deputation was to urge upon the Government the importance of having certificates of registration in our various Canadian herd, stud and flock books recognized by the United States authorities at the custom lines. As matters now stand a certificate of registration in German, English or other than Canadian herd books is allowed as sufficient evidence of purity of breeding, but in the case of stock going across the lines from Canada, unless registered in the American books, duty has to be paid.

Following is a list of the horse, cattle, sheep and swine records, which we ask the American Government to recognize, and from which to accept certificates to enable live stock to pass duty free across the lines:—

Horses.—Canadian Hackney Horse Society Stud Book, Clydesdale Horse Association Stud Book and the Shire Horse Association Stud Book.

Cattle.—Dominion Shorthorn Breeders' Association Herd Book, Dominion Ayrshire Breeders' Association Herd Book, Canadian Polled-Angus Herd Book, Devon Herd Book, Canadian Holstein-Friesian Herd Book.

Swine.—Berkshire, Yorkshire, Suffolk, Poland China, Chester White, Duroc-Jersey and Tamworth.

Sheep.—Lincolns, Leicesters, Cotswolds, Hamp shires, Oxfords, Southdowns, Dorset Horned and Suffolks.

The other matter to be dealt with was to ask the Government for a grant for the Dominion Cattle Breeders' Association. As will be known by the readers of the ADVOCATE a year ago last December, leading representatives of all the different breeds of pure-bred cattle met at Guelph and organized the above named association, with the view of dealing with all matters of interest to stockmen properly lying within the province of such an association. A large board of directors was appointed, the aim being to give it a Dominion character.

Other meetings have been held since, and while the directors have personally borne the expense so far, it was thought only right to ask the Government for a small grant, to be used for the purpose of organization, including the expenditure on printing and the expenses of secretary, etc.

The Chairman of the Agricultural Committee, Dr. Sproule, having been informed of the proposed visit of the deputation, a meeting of that committee had been called for the forenoon of the day of arrival to take the questions into consideration. The subjects to be dealt with were very ably introduced by Mr. Johnston, followed by the other members of the deputation. Each question was exhaustively discussed by the members of the committee, and a resolution was passed strongly endorsing the request of the deputation, and unanimously approving a grant of \$1,000 to the Cattle Breeders' Association. We might here say that it was a very pleasing feature of this committee to see that party lines were thrown to the winds, every member, whether Grit or Tory, being desirous to give all the assistance in his power towards furthering the object the deputation had in view, believing that in aiding such measures they were working in the direction of serving the best interests of agriculture and of the Dominion at large.

In the afternoon at 2 p. m. the members of the deputation, supported by leading members of Parliament, had an interview with the Hon. Mr. Angers, Minister of Agriculture, who listened most attentively to the case presented. The questions were again gone fully into and discussed at considerable length, the result being that the impression was left on the minds of the representatives of the associations that the hon. minister would recommend to his colleagues the granting of their requests. As regards the registration question he will open up negotiations at once with the American authorities.

So far everything had gone on very satisfactorily, and the programme, as the deputation supposed, had been completed. However, Mr. Cargill, the large-hearted and genial member for one of the ridings of Bruce, who, by the way, is an enthusiastic farmer as well as an extensive business man in other ways, thought differently, the wind-up of the day being a dinner party, when a very enjoyable time was spent in company with a number of leading members of the House of Commons.

Altogether it was a most favorable reception.

**The Treatment of Earth Roads.**

The subject of the improvement of country roads has occupied a large amount of time at farmers' meetings during the past winter, and also a great deal of space in the public press; and justly so, for it is one of the most important questions affecting the welfare of a community.

Now, the greater number of our roads, and this is especially true of clay districts, are composed of earth alone, the small amount of gravel not sufficing to pay for any large expenditure of time or money in drawing gravel or broken stone. But, by careful attention, even these roads may be kept in a passable condition at all seasons of the year.

**DRAINAGE.**

The first and most important matter to be considered is the drainage. Water is the great foe of all good roads, and it is utterly useless to expend time or money on a road until perfect drainage has been secured, for any gravel or other road material would only disappear from sight, and the road would soon be ready for a fresh coat. On this point, Mr. O. H. Sheffield, in Bulletin No. 3, Office of Road Inquiry, U. S. A., Department of Agriculture, has the following:—

"Of paramount importance is the subject of drainage. Without it, no road can be a good one, and with thorough drainage, even the poorest dirt road can be made reasonably good. Water is the most aggressive of all destroying agents, and to render its work of as little effect as possible, thorough drainage must be provided, both for the purpose of taking away as much as possible of the water that falls upon the surface, and also to deprive the soil of that water which sinks into it, by providing channels for its escape underneath the surface."

See that the ditches are of a sufficient depth to carry off all the water which may fall, even in the heaviest rain-storms, and also that the culverts are all cleaned out, so that there will be no ponds beside the road, soaking into and through the road-bed, thus allowing it to cut up and spring with every passing vehicle. It is impossible to maintain a stable road-bed where the water stands during bad weather in the ditches along the sides.

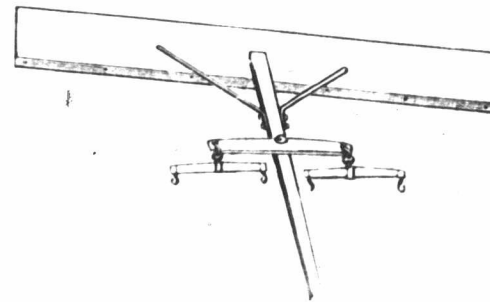
**TILES.**

If the subsoil is of a spongy, springy material, it will be necessary, before a good road can be obtained, to run a line of tile drain down the centre of the road-bed, or, if preferred, what is better, but more expensive, two rows of tiles, one on each side of the road-bed.

Some will say that a tile drain is of no use, because the surface of a road will become so hard that a hollow will hold water, like a dish, and prevent the water finding its way down to the drain. This is quite true, but it is not such water which we wish to remove by tile drains. Such drains will draw off the subsoil water, which, if not removed, would work up to the surface by means of capillary attraction, and keep the surface soft and spongy, so that it will easily cut up into ruts by passing wagons. When rain falls, these ruts will fill with water, and thus aggravate the evil. The surface should be so graded, and kept smooth, that all rain-water will flow off into the surface ditches at the sides. How often have we seen a spongy piece of road or side-hill the terror of a whole county, when, perhaps, a couple of rods of tile would tap the spring and effectually drain the road, and render this portion as easy to travel as any part of the road.

**CARE OF THE SURFACE.**

The surface of the road should be carefully graded; all ruts or mud holes filled up with gravel, if possible, or, if that is not at hand, with soil similar to that of the road-bed. Ruts formed from travel, if not too deep, may be filled and leveled by harrowing and rolling as soon as the ground has dried sufficiently, or, better still, by the use of a road-leveler, like that shown in the accompanying illustration.



The main portion of the leveler is 8 feet long, and made of a single plank, 4 or 5 inches thick, and, say 1 foot 4 inches wide; or may be made of two planks, fastened firmly together; a piece of steel or iron, a couple of inches wide, should be laid at the bottom of the front side; two iron braces extend from the leveler proper to the pole or tongue. It is a cheap and very useful implement. Even in winter a clay road frozen over ruts can be improved by running this leveler over it when there is a slight thaw. As will be seen from the sketch, the main part of the leveler is not



set at right angles to the tongue, but slants so that the earth, as it is scraped up, works to one side.

The use of the road machine is also to be recommended, as by this means two men and two teams will do as much work in a day as would take them, with the ordinary implement, a week, and at the same time do it better. By means of this machine the surface can at all times be kept oval, smooth and level, with but very little labor.

## STOCK.

### FIRST PRIZE ESSAY.

#### Profitable Horse Breeding in Manitoba and the N. W. T.

BY W. L. PUXLEY, WINNIPEG.  
(Continued from Page 178.)

The foal, with a good mother, should come along well its first summer—if foaled out of doors, say the last week in April, thereby avoiding the danger of blood-poisoning by absorbing the filth of the stable through its navel—learning gradually to eat grain with its dam, who, if she is working, should only be allowed to go to it when cooled down after work, the over-heated milk having a tendency to produce scours in the colt. I think it is a mistake, in the early months at least, to let the colt follow the mare at work, as the mare will probably have to travel further in the day than is good for the youngster. On the other hand, the danger of the colt taking her milk in large draughts at long intervals—the very reverse of nature's intention—is against keeping them long apart. The simplest way to overcome both these objections is to allow the mare and colt to run together on the grass during the early months of the colt's life. This will insure a larger flow of milk, besides allowing plenty of exercise in the open air at an age at which the healthy colt seems most inclined for it.

At weaning-time, if there are only one or two colts, and space allows it, I prefer putting them with their dams in loose boxes, turning the mare out during the day and feeding the colt inside. He thus becomes accustomed to her absence, and she, owing to diminished sucking and dry feed, soon goes dry. I think the plan of tying the colt in sight of its dam provokes a desire to suck, the inability to do which only frets him. Where there are many it is preferable to keep them all—or, at least, all of one size—together, and wean them at once, drying off the mares by hand. For, if they have been accustomed to eating grain with their dams, the change to dry feed will not be so sudden, and the company will largely compensate for the absence of the mares.

All I would do to the weaning colt in the way of training during his first winter is to thoroughly halter-break him, which should be done in a strong but pliable and comfortable halter before he is tied up at all, and accustom him to the handling of his legs and feet, and, in fact, his whole body. So many yearlings with bunches on their hocks attest to the disadvantage of too early training, that I should be inclined to leave this alone until the joints and ligaments were stronger, and, for the present, just let him grow; give him a good yard to run in during the day, fenced with rails, and see that none of the rails project to bruise or lame him as he skips around. Keep an eye to his feet, taking especial care that his toes do not become too long.

His second winter he may be gradually accustomed to the wearing of harness, and towards spring may be bitted. The making of the mouth by gradual pressure is a part of the breaking of the colt to which a great deal more attention might be paid, and which will be well repaid in any horse, but particularly in one intended to bring a good price. The kind of mouth that will allow you to "jest hang to it" is going out of fashion, and a pulling horse, besides the danger to its driver, if it should bolt, is so uncomfortable to ride or drive that no one will buy him who can afford to suit himself, and these are the buyers that make horse breeding profitable. The biting should be begun by putting on a smooth, straight bit, with large rings, allowing him to champ at this for an hour or so a day; later on gentle and gradually increasing pressure may be put upon the reins with the hand. The reins should not be buckled up to the roller until the mouth has lost its extreme sensitiveness, and, where the time could be spared to apply the necessary pressure by hand, I would not buckle him up at all in the stable, owing to the danger of toughening the mouth by the constant pressure. Take care that the mouth does not become sore, and if it should do so, drop the biting until it recovers.

It is, of course, impracticable to lay down any exact quantity of feed for the colt, owing to the difference in size and digestive powers of different individuals, but, when in doubt as to the exact quantity of grain, it will in most cases be best to risk erring on the side of liberality, provided that the maximum is reached by gradual increase from a small feed at first. If, however, a colt should at any time leave any of his grain in his box, a feed or two should be dropped and the succeeding feeds lessened in quantity. The grain ration should be

given in at least three feeds a day, and not in such quantity as to exclude the desire for hay, which may easily happen to some colts, and which will surely cause indigestion sooner or later. Keep the feed boxes clean and sweet, and don't forget a lump of rock salt in each.

It is most important that the colt should be well fed—always with plenty of out-door exercise on any but the stormiest days—during his first two winters, but it is also important that he should be well-fed and exercised in succeeding winters if he is to arrive at his highest development; so keep it up.

His third winter he will be fit to put to light work—at first by the side of some fast-walking, level-headed horse, who can take along the whole load and the colt, too, if need be. If the breaking has been gradually progressed with he will generally not give much trouble, and all he has to do now is to take in the sights of the city, electric cars, trains, *et hoc genus omne*. By training a colt gradually from the time he is weaned, he almost grows into harness, and is, therefore, not much alarmed at any time by it; whereas, if left to run at his own sweet will until three or four years old, he not only has greater objections to being harnessed, but also greater strength to enforce them. The harness used for breaking the colt should be strong and well-fitting, it being far easier to avoid habits of bolting or kicking in harness, so often acquired through defective harness or reins, than to cure them when formed.

The grain food this winter should be oats—ground, I think—and plenty of them, with occasional bran mashes, say once a week, but I fancy that at present prices, or at any time when the price of one bushel of wheat shall not exceed that of two bushels of oats, it will pay to feed it to colts, with care as to certain points. Chopped wheat should not be fed without bran, on account of the absence of hull making it less porous in the stomach, and consequently giving less chance to the gastric juice to mix with and act upon it. A mixture of two parts chopped wheat, two parts chopped oats, and one part bran is, I think, better than an exclusive diet of oats. Oats are, undoubtedly, the best *single* feed for all horses, and especially those at work, but, with the above precautions as to its mixture with oats and bran, I think much more substance can be got into our colts with wheat than with oats alone.

In the spring the colt will be three years old, and this is, in my opinion, the time to sell him to the dealer to finish. But if you decide to keep him, he can earn his feed on the farm for another year, besides increasing in value. Be careful not to let him get into that way-worn, broken-hearted style of going, which spoils so many farm-broken colts; leave some life in him for the man who will pay for it. Sell whenever you have a buyer at a fair price; the younger you sell your colts the more room you will have in your stables, and the more time to give to each.

Whatever you decide to breed, breed only the very best—the best is none too good. Don't pay for a pedigree without the good points which it should ensure, but if they are forthcoming, then pedigree is above the price of rubies. Don't expect something for nothing in a stallion. Be willing to pay a fair service fee. Refuse any but a sound stallion, or, at any rate, one free from hereditary unsoundness. Breed in pairs. There is no sense in changing a stallion which produces good colts from your mares just for the fun of experimenting; the fact of your having a matched pair will not make either worth less, and may make each worth more. Breed with an object constantly in view, and don't keep changing. If the making of pure-breds is fraught with uncertainty, how much more must the alternate mixture of different breeds embarrass the breeder. Breeding with a fixed object has evolved the special breeds and brought them to their present perfection. There is every difference between crossing distinct breeds with a view to securing the excellencies of both—when one particular line is kept to—and mixing up all the breeds together, so as to turn the mare's womb into a surprise packet. The latter course of breeding at random can only ensure a return to chaos.

I will not attempt to make an exact calculation as to the cost of raising horses, which is a matter on which each breeder has probably satisfied himself, the point I wish to make being that if there is a profit in horse-raising—and I am quite satisfied that there is—it will be found in raising the best types of those in the greatest demand, and raising them well. I will, however, give a rough estimate as follows:

|   |          |
|---|----------|
| Hay, in four winters, 1, 1, 1 and 2 tons, respectively.     | \$10 00  |
| 2 c, 5 tons @ \$2.00  | 10 00    |
| Oats, 1, 2, 3 and 3 gallons, on a basis of 200 days, winter | 15 00    |
| total, 225 bushels @ 20 cents                               | 45 00    |
| Pasture, three summers @ \$5.00 per head                    | 15 00    |
| Veterinary attendance, say                                  | 10 00    |
| Breaking  | 25 00    |
| Service fee   | 10 00    |
| Total   | \$115 00 |

To this should be added about \$10 for losses. On the other hand, if the colt is broken by the owner, and earns his keep during his fourth year, his cost will be reduced by \$20, making the cost of a broken four-year-old, roughly, \$100.

As illustrating the prices brought by some of the classes referred to in the foregoing, I might mention that shipments of Ontario-bred horses have been sold in the last two years, by auction, in New York, at an average of from \$330 to \$365, which

is said to have netted the breeders \$300 per head. These were bred mostly from Thoroughbred sires, though some were of Hackney breeding. We are, of course, in Manitoba, farther from New York than the Ontario breeders, but the demand for this class of horse is spreading in the United States, and will soon be very strong in Chicago and other cities nearer to us. But, allowing for the difference in freight rates, the profit is still worth trying for. The buyers will come when the horses are bred; we cannot expect them to come sooner.

Before concluding this essay, I would put in a plea for better handling of the horse in sickness. If he is ailing and out of sorts, don't wait till all the amateur horse doctors of the neighborhood have combined to bring him to death's door—in futile attempts to expel bots, when the trouble may be only in his teething—before you send for a competent veterinary surgeon. On the ground of profit alone, it will pay to call him in early, as one good colt will pay for many visits, even if the comfort of the horse is not of much importance. Remember that the horse is by nature denied the chance allowed to man in the hand of quacks—vomiting—and his chief hope of relief is, therefore, in death.

In conclusion, there must always, no doubt, be an element of chance in this, as in all other businesses, but as men neither gather grapes of thorns nor figs of thistles, so by no combination of chances can saleable horses be produced from a plug mare and a scrub stallion on starvation diet, under the leaf of a snow bank.

#### Chatty Stock Letter from the States.

FROM OUR CHICAGO CORRESPONDENT.

Top cattle prices, \$1.75, being 15c. lower than a fortnight ago, and \$1.60 lower than a year ago. Hogs, \$5.35, being nearly the same as two weeks ago, and \$2.40 lower than a year ago, when the great boom was still on. Top sheep, \$4.75, showing no change from two weeks ago, but \$1.50 below the prices of a year ago. So much for prices.

Supplies are running lighter than a few weeks ago. As compared with a year ago, weekly receipts at Chicago, Kansas City, Omaha and St. Louis combined show a decrease of 21,000 cattle, an increase of 37,000 hogs and a decrease of 45,000 sheep.

The quality of the cattle and hogs is very good. The cattle are better than are appreciated, as shown by the fact that buyers are paying about as much for 1,100-lb. steers as for ripe 1,500-lb. bullocks. The quality of the hogs is very good, though the weights are running lighter. Buyers complain of a scarcity of good thick fat 300 to 400-lb. hogs. The 200-lb. hogs, however, are more generally useful. The sheep are rather poor in quality, barring the remnant of the crop of fed Western wethers.

The bulk of the good 1,100 to 1,500-lb. cattle lately sold at \$1 to \$1.25; bulk of the heavy hogs, \$5.25 to \$5.35; light-weights, \$5.15 to \$5.25; sheep, \$4.25 to \$4.50; lambs, \$4.75 to \$5.

The visible supply of sheep at present is not as large as it was at this time a year ago. Texas is the only region that has a big supply of sheep, and the drought has kept them in such poor condition that they will not be fit to market till later than usual. The sheep exporters are still doing quite a fair business at some profit.

Baby beef is more than ever the watchword of Western cattle feeders. There is less demand for heavy cattle than for some time past, and producers are not enjoying the spectacle of ripe heavy cattle, fed on corn for a full year, selling for less per hundred pounds than "nice little" cattle that have only been grained a quarter of the time. A dozen butchers can handle the carcass of a 1,200-lb. steer, where there is one who wants one that scales 1,600 lbs. alive. The matter of early maturity, however, is a good deal of a craze, and is liable to have a reaction.

Some choice coach horses recently sold here at \$400 to \$1,000 per pair, but both supply and demand are limited when it comes to the extra good ones at fancy prices. Current Chicago prices are:—Extra draft, \$125 to \$250; common draft, \$75 to \$115; express, \$125 to \$190; chunks, \$75 to \$125; chunks (Southern trade), \$40 to \$60; streeters, \$75 to \$100.

A Dakota ranchman, A. S. Robinson, of Dickinson, N. D., was here with 20 head of Hereford and three Shorthorn bulls to take to his ranch. They cost an average of \$90. In a quiet way the market for breeding cattle is showing a stronger undertone. There are no fancy prices being obtained, but breeders do not find buyers quite so scarce as they were.

Ohio graziers have lately paid \$100 for 1,150 to 1,200-lb. steers in this market. They want cattle fleshy enough to make early beef on summer grass with some corn.

Distillery cattle are beginning to move to market with some freedom, but owners who are largely the big slaughterers seem disposed to hold back in the expectation that prices will shortly be higher. If the labor situation was in better shape, and fewer mechanics were striking for wages before they fairly got to work again, the live stock trade would be in vastly better condition.

#### Erratum.

In the report of the Agricultural and Arts Association annual meeting, appearing in our issue of May 1st, the name of Mr. J. C. Rykert was given as Secretary of the Ontario Association of Trotting Horse Breeders, instead of Mr. Boyd, of Simcoe.



### Our Scottish Letter.

Within the past fortnight we have fairly inaugurated the summer show season of 1894. Besides the interest awakened by these in the west country, the Royal Commission on Agriculture is fairly under way, and while the Western Sub-Commissioner, Mr. John Speir, has little more than begun his work. His eastern colleague, Mr. James Hope, has issued his views on the agricultural situation. Interest is also much excited, especially in the feeding counties of the east of Scotland, on the subject of the opening of the ports to Canadian cattle. It may be said that opinion in Fifeshire and Torfar is all but unanimously in favor of this course; in Aberdeenshire it is divided, and north of that the preponderance of feeling is against opening the ports. Perthshire is about equally divided in opinion, but the rest of Scotland is generally opposed to the admission of foreign stores. Breeders of cattle of every class and dairy farmers are all opposed to the free importation of store cattle, and in England, with the exception of some Norfolk graziers, there is no demand at all for the admission of foreign cattle. It was expected that Mr. Gardner, the Minister of Agriculture, would have made known his mind ere this, but he has not yet done so. Meantime his verdict is eagerly looked for by all parties, and business in the cattle trade is in a somewhat uncertain state until it is seen how matters tend. In the interest of the numerous army of small farmers and crofters in this country, whose revenue is largely dependent on the prices obtained for their young cattle, I am in favor of the ports being kept closed against foreign stores, and so long as beef remains at its present price it is hard to see what reason exists for altering present arrangements; of course, this is written from the point of view of a British farmer, who is also a breeder. I can very well understand the feelings of the man who is a feeder. He has to pay a fair price for his stores; in plain English, he has to buy them in a protected market, but he has to sell them, fat, in a free market. He has there to compete with foreign meat sent in by the ton, and naturally he objects to the one-sided arrangement. The question really resolves itself into an inquiry as to whether the breeding of cattle in this country is not to cease altogether. Plainly, whatever the issue may be there will be loss and suffering on the part of one section of the community. Our free trade policy, while no doubt favorable to industrial prosperity over all, is in some respects hurtful to the agricultural interest. In spite of this, however, Mr. James Hope, the Sub-Commissioner, does not favor protection. He admits that a duty on corn would help the prices, but the enhanced value would, in the long run, go into the landlord's pockets, and the farmer would be stranded, as at present. He, however, indicated a preference for reciprocity, commenting on the one-sided character of our fiscal relations with America. With a large-hearted magnanimity, which cannot be too highly commended, Great Britain allows herself to be the free coup of the commercial world. She takes all that comes and charges nothing, but when she sends even such necessities of life as potatoes to her cousins in the United States, they very generously charge an *ad valorem* duty of from 30 to 40 per cent. before they allow the tubers to be landed. This strikes Mr. Hope as a little absurd, and no doubt, being an extensive potato grower himself, he appreciates the state of matters thus indicated.

A word or two on the recent shows may suffice. The exhibition held at Kilmarnock is usually strongest in Clydesdales and Hackneys. Ayrshire cattle make a fairly good show, but Ayr remains their headquarters. Black-faced and border Leicester sheep are rapidly growing in favor with the gentlemen who favor Kilmarnock with their presence. This year the show was held on a miserable day, rain of a cold, irritating type falling all the time, and neither beast nor body could find any enjoyment in the surroundings. Mr. Abram Kerr, Castlehill, Durrisdeer, who is unfortunately leaving the farm which he has tenanted for a long series of years, was a successful exhibitor of Ayrshires. He has one of the best herds in the country, and its dispersion in a few weeks should mark a record in the history of the Ayrshire breed. The show of Clydesdales was, as is usually the case at Kilmarnock, exceptionally good. Mr. Gilmour showed two of his fine mares, Montrave Gay Lass and Montrave Lady, both descended from the Potneath breed of the late Dugald McKinnon, and the former was first in the brood mare class and champion of the show, while the latter was second in the yeld class. Mr. David Mitchell, of Millfield, won first prize in the yeld class with the Flashwood mare, Lillie Langtry, a mare which, if not of the greatest size, is remarkably sweet, level and even. Mr. W. W. Galbraith, of Croftfort, Gartcosh, was first in the three-year-old class, his representative being Neda, a sweet filly, which won first prize last year at Glasgow and Hamilton. Her dam was a lovely Darnley mare named Zeynah, a well-known prize-winner, and her sire, Gay Wyndham, which

gained first prize at the Glasgow Stallion Show when a two-year-old. Mr. Leonard Pilkington, Cavens, Kirkbeau, owned the first prize two-year-old filly, Fairy Footstep, by Prince of Carlung, a really good animal, which will take a lot of beating. The great feat of the show was the phenomenal victory of Mr. Andrew Mitchell, Barcheskie, Kirkcudbright, who won first, second and third prizes in a very large class of yearling fillies. They stood in the same order at Castle-Douglas, and the first is by Macgregor, the second by Goldfinder, and the third by Rosewood. What makes Mr. Mitchell's victory all the more remarkable is the fact that the first and third fillies were bred by himself. In the colt classes the result of combining Prince of Wales blood with a double cross of Darnley blood was easily seen. Mr. W. S. Park's Prince of Erskine, by Prince of Albion, was first prize three-year-old. Mr. William Park's Prince of Brunstane was first prize two-year-old, and a colt of Mains of Airies was first prize yearling. The most interesting competition of the day was that for the stallion championship. There competed, the famous horses Prince of Kyle, Prince Alexander, Prince of Erskine and Prince of Brunstane, and victory remained with Mr. Renwick's Prince Alexander 8890, which thus added another to his numerous laurels.

The draught sale at Mains of Airies realized fairly good prices. The first Cawdor cup winner, Irene, was sold for 300 gs. or £378, and the Darnley mare, Leonora, without any record in the show yard, at 350 gs. or £367 10s. The purchaser of Irene, which is own sister to Prince of Carruchan, the Cawdor cup winner of 1894, is Mr. Sinclair Scott, Burnside Largs, and the purchaser of Leonora, Mr. Alexander Cross, of Knockdon, Maybole, twelve brood mares made an average of £129 8s. each, and one of the two-year-old colts, a son of Prince Alexander and Pandora, was sold for £262 10s. to Mr. John Marr, Cairnbrogie, Oldmeldrum.

Next week will be a very busy one; Mr. John Thornton holds three important Shorthorn sales in Northumberland. We have Ayr and Maryhill shows in the west country, and good things are being done in the east. SCOTLAND YET.

### How, When, and Where Shall We Market Our Wool, and the Sheep Trade?

[Paper prepared by D. McRae, Guelph, Ont., for the Dominion Sheep Breeders' Association.]

Canadian wool is generally of good quality, sound and strong in staple. It is not usually sent to market clean and free from foreign substances. It is desirable that it should be in the best of condition, if it is to command the best price. This cannot be easily done with our present surroundings and modes of feeding, but much can be done to make it better than it is at present. First, we must clean our fields and fence corners of all burdocks and other weeds of an objectionable character; the great trouble in Canadian wool is the large, soft bur, which has to be removed by hand. The smaller, hard bur can be taken out by suitable machinery, but the larger one can not be treated in this way. It frequently happens that even with ordinary care a flock will pick up a few burs in the fall; these should be carefully removed by hand as soon as noticed. Another trouble is our winter feeding, and it is very difficult to arrange any mode of feeding that will keep the fleeces clean from straws, seeds, etc. The closely-built racks with the opening at the bottom are a help, but even with them the wool about the neck is frequently full of bits of straw and chaff. The whole of the Canadian clip will be lowered in price by about three cents per pound on account of the presence of burs and straws in the fleece. The springtime is that usually selected for shearing. Some experiments have been made in fall clipping, but these have not been very successful. Breeders of pure-bred sheep usually clip in the grease, and where the animals are in high flesh, and valuable, it is much safer to do so. The price obtained is lower than that usually paid for washed wool, taking both on a scoured basis. With a free market in the United States this will soon right itself. Already several Canadian manufacturers are anxious to get all the unwashed wool they can buy at current rates, which are one-third less than washed prices. When the flock are clipped each fleece should be spread carefully on a clean table—an old door or trestle does very well for this purpose—the clipped side down, and the fleece examined and foreign substances removed, also all dung-lumps pulled out, not clipped off. These dung-lumps should be kept apart and cleaned, but not put in or with the fleeces. The fleece being cleaned, the sides are folded inwards, leaving a breadth of about two feet, varying according to the size of the fleece. Clean, loose locks are put in the middle. The fleece is then rolled from the tail towards the neck, neatly and tightly, the neck twisted into a rope long enough to go around the fleece, and the end tightly secured below the rope.

The fleece thus rolled with the clipped side out is a bundle easily handled, and can be packed and re-packed without trouble or breaking. Broken fleeces are not worth as much to the dealer as those neatly packed. Any trashy, seedy or cotted fleeces should be kept by themselves, as they bring an inferior price. The shearing fleeces are better kept separate, though few of our country dealers take this trouble. The time to sell is usually when the market has fully opened. The first wool is often bought at a low price, and the highest point reached is frequently on the flush of the market. This is the case with ordinary washed wool; for unwashed, it may be sold as soon as clipped, and at this time the price will often be finer than when the market has opened for washed wools.

The place to sell is, of course, where the highest price can be obtained, and this will frequently be at the mill which is using the class of wool grown by the farmer. Cotswold is the coarsest grown in Canada, and is specially well adapted for mills manufacturing carpet warp. The strongest and longest breech wool is well adapted for this purpose. The same mills can use the finer parts of the fleece for the manufacture of other yarns. Leicester and Lincoln wool will be bought by worsted mills. The various kinds of Down wool can also be used by these mills, and they are also very suitable for hosiery purposes, and the most of our knitting mills will use ordinary wool; if of a fine grade, any wools of a Down quality. Many mills use a large amount of "Southern" wool, which, with shoddy, enters largely into the cheaper grades of "all-wool" Canadian goods. If not near a good mill, the large firms of wool dealers have agents and correspondents in all the leading towns and villages, and the cash value can generally be got for any of these.

### THE SHEEP TRADE.

With wool very low in price, the flock master has had to face a very dull market for his lambs. For several years past the lambs have been selling well and the prices have been good, gradually but steadily tending upwards. Last year there was a decided reaction. Prices for ordinary lambs were last fall away down. In some sections they have been almost unsaleable; this has been caused by the low prices in the United States market, which is almost our only export market for lambs. In the leading live stock market of that land cattle have held their own; hogs are still keeping fairly well up, while sheep have fallen far below the average of former years. One chief cause of this was the rush to sell. For many weeks and months the weekly arrivals in Chicago in the sheep pens were from 60,000 to 70,000; this was more than fifty per cent. above the ordinary receipts for the same time the previous year. Perhaps one cause of this is the "free wool" tariff proposed under the new Wilson Bill. Wool-growers who have been getting protection prices for their wool became alarmed and rushed their sheep to the shambles in greater numbers than the market could quickly absorb. A speedy fall in prices followed. The result has been a drop in the Canadian lamb market at Buffalo. The reaction, however, seems to have set in. The McKinley tariff fixed the duty at 75 cents per head. This was the one point where the McKinley tariff did not put up the duty. It is said that in estimating the duty, McKinley was not aware of the good quality, and therefore of the high price of Canadian lambs, and really thought he was increasing the duty. The return to an *ad valorem* duty of 20 per cent. will be higher, if good prices prevail, than it is now. This is the duty proposed on all animals under the new Wilson Bill. The duty of the Canadian breeder is to raise the very best lambs, feed them well and have them in the best possible shape when ready for market. The Americans now raise plenty of medium and inferior mutton and lamb. What is wanted is a first-class article. There is much room for improvement here. Use only pure-bred rams. Dock all, and castrate male lambs while young; keep fields free from burs, and have abundance of good feed for your ewes and growing lambs. Second growth clover or a nice field of rape for the fall is excellent feed to bring on lambs. Another line in which there is plenty of room, and in which there seems to be considerable profit, is the raising of early lambs for the spring market. There is a good demand at long prices, and very little of this class of stock is available. Those who have gone into it say it pays well.

As regards the prospects for the future, sheep breeders need not be discouraged. The past was an off year, but the probability is that there will be more attention paid to raising a good mutton sheep in the United States, and that there will be a good demand for rams of the best mutton breeds. The reduced prices for wool will almost certainly cause this. Mutton is becoming more and more a popular article of diet, though, in this respect, the whole of the American continent is far behind Britain in the use of mutton as a staple food. It is the most wholesome of all the meats for human food, and as a better quality is supplied, the amount used will certainly steadily increase. The awards at the World's Fair, at which our Canadian flocks took such a prominent place, will clearly point to Canada as the place to get the best stock to improve the flocks of the continent. Some of our best come from Britain, but in Canadian hands they become acclimatized and accustomed to the changed conditions of life on this continent, and therefore more valuable to the American buyer.



## FARM.

## Millet Growing.

There are several distinct varieties of this forage plant, of which Hungarian grass and common millet are the kinds most frequently sown. The German millet, a later variety, has been largely grown in some sections. The Experimental Station at Guelph, in conjunction with the Experimental Union, has conducted a number of tests of this plant, with the object of providing a good substitute for hay in the short years, and the reports are very favorable. According to the tests, the four best varieties of millet are: Salzer's Dakota, German or Golden Wonder and common millet, while Hungarian grass in point of yield was about equal to the German millet. Of Salzer's Dakota, the director of experiments, Mr. C. Zavitz, has the following in his report:—"The Salzer's Dakota millet, which heads the list in yield per acre for two years, is certainly an excellent variety. It did not do quite so well, comparatively, in 1893 as it did in 1892. It is a very strong growing variety and produces a large amount of foliage. It grows to a greater height than any of the other varieties and stands up remarkably well. Of the millets which have been grown on this farm for two years, Salzer's Dakota has certainly shown itself to be a most desirable variety. The Western-grown did very nicely during the present year, giving a large yield per acre. In three co-operative tests over Ontario in 1892, in which three varieties of millets were grown, the Salzer's Dakota gave an average yield per acre of nearly fifty per cent. over either of the other varieties."

In Canada, millet is grown almost exclusively as a forage crop either to be fed green or cured as hay. It is especially useful as a supplement to the hay crop in years of shortage, for a farmer can wait until he can estimate the yield of his hay or ensilage crops before sowing millet, which, unlike most other forage crops, does not require a long season to mature, and can be put in quite late in the season and still give a heavy cut of feed. The seed may be sown either in drills or broadcast. The land should be rich, well fertilized, and the surface made very fine and mellow, so that the small seeds will not be buried too deeply. Millet will do well on any soil that will give a good crop of potatoes or corn. From three pecks to a bushel is sufficient when sown broadcast; if drilled, less will be required. The ground should be rolled immediately after sowing. The seed should be sown about the time corn planting is finished; when the weather has become settled and the nights are warm, which in most parts of Canada will doubtless be about the fore part of June.

Millet should be cut as soon as the heads are well formed, and before the seed begins to harden. As it ripens very irregularly, it is a good plan to cut on the early side, in order to get the best quality of feed. Cut and cure in the same manner as an ordinary crop of hay.

The chief objection to the general cultivation of this crop is that it is an annual, and thus the ground must be prepared and the seed sown each season. Another is that there is much danger in feeding large quantities after the seeds are ripe; though, from the evidence brought forward in response of Prof. Henry's call for practical experience in the feeding of millet, as published in the *Breeders' Gazette*, we would be led to suppose that the danger has been greatly exaggerated. The reports all favor the cultivation of millet, both as a hay crop and for green feed, but none of the writers have, so far, tested it as an ensilage crop. The following are a few extracts:—

"We have been feeding millet hay for five years, principally to young cattle and cows, and have never yet had a case of abortion that could be attributed to the feeding of millet hay. The millet crop, hay and seed, promises great things for the North Dakota farmer, and we shall be very slow in condemning its use in feeding horses and cattle. I never saw any ill effects from the feeding of millet, where care was taken at first by feeding very light."

An Oklahoma man says:

"I will say that I have fed millet for fifteen or twenty years, to all kinds of stock, and consider it one of the best grasses which we can cultivate here in the West, if properly harvested and fed; but millet over-ripe and full of seed heads is dangerous in the hands of an ignorant or careless feeder."

A voice from Nebraska says:

"The more millet the better. I find the steers like it, and never tire of it; but I must start them gradually at first, and then let them have all they will eat, and the more seed in it is better. I fed it to my stock cattle, calves, cows in calf, horses, hogs, and everything that will eat it, and they all do well. I have been in the stock business for ten years, and have fed millet every year, and never had but one cow lose her calf, and that was caused by a dog running her a mile (the dog met with a loss, too).

In Indiana a man reports as follows:—"I have used millet for five years, and would rather have it than any rough feed I have ever used. Last winter I wintered my cattle on it without any grain."

A farmer from Wisconsin says that millet carried him through the winter. Owing to the severe drought of the summer, the grain all failed. He sowed German millet as late as July 2nd, and wintered nine horses, three mares in foal, twenty-six cows, eight calves, twenty sheep, ten pigs and sixty chickens, on nothing but millet.

We would caution our readers to use great care in their selection of millet and Hungarian grass seeds to obtain that which is pure and free from fowl seeds, as much mustard and similar weeds have been introduced into Manitoba and the Northwest in this way. To such an extent was this the case that in some sections every farmer who was growing millet could be pointed out at a distance by means of the yellow mustard blossoms in the crop.

## How to Make Better Roads.

BY W. A. HALE.

That bicycle clubs should have been the first to call public attention to the unsatisfactory state of country roads generally, or at least the first to take active and practical steps towards their improvement, seem to show how slow we farmers are in joining together to bring about any needed reform, however important it may be to our own personal interests. The League of American Wheelmen in 1891 offered prizes of \$20.00, \$30.00 and \$50.00 for the best collections of photographs showing "badness of bad roads," such as "the common spectacle of the farmers' waggon, hub-deep and knee-deep in the mud," etc., and also a collection "showing smooth hard roads and teams hauling loads over the same"; copies of some of these photographs I have seen, and they all clearly illustrate what I shall further try and prove, viz., that, as a rule, the best country roads are moderately wide, while the poor ones generally have a greater width between the ditches than the road taxes are able to maintain.

In the United States many municipalities have employed engineers to make estimates of the cost of thoroughly macadamizing their principal thoroughfares, borrowing money on debentures at 5% to enable them to do the work, and in most cases have found that when well done, they have at once and for all time a first-class road, the annual saving in repairs of which far more than exceeds the interest and sinking fund on the money borrowed.

Another scheme is being proposed, and one which, in the near future, will probably in many localities be successfully carried out, and that is that electric railways combine with country municipalities in building tramways to be used by public vehicles as well as electric cars on the main roads leading to and from towns and villages where traffic is sufficient to warrant the same; but over a large area of Canada, and for many years to come, a more economic plan than either of the above must be adopted, and I know of none that is so likely to succeed as the employment of a road making machine. Doubtless there are various patterns of these machines, but the one that I have had several years practical experience with is called the "American Champion," and as it is now made in Ontario, can be bought at first cost without the addition of duty, the price being \$250, and to say that the machine will, in any ordinary township, more than pay for itself in one year is putting it very mildly. Some of our more enterprising municipalities have purchased one or more of these machines, and have taken upon themselves the principal part of the making and repairing of the municipal roads, giving the residents a chance whenever possible of working a part of their road tax in statute labor, and while the roads are uniformly very much improved the annual amount actually expended on them has fallen to from 75 even to 30 per cent. of what it used to cost to keep up an indifferent set of roads by the old method. I have had impartial reports from contractors and superintendents of corporation roads as to the capacity of these machines in rounding up and making roads, and the most conservative of them have put it as being equal to the work of fifty men with picks and shovels, even after the ditches may have been ploughed out, and the quality of the work done is so superior to this old-fashioned ditch-cleaning method of mending roads, that few who have seen the comparison would be willing to submit to the primitive plan necessarily adopted by the earlier settlers. Four horses will work these machines, but six are better. They are remarkably strong and very easily handled. Of course, where there are large stones or boulders it is best to remove as many as possible before using the machine; but still, the mould-board is so easily and quickly raised and lowered that there is very little trouble in passing over boulders, ledges and even stumps. And where a fair amount of grubbing has been done it is wonderful what satisfactory work it will accomplish, even where it has to cut its way through good sized roots. In working these machines, it has been found that, as a rule, the ordinary country road is not only too flat, but much wider than there is any necessity for, or than can be satisfactorily kept in good order. And also, that the ditches are too deep and narrow, and not of the proper slope; and that between the ditch and the road track there is a strip of sod, weeds, raspberry bushes, &c., &c., on each side. Now, where the road machine can find soil enough to work upon within these strips of grass, it is often best to leave them and to make the road inside them in the form of a low, flat arch, gradually rounding it up, and leaving a shallow ditch on either side, (of which the road itself forms one side), and into which, if necessary, it is possible to drive without upsetting. Then, with a strip of gravel ballast seven or eight feet wide in the middle, such a road is formed as would gladden the heart of the most fastidious, be he a light driver or a heavy teamster. And one, too, that can year by year be easily repaired and improved with increasing ease by the occasional use of this machine. Where the road bed is narrow and the grass strips at the sides have to be taken in, it is generally best not to scrape them into the middle of the road, where they at best form little else than mud or dust. But by reversing the set of the mould-board they can be stripped off or pushed outwards, into or across the

old ditches, and only the firm soil underneath brought into the road. It is always advisable to let one man take charge of the working of the machine, and travel with it from one road district to another, and always with the same pair of pole horses, taking the additional teams from the settlers of the various districts so as to give them the chance of working in their horses, provided always that these extra pairs are strong, willing workers.

For making roads across hillsides, these machines are admirably adapted, and the amount of work that they can accomplish in a day in this way is something marvelous. The mould-board is so arranged as to work both going and coming across a slope, and also to work on either side of the road while coming down a hill. As a proof of the good work they are capable of doing, I have found that those municipalities which do not own one are quite willing to pay \$5.00 a day for the use of one, besides paying for the caretaker and the teams to draw it, and until we can afford to make macadamized roads at a cost of from \$1,000 to \$2,000 a mile, I believe there is no other method that will come so near perfection as by using a six-horse road machine, supplementing the work by gravel ballast.

## New Departures in Agriculture.

In a recent address the Hon. John Dryden, Provincial Minister of Agriculture, stated what he considered to be the branches of agriculture to which the farmers of this Province might successfully turn their attention at the present time. These were fruit growing, dairying, stock raising and the poultry industry. After briefly reviewing what his Department had accomplished in the past, he proceeded to outline some new departures for further development along the lines he had indicated. He stated that one direct result of the Chicago Exposition had been to attract the attention of American buyers to the superior quality of Ontario's fruit, the excellence of which long ago won for it a front rank in the British market. A greatly increased demand was therefore probable in the near future, and with this in view he had asked the Legislature for a grant of \$1,000 in order to place such information on the subject of fruit culture in the possession of the farmers as will enable them to take advantage of it. For this purpose it is proposed to establish Experimental Fruit Stations in different sections of the Province. It was pointed out that the project is of a simple, practical kind, not involving any large expenditure and yet designed to supply the farmers of each district with reliable data concerning the varieties and methods best suited to their particular requirements. To begin with, four or five stations are to be organized. The intention is to select practical men—specialists in fruit growing—as experimenters, and distribute to them from time to time such varieties of trees and plants as may be suited to their sections. These they will plant upon their farms and take special care of, and in due time they will report to the Department the results for publication. The trees and the fruit will become the property of the experimenters, who will be allowed, in addition, a small annual fee of about \$100 each to cover the extra expense. A board of control, consisting of the President and Horticulturist of the Ontario Agricultural College, and three representatives of the Fruit Growers' Association, will direct, with the approval of that Association, the line of work to be pursued. Each experimenter is to act in conjunction with the director of the Fruit Growers' Association representing his district, these two forming a local executive. The Horticulturist will visit the stations at suitable periods to generally supervise the work and to secure any information that may be available for publication in bulletin form. The Fruit Growers' Association has for some time been carrying on a system of experiments by the distribution of seeds and plants, and as the experimenters are to be selected from among its members, these gentlemen will be in a position to give to the Department the results of the work they have hitherto engaged in, which will be at once utilized. The following stations and experimenters have already been selected:—One in Wentworth—Mr. M. Pettit, experimenter, Winona; one in Essex—Mr. W. W. Hilborn, experimenter, Leamington; one in Simcoe—Mr. G. C. Caston, experimenter, Craighurst; one in the Bay of Quinte District—Mr. W. H. Dempsey, experimenter, Trenton. If these succeed others will be arranged for other sections.

Should the exigencies of the future demand it, as they at present seem to indicate, Mr. Dryden has also in view the providing of increased accommodation for students in dairying, an appropriation for which was voted at the recent session of the Legislature.

As regards the live stock interests, an additional grant of \$150 has been made to the Dominion Sheep Breeders' Association to enable that organization to meet the expenditure necessitated by the important work it has in hand.

Regarding the poultry industry, preparations are being made to give instruction in this department at the Agricultural College for the benefit of those who may desire it. Buildings for the accommodation of poultry are now in process of construction. We are also informed that the report of the Ontario Poultry Association is now ready for distribution. It is well illustrated and contains this year some valuable information on the subject of poultry on the farm. It may be obtained free on application to the Department.



## Popular Geology.—No. 5.

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

Among the chief agents of denudation are: the atmosphere embacing the effect of oxygen, carbonic acid, wind and vapor; water as rain, river, lake, sea and ice; life as animals and plants. The result of one or more of these agents during long periods of time is very effective in breaking up rock and producing material for the formation of soil. We shall now consider how these forces act upon the earth's crust.

**Oxygen.**—The air contains twenty-one per cent. of oxygen, an element that has a very strong affinity for nearly all other elements, and especially for iron, a very common substance in rocks, notably igneous and metamorphic; with this it unites and forms a compound of iron of much importance in the soil for plants. The withdrawal of an element or compound from a rock immediately leads to its disintegration. Boulders by the wayside are often seen illustrating this silent change by the rusty streaks upon their surface. Where rocks show this presence of oxygen combining with iron, it is only a matter of time when the boulder will be a heap of loose material, serving as a contribution to the soil beneath it. Iron is one of the most susceptible elements in bringing about the disintegration of rocks, whether it be combined with oxygen as an oxide or with sulphur as a sulphide. Oxygen exists in the air, mixed with nitrogen, and not chemically combined, consequently it readily separates from it to unite with other elements.

**Carbonic acid.**—This is always in the air, and it, too, is a powerful disintegrating agent in the presence of moisture, especially upon rocks containing carbonate of lime, magnesia or iron. With these, insoluble in water, it combines and forms bi-carbonates, soluble in water; and thus, while breaking up the rocks, it at the same time supplies food in solution for plants.

This process is well illustrated by taking some clear lime water and passing carbonic acid into it (simply breathing into it through a tube will show it); the water becomes milk-like, and if allowed to stand a short time, a chalk-like sediment will form; this is carbonate of lime, insoluble in water. Now, if more gas is added, in a short time the sediment vanishes and the water clears up, because the insoluble carbonate of lime has changed to bi-carbonate of lime, soluble in water. There is just as much lime in the water as before, but it is now invisible. This change is going on constantly where carbonates are in the soil.

We observe how rapidly the inscriptions on marble tombstones become obscure; no doubt largely due to this solvent action of carbonic acid associated with rain.

It also has the power to remove from feldspars and other hard rocks some of the compounds of lime, soda and potash, forming carbonates, and leaving clay as a result from the rock disintegrated.

Hard as granite is, in time it falls to pieces before the decomposing power of carbonic acid. Even slate, in some cases, undergoes dissolution in a somewhat similar manner. In this compound we have not only a powerful agent in the destruction of rock, but also a great provider of soluble material suitable for plant food.

**Wind.**—The effect of wind is seen more especially in districts where sand is common, or along the seashore, where particles of sand blowing constantly against rock do in time beat holes in it, which enlarge and bring about results in rock destruction almost incredible, were they not borne out by actual facts. The shifting of the "sandhills" in Manitoba, near Brandon, and those of Prince Edward County, Ontario, are also illustrations of what wind may do as a denudating force.

**Rain.**—It is not difficult to understand how rain may be a powerful factor in grinding down rock, both as a mechanical and chemical force. Every rainstorm lays bare much surface, by simply washing away fine material from the hillsides to lower parts, and thus exposing fresh surfaces for further wear; then, by its solvent action, both as pure water and as water containing carbonic acid, its effects upon rock are very great. All rain contains more or less of this acid, derived, some from the air and some from the soil through which it passes.

**Rivers.**—The influence of rivers, as denudating agents, will depend upon their length, volume, slope and the nature of their bed and banks. They also act mechanically and chemically. In their course they form "valleys of denudation"; these have strata of the same character on opposite sides. A few rivers may be given here to illustrate what important agents they become in denudation:—

Niagara River has cut its way through a bed of rock over 160 feet thick, a distance of seven miles. It is estimated that the falls recede three feet annually, and were at Lewiston 15,000 years ago.

The Mississippi deposits at its mouth annually 7,471,400,200 cubic feet; this is sometimes represented as equivalent to 50,000 acres of sediment three feet deep; the delta at its mouth contains 13,000 square miles, 528 feet deep. The Ganges has deposited a delta equivalent to 20,000 square miles. Egypt is the gift of the Nile, and Holland the contribution of the Rhine to Europe. The Colorado canyon is 300 miles long, 3,000 to 6,000 feet deep; that of the Yellowstone River, twelve miles long, 1,200 to 1,500 feet deep. The Mammoth cave, in Kentucky, with its 23 avenues, averaging twenty-one feet in height and width, representing 150 miles of underground passages, is largely the work of a subterranean river since Miocene days. To-day, after tread-

ing your way for nearly three miles, you come to the Echo River, upon which you can sail for a mile, and embarking, continue your journey for six miles further along these strange avenues, shrouded in eternal darkness and gloom.

By the action of this extinct river, five galleries have been worked out, equivalent to the removal of 12,000,000 cubic yards of limestone. Such examples at once impress us with the striking results effected by rivers in transporting sediment and disintegrating rock.

**Lakes and Seas.**—The effect of large bodies of water upon a rocky shore is seen by the formation of "outliers" and caves; the former result where the waves succeed in separating a portion of the main rock by cutting around it and causing it to appear like a detached rock in the water.

Caves may be formed in four ways: (a) By the elevation of rock, as in many parts of the Blue Mountains, Virginia; (b) along the shore, where a place is exposed to the action of the waves, as Tual's cave, Isle of Staffa; (c) by subterranean rivers, as the Mammoth Cave, Kentucky, or the Wyandot of Indiana; (d) sometimes beneath lava beds.

## QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail, in cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

## Veterinary.

## FAILURE IN MILK SECRETION.

**W. B. BROWN, Tarbert:**—"We have a very peculiar trouble with the cows in this neighborhood. There are a number which have no milk at the time of calving, though they have been well-wintered, some on hay and roots and others on hay and grain. The cows are in first-class order and seem healthy in every way save the fact that no milk can be obtained from cows which gave a large quantity last year. There is no inflammation of the udder or any apparent cause for the trouble."

Not being able to diagnose the case from the information given in the above letter, we wrote asking for a fuller description of the symptoms. In his reply Mr. Brown stated that the cows affected had been fairly well wintered on hay and roots, while others, on precisely the same feed, are doing well. The hay appeared to be all right; part of it was June grass and was cut on the ripe side. His letter was accompanied by the following communication to the ADVOCATE from his local veterinary adviser, Dr. Appleyard, of Grand Valley, Ont.:

"Agalactia, the name of the disease, or rather neurasthenia, first appeared in this neighborhood two years ago last spring, both mares, cows and ewes being affected, the former to such an extent that nine folds out of every ten born before the 15th of May died from the want of proper nourishment. This spring cows are affected most frequently. Almost every day somebody applies to me for medicine to cause the milk to flow. I am not able to give the causes of this trouble, as it affects cows in all conditions; those that have been well stabled all winter and are in good flesh have been troubled as frequently as those in more unfavorable condition. The breed appears to influence it very considerably, grade cows ranking first in the percentage of those attacked. I have never seen a Jersey cow affected, and Holstein and Durham cows appear to rank between the grades and Jerseys. This condition may be described as a neurasthenia, or a not to be explained condition of the nerve centre governing the mammary gland. During pregnancy the overplus of nourishment taken into the system by the cow is directed to the growth of the foetus. After calving this overplus is directed to the mammary glands to produce milk for the maintenance of the offspring.

I have not treated any of these cases further than advising to feed on bran mashes and boiled oats, milk the cow three or four times a day and rub with brandy or some other stimulating liniment.

The only medicines indicated are nerve tonics, such as preparations of phosphorous, iron and strychnine.

Fresh grass is the best milk-producer at this time of the year, and is of more value than any medicine in cases in which there is no apparent disease.

The disease which has been so very thoroughly described in the above letter is one about which very little is known, either as to cause or remedy. It was first noticed in this section about two or three years ago. I have been called upon to treat a large number of cases during the past season. The disease is supposed to be due to a fungus on the stalks and leaves of oats and grasses, especially June grass and coarse swamp grass. The presence of this fungus is shown by a slight roughness of the stalks, but in many cases this is so slight as to be invisible to the naked eye. There is no remedy known for either the fungus disease or its effects upon cows. In my practice, however, I have been very successful in giving doses of Epsom salts, which have a stimulating action upon all the glands of the body, the mammary glands included. Give from a pound to a pound and a half every three or four days, according to the size of the cow and the effect which it has. Care should be taken not to bring on too excessive purging. This

treatment should be persisted in until an improvement is noticed. It would be well to change the feed, giving as little of the June grass, swamp hay or oat straw as possible. In this district, when called upon to treat a cow for this disease, we almost invariably find that they have been fed upon oat straw.

J. H. TENNENT, V. S.,  
London, Ont.

## INJURED HIPS.

**TYSON BARNES, Hampton Station, N. B.:**—"I have a Jersey heifer, 2-year-old, which calved about a fortnight ago. Since calving she seems to have lost the use of the left hind leg from hip down. She did not eat anything for two days after calving. She is swelled from left hip to root of tail. Have bathed her leg with turpentine. I feed her English hay and middlings."

Owing to the early age at which the heifer calved, the swelling and lameness is probably due to some injury to the hip bones at the time of calving. In the young animal the bones which form the pelvic arch are not completely ossified, being joined together by cartilage. In calving, this cartilage is liable to be torn or strained. The heifer will likely recover in a short time, but the hip-bone may be permanently lowered, or if a serious case, the leg may be dragged somewhat. Keep her as quiet as possible; foment with warm water and apply a good stimulating liniment to the hips. A good one may be composed of the following ingredients:—Ammonia, 8 drachms; turpentine, 2 drachms, and sweet oil, 8 ounces.

J. H. TENNENT, V. S.,  
London, Ont.

## PREVENTING THE GROWTH OF HORNS.

**W. H. TEETER, Barrow Bay:**—"Will you please send me the best and easiest method or receipt for stopping the growth of horns on calves?"

This question was fully answered in our issue of Sept. 1st, 1893, caustic potash being the remedy recommended.

## SHEEP SWELLING UNDER THE JAW AND SWELLED LIPS.

**R. H., Pender Island, B. C.:**—"This winter I had a few of my sheep that had a soft swelling under the jaws, which caused them to fall away in their feeding and flesh; also during the past winter I had some sheep that swelled in the lips, and my neighbor's sheep took it in a much severer form; their lips festered and bled, but the disease went away just as suddenly as it came, leaving no visible effects. Please tell me the cause of both diseases and prevention remedies. I do not find in 'Randall's Practical Shepherd' a satisfactory explanation of either of these particular ailments."

Both the ailments are slightly epidemic, but, as was the case in this instance, not as a rule serious in their nature. For the lip trouble, applications of sulphur and lard or sulphur and tar are recommended, and for the swelling, hot fomentations. As soon as any cases are noticed separate the animals affected from the others, and treat as directed. Outbreaks of this kind have been noticed on returning from the fall exhibitions. If allowed to run on until lambing time, the results may be more serious.

## A DEAF HORSE.

**E. T. GORRELL, Pilot Mound, Man.:**—"A week ago I went out shooting, driving a good six-year-old horse; only fired three shots; the last one appeared to frighten him very much, and next day he was so deaf he could not hear a person's voice unless close to his head, and that frightened him. Can anything be done to cure the deafness?"

If the deafness was caused by the discharge of firearms close to the ears, it will most likely only be of temporary duration, and no treatment, medical or otherwise, will be necessary.

W. A. DUNBAR, V. S., Winnipeg.

## BROWN-COLORED MILK.

**C. FIDLER, Reaburn, Man.:**—"A cow just calved gives brown milk. It is her fourth calf; she eats and drinks all right, and is otherwise well."

We suppose you have made due allowance for the normal color of the first milk after calving (colostrum), which is of a deep yellow tinge. The brown color of the milk is due either to congestion, inflammation or some other abnormal condition of the lacteal system. If the milk does not become natural in color in four or five days after calving, the cow should be given the following purgative:—Epsom salts, one pound; nitrate of potassium and ground ginger, of each half an ounce; treacle, one pint; dissolve all in one quart of hot water and give in one dose. Follow this up by giving in bran mash every night for a week, bicarbonate of potassium, half an ounce.

W. A. DUNBAR.

## HEAVES.

**SUBSCRIBER:**—"I have a colt three years old, which has had a cough about three months. It is very short of breath, and acts as if it had the heaves. What remedy would you advise?"

Give a ball composed of seven or eight drachms aloes, according to the size of the animal, and then give the following powder every night in his feed:

One drachm nitrate of potash, one drachm digitalis, pulverized, and half-drachm tartarized antimony. If the animal is turned out on the fresh grass, it will probably relieve him greatly. Hay and bulky feed should be fed in small quantities, and care should be taken to see that it is clean, sweet and free from dust. It will be better to moisten the feed slightly.

J. H. TENNENT, V. S., London.



## Miscellaneous.

## THE BEST BREED OF PIGS.

J. MOSES, Osgoode:—"Will you let me know through your valuable paper what breed of pigs are really the best, and whether the Berkshires or Poland-Chinas come to maturity first."

This is a very hard question to answer, as it is much the same as the question which crops up at all dairy conventions—which is the best breed of cows? Much depends upon the care, feed, attention, locality and market requirements.

## THE KERRY COW.

J. C. PENROSE, Port Sidney:—"Will you kindly let me know through the columns of your valuable paper the names of breeders of Kerry cattle?"

We do not know of any person who is breeding them in Canada, and would be glad if some of our subscribers would answer this question.

## DOES BUCKWHEAT ENRICH THE SOIL?

The question is asked:—"Does buckwheat enrich the soil, as in some sections it is regarded as an improver of poor soil? Does it add anything to the productiveness of the soil, and if so, in what manner?"

We cannot do better than give the answer to this question which was given by such a well-known authority as Prof. Roberts, of Cornell University:—

"Buckwheat does not add any fertilizing material to the soil, as it is not a nitrogen gatherer, but, from the fact that the land for this crop is usually prepared in warm weather, it gives opportunity for nitrification to take place, and thereby makes the plant food available. The tap root of the buckwheat plant does serve to bring the ground into a good mechanical condition. This, of course, would improve the productive power of the land; so, while it may be said that buckwheat does not enrich the land, it does under many circumstances so improve the mechanical conditions that subsequent crops do better than they do after many other crops. A good buckwheat crop is due more to the condition of climate than of soil. It has the power of taking up and assimilating tough plant food; that is to say, food that cannot be reached by such plants as wheat and barley, which require that their food be in the best possible condition; that is, readily soluble. This peculiarity of the buckwheat plant, in common with some others, is due, as it is supposed, to the power of the roots in excreting materials which act upon the plant food in the soil, although this has not been proved. Usually buckwheat is raised on rundown farms in this locality, for the object of bringing up the land on which other more exacting crops cannot be raised. If the farmer will cast in the fertilizers with a liberal hand, I can see no reason why a buckwheat crop may not only be profitable, but improve the land for other crops. Perhaps it is not known that corn does not do well after buckwheat.

## SYMPTOMS OF TUBERCULOSIS.

DAIRY FARMER:—"Would the ADVOCATE inform me what are the symptoms of tuberculosis, and how I can determine if a cow is ailing from that disorder?"

In the chronic cases the disease may last for months or years unperceived even by a skillful veterinary surgeon; in acute cases it may prove fatal in a month. In early stages the cause of suspicion may be an occasional cough when the animal leaves the hot stable for the cold outer air, when it is suddenly raised in the stall, when it is run a short distance, when it drinks cold water or when it eats dusty food. The cough is usually small, dry and wheezing, and may be repeated several times. When run or driven rapidly the animal proves short-winded. At this time the animal may show as good spirits, as mellow a skin, as good an appetite, as rich and abundant a flow of milk, and as much propensity to fatten as its fellows. "In the advanced stages of lung tuberculosis," says Dr. Low, "everyone can recognize the consumptive animal. It is miserably poor and wastes visibly day by day, the dry coat of hair stands erect, the harsh scurfy skin clings tightly to the bones, the pale eyes are sunken in the sockets, tears run down the cheeks, a yellowish, granular, foetid and often gritty discharge flows from the nose, the breathing is hurried and catching, the breath foetid. The cough is weak, painful and easily roused by pinching the back or breast or striking the ribs. Tapping the ribs with fingers or fist and applying the ear detect far more extensive changes, including in many cases evidences of blowing into empty cavities (vomicæ) and loud gurgling. Temperature may vary from below normal to 107° Fahr."

The hypodermic injection of tuberculin is the only test known at present which will give evidence of the disease in the incipient stages. This causes a rise of three or four degrees in the temperature of an affected animal. That it is an infallible test is disputed by some.

## DAIRY.

## Handling Saturday Night's Milk.

A cheese factory patron writes us as follows:—"Our cheese factory was a couple of years ago, at considerable expense, fitted up for winter butter-making; but I notice that the plant lies idle all summer long, which is neither good for the separator, etc., nor the shareholders. As has been the case in the past, a great deal of milk is sent in on Saturday nights; more so, perhaps, by the larger patrons, who have not arrangements made for cooling and holding over a great quantity of milk till Monday morning. This plan involves the factory staff working Saturday night and a great part of Sunday. Patrons who do not countenance operating the factory on Sunday manage, by a little extra work and trouble at home, to hold their milk over till Monday morning, when four milkings are sent in at once. This is, however, not altogether satisfactory. Could we not have our Saturday night's milk made into butter, and so get over the entire difficulty?"

Certainly. The Culloden cheese factory, in the Brownsville combination, overcame the difficulty in that very way. Making butter in the summer at Culloden gave splendid satisfaction to the patrons, who would not think of going back to making cheese Saturday nights. They found it necessary to have a good supply of ice, though the maker, Mr. Barr, thinks it might be done without, if there was a stream of good, cold water running through the factory; still, he would prefer the ice. The Saturday evening's milk is run through the separator, and by 10 o'clock all work is done. The cream is held over till Monday afternoon (ripening in the interval), when it is churned. Each patron is at liberty to take out butter for his own use, so that he is never troubled churning in the summer; or he may take out all that his milk makes, and dispose of it himself. The company charges 4 cents per pound for making, selling, etc., and, we understand, have this summer's make all contracted in advance to an Ingersoll firm, at 23 cents per pound. Their late fall and winter butter, of course, sold higher. The winter butter business was very satisfactory to all concerned, the patrons realizing about \$1.00 per hundred for their milk—some more, others less, as they were paid by the Babcock test. The business also paid a good dividend to the shareholders. With regard to the skim milk, the patrons waited and took it home as soon as separated, both summer and winter, so there was no trouble on that score. We are pleased to be able to afford our readers this information, not only because it is a complete solution of the Sunday labor question, where a factory is fitted up for butter making, but is also strong testimony in favor of winter butter dairying.

## Cleanliness in Relation to Cheesemaking.

BY J. A. RUDDICK, OF THE DAIRY COMMISSIONER'S STAFF, OTTAWA.

It is sometimes said that any improvement which may be made in the quality of Canadian cheese in the future will depend very largely upon the amount of care and cleanliness observed in handling the milk and manufacturing it into cheese. On the other hand, it is claimed by some that the art of cheesemaking is shortly to be revolutionized through the agency of the science of Bacteriology. The former view implies that the principles which underlie the processes of cheesemaking are pretty generally understood, and that very little more is to be discovered along that line.

My impression is that if every precaution were taken to protect the milk and curd from taints or contamination, either from the air or imperfectly cleaned vessels in which it is handled, the scope for the work of the Bacteriologist in the field of practical cheesemaking would be confined within very narrow limits. It seems, however, that it is impossible to protect the milk perfectly, and it is to be hoped that science will come to the aid of the cheesemaker by helping him to overcome, in a measure at least, the trouble caused by taints and injurious ferments so common at certain seasons of the year. Nothing practical is forthcoming yet along these lines, and we can only turn our attention in the direction of minimizing the trouble by studying the causes of bad milk and seeking to remove them as far as possible.

As to the patrons' obligations in this connection, I shall touch upon one point only—that of properly cleaning the milk vessels, especially the milk cans. Dirty cans are the source of much bad milk, and where the whey is taken back in them they constitute a medium by which injurious fermentations may be propagated from day to day in the milk and cheese. It will pay to remove the whey from the cans as quickly as possible after it is returned, in order to prevent the acid which it contains from eating the tin off. The milk in a "rusty" can always has a very bad flavor, and it is next to impossible to keep such cans clean. Cans should be thoroughly washed inside and out with tepid water to remove all visible traces of milk or whey (a little washing soda added to the water is very beneficial), and then scalded to kill the invisible germs or or-

ganisms, which no amount of washing with mere warm water will destroy. The scalding water must be scalding hot in order to be any use at all, and I believe that very, very often the water used is not hot enough, and it is one of the most serious shortcomings in our dairy practices. When the cans are washed long distances from the house, as they sometimes are, they are never scalded, because the water cools in being carried so far. Of course the above applies to all milk vessels as well as to milk cans.

It is one of the evils of the co-operative system of dairying that the negligence or carelessness of one patron may nullify, to a certain extent, the efforts of those who try to do right, but it is not true, as is sometimes supposed, that one bad can of milk makes a whole vat quite as bad as it was. It will have a proportionate effect—nothing more. Every can of milk well cared for and in good condition improves the quality of the pool; if it were not so there would be little encouragement to any one to take any pains in the matter, and the theory of "one bad, all bad" has done a good deal to discourage people from doing their best.

And now, coming to the cheesemaker, I may have to say some things which, as a maker myself, I would rather leave unsaid, but as I will confine myself to facts within my own knowledge—facts gleaned by personal experience—I trust that my remarks will be received as coming from one who earnestly desires to see the work of making cheese placed on the highest possible level.

Many of our makers, by a little care and attention, succeed in keeping their factories and their surroundings in excellent shape, but there are a great many who fall far short of the ideal in this respect. It is from the latter class that we hear the loudest complaints about tainted milk, and neglect of patrons in taking care of it, etc. Now it is a fact, that the man who keeps a dirty factory is much more likely to receive bad milk than the man who attends to these matters closely. The example and moral influence goes a long way, and it is very natural that the patron who sees everything about the factory, including the man himself, neat and clean, will take more pains in doing his share of the work in a like manner.

Taints or bad flavors in cheese do not all have their origin on the farm or in the milk cans, but there are many sources in and around the factories, such as dirty weigh cans, conductors, vats, strainer and sink cloths, and last, but not least, dirty whey tanks when the whey is returned. During the progress of some investigations carried on recently in England, a peculiar mould, not visible to the naked eye but injurious to the flavor, was found in the cheese, and after diligent search it was found to come from a whey spout leading to the tank, which had one end opening into the factory.

Then there is that abomination, the hot water tank, into which all kinds of dirty pails are dipped, curd knives and other utensils washed off in, until the contents become very foul indeed. Our most careful makers now have the hot water tank placed high up from the floor, and draw off the water by means of a large tap, never allowing anything to be put into the water to pollute it.

As a mere matter of labor, it will pay to attend to these things; for instance, the time taken to clean the whey tank once or twice a week will be more than compensated for by improvement in the condition of the milk.

A man who keeps a dirty factory can never attain to the front rank as a maker. All the most successful makers in Canada to-day are men who are noted for having everything about their places scrupulously clean. No qualification of a maker goes farther or helps him more to establish a reputation for himself. Let the young men starting out bear this in mind.

Taking a general view of the question of cleanliness in relation to cheesemaking, let us look abroad for a moment and see what strict observance in this regard has done for other parts of the world. It is a well-known fact that certain sections of England and Scotland produce cheese of very fine quality. Now these cheeses are made on large estates, where everything, including care of milk and making the cheese, is under one control, and attended to in the best possible manner. To borrow an illustration from the butter industry, look at Denmark with her unrivalled reputation for fancy butter, mark the high prices obtained for it, and then consider that the cleanliness of Danish dairies is proverbial.

When we have learned to practice a greater measure of this virtue, which is said to be next to godliness, in our cheese factories, the local consumption of cheese will be very much increased.

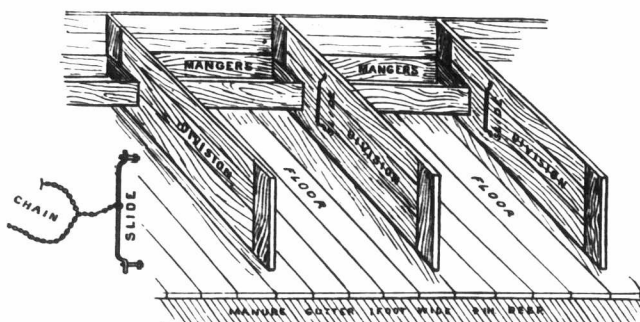
"We believe the day is not far distant when a premium will be paid for milk run through a separator for family use, the cream and milk put together again and the rest thrown away. We made an inquiry of a man that runs a large creamery near here, as to how much dirt, etc., he thought came out of a thousand pounds of milk as it generally comes to the creamery. He thought it would be safe to put it at one pound to the one thousand pounds of milk. If that is the result with country milk, what must the milk be that comes from those filthy hovels near those cities? The matter of running milk through a separator for family use is already talked of by some prominent dealers in Milwaukee." Geo. Hodson, in Hoard's Dairyman.



**Stall Fastenings for Dairy Cows.**

BY GEORGE REBURN, ST. ANNE'S, P. Q.

I would by all means advise the use of the chain in tying cattle. After twenty years experience, I have found this to be the best way. I shall never forget the first time I saw cattle fastened in stanchions; it reminded me of the pictures that I had seen of the way prisoners were punished in the olden times by being put in the stocks, and I cannot understand how any enterprising breeder would for one moment endure it in his buildings. The way we fasten our Jerseys is by a chain sliding up and down on an iron rod, made with 3/4-in. iron, twenty inches long, bolted to the side of the division top and bottom. All our cows are in single stalls (which is by far the best) four feet wide by seven feet in length, including manger; the divisions are six feet long, three and one-half feet in height at the cow's head, and three feet behind; this is sufficient to separate them, and does not hide them in the least. The divisions are made with



one-inch planed T. & G. boards; posts at each end three by six and grooved sufficiently to allow the board to be sunk into the post. Opposite where the rod is we put a one-inch board on end between the planed boards, so as to have it solid to hold the bolts firmly. This gives a perfectly smooth division three inches thick, and no posts projecting to rub the skin off the animal's hips when it lies down. Our mangers are made so as to slide out like a drawer; they are about four inches above the floor and can be removed at any time to remove any foul stuff that has gathered. We have the front of the stalls boarded up with one and one-quarter-inch boards, but if water is kept in front of the cows a slide will have to be made above the manger so as to feed by it instead of over the top. This is easily done by having a one and a-half inch plank one foot wide, at an angle of forty-five, just above the manger and fastened at every division with iron.

When I make my nightly visit to the stables and notice the comfortable way in which the cattle are resting, with their heads curled round just the same as if they were on pasture, I am satisfied that the chain is by far the best and most humane way.

[NOTE.—Where the stalls are double the one pair of bolts through the division will serve to hold two upright iron rods, one for the cow on each side. Other readers may have in use stalls and fasteners which they prefer to the one described by Mr. Reburn; if so, we would be pleased to receive a detailed description of same, accompanied by a sketch for publication.—Ed.]

**Opening Meetings of Cheese Markets.**

The Woodstock Dairymen's Board of Trade held its first meeting May 9th. There was a good attendance of salesmen and buyers. The old Board of Management were re-elected, with Mr. J. Anderson as president and Mr. H. S. Loree as secretary.

A communication was read from the Secretary of the Western Ontario Dairymen's Association, recommending certain resolutions concerning the rules governing the selling of cheese for the consideration of the members.

The resolution asking that one-half pound be allowed over and above the weight marked on the box was passed, providing the other markets in the west adopted the same regulation. The scheme of compelling members to sell cheese on the markets only was not so favorably considered. The call system under last year's regulations was again adopted. A resolution was passed arranging for the holding of the market on Tuesday instead of Wednesday, providing the Ingersoll Board could be induced to hold theirs at an earlier hour, so that both markets could be held on the same day. Mr. J. W. Wheaton, London, addressed the meeting.

About 1,500 boxes of cheese were boarded, and were all sold at prices ranging from 10c. to 10 1/2c. They were chiefly the first twelve days of May.

LONDON.

There was a good attendance at the opening meeting of the London Cheese Board on Saturday, May 12th. Of the 500 boxes of cheese boarded, 450 were sold at prices ranging from 10c. to 10 1/2c. The first business was the election of officers, when Mr. J. S. Pearce was chosen as president; F. D. Morton, vice-president; J. A. Nelles, secretary-treasurer. The same circular which was submitted to the Woodstock Cheese Board was then laid before the meeting, and occasioned a lively discussion. It was finally decided to leave the decision over until the first meeting in June. At the close of the meeting a vote of thanks was passed to Mr. John Geary, the retiring president. In his reply, Mr. Geary pointed out the necessity of a policy of strict honesty in quality, for both patron and maker, if our cheese business was to prosper.

**GARDEN AND ORCHARD.**

**Strawberry Culture.**

The strawberry is one of the most easily grown, delicious and healthful of all small fruits, and constitutes a refreshing change after the more heating diet of winter and spring. A very small plot of ground will produce more than sufficient for a large family, not only during the ripening season, but for canning. Any soil which will grow good vegetables will produce strawberries in abundance. If the plants are set out in rows so that most of the work may be performed by horse labor, very little other attention will be required. The best plan is to get the plants from the nearest strawberry grower, and if not posted, allow him to choose the varieties for you. This plan is much better than sending off to some distant nursery and paying high prices for newfangled varieties about the merits of which very little is known. The plants may be set out either in the spring, summer or fall, but in either case the land should be well prepared by previous plowing and manuring. There are both perfect and imperfect flowering varieties of strawberries—the former will bear if set alone, but the latter require some of the perfect plants near to fertilize them. The best plan is to set them in alternate rows.

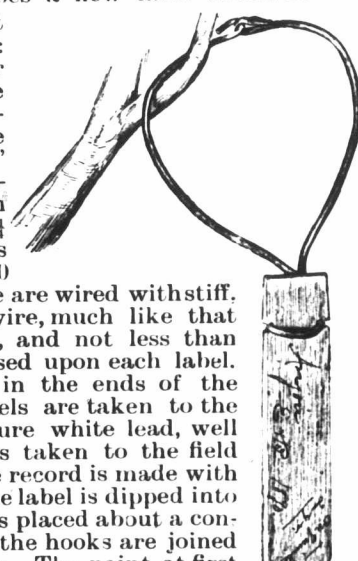
Mr. Benjamin M. Smith, after having thirty-three years experience in the cultivation of strawberries, gives his conclusions in the Rural New Yorker, as follows:—

"If set in the spring on land highly manured, thoroughly pulverized, in rows from 3 1/2 to 4 feet apart, with plants about 12 to 15 inches in the rows, I would always plant between the rows of strawberries, dwarf peas, bush beans, lettuce, radishes or something that would not crowd the plants and which would get out of their way in good season. Let but few runners root from the plants set out; cut them off and treat them the same as weeds. Get one crop of strawberries, then plow the bed and raise a crop of celery. Grow some other crop one or two years, and then try strawberries again. There is another method I like fully as well as the one described. Give ground that has been cultivated some two years a good coat of stable manure in the spring, plant some crop that can be got off by July 15, and then apply another lot of well-rotted manure. Pulverize the soil thoroughly, and in July set out good, strong strawberry plants, if convenient, with earth attached to each, in rows 3 1/2 feet apart, one foot apart in the rows. Let two runners root—I cut them off—keep the surface hoed as often as once in ten days. In late fall mulch with straw manure. After one crop of strawberries, cut off the tops, clean out the weeds and grass, if any; apply ground bone and ashes. Keep well hoed, mulch as before late in fall, get second crop, then plow in and grow some other crop two years; then try strawberries again."

**A New Label.**

Prof. L. H. Bailey, in Bulletin 61, Cornell University, thus describes a new label which he has found to be of great service in his work:—

"We now label our trees with the device shown in the illustration. We buy the pine 'package label' which is used by nurserymen and which is 6 in. long and 1 1/2 in. wide. These labels cost, painted, \$1.30 per thousand. These are wired with stiff, heavy, galvanized wire, much like that used for pail bales, and not less than eighteen inches is used upon each label. Hooks are turned in the ends of the wires before the labels are taken to the field. A pail of pure white lead, well thinned with oil, is taken to the field with the labels. The record is made with a very soft pencil, the label is dipped into the paint, the wire is placed about a conspicuous limb and the hooks are joined with a pair of pliers. The paint at first almost completely obscures the writing, but some of it drips off and the remainder dries in, so that the record becomes bright and the soft pencil marks are indelibly preserved, while the label remains white. If the paint is brushed on, the soft writing will be blurred. If in the future the wood becomes gray, the label can be brightened by immersing it in a pot of white lead, without removing it from the tree. The large loop of wire allows of the growth of the branch and the label hangs so low that it can be seen at a glance. The heavy, stiff wire insures the safety of the label against boys and workmen. It cannot be removed without a pair of pinchers. The label is large enough to allow of a complete record of the name of the variety, the place of purchase, age, and other matters, and it is readily found.



**Farmer's Garden.**

BY BOB BARCLAY, BALMORAL.

**Strawberry Plants.**—All weeds growing among these in the rows ought to be hand-pulled now, and those between the rows should be Dutch-hoed and taken off; have no digging down of weeds, which is done by many farmers and gardeners; this is a most slovenly practice, and leads to an increase rather than a decrease of the enemy. Place all runners in along each row, and fork, not dig, in (not deeply) some well-rotted short cow manure, just so as to have it slightly covered, between each of the rows: after that, keep the Dutch hoe regularly at work among them, about once in every ten days, so as to cultivate well and keep clear of weeds during the season. In most instances where plants have failed, I have found the failures to proceed from suffocation by weeds and want of cultivation.

**Raspberry Bushes.**—These, like the grape vine, will take all the feeding one likes to give them, so plow or dig in the richest manure you have between each of the rows, cultivate well with the cultivator or Dutch hoe during the season, keep all weeds down and remove all superfluous canes; thereby you will increase the size of the fruit and the strength of the young canes which are to bear fruit in the following season.

**Gooseberry and Currant Bushes.**—A great deal of the land in Manitoba is strong enough to carry this class for two or three years without the assistance of manure, but I would say to those who have light soil, fork in well-rotted short manure (new is worse than none) between the bushes, always keeping it away a little distance from the roots. I have already more than once stated my reasons for this in the columns of this journal. Now, as there are many of your readers who have an idea (and, unfortunately, too often carry it out) that if they prune and manure their bushes, that is all they require to do to secure a good crop, but they will not have, and have no right to expect, either large fruit or a large crop, unless they make good use of the cultivator or Dutch hoe frequently throughout the whole growing season.

**Transplanting Onions.**—Spring-sown plants should be moved out of where they were started into the border or bed (already prepared for them) about the beginning of June, as they are generally very tender, and a night's frost, if it did not kill them right out, would in most cases cause them to shoot and run to seed instead of bulb. The best shaped and largest transplanted onions I have ever seen were sown in the end of July and allowed to remain in the ground over winter; they were covered over, when the frost came on in the fall, with dry litter, which kept the frost from damaging the small bulbs and roots. If raised in this way, one may transplant with safety in about a week after the litter has been removed in the spring, as the plants are then quite hardy and are just commencing to grow. Great care should be taken not to break the roots and fibres; good sized holes should be made, and some sandy loam or leaf-mould put into them along with the plant and watered well, which will induce the small fibres and roots to take a hold right away. Never put the bulb under the soil—only the roots—as the onion, like the hyacinth, may be termed a sun bulb, and grows best in every way when it is on the surface, hence the reason for sowing onion seed as shallow as possible; if the bulbs are covered they will invariably produce thick necks and nothing but grass.

**APIARY.**

**Seasonable Questions.**

BY JOHN MYERS, STRATFORD.

(Continued from Page 184.)

No. 5.—"How shall I know in the fall if there is enough honey in each hive to last the bees over winter?" If your bees are in single-walled hives, the best and surest plan is to weigh each hive until you get more experience. After a time you will be able to tell by simply lifting out the combs and looking at the honey in them. Each colony should have 25 lbs. if they are to be wintered on their summer stands, or 20 lbs. if they are to be wintered in the cellar. In weighing them you want to fill a hive with empty combs and weigh it, then allow four pounds for the bees; now weigh your colony, which should weigh 25 lbs. more than the empty hive, with the four pounds added for the bees. One good plan, and one that is quickly done, is to give each colony six sealed combs solid full from top to bottom bar.

No. 6.—"Does it make any difference if the colonies are all together, or placed some distance apart during summer?" It is very desirable, both for the convenience of the apiarist as well as the bees, that the hives be placed some distance apart. If placed too close together there will be trouble with loss of queens, caused by them entering the wrong hives when returning from their wedding trip. The bees also have trouble in finding their right hives, sometimes increasing the population of one hive and draining too many of the bees from others. The plan I like best for placing hives is to have two rows facing each other, the rows to be five feet apart and the hives to be six feet apart in the rows. By this plan you have the space between two rows for the bees to use in going out and returning to their hives, and the space between the other two rows at rear of hives for the apiarist to work in where there is few bees flying.

No. 7.—"How is honey taken from a hive?" The best method of taking honey from the hive is



to go to them in the evening and put on a Porter bee escape between the upper storey and the brood nest; in the morning you will find the bees all out of the upper stories, when they can be carried into the honey house and extracted, or, in the case of comb honey, taken out of the cases.

No. 8.—"Is it necessary to use smoke always?" I suppose our correspondent wants to know if it is necessary to use smoke every time we open a hive of bees. Well, I always do: I think it to be an advantage both to the operator as well as to the bees, especially to the operator. The best way I know of to make a colony cross and unbearable is to continue opening it. Without a little smoke you will soon have them so they will dart out at you and sting you as soon as they see you approaching the hive, while if you give them just a little smoke when opening the hive you will make them quite peaceable, but be sure and don't go to the other extreme and pour enough smoke into one hive that would do for half a dozen.

## POULTRY.

### Poultry Raising from Another Farmer's Standpoint.

BY WM. CLARKE, PRINCE EDWARD ISLAND.

The only hen-house I have at present is a little log house, built by my predecessor on my farm about fifty-five years ago. The same split-pine shingles are on the roof yet, the same boards on the walls, but, by a little patching up in the fall, I manage to make it quite comfortable for the fowls, but not frost proof; it has one small window, 20x24 inches, which admits a little sunshine every forenoon till eleven o'clock. A thorough cleaning out twice a year is, in my opinion, quite sufficient. Some of your readers may think my fowls are the victims of filth, disease, lice, and all manner of ills, but I may say I only lost two fowls last year out of my flock of seventy from disease or any other cause. To prevent filth I practice the following:—In the summer when we have a "dry spell" I get a couple of carloads of dry earth, or sand, and dump it in the corner of my root house, which is emptied first in the fall, and, as occasion requires through the winter, I throw a couple of basketfuls over the droppings. To prevent lice, I keep the hens supplied with a good dust pen, partly filled with this same dry earth; whenever it gets foul, I shovel it over the dropping and give a fresh supply; this, with a little sulphur thrown in the nests and kerosene sprinkled on the roosts occasionally, makes my hens almost louse proof.

And now, as to the food consumed by my flock of seventy hens. Their morning meal consists of one peck of potatoes, boiled and mashed, with 4 lbs. of bran, or shorts, and 4 lbs. of scraps from lard factory. This, at four cents for the potatoes, four cents for bran, and two cents for scraps, would total ten cents for morning meal. For noon meal, two days of the week, they get a feed of animal food, such as plucks, heads, etc., from the butcher's shop, and which costs me very little, and on other days green food, such as a big turnip or cabbage, halved, so the hens can peck it. Cost of noon meal, two cents. At night they are fed grain in a variety, such as every farmer's granary affords—oats, barley, peas, wheat, buckwheat, etc., mixed, and fed dry. Eleven pounds makes a good feed for the flock. Cost, at one cent per pound, eleven cents. As they get a considerable quantity of skim milk to drink, we will put it down at two cents per day, or a total cost of twenty-five cents per day for food. This would make a total cost for food for year, \$91.25, less \$1.00 for scraps allowed in the above, but which are not fed during summer, or \$87.25 for the seventy fowls. As my fowls have unlimited range during the summer, I can raise seventy-five or more chicks on the same amount of food per day for the entire flock in summer as they get in winter.

As to receipts, last year, "1893," I gathered from my flock 720 dozen of eggs. These, at the low price realized for eggs here since the McKinley tariff came in force, net me \$33.00. Besides this, I raised and sold thirty-seven pairs of chicks, which net me sixty-two cents per pair, or \$23.00 for the lot. For prizes won at the exhibition, and a few chicks sold for breeding, I realized \$15.85, which, added to the amount received for eggs and chicks, amounts to \$132.45 as receipts from the flock. Deduct the \$87.25, the cost of food, and I have left a net profit of \$45.20, besides a choice lot of the very best manure for any farm crop. I may say that, notwithstanding their uncomfortable quarters, my hens laid 150 dozen of eggs during the months of January, February and March of 1893, while in the same months of the year 1892, 180 dozen. But we do not realize for eggs here the fabulous prices of forty or fifty cents per dozen, which we see quoted in the papers as the prices of eggs in the Western cities during the winter months. As we are shut off from the rest of the world, as far as shipping eggs is concerned during the winter months, and as our local market is limited, when we can realize twenty cents per dozen in winter we think we are doing very well.

And now, as to the breed of fowls I keep. Ten years ago my flock of poultry were as nondescript a lot, as to breeding, as you could possibly find any

where, while to-day my flock are practically pure-bred Plymouth Rocks, which, to my mind, are a great improvement over my old mixed lot, both as regards appearance and general usefulness. In summer they are excellent foragers, making nearly half a living on worms, insects, etc., from the fields and orchard; while in winter, owing to their vigor and hardiness, they lay more eggs than perhaps any other breed of poultry. If you wish to use chicks for table use, the young cockerels of this breed are ready to kill at an earlier age than those of any other variety. I may say that I did not invest all at once in a large number of pure-bred fowls at great expense, but by making a small start and then introducing fresh blood every year or two, by purchasing a setting of eggs or a first-class cockerel from some reliable breeder, and by careful selection of my breeding stock, I have at present a practically pure-bred flock of poultry at very little expense for foundation stock. Last fall I selected from my flock of poultry in the barnyard two coops of chicks and one of aged fowls and exhibited them at our Provincial Exhibition. The chicks captured first and second prizes; the aged fowls also took first, and this in strong competition with stock from poultry fanciers and others.

I do not say this boastfully, but to give your readers an idea of what a farmer can do in breeding up, in at least one class of farm stock, without any great expense for foundation stock. And now, to conclude, I have no doubt that if the average farmer would keep a small flock of poultry and give them the same good attention he bestows on his horses, sheep, or cattle, they would not only serve to beautify his barnyard, but would yield him a nice profit on the food and labor bestowed on them.

### Poultry on the Farm.

BY MRS. IDA E. TILSON, WEST SALEM, WIS.

"March 31, three broods hatched, which I had set for an experiment." The sitters were of the same breed and age, differing little in weight. They were similarly placed, as regards draughts, in one house, and simultaneously, on fresh eggs, all laid the previous day. I was particular not to get the nests too dishing, lest the eggs should crowd each other. Corners were carefully filled, so none could roll away there. The boxes' sides were lined an inch or more above nests, that a sitter, in stirring her eggs, might not hit and jar them against bare board. A medium amount of material was used, as too much will be elastic and uneven, and only eleven eggs apiece were allowed, since more cannot be thoroughly covered and warmed. The sitters had been previously trained to come off only at my bidding; therefore, after they were fed and watered, I set them, as is my custom, in the morning, and they gave twenty-four hours continuous, strict attention to business, till I myself relieved them again. If I had unreliable hens, I must, of course, set them evenings. The purpose of my experiment being to test three different kinds of nest material, all other conditions were made as nearly alike as possible. One nest was entirely of sawdust; another was half of sawdust, covered with June grass; the third had two inches of moderately dry soil, well packed, sprinkled with lime, and just covered with fine hay. The result was unexpected, or I should not have been at such pains. Each hen left one dead chick behind her, and brought off nine fine chicks apiece, reminding me of that ancient riddle about "seven wives going to St. Ives, each wife had seven sacks, each sack held seven cats," etc. Owing to great press of other work, we had no bread to spare, and I used meal preparations at once, which, though necessary later, are harsh so early and exclusively. After I had killed three by indigestion, we got a baker's loaf, and that, with drinks of sweet milk weakened by warm water, arrested all trouble. Over twenty nice little fellows never drooped under my heavy diet, but two are cured cases, reminding me of a green young housewife buying ham. The grocer pleasantly told her he had some very finely cured ones. "Oh," said she, "I don't want any which ever were ailing and had to be cured." The moral appears to be, that success is only a comprehensive name for faithfulness, and then readiness for the good time when it comes. Care is really more than conditions. Those chicks hatched on sawdust covered with some hay, which nest kept its shape better than clear sawdust, were decidedly the best lot of all. I call them the "little ravers," they eat and grow so, and must provide them more food than either of the other broods.

Liver, well boiled and chopped fine, has agreed with these broods, and always creates a relish for other things. In both meat and shell, there is an indirect value of appetizers, over and above their direct worth. I have given, as in other years, some boiled ham, and when the fat is carefully taken out, then the ham mixed and chopped with bread crumbs or cooked potatoes, it seems a safe and valuable food, which many farmers have at hand. Considerable discussion has occurred as to whether water or food should be given first in the morning. Theoretically, I would say that water taken after food might wash away and carry along the latter faster than natural, and I know, practically, that many of my fowls do not eat much till they have a refreshing, lubricating drink first. Actually, I give both pretty nearly together, sometimes one earlier, again the other, because I have strength and time

to take but one trip to the hen-houses before breakfast. The main thing is clean water-dishes, which an occasional washing in soapsuds will not harm. Charles Lamb said of a doubtful-looking beverage, "If this be coffee; give me tea, and if this be tea, give me coffee;" so, of some water-dishes, hens might say, "If this be water, give us a mud-puddle, and if this be a mud-puddle, give us water." One lady poultryer, writing of her methods, was criticised because she spoke of feeding a warm mash at noon instead of morning. Now, it is true the tides of life are lowest mornings with people, and probably with animals, hence I give my soft, warm food as early as practicable; but perhaps that woman, like myself, has other cares, and cannot always reach her ideals, nor do everything first thing in the morning. I remember a neighbor used to scald the fowls' fauces and crops. Of course, there might be such danger, but I take my pudding out pretty promptly, because considerable allowance must be made for putting it in cold troughs and dishes. In a late poultry paper, another poultryer inquired whether various vegetables are good for poultry, and was answered decidedly in the affirmative. I believe it is vegetables that win in every race, and they, with lean meat, make our future layers. I used to think a hen could eat anything, and may be she can, but ought not, and will not; still, I believe improper food causes less trouble than chills do. The former may occasion a simple diarrhoea, which soon rights itself by passing off the food, but chills create a congestion and inflammation that last. Have the young chicks warm first, last, and all the way through, which reminds me I lately read about a curtain tacked across the top of the nest and buttoned down at bottom, to keep layers from sitters. That would be both safe and warm. This cold spring, I sometimes put newspaper curtains inside my shingle doors, to make the sitters warmer and freer from draughts. Recollect, a coop is not as warm as the double-walled, well-inhabited hen-house, and put the former under sheds at night.

The many excellent poultry suggestions in the ADVOCATE remind me that the editor of a leading poultry monthly says, when he runs short on his regular contributions, he next goes to the poultry department of farm papers, where he has found so many practical things.

### Poultry for Profit.

BY JOHN J. LENTON, OSHAWA.

There is small profit in eggs when they bring but 10 cents a dozen; and no profit at all, rather a loss, when hens have to be fed all winter, without eggs, and then only produce a few dozen in the spring. When the eggs laid barely pay for the food eaten during that season, all the food eaten previously is a loss. There is a regular ebb and flow of prices for eggs. The high tide is about the last of November and through January, and from that the price ebbs away steadily to about the first of May. Everybody's hens are laying then, and production is at its highest, consequently prices are at the lowest. Later on the supply gradually diminishes, and prices rise, the movement being facilitated by sales of fowls, to be served as "spring chicken" in the summer hotels, and the steady falling off of the egg yield. In the fall the old fowls are moulting, and are, almost without exception, resting from their labor, so that unless there are pullets to lay, there are few eggs, hence the demand exceeds the supply, and the price reaches high tide again.

A hen will consume a fraction over fifty cents' worth of food in a year. If she does not begin to lay until March, she will produce less than one hundred eggs, which must net her owner over a cent apiece to barely pay for her food and trouble. If she comes to laying maturity in October or November, she will lay vigorously all winter, if well housed and well cared for, and will give her owner, before moulting time, one hundred and fifty to one hundred and seventy-five eggs, which can be sold at an average of nearly two cents apiece, and pay a substantial profit.

There is "a tide" in poultry raising, and that tide is early-hatched chickens and early-laying pullets.

There is the whole secret of it in a few words; all the rest of the story is detail. We hear much complaint that "We couldn't hatch the chickens early; our hens wouldn't sit." That is one of the evils of late-laying birds. If they are got to lay in October, and kept laying, they will be broody enough in April, unless they are of the non-sitting varieties; whereas, if they don't begin to lay until March, they will be late in brooding, because nature impels them to lay a goodly number of eggs before the brooding fever sets in. Get them laying early, and early broodiness follows as a matter of course.

Much can be done to further this plan by "selection." Choose only the early-laying and prolific-laying birds to breed from, putting them in a pen by themselves; and in two or three generations you will have a strain of naturally early layers. You have not to wait long for profits from our selection of early-laying pullets. You get immediate returns in eggs within the year. Breed from them, and no others, the next spring; then kill off the old birds. It is a decided advantage in poultry raising that the profits begin to come in immediately.



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Written for THE FARMER'S ADVOCATE.

**The Star o' Hope.**

BY CONSTANT HALLE.

Ach! now, yer honor, one moment be aisy,  
Shure 'tis enough to drive a man crazy,  
For 'tis yerself that always does like  
To be crackin' yer jokes wid poor honest Mike.  
An' is it a foine, han'some man, ye say,  
That I am still to this very day,  
Shure 'tis myself's goin' on for three-score,  
An' faix, indade, I think I look more,  
Ye might have been talkin' some time ago—  
Nigh on thirty year or so.  
Tho' perhaps I shouldn't be the one  
To say it—look at, there's me son,  
An' he's the biggest broth of a boy  
To be met wid round about Kilmoy,  
Just ax the gurls, they'll tell ye that;  
Shure there's none wid them like Pat;  
An' I have heard his mother say  
That I was like him in me day.  
Och! ye should see him dance a jig,  
Coort a gurl, or drive a pig;  
There's none wid him that can compare  
At funeral or wake or fair.  
Put a shillelagh in his hand,  
An' he will kape the pace quite grand.  
Do I remember the Fanian time?  
Shure 'tis just myself can prime.  
When the boys was all the pillen wid marvellous might,  
Abroad in the fields under cover of night,  
Wid broomsticks or aught else that came to their hand,  
An' soon there was mustered a pretty strong band,  
From valley an' hillside, village an' town,  
An' the flag o' the forner would shurely go down.  
Ye say I hould myself rather straight  
For an undrilled man! Now, yer honor, wait!  
Shure, when at night I had nothin' to do  
I used to be off an' drillin' too.  
Ye say 'twas disloyal—but we all wished to see  
The Land o' The Shamrock glorious an' free;  
An' we all meant to fight for her open an' bound.  
No! I'm not a Lagger, wid that I don't hould;  
If yez only can fight from behind a wall,  
What I says is, *don't fight at all.*  
Och! yes I could tell ye tales be the hour,  
Well, now, yer honor, more power!  
Shure that's the most illegant pipe I have seen,  
An' baccy too quite fit for a queen;  
Shure 'twill soothe me as I thry  
To make the time go swiftly be.  
Well, yer honor has heard how the risin' begun,  
But if it did it was very soon done,  
For what could a handful do here an' there  
Against disciplined force, wid enough an' to spare  
Of rifles an' bay'nets, gunpowder an' shot;  
Quite enough to make it excedingly hot.  
For the boys when they mustered the fight to begin,  
So discipline won—as it always will win,  
An' the risin' was quelled thro' the breadth of the land,  
An' quickly put down wid a mighty strong hand,  
An' the polis was scourin' the whole country side  
For ivery nook where a Fanian could hide.  
Shure 'twas their duty they did, an' no more,  
As they had always done afore;  
An' they were a foine brave set o' men,  
Ready to fight but one against ten.  
Come wid me to the cabin door,  
Look yonder to the Shannon shore.  
An' there it flows into the sea,  
An' forms that nate convanynt bay,  
Where mighty ships at anchor ride  
Upon the bosom of the tide.  
Look, there ye see a neck of land,  
That juts out far upon the strand;  
When the tide is on the flow,  
'Tis very deep there, as I know,  
Full forty feet, an' ships can glide  
Widin an inch of its rocky side;  
An' that very rock has got to do  
Wid the story I'm about to tell to you.  
If I don't disremember, 'twas the year '65,  
That me brother was naraly look alive,  
An' how he into the trouble fell  
Is what I'm goin' now fer to tell.  
All that winther I'd been laid by—  
Indade, I was almost like to die;  
So when the boys was scattered all,  
I'd nought to do wid it at all;  
But Pat, that's him I mentioned now,  
Was in the thickest o' the row.  
At dawning of day, in the early flush,  
They had marched down straight upon Kilrush,  
For they had certain news an' thure,  
That in the barracks there were but few—  
Not more than five at the very best.  
An' they had heard how all the rest  
Had been dhrrawn away to guard from ill  
A lonely station upon the hill;  
So now the boys came in their hordes,  
Wid flintlock guns an' rusty swords,  
An' marchin' straight into the square,  
Began their operations there.  
They called upon the polis five  
To give themselves to them alive,  
So's not to bring upon the town  
Ruthless bloodshed tumblin' down.  
The Sergeant, leamin' from his place  
Of vantage, laughed right in their face,  
And says: "Go, boys, while yet ye can,  
Or there'll not be left of you one man;  
For the Chief is comin' as quick as can be,  
An' I'll dhrive yez all right into the sea;  
For ye see," says he, "When ye make a call,  
We'd like to give yez a welcome all."  
For the Sergeant knew if they once began,  
The barracks doors would be battered in,  
An' what could five men do, tho' brave,  
When the storm about their heads should rave;  
So he parleyed wid them for a while,  
Quite pleasant like, an' wid a smile;  
But Pat, he shouts: "'Tis humberg, boys—  
Come on," and so they did, wid noise.  
They made a rush, an' soon the door  
Would have fallen in upon the floor;  
An' shots were fired—just one or two,  
When sudden like there came in view  
A line of cars, full twenty strong,  
An' helmets gleamin' in the sun.  
The polis soon was on their feet,  
An' quick came chargin' up the street;  
An' cheer on cheer up from them rose  
As they came rushin on their foes;  
An' shure the boys they did their best,  
But the Chief he was like one possessed,

Tho' he fought but wid baton, it came down like lead,  
An' soon many's the boy fell, knocked on the head;  
But when one o' the polis was shot,  
Says he: "This is gettin' a little too hot;  
So, Ready! Present!" an' then, at last,  
Fire! rung out in the air like a great trumpet blast.  
Wid that the boys they all turned an' fled,  
Wid Patrick flyin' at the head.  
If the Chief had led the boys that day  
It might have been the other way.  
None of me humberg—Shure I know your son,  
But it's not lies I'm tellin'—sorra a one,  
Well, as I could ye, the boys they all fled,  
Wid Patrick flyin' at their head.  
For well he knew that Sergeant Tim  
Had from the window spotted him,  
An' knew for sure that the county jail  
Would soon receive him widout fail.  
An' then, perhaps, his life would pay  
For what he tuk in hand that day.  
An' days an' days he wandered lone,  
Away from friends, away from home—  
Now hidin' here, now hidin' there,  
For the polis they was every where.  
At night his pillow was the ground,  
Wid snow deep lyin' all around,  
An' the cold, pale moon seemed to mock his woe  
As it calmly shone on all below.  
An' a stillness round him lay—  
A stillness more awful by night than by day,  
An' he's often told me, wid bated breath,  
How he most one night had prayed for death;  
But the thought of the colleen he loved so well  
Uprose in his mind an' down he fell  
On his knees an' prayed that the Saints above  
Would bring him back to his home an' her love.

So, creeping along by didd an' by hedge,  
He managed at last to get to the edge  
O' the hill up beyant, near the little breen,  
An' be the same token, widout bein' seen,  
An' there he remained, so to spake, widin call,  
Till the dark, cloudy eve was beginnin' to fall,  
An' then he crept down, like a thief in the night,  
An' his poor heart rejoiced once again at the sight  
O' the turf an' the straw and nate piaty patch;  
An' then he stole forwards an' lifted the latch,  
An' we all sittin' the turf fire around  
Seen—as we turned our heads at the sound—  
A figure so wild comin' in at the door  
That we all were chilled to the very hearts' core—  
Wid ghastly pale face an' a cut on his head.  
Says we, 'tis one shurely that's rose from the dead.  
Me mother she covered her head wid her shawl,  
An' Eileen, poor colleen, senseless did fall—  
Eileen, that's her as was sweet upon Pat—  
An' as for the youngest, nine-year-old Mat,  
He made such a noise that he wakened the pig,  
An' I, thyrin' to look careless like, talked up quite big.  
Says I, if yer form is of earth or of air,  
The same to us now would ye kindly declare,  
For 'tis quite cold enough wid the snow as it is  
Widout the addection of them as is riz.  
"Be de hush" (hould yer wish) says Pat, for 't was he,  
"Is it look that all of yez want me to be?"  
Shure 'tis meself that's safely come back,  
An' mebbe the polis is now on me thrack;  
But here I must contrive somehow to stay  
Till the Star o' Hope sails into the bay,  
For I've had news that she's hangin' about  
To take the boys off—since the day o' the rout—  
An' they've rockets on board to shoot up in the sky  
As signals to show they are still stannin' by."  
Then he knelt on the floor an' tindhery raised  
Poor Eileen, who sat up an' looked around dazed,  
An' gave her a little wather to drink.  
When she seen 'twas Pat she was up in a wink,  
Eileen, she pressed her neck to his neck, an' cried:  
An' Pat, he presses her close to his side.  
An' says: "'Twas worth havin' wandered lone  
To get such a lovin' welcome home."  
Well, it was the very next day  
The Star o' Hope sailed into the bay;  
But Pat wait, wait until he seen  
A rocket fired—a rocket green.  
For they had sent a boat on shore,  
By daylight, to tell this an' more;  
An' trusty spies the news had brought,  
To Patrick, whom they long had sought,  
For Father John—God rest his soul—  
Stuck to the boys thro' fair an' foul,  
An' worked to get them safe on board  
To save them from the avengin' sword.  
That night the moon rose fair an' high,  
Not a cloud bedimmed the starry sky,  
An' the earth, all dhressed in her bridal white,  
Smiled could an' pale in the calm, pure light,  
An' the moonbeams danced upon the bay  
Where the Star o' Hope at anchor lay  
Awaitin' the risin' o' the tide,  
That near the rock it might safely glide.  
For there could Patrick gain the yacht—  
There only—widout bein' caught.  
We strained our eyes from the cabin door,  
An' looked out towards the Shannon shore;  
The cold it wellnigh froze our breath;  
'Twas awful—it was cold as death;  
An' there we stood, an' whispered low,  
An' hoped the rocket soon would show.  
But Patrick says: "I cannot leave  
Till Eileen comes." She woud sorely grieve,  
If she might not bless me before I go  
Her heart would be heavy an' black wid woe."  
Thus lamentin' he looked towards the hill  
Whence Eileen should come if naught were ill.  
When swift an' shure, wid steady aim,  
A rocket rushed up, all in flame,  
An' burstin', quickly there was seen  
A showery, ripplin' mass o' green,  
An' the Star o' Hope, wid stately glide,  
Moved slowly wid the flowin' tide.  
An' Patrick turned him from the door,  
All slowly towards the Shannon shore,  
When down the hill, wid streamin' hair,  
Flew Eileen, wid her head all bare;  
Her purty face looked wan an' pale  
As on she came, wid bitter wail,  
An' chokin', gaspin', all for breath,  
Bade Patrick fly for life or death.  
"For, see!" says she, upon the brow  
O' the hill beyant, the polis now!  
For, shure, some thievin', villain spy  
Has given the poor, hunted boys the go-by,  
An' all their secrets have been sold  
For the Saxin's bloodstained gold!  
Oh! Paddy, jewel, quickly fly!  
Or soon you could be in death may lie!  
An' what could your poor Eileen grave  
But to rest wid you in yer lonely grave."  
On they came at a rattlin' pace,  
Which quickly broke into a race  
As Paddy, like arrow shot from a bow,  
Hurled himself across the snow.  
They passed us quickly, wid a rush,  
An' then on all there fell a hush,  
An' we almost could hear our own heart-beat  
As we watched that figure running fleet.  
An', breathless, saw his flying leap  
Across a ditch both wide an' deep.  
An' then rose up a moanin' sound

He'd fallen right upon the ground—  
An' Eileen wrung her hands again,  
An' cried aloud, like one in pain,  
For two be the polis, outstrippin' the rest,  
Went runnin' on their level best,  
An' gatherin' themselves for the fateful jump,  
They sprung—but into the water, plump!  
An' Paddy was up an' off like the wind,  
Leavin' them all a long way behind.  
But once across, they soon gained ground;  
'Twas like a hunt' d horn an' hound,  
That grim race which now began—  
A hunt! but the quarry was a man,  
An' soon they pressed on Paddy sore.  
But now the rock was right before,  
An' the Star o' Hope lay waitin' there,  
Wid masts an' spars an' riggin' bare.  
The Sergeant, puttin' on a spurt,  
Gained Paddy's side, but to his hurt,  
For Pat, wid well-directed blow,  
Sent him sprawlin' in the snow;  
An' wid a wild, exultin' shout,  
Jumped clean on board. An' soon about  
Was turned the yacht, an' wid full sail  
They gave the polis quick leg bail.  
So Pat was safely got away  
Right over to Amerikay;  
An' there he prospered, an' soon at his side  
Was dark-eyed Eileen, his faithful bride.

**THE QUIET HOUR.**

**He Knoweth All.**

The twilight falls, the night is near,  
I fold my work away,  
And kneel to One who bends to hear  
The story of the day.  
The old, old story; yet I kneel  
To tell it at Thy call;  
And cares grow lighter as I feel  
That Jesus knows them all.  
Yes, all! The morning and the night,  
The joy, the grief, the loss,  
The roughen'd path, the sunbeam bright,  
The hourly thorn and cross.  
Thou knowest all—I lean my head,  
My weary eyelids close,  
Content and glad awhile to tread  
This path, since Jesus knows,  
And he has loved me! All my heart  
With answering love is stirr'd,  
And every anguish'd pain and smart  
Finds healing in the word.  
So here I lay me down to rest,  
As nightly shadows fall,  
And lean, confiding on His breast  
Who knows and pities all.

**Nobody Knows but Jesus.**

"Nobody knows but Jesus." 'Tis only the old refrain  
Of a quaint, pathetic slave-song, but it comes again and again.  
I only heard it quoted, and I do not know the rest;  
But the music of the message was wonderfully blessed,  
For it fell upon my spirit like sweetest twilight psalm,  
When the breezy sunset waters die into starry calm.  
"Nobody knows but Jesus!" Is it not better so,  
That no one else but Jesus, my own dear Lord, should know?  
When the sorrow is a secret between my Lord and me,  
I learn the fuller measure of His quick sympathy.  
Whether it be so heavy that dear ones could not bear  
To know the bitter burden they could not come and share;  
Whether it be so tiny that others could not see  
Why it should be trouble and seem so real to me;  
Either, and both, I lay them down at my Master's feet,  
And find them, alone with Jesus, mysteriously sweet,  
Sweet, for they bring me closer to the dearest, truest friend;  
Sweet, for He comes the nearer as 'neath the cross I bend;  
Sweet, for they are the channels through which His teachings  
flow;  
Sweet, for by these dark secrets His heart of love I know.  
"Nobody knows but Jesus!" It is music for to-day,  
And through the darkest hours it will chime along the way.  
"Nobody knows but Jesus!" My Lord, I bless Thee now  
For the sacred gift of sorrow that no one knows but Thou  
—F. H. H.

**Personal Friendship with Christ.**

(Continued from page 186.)

There are some excellent Christians who seem to know Christ only biographically. They have no experimental knowledge of Him. He is to them at best an absent friend—loving, faithful and trusted, but still absent. No word of discouragement, however, should be spoken to such. The Old Testament usually goes before the new, in experience as well as in the biblical order. Most Christians begin with the historical Christ, knowing of Him before they know Him. Conscious personal intimacy with Him is ordinarily a later fruit of spiritual growth; yet it certainly appears from the Scriptures that such intimacy is possible to all who truly believe in Christ. The way to this experimental knowledge of Him is very plainly marked out for us by our Lord Himself. He says that if we love Him and keep His words He will manifest Himself unto us. It is in loving Him and doing His will that we learn to know Christ; and we learn to love Him by trusting Him. Ofttimes we learn to know our human friends by trusting them. We see no special beauty or worth in them as they move by our side in the ordinary experience of life; but we pass at length into circumstances of trial, where we need friendship; and then the noble qualities of our friends appear, as we trust them, and they come nearer to us and prove themselves true. In like manner, most of us really get acquainted with Christ only in experiences of need, in which His love and faithfulness are revealed.

The value of a personal acquaintance with Christ is incalculable. His friendship purifies our sinful lives; makes us brave and strong, and inspires us ever to the best and noblest service. The richest, the sweetest, and the only perennial and never failing fountain of good in this world is the personal, experimental knowledge of Christ.

That Christ should condescend thus to give to us sinful men His pure divine friendship is the greatest wonder of the world; but there is no doubt of the fact. No human friendship can ever be half so close and intimate as that which the lowliest of us may enjoy with our Saviour. — Rev. J. R. Miller.



MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES:—

As I write to you I hear the patter of the soft spring rain without, as it falls with freshening and enlivening power upon the earth, which swells with pleasure at its gentle touch, and will presently burst forth in the full beauty of her glorious spring apparel. Spring, in the minds of the women of the household, comes with varied associations. The house must be cleaned and put in order for the bright summer days to come, the children's dresses must be lengthened and made over, and many other matters of like nature attended to. And so we lose the brightness which these weeks should bring to us. We have so much of the practical about us that we have no time or inclination to listen to the soft breathing of Nature's voice as she bids us "rise in newness of life," and illustrates her meaning in every variety of form and color.

What a wonderful difference it would make in our lives were we to look into the dusty corners of our hearts and minds, clearing away the useless rubbish which accumulates there from month to month and from year to year, and opening them up to the healthful influences of the pure air and the warm beams of the sun of love. Living in an atmosphere of love, you and I may be the radiating points for floods of sunshine, of which the world so sadly stands in need. If such an atmosphere does not exist, why not create it? It is by using what we have to the best advantage that we are enabled to obtain more. Ruskin's words are so true: "Know what you have to do, and do it." Comprehensive, not only as regarded the branch of art to which it temporarily applied, but as expressing the great principle of success in every direction of human effort. We are not half-conscious of our own power; we can do so much if we only trust ourselves far enough to try.

And so, my dear nieces, if you would have your lives tell, you must have a definite aim or purpose therein. Do not be content to live from day to day merely doing the things you must, for even in your humble sphere golden opportunities are plentiful if you are only clear-sighted enough to see and take advantage of them; but remember, above all things, that a woman's chief charm will ever be her true womanliness; therein lies her greatest power—a power of wondrous potency and strength. So much is spoken and written of woman's rights that we turn wearily from the noisy discussion, even as we would turn from the bustle and worry of the crowded city to the more tranquil scenes where nature reigns supreme, and breathes into us her loving teaching of the quiet forces which underlie her grandest labors.

MINNIE MAY.

The Feet.

Well, walking heats the feet, standing causes them to swell, and both are tiresome and exhaustive when prolonged. There are various kinds of foot-baths; authorities differ as to their value. Hot water enlarges the feet by drawing the blood to them; when used they should be rubbed or exercised before attempting to put on a tight boot. Mustard and hot water in the foot-bath will side-track a fever, if taken in time; cure a nervous headache, and induce sleep. Bunions and corns and callousness are nature's protection against bad shoe leather. Two hot foot-baths a week will remove the cause of much discomfort. A warm bath with an ounce of sea-salt is almost as restful as a nap. Paddle in the water until it cools, dry with a rough towel, put on fresh stockings, have a change of shoes, and the woman who was "ready to drop" will have a very good understanding in ten minutes. The quickest relief from fatigue is to plunge the feet in ice-cold water and keep them immersed until there is a sensation of warmth. Another tonic for the sole is a handful of alcohol. This is a sure way of drying the feet after being out in the storm. Spirit baths are used by professional dancers, acrobats and pedestrians, to keep the feet in condition.

UNCLE TOM'S DEPARTMENT.

The Spartan's Temperance Lesson.

FROM THE ORIGINAL PAINTING BY LUIGI MUSSINI. (Etched by J. S. King.)

In their palmy days the Spartans presented the remarkable spectacle of a whole people dominated by a single idea. Every private interest, the closest ties of blood—all were sacrificed in favor of the dominant principle of national glory. That glory was to be attained by might in war; hence everything in private and in public life was shaped to that end. Rugged physical health was of prime importance. The training of both boys and girls began in infancy. If the infant was puny and weak, it was deemed useless and was exposed to die. Strong men were needed as soldiers, and strong women were required as mothers of a hardy race. Boys and girls alike were schooled in every exercise that was calculated to produce a perfect physique. The discipline of the boys was especially rigorous, and that nothing might interfere therewith, they were usually removed from their homes in tender years and brought up under public supervision. Thus were they saved from the possibility of parental indulgence, although they probably ran little risk in that direction, for the Spartan women seem to have been scarcely less severe in their ideas of discipline than the men.

A scheme of education destined to develop the body in its utmost perfection sought to implant in the pupils a disdain of softness and of luxury as things disgraceful to manhood, while all physical excesses tending to corrupt and enfeeble the



THE SPARTAN'S TEMPERANCE LESSON.

powers were severely frowned upon. Temperance was thus maintained, not on moral, but on political grounds. The homes of the people, high and low, were severely, even rudely, plain, lest refined and comfortable surroundings might beget indolence and effeminacy; but to counteract the barbarizing tendency of rude dwellings, the public buildings, and especially the temples, were stately and beautiful. Our artist has commemorated a characteristic incident in the domestic life of the Spartans. One of the rulers, wishing to excite in the mind of his son the utmost loathing for drunkenness, having reduced a slave to that condition, causes the boy to witness the bestial antics of the maudlin wretch. From the repugnance expressed in the countenance of the youth, the lesson has produced the desired effect. Luigi Mussini was born at Florence in 1813, and was instructed by his elder brother, Cesare M. He is noted for his accurate design and simple, but effective, composition, in which particulars he has been compared with the fifteenth century masters. He is Director of the Academy of Siena, and is one of the foremost of the modern painters of Italy.

A Thoughtful Husband.

On his return home from a musical evening, at which his young wife had been unable to be present, an amateur tenor of some repute remarked, with the touch of sentiment peculiar to newly-married men:—"Sorry you weren't there, my dear; but you were seldom absent from my thoughts. Indeed, I always think of you while singing." "Do you really?" said the pleased wife, "and what did you sing to-night?" "Walt her, angels, to the skies," replied the tenor; and though the frown that spread over his wife's face spoke volumes, he was quite unaware that he had said anything offensive.

Recipe for a Good Husband.

A good husband, it has been wisely remarked, like the hare, must be caught before he is cooked. He cannot always be told at a glance, and sometimes he must be summered and wintered before his real character is discovered; but it is safe to say that when caught he should be found to be composed of the following ingredients in suitable proportions:—Mother wit, good nature, gentleness, strength, manliness, purity, courage. But even when the full measure of some of these necessary qualities is lacking a very good husband can often be secured by a persistent use of the following recipe:—

- Wifely tact, - - - 10 parts.
- Wifely forbearance, - - - 10 parts.
- Wifely good-nature, - - - 10 parts.
- Good housekeeping, - - - 10 parts.
- Good cooking, - - - 10 parts.
- Wifely love, - - - 50 parts.

There are some brutes upon whom even such a precious mixture will be wasted, but they are very few; and a persistent application of it, morning, noon and night, for two years, is warranted, in nine cases out of ten, to make a man and a gentleman out of very commonplace material.

Puzzles.

PRIZE PUZZLE.

1—RIDDLE.  
What is't that's the bane of every age?  
That visits prince as well as page;  
Whose strength is law; whose law is death,  
Which binds whate'er draws mortal breath?

No peace they know who own it's power,  
For it is present every hour.  
Yet those who follow in it's path,  
Despise and scorn eternal wrath.

HARRY D. PICKETT,  
Bloomfield,  
King's Co., N. B.

2—DOUBLE ACROSTIC.

My first is termed a very "soft mass,"  
As a "pair in ear" my second is known in a medical class;  
As a "gatherer or gleaner" my third is known,  
In "uncivilized countries" my fourth abounds.

Next is "a month of the Hebrew calendar,"  
While sixth is a vast "British colony";  
In literature my seventh is an "abridgement,"  
And now that you "cannot assist," my next you'll quickly see.

Next, "The union of bodies of the same nature,"  
While "nodding" is signified by the tenth;  
Now, for the last, but not the least,  
'Tis "Something done by fraud or stealth."

My primals will show a class of men,  
That are brainy and generally handy with the pen;  
For my finals—you will find, Institutions; to which my primals are not unkind.

HENRY REEVE.

3—CHARADE.

I see our friend Reeve has been letting off gas,  
By shouting "Hosannah," as none can surpass;  
He shouts loud and long o'er a wanderer returned,  
The sound of his trumpet perhaps you've discerned.

Just like a warrior. Hear the guns boom,  
Still, LAST the army, Hank says there is room;  
Bring on your quota, for why dost thou Hyde,  
Get on the pozer ship, and TOTAL abide.

Come! oh, come! while you may—come with a shout,  
Our captain will welcome thee, PRIME is no doubt;  
Ye who have turned aside, away from the "Dom,"  
C—'mbach and rally round "Dear Uncle Tom."

Ah! sure my dear friends, though it's Blythe Reeve may be,  
And stand for A. Pickett on the Banks of the Dee;  
Should war come to war, and Smith's son be his mate,  
Why Arm and perchance you might smash his Hard Pat.

But to avoid all contentions, and settle the question,  
We'll borrow (a man) by means of election;  
To act as a Prude Homme. Between me and you,  
Be not like H. A. W., who "Flew up the flue."

FAIR BROTHER.

Answers to April 15th Puzzles.

1. PEARL  
A L E  
R M A H A A N  
J E S S A M I N E  
A T A B E T E S  
H A T E  
N A S T Y

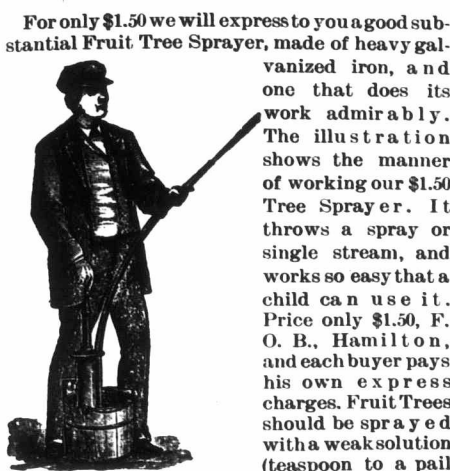
2—The letter H. 3—Tint-in-nab-u-lay-shun (Tintinnabulation). 4—Herod, hero, her, he, h.

The complacent and boastful spirit of the average American is well illustrated by the story of the Yankee at Vesuvius, who, when asked if they had anything like that in America, replied contemptuously, "Anything like that! Why, sir, we have a water privilege in America that would put it out in five minutes."



TREE SPRAYERS

\$1.50 EACH.



For only \$1.50 we will express to you a good substantial Fruit Tree Sprayer, made of heavy galvanized iron, and one that does its work admirably.

LAWN MOWERS.

Low Wheel Lawn Mowers, 12 inch, \$3.50 each; 14 inch, \$3.75 each; 16 inch, \$4.00 each. High Wheel Improved Lawn Mowers for 1894, 12 inch, \$4.25; 14 inch, \$4.50; 16 inch, \$4.75.

Terms cash with the order.

STANLEY MILLS & CO

Wholesale Merchants,

HAMILTON, - ONTARIO.

5-a-om

THE MAGIC CAN YOU OPEN IT?



You may think you can, but can you? Try it!! The most interesting and amusing puzzle of the 19th century. Made of good leather and silk stitched. Receipt and directions mailed on request of 2c.

J. B. RITTENHOUSE, 28 Shuter St., Toronto.

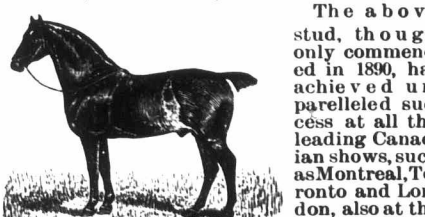
HORACE N. CROSSLEY,

PROPRIETOR OF THE

SANDY BAY STOCK FARM,

Importer and breeder of

SHIRES, HACKNEYS, AND COLLIE DOGS.



The above stud, though only commenced in 1890, has achieved unparalleled success at all the leading Canadian shows, such as Montreal, Toronto and London, also at the CHICAGO WORLD'S FAIR.

CLYDESDALES & HACKNEYS



OLDENBURGH COACH HORSES



ED. LÜBBEN,

Süßwörden, Granddukedom of Oldenburg, Germany.

Grand Dispersion Sale

OF

JERSEYS, HOLSTEINS, SHROPSHIRE & DORSET HORN SHEEP

CHESTER WHITE PIGS.

JOSEPH STRATFORD, Brantford, Ont.,

INTENDS OFFERING FOR SALE DURING THE MONTH OF JUNE OR JULY, DATE NOT YET POSITIVELY SET, ABOUT TWO HUNDRED THOROUGHBRED SHROPSHIRE SHEEP AND FIFTY LAMBS, DORSET HORN EWES AND LAMBS, INCLUDING SHEARLING EWES AND RAM LAMBS OF BOTH BREEDS. ALSO A LARGE HERD OF REGISTERED ... JERSEY AND HOLSTEIN CATTLE, ALL AGES. ...

This Sale will offer an opportunity for Canadian farmers to put in a foundation stock of any of the above, at prices they have never been sold for or offered in this country before. Mr. Stratford's business for years past has rested with the Americans, and he is fully determined now to see if it is not possible to bring about a revival action with our Canadian farmers in the matter of handling these different breeds of cattle and sheep.

ISA LEIGH GRANGE FARM, DANVILLE, P. Q.

SOLD AGAIN! Three of the four Guernsey bulls advertised by us are sold and delivered. We still have one more, the 3rd prize calf at the World's Fair, now fourteen months old—a dandy. Lowest price, \$200.

IMPROVED YORKSHIRES.—We claim to have the longest, deepest and most typical LARGE YORKSHIRES in AMERICA, and the reason is we have paid more money and imported more pigs from the best herds in England than any two Yorkshire breeders on the continent.

J. Y. ORMSBY, Manager.

JERSEY CATTLE FOR SALE

Bred for butter. G. sons and g. daughters of "Massena," the greatest cow of her age in the world,—8,000 lbs. milk and 654 lbs. butter in her 16th year; also stock from "Signal of Belvedere," whose dam made 20 lbs. 6 oz. butter in one week on second calf.

MRS. B. M. JONES, Brookville, Ont., Can.

PUREST LAMBERT JERSEYS

FOR SALE—Sons and double g. sons of Jolie of St. Lambert and Jolie of St. Lambert 3rd and 4th, winners of the sweepstake dairy tests at Toronto, Kingston and Quebec; also the Advocate special silver service prize for the three best dairy cows of any breed, beating the cows that won these prizes before and breaking all previous records.

THE TROTTER MORRIS 9337,



record 2.30, will stand for service. Ingersoll London, St. Thomas, Aylmer and Brownsville. See route bill M o r e.

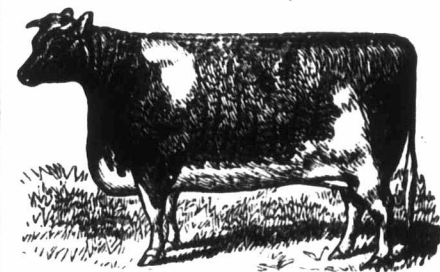
H. CARGILL & SON,

Cargill, Ont.

SHORTHORNS.

Two imported bulls are now at the head of our herd. Six of A. both sexes and different ages from the best imported and home-bred cows now for sale.

ARTHUR JOHNSTON, Greenwood, Ont.



GRAND YOUNG BULLS.

Offers for sale at very moderate prices, a number of exceedingly good young bulls fit for immediate service, and a number of excellent young cows and heifers, all fit to show at leading exhibitions.

IMPORTING.



I have left for England, and expect to return the first week of June with a carefully selected lot of Oxford and Suffolk sheep, having decided to breed these two breeds, kept on different farms.



SHORTHORNS.

I have FOR SALE TWO Shorthorn heifers and two bull calves of fine breeding, fine colors, fine form and carriage, in fine condition, at fine cut prices.

IMPORTED SHORTHORNS.

D. D. WILSON, Ingleside Farm, SEAFORTH, Ont.

SCOTCH SHORTHORNS.

Imported stock from the herds of Wm. Duthie and W. S. Marr for sale; also Canadian-bred from imported bulls and out of imported dams.

WESTRUTHER PARK

Herd of Bates Shorthorns, consisting of Oxford, BARRINGTON, Waterloo, Gwynne, Darlington, and other families, has outgrown the place and must be reduced in numbers.

JOHN IDINGTON, Stratford.

24-y-om

Craigieburn Stock Farm

(25 miles N. E. of Toronto, G. T. R.) FOR SALE.—Two splendid roans and one red bull fit for service this spring.

Deep Milking Shorthorns

Mr. GRAINGER, Ludesboro, Ont., offers for sale some exceedingly good cows and heifers.

CRUICKSHANK SHORTHORNS

of the Duchess of Gloster family. A few straight-bred young bulls and heifers by imp. Duke of Lavender.

SCOTCH-BRED SHORTHORNS FOR SALE

6 Choice Young Bulls

And the Imported Cruickshank Bull

ABERDEEN HERO,

Their sire. Also some nice

Young Heifers,

From one year old up. Prices to suit times.

SHORTHORNS, BERKSHIRES,

Shropshires, Plymouth Rocks & Bronze Turkeys. Write me for prices on the above.

SHORTHORN BULLS

Sired by imp. Prince Royal, and from dams with all imported crosses, also cows and heifers.

SHORTHORNS

We have seven bulls from twelve to fourteen months old, from our best sires and dams, of choicest Scotch breeding.

JOHN MILLER & SONS,

Brougham, 122 y Ontario.

MAPLE LODGE STOCK FARM.

We have a few excellent young Shorthorn Bulls for sale yet, and some nice young Berkshire ready to ship.

SHORTHORN BULL.

I have still a grand Young Bull fit for service, sired by Roan Prince Imported.

GUERNSEYS

This is the Dairy breed for ordinary farmers. Large, vigorous and hardy, giving plenty of rich milk.



**WANTED TO PURCHASE.**  
**PURE BRED KERRY BULLS AND HEIFERS**  
 ADDRESS—D. McEachran,  
 10-c-om Montreal, Que., Canada.

**CHOICE HOLSTEINS FOR SALE**  
 I have a few very nice pure-bred registered Bulls and Heifers for sale at very reasonable figures. Write, or come and see me.  
 JOHN A. LINE, Sherwood, Ont.  
 6-2-y-om Richmond Hill Station

**HOLSTEIN BULLS FOR SALE.**  
 Three extra fine bulls from 12 to 14 months old, sired by McMaster, whose dam had a record of 89 lbs. of milk per day; write for prices.  
 W. M. SEEBING,  
 10-2-c-om Seabringville, Ont.

**Holsteins and Yorkshires**  
 None but the best are kept at  
**Brockholme Farm,** ANCASTER, ONT.  
 R. S. STEVENSON, Proprietor.

Write me for prices if you want first-class stock at moderate figures. Holsteins in the advanced registry. Yorkshires all recorded. 13-1-y-om

**SUNNYSIDE HOLSTEIN FRIESIANS**

Choice animals, either sex, all ages, for sale at any time. Correspondence solicited. Address  
**McDUFFEE & BUTTERS, Stanstead, P.Q.**  
 16-y-om



**HOLSTEIN BULL CALVES**

Dropped in February and March, if taken before three weeks old,

**AT \$15 EACH.**

If required to register them, purchaser to pay registration fee.

**F. A. FOLGER,**  
 Box 578, Rideau Stock Farm,  
 KINGSTON, 4-2-f-om ONTARIO

**THE GREAT MILK AND BUTTER HERD OF HOLSTEIN-FRIESIANS.**

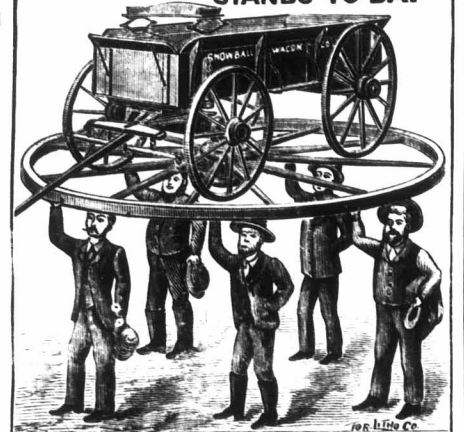
**SMITH BROS., Credit Valley Stock Farm, CHURCHVILLE, PEEL COUNTY, ONT.,**  
 (24 miles west of Toronto).



This is the place to get stock of best quality at reasonable prices. We have seventy-five head, including prize-takers; best strains, cows and heifers, with large milk and butter records young bulls of superior quality. Send for catalogue. 8-2-y-om

**THE BEST WAGON ON WHEELS!**

**THE SNOWBALL WAGON STANDS TO DAY**



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The accompanying cut shows where the SNOWBALL WAGON stands in the estimation of the public. It has stood the test for fifty years and to day 1,000 of our customers advise their friends to buy the SNOWBALL. We are very busy at present, and would advise any one wanting a SNOWBALL to order early and give us time to look carefully after the work.

**Remember We Only State Facts.**  
 Other firms may give you false tales. We never do. You run no risk in buying a SNOWBALL WAGON. We know farmers who have run a SNOWBALL WAGON for forty-five years, and still in fair shape. Always address

**SNOWBALL WAGON CO.,**  
 10-g-0 ST. GEORGE, ONT.

**HOLSTEIN-FRIESIANS AND TAMWORTH PIGS.**

Four very superior young bulls for sale, ready for service. Prize winners at the Industrial. Sired by our prize-winning bulls and out of rich-bred dams. Other stock of all ages for sale. Bargains to quick buyers. Place your order with us for choice Tamworth Imp. and Canadian bred Pigs of best quality, bred of prize-winning stock.

**A. C. HALLMAN & CO.,**  
 New Dundee, Waterloo Co., Ont.  
 Shipping Stations: Petersburg, G. T. R. and Arr. C. P. R. Send for catalogue. 13-2-y-om

**HOLSTEIN-FRIESIAN CATTLE**

Netherland, Aagie and Atris blood, along with others all of the best strains of producing blood. Write for particulars. Young Bulls and Heifers of the above tribes on hand. A grandson of Netherland Prince now for sale.

**G. W. CLEMONS,**  
 10-2-y-om St. George, Ont.



Champion Dairy Herd of Ayrshires at various government tests. Prize winners at the World's Columbian Exposition, Chicago. Write MESSRS. ROBERTSON & NESS, Howick, Que. 19-y-om

**A. McCALLUM & SON,**  
 Sprucehill Farm, Danville, Que.  
**Pure-Bred Ayrshires & 6-f-om Berkshire Pigs.**

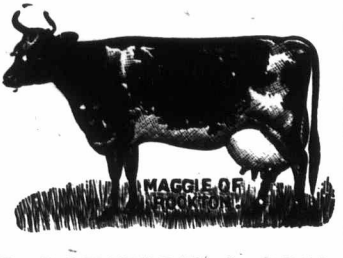
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We have the oldest established, largest and best herd of Ayrshires in Canada. Choice young stock for sale at liberal prices. Satisfaction guaranteed. **JAMES DRUMMOND & SONS,** Petite Cote, Montreal, P.Q. 8-2-y-om

**Prize-Winning AYRSHIRES FOR SALE.**

I have at present one of the largest and best herds in Ontario, which has been very successful in the prize ring. They are deep milkers and of a large size. Bulls, cows and heifers for sale always on hand.



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**AYRSHIRE BULLS**

Six young Ayrshire Bulls for sale. Five of them full brothers to prize winners at the late World's Fair. 9-1-f T. CUY, Sydenham Farm, Oshawa, Ont.

**THE GLEN STOCK FARM AYRSHIRES**

—AND—  
**BERKSHIRES.**  
 A few good Ayrshire bull calves and heifers, Berkshire boars and sows. For particulars write  
**Whiteside Bros.,**  
 7-y-om INNERKIP, ONT.

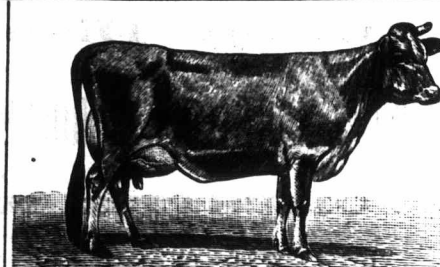
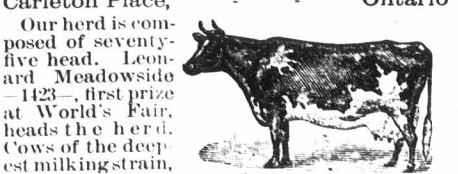
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**2 EXTRA GOOD AYRSHIRE BULL**  
 Calves, nearly ready for service; one out of Second Prize Cow at World's Fair, the other out of Cow that took two Second Prizes at Montreal; sire Hamilton Chief out of one of Messrs. D. Morton & Sons' best Imported Cows, by Imported Bull Royal Chief; also some Poland-China Boar Pigs.

**W. M. & J. C. SMITH,**  
 2-2-y-om FAIRFIELD PLAINS, ONT.

**J. YULL & SONS,**  
 Meadowside Farm, Carleton Place, Ontario

Our herd is composed of seventy-five head. Leonard Meadowside 1423—first prize at World's Fair, heads the herd. Cows of the deepest milking strain, having won several medals at provincial tests. Shropshire sheep and Berkshire pigs. Young stock of both sexes for sale. Visitors welcome; met at train. 7-y-om



Jersey Cows, Heifers and Calves, registered and High Grades, rich breeding and good colors. Our motto, "Individual merit by inheritance." Economy of production and value of product. Pedigrees written in butter. Come and see, or address  
**J. C. SNELL,**  
 EDMONTON, ONT. 8-y-om

**JERSEY-CATTLE**

Of the heaviest milking strains. One of the largest herds in Canada; bred closely to the great dairy cow at Chicago, also the famous two-year-old. Sires of both were sold from this herd. Also Welsh Blood Ponies for ladies' and children's driving. Stock for sale always on hand. **Geo. SMITH & SON,** Grimsby, Ontario. 3-y-om

**HALF-BRED JERSEY HEIFER CALVES**

Sired by a son of One Hundred Per Cent. at  
**\$10.00 EACH.**  
**F. BIRDSALL & SON,**  
 10-4-o Birdsall, Ont.

**GLEN ROUGE JERSEYS**

**WILLIAM ROLPH,** Markham, Ont., offers Twelve Jersey Bulls and Heifers (pure St. Lamberts), out of tested cows. Grand individuals. Prices right. 19-y-om

**JERSEY HURST FARM, LOCUST HILL, Ont. ROBERT REESOR,** importer and breeder of A. J. C. C. Jerseys of the choicest breeding, with the bull Jay St. Lambert 32813 at the head of the herd. Stock of all ages on hand and for sale. 16-2-y-om

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WRITE TO  
**F. A. FLEMING,** 5-y-om Weston, Ont.

**Ingleside :- Herefords.**

**ANXIETY 4th, and THE GROVE 3rd Strains,**

**Prize Winners for '94!**

SPECIAL OFFERING OF

**CHOICE YOUNG BULLS,**  
 Registered calves of '94, \$40 to \$60 a piece. Also a very promising bull 21 months old.  
 Address:—  
**H. D. SMITH,**  
 Farm, 21 miles, Ingleside Farm, G.T.R. Station, COMPTON, Que. 18-2-y-om

**SHROPSHIRE - FOR - SALE**

My whole flock of 60 head of Imported Rams and Ewes, a few home-bred Shearling Rams, and a choice lot of lambs of both sexes. Also a choice lot of young Yorkshire Pigs.  
**T. H. MEDCRAFT,**  
 Sparta, Ont. 19-y-om

**IMPORTED SHROPSHIRE LEWES**

And their lambs for sale by car lots; also a very choice Shorthorn Bull calf, ten months old.  
**W. S. HAWKSHAW,**  
 Glanworth P.O., Ont. 7 miles south of London. 7-1-f-om

**1881—SHROPSHIRE—1881**

My flock is established since 1881. All my ewes are imported and selected in person from the most noted English flocks. A choice lot of shearlings and lambs sired by a Bradburn ram. Write for prices to  
**JAMES COOPER,**  
 14-2-y-om Kipper, Ont.

**BEAM - HOUSE - SHROPSHIRE**

This is the Home of the Blue Bloods.

**WM. THOMAS** offers for sale Rams and Ewes from his famous flock, which has sent so many winners to our leading shows, and here also was bred Mr. A. O. Fox's noted ram "Blue Blood Yet," which so ably piloted Mr. Fox's flock of Shropshires at the World's Fair. Wm. Thomas will have several grand shearling rams for sale this next season, sired by his grand old sheep "Blue Blood," and also a grand lot of shearling rams by other noted sires; also about 150 splendid shearling ewes to select from. Foreign buyers always welcome. If not able to come and select for yourselves, write and obtain prices from **WM. THOMAS,** The Beam House, Montford Bridge, Salop. Railway Station; Baschurch, G. W. R. 2-2-y-om

**SHROPSHIRE.**

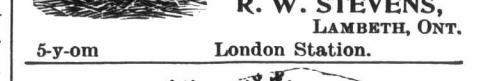
Foreign buyers are invited to visit the Wolf Head Flock, as there is always a good selection of ewes and rams for sale, and we handle none but the best, and can supply select specimens for breeding or exhibition purposes, and residing in the centre of the Shropshire Sheep Breeding District buyers are assisted in selecting from other flocks. Write for prices or visit us before going elsewhere. Visitors met by appointment at Baschurch Station, G. W. R. Address—**J. & T. THONGER,** Wolf's Head Farm, Nesscliffe, Baschurch, Shrewsbury, Eng. Telegram: Thonger, Nesscliffe. 2-2-y-om

**SHORTHORNS AND SHROPSHIRE.**

For sale, seven young Shorthorn bulls, from 8 to 12 months old, got by Grand Fashion 15404—; also a choice lot of Yearling Ewes due to lamb in March. All Stock Registered.  
**W. G. PETTIT,**  
 13-y-om Freeman P.O., Burlington Stn., Q.T.R.

**Imported and Home-bred LINCOLNS**

The first Royal winner, Royal Chester, at the head of the flock. Ewes from the best English flocks, such as those of Dudding, Bailes, Wright and Clark. Rams to head flocks a specialty.  
**R. W. STEVENS,**  
 LAMBETH, ONT. London Station. 5-y-om



**TO FARMERS, STOCK DEALERS & WOOL GROWERS**

FOR SHEEP, CATTLE AND HORSES.  
**LEICESTERSHIRE TICK & VERMIN DESTROYER**

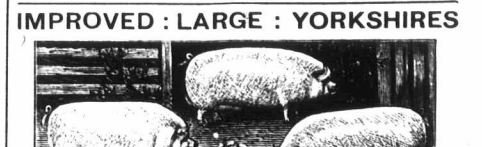
It effectually destroys Ticks, Lice, Worms or Grub, to which sheep, horses and cattle are subject, and enables the animal to thrive. It will be found far superior to other preparations used for the similar purpose. The proprietors will guarantee perfect success when used according to directions, as will be found on each box. It prevents scurf and scab, and renders the wool bright & clear. It is put up in tin boxes, price 30 cents each. One box is sufficient for twenty ordinary sized sheep. It only requires to be tried to prove itself all that is claimed for it. Sold by Druggists and Grocers. Manufactured by **G. C. BRIGGS & SONS,** 31 King St. West, Hamilton, Ont. 5-1-o

SEND for Catalogue of CHAMPION EVAPORATOR. THE G. H. GRIMM CO., Montreal. 7-1-o

**LARGE IMPROVED YORKSHIRE PIGS and Holstein Cattle.**

We breed nothing but the best, and sell cheap, and guarantee satisfaction or no pay. Come and see us, or write for prices and be convinced  
**FLETCHER BROTHERS,**  
 Oxford Mills P. O., Ont., Kemptville St'n, C. P. R. 6-2-y-om

**IMPROVED : LARGE : YORKSHIRES**



The largest herd and the most profitable type of Yorkshires from the feeder's standpoint in America. Over fifty sows bred to seven different stock boars for the spring trade. Pigs for exhibitors purposes a specialty. Stock shipped to order are guaranteed to be as described. Personal inspection solicited. **J. E. BRETHOUR,** Burford, Brant Co., Ont. 3-y-om

**IMPROVED YORKSHIRES,**

Sired from imported stock of Duckering, Sanders Spencer and Walker Jones breeding stock, of all ages, for sale; also a few Bates bulls of milking stock.  
**WM. COWAN, V. S.,**  
 Galt, Ont. 9-y-om

**BREEDERS OF Improved Large Yorkshire Pigs.**

Markham Baron, the sweetest Barrow over all breeds at the Guelph Fat Stock Show, 1892, bred by us. A choice assortment of Pigs now on hand. Only first-class stock shipped to order. **Markham Herd Farm,** at Locust Hill, Station. 1-y-om JNO. PIKE & SONS.

**YORKSHIRE PIGS**

Of the best type and breeding. Pairs not taken for sale at all seasons.  
**J. M. HURLEY & SON,**  
 Belleville, Ont. Box 42. 1-y-om





**C. J. GILROY & SON**

Glen Buel, - Ont.,  
Have for sale some Holstein Cows, one good young Bull, also a number of Improved Large Yorkshire and Berkshire Pigs.  
7-y-o

**T. TEASDALE, CONCORD, ONT.,** breeder of high class Berkshires. Some fine pigs October litters, both sexes, for sale. Also fine lot young pigs farrowed in March. Come and see my stock, or write for prices and description.  
6-y-om

**ISRAEL GRESSMAN, New Dundee,** -IMPORTER OF-  
Large - English - Berkshires  
4-y-om

**THE HOME OF THE BERKSHIRES. J. G. SNELL & BRO.,**  
Edmonton, - Ontario.

Now is a good time to order pigs from litters farrowed this year. We never had so many fine sows to breed from as at present. Can supply a few pigs from litters farrowed in January and February. These will be right for the fall exhibitions where prizes are given for pigs of this year. We have also for sale some young boars fit for service. Write for descriptions and prices.  
8-y-om

**H. J. DAVIS, Woodstock, Ont.,** Breeder of High-class Large Berkshire and Imp. Large White Yorkshire Swine, Short-horn Cattle. - A grand lot of young pigs ready for shipment of both breeds; also boars fit for service from prize-winning stock. Stock shipped to order. Satisfaction guaranteed. Young Bulls generally on hand.  
8-y-om

**BERKSHIRES AND YORKSHIRES.**  
Choice stock for sale at reasonable prices. Orders filled in rotation. Inspection invited. Write for prices.  
THOMAS WATSON, Springvale, Ont.  
8-2-y-om

**C. T. Garbutt, box 18, Claremont, Ont.,** imp. and breeder of Berkshire Pigs and Cotswold Sheep. Promising young pigs of October and January litters. Sows in farrow. Imp. boars in use. Write your wants. Stock all recorded and guaranteed as described. Special rates by express.  
6-2-f-om

**C. R. DECKER, Chesterfield, Ont.**  
A number of young boars fit for service; also some six weeks old (choice) and some choice sows in farrow mostly from imported boar. Prices reasonable. Call and see stock, or write for prices.  
G. T. R. Station, Bright, Ont.  
15-2-y-om

**LARGE ENGLISH BERKSHIRES**  
My herd are imported or bred from imported stock, and have carried winnings at leading shows for years, including sweepstakes over all breeds at last Guelph Fat Stock Show. Pigs of all ages for sale, pairs supplied not akin.  
GEO. GREEN, Fairview, Ont.  
9-y-om

**S. COXWORTH, CLAREMONT, ONT.,**  
Breeder and Importer of Berkshire Hogs  
A choice lot of young pigs just fit to ship. Pairs supplied, not akin, sired by my three grand Stock Boars, "High Clear Prince," "King Lee" and "Champion Duke." Also a few choice sows of Oct. litters. Write for prices or come and see my stock.  
8-y-om

**THE OXFORD HERD OF REGISTERED POLAND CHINAS**  
Our herd of Improved Poland-Chinas won 36 first, 18 second and 6 third prizes in 1888, including the Herd prize at Montreal and Toronto, for best boar and two sows, any age. Stock, both sexes and all ages. Pairs and trios not akin for sale at all times. Correspondence solicited or inspection of herd invited.  
15-y-om W. & H. JONES, Mount Elgin, Ont.

**IMPROVED SUFFOLK SWINE, THOROUGH-BRED HORSES, DURHAM CATTLE AND SOUTHDOWN SHEEP.**  
A grand lot of Suffolk Pigs, all ages, for sale at prices to suit the times. A. FRANK & SONS, The Grange, four miles from Cheltenham Stn., C. P. R. & G. T. R.  
21-2-y-om

**DUROC-JERSEY FARM TAPE BROS.,** - Ridgetown, Ont.  
Importers and breeders of pure-bred Duroc-Jersey Swine. Stock for sale. Prices reasonable. Correspondence solicited.  
9-2-f-om

**Duroc-Jersey Swine**  
Are the best all-round hog known. No squealing; quiet disposition; good grazers; defeated the Berks and P. C. on all points at Mich. Ag. All Test. Pigs for sale. Address, PETER AMARSH, Wheatley, Ont.  
12-y-om

**TAMWORTH PIGS.**

We are now prepared to furnish pigs from imported sows and boars not akin, of the best strains obtainable. Reduced rates by express.  
Write for particulars to  
**H. George & Sons,**  
7-y-om CRAMPTON P. O., Middlesex Co.

**LANGSHANS** - - - -  
My birds are imported from the most celebrated English Breeders. I have distinct yards of the best prize-winning strains.  
EGGS FOR HATCHING. 10-0  
**C. Harleston Irving, Newmarket, Ont.**

**CULLODEN POULTRY YARDS.**  
Mt. Brydges.

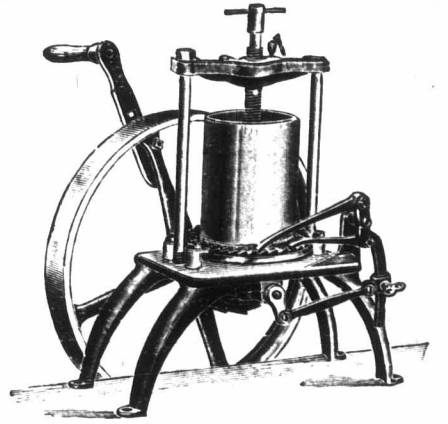
**BIG REDUCTION**  
In price of eggs for the balance of the season after 20th May.

- Black Hamburgs, \$1 per 13.
- B. P. Rocks, - - - 75c. per 13.
- Br. Leghorns, - - - " " "
- W. Leghorns, - - - " " "
- S. Grey Dorkings, - - - " " "
- B. Minorcas - - - " " "
- Light Brahmas, - - - \$1 per 13.

**MUNGER'S AMERICAN STRAIN.**  
Huge Stock of  
Breeze Turkeys, Barred and White Plymouth Rocks, White and Silver Wyandottes, Brown and White Leghorns. 25 Years Experience in Mating and Breeding. 40 Grand Breeding Pens for 1894.  
Fowls and Eggs For Sale at all Times. Pairs, Trios and Breeding Pens Mated for Best Results.  
Address F. M. MUNGER, DeKalb, Illinois

**PRIZE PLYMOUTH ROCKS**  
- Our Eggs Hatch. -  
FROM GRAND PRIZE MATINGS, \$2 PER 13  
FROM CHOICE SELECTED STOCK, \$1 PER 13  
Customers report from Quebec "13 chicks from 13 eggs"; Toronto, "14 chicks from 14 eggs"; Victoria, B. C., "10 chicks from 12 eggs." New circular and catalogue free.  
C. W. ECKARDT, Ridgville, Ont.

**MONITOR INCUBATOR.**  
Two Medals at World's Fair.  
Illustrated Catalogue for stamp.  
A. F. WILLIAMS, Box 117, Bristol, Ct.



**POULTRYMEN! GREEN CUT BONES** warranted to double the egg production. Our BONE CUTTER reduces green bones fine enough for little chicks. Medal and Diploma at World's Fair, and, as far as we know, the only one worthy of mention. Get our circulars also of HAND STONE CRUSHER for making grit, out of stone, shells, broken crockery, etc. Pure Limestone Grit, in sacks, \$1 per 100 lbs. Our CLOVER CUTTER finest made. Write for circulars. WEBSTER & HANNUM, Cazenovia, N. Y. 66-2-c-om

**USE RAMSAY'S CELEBRATED FLOOR PAINTS.**

**BRANTFORD**

**STEEL WIND-MILLS With Internal Gear.**  
STEEL TOWERS-IRON PUMPS-WATER-TANKS-PIPING, ETC.  
The IDEAL JR. Sectional Power Mill is a Wonder.  
Send for circulars, and mention this paper.  
**GOLD SHAPLEY & MUIR CO. LTD.**  
BRANTFORD CAN.

**Gem Steel.**  
THE OLD RELIABLE  
HALLADAY ... STANDARD ... PUMPING ... and GEARED WIND MILLS  
Guaranteed to be the Best Made.  
Also Pumps, Tanks, Feed Mills, Haying Tools, Saw Tables, etc. Send for catalogue.  
Ont. Wind Engine & Pump Co.  
367 Spadina Ave., 10-om TORONTO, ONT.  
Mention Farmer's Advocate.



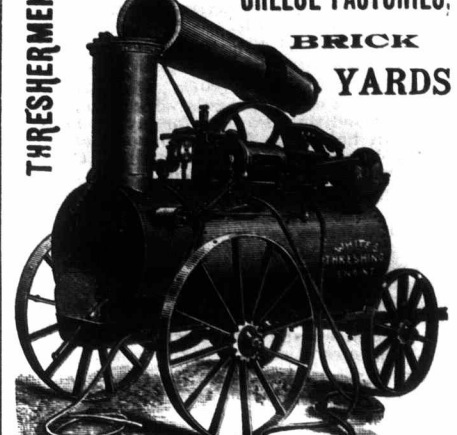
**HOMES FOR FARMERS**  
LANDS SOLD CHEAP - - - AND ON EASY TERMS NO PAYMENT DOWN REQUIRED  
GOOD FARM HOMES, In a rich farming country, can be secured by home-seekers, without money, and means provided to enable them to pay for same. Lands convenient to railway, and adjacent to well-settled and thriving town. For full particulars write to  
**FRENCH LAND & LUMBER CO.,**  
10-a-om Rose City, Mich.

**DOWSWELL WASHERS**  
ASK YOUR HARDWARE FOR THE DOWSWELL WASHER  
Best Washing Machine in the Market.  
10,000 IN USE.  
Or write to manufacturer for catalogue and prices. We also manufacture Churns, Wringers, Mangles and other household specialties, and want good agents in every county.  
**DOWSWELL BROS.,**  
Hamilton, Ontario. 10-a-0  
"THE BEST IN THE WORLD" SO THEY SAY!  
Herbogeum a success with calves; Herbogeum a success with pigs; Herbogeum a success with turkey chicks. It prevents disease, and ensures best results. Ask your merchant for it, and have no other.  
10-y-om THE BEAVER MFG. CO., Galt.



**WORK FOR ALL.** \$5 a month salary and expenses paid if you want employment write at once to P. O. VIKERY, Augusta, Maine 62-y-0

**CHEESE FACTORIES, BRICK YARDS**



ALL "WHITE THRESHING ENGINES" Are guaranteed to give satisfaction. The most durable. Every engine tested. Suitable for Creameries, Factories and Brick Yards. All sizes built.  
**GEO. WHITE & SONS,**  
LONDON, ONT. 7-j-0

**STOCKMEN!**  
- USE -  
**Leavitt's Denorning Clipper**  
It makes perfect mulies; cuts all around the horn; can be used by anyone and on any aged animal. It is positively the BEST! Endorsed by every V. S. and S. P. C. A. that have seen it. For circular giving testimonials, price, etc., address  
S. S. KIMBALL, Manager for the Dominion, 37 Craig St. MONTREAL, P. Q. 7-f-0

**100 Rods BUCHANAN FENCE CO.**  
SMITHVILLE, \$35-  
8-Lom

**COMPOSITION TREE PROTECTOR BOW**  
- TO -  
**PROTECT YOUR TREES**  
Against some of the most common and destructive insects, viz.:  
Codling Moth, Tent Caterpillars, Climbing Cut Worms, Canker Worms, Tussock Moth, Mottled Humber Moth.  
Patented Feb. 6th, 1893.  
The only effective remedy against the second brood of Codling Moth. For special information apply to  
**McGILL BROS.,**  
Sole Manufacturers for the Dominion of Canada  
OFFICE AND FACTORY:  
10-0 355 Richmond St., LONDON, ONT.



**ATTRACTIVE! PRACTICAL! DURABLE!**  
This cart is the quickest seller on the market. It is graceful, neatly proportioned, easy of access, has a soft and pleasant motion, is safe, reliable and easy riding. Send for illustrations and prices. **THE WILSON MFG. CO. (LTD.),** Cor. Cannon and Ashley Streets., Hamilton, Ontario. 10-2-b-0

**LONDON PURPLE**  
NINE CENTS PER POUND.  
Pure Paris green does not in any way compare with it in efficiency. You can obtain the pure article, with full directions for use, by addressing the importer.  
**JOSEPH STRATFORD,**  
10-0 Brantford, Ontario.

**GODERICH ORGAN**  
High grade, fine tone. Send for Catalogue. Made at Goderich, Ontario. 1-y-om



**NOTICES.**

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

Joseph Stratford, Brantford, Ont., advertises Pure London Purple for sale in this issue.

The Davis & Lawrence Co., Montreal, offer to send, as a sample, regular-sized package of Maud's Condition Powder for laying hens, at less than half price, for the purpose of introducing it among the poultrymen of Canada. See advertisement in this issue.

Mr. Joseph Stratford, Brantford, Ont., will shortly have a large dispersion sale of Holsteins and Jersey cattle, Shropshire and Dorset-Horn sheep and lambs, Chester White and Yorkshire swine. This will be a splendid opportunity for Canadian farmers to purchase choice stock. The exact date will be announced in a later issue of the *Advocate*. Three hundred sheep and lambs will be offered for sale. See advertisement in this issue.

The Farmer's Binder Twine Co., Brantford, Ont., are now prepared to fill orders for the harvest of 1894. Send to the President, Joseph Stratford, for notes, order forms and full particulars. This firm state "That they do business directly with the farmer, and for this reason should have the patronage of farmers and Patrons." Terms are: Notes payable 1st October, 1894; liberal discount for cash. Freight prepaid in car lots to any point in Ontario.

The attention of our readers is directed to the advertisement of the Mercer Mfg. Co. (Ltd.), of Alliston, which appears in this issue. The method they have adopted of combining their interests with those of their customers is novel, and farmers should inquire thoroughly into the working of this plan. The shares of the company are only \$10 each, entitling the holder to purchase his implements and supplies at wholesale prices, and as the company is a Limited Stock Company, shareholders are only liable for the amount for which they subscribe. Farmers should communicate with The Mercer Mfg. Co. (Ltd.), Alliston, before placing their orders.

We take pleasure in directing the attention of our readers to the advertisement of the American Harrow Co., of Detroit, Mich., and Windsor, Ont. which appears in another column. Their New American Harrow, to which attention is specially called, is all that it is represented to be. Once introduced in a locality its popularity is assured. As a seeder and harrow its work is perfect. The teeth have reversible points, and can be locked down or allowed to float. The thistle points are a great success, cutting all the ground shallow or deep as desired. It also cultivates perfectly corn, beans and other crops planted in rows. By using the extension arms two rows can be cultivated at once. The driver rides, and the draft is very light. As a bean harvester it is indispensable to bean growers, and is highly recommended by all who have used it. The bean harvester is an attachment which is easily put onto the New American after removing the sections. It pulls two rows of beans at once, leaving them in a perfect windrow, and harvesting from two to eighteen acres per day. Write for particulars and circulars. Corn growers will find its use most advantageous.

Mr. R. W. Barker, for the past fifteen years Inspector of Post Offices for Western Ontario, has been transferred to Toronto, having been promoted to the position of Inspector of Post Offices of that division. Mr. Barker was a painstaking official, and an evidence of the respect and high esteem in which he was held will be found in the following resolution passed at a late meeting of the London Board of Trade, when Mr. J. W. Little paid high tribute to the efficient service of the late Post Office Inspector. He referred to his uniform kindness and courtesy to all, and to the many improvements made in this district during his term of office. He then moved, seconded by Mr. J. H. Minihnick, that Mr. R. W. Barker, late P. O. Inspector of this district, has been removed to Toronto; that this Board desires to express their appreciation of the faithful and efficient manner in which he performed his duties here, especially in his readiness at all times to assist business men in affairs connected with the postal service. "Mr. Barker carried with him to his new home the best wishes of the merchants of London for his future success." Carried unanimously. Any of our readers having occasion to write him, will receive the same prompt attention as heretofore.

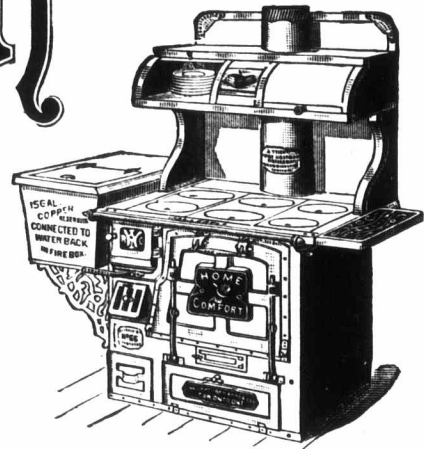
**SATISFACTORY ADVANCE IN PRICE.**  
Our shippers find that good prices can be realized for good animals, but ill-conditioned ones are a drug on the market. Our stock raisers admit that most satisfactory results come from using *Dick's Blood Purifier*. It tones up the whole system. Be sure and get *Dick's*.

**HOME SEEKERS' EXCURSION TICKETS.**  
Will be sold by the Chicago, Milwaukee & St. Paul Railway on May 8th and May 29th, 1894, from Chicago to St. Paul, Minneapolis, Omaha, Sioux City, Kansas City, and points beyond, at practically one fare for the round trip. Excursion tickets will be good for return passage thirty days from date of sale, but are good for going passage only on date of sale. For further particulars apply to any Coupon Ticket Agent in the United States, or Canada, or address A. J. Taylor, Canadian Pass. Agent, 87 York St., Toronto, Ont.

**MERCANTILE BILL IN THE DOMINION PARLIAMENT.**  
Just as we go to press with our forms we received copies of the following resolutions, which were passed unanimously at a recent meeting of the Committee on Agriculture:  
Moved by Dr. Roome, seconded by Mr. McMillan, "That this Committee recommend to the Government of Canada to take active measures to induce the Government of the United States to accept the certificates issued by the Stud, Herd and Stock Records of Canada, entitling such registered stock to pass the lines of the United States customs free of duty."  
Moved by Mr. Carpenter, seconded by Mr. McMillan, "Resolved, that after having heard the representations of the delegation representing the Dominion Cattle Breeders' Association, this Committee are of opinion that an association of that kind is of very great importance to the farmers of this country; and that we hereby urge upon the Government the importance of giving substantial assistance to the said Association to aid them in their laudable undertaking."

**THE HIGHEST AWARDS**  
Were received at  
**WORLD'S COLUMBIAN EXPOSITION,**  
BY THE **WROUGHT IRON RANGE CO.,** ON

**HOME COMFORT**



**STEEL**  
**HOTEL AND FAMILY RANGES.**  
CARVING AND STEAM TABLES,  
BROILERS, MALLEABLE WATERBACKS,  
ETC., ETC.

This Style Family Range is sold only by our Traveling Salesmen from our own wagons at one uniform price throughout Canada and the United States.

Made of **MALLEABLE IRON and WROUGHT STEEL** and will **LAST A LIFETIME** if properly used.

**SALES TO JANUARY 1st, 1894, 277,188.**

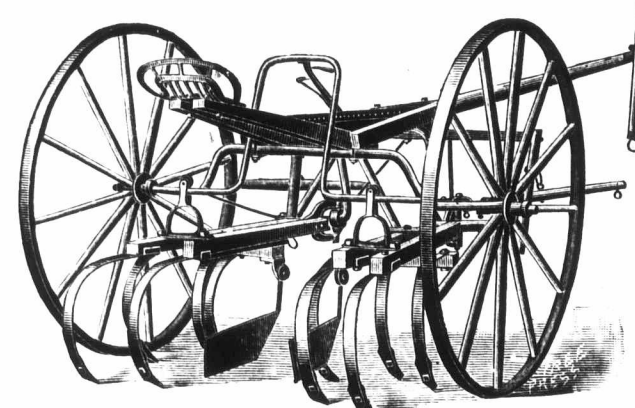
MADE ONLY BY **WROUGHT IRON RANGE CO.,** MANUFACTURERS OF Hotel Steel Ranges, Kitchen Outfittings and "Home Comfort" Hot-Air Steel Furnaces.  
OFFICE, SALESROOM AND FACTORY,  
70 to 76 PEARL STREET, TORONTO, ONTARIO,  
and Washington Avenue, 19th to 20th Streets, ST. LOUIS, MO., U. S. A.  
Founded 1864. Paid up Capital, \$1,000,000.  
7-y-om

We have received the following goods and have them in our warehouses at the following prices, at which they cannot be secured again. Our stock is very limited. Cash has to accompany all orders for these goods. We guarantee them first-class goods in every respect. So don't delay your order if you want any of them.

- A good, large Bell, suitable for school, worth \$16, we will send you for \$12
  - A Thomas Organ, Woodstock, worth \$110 dollars, for 50
  - A Karn Organ, Woodstock, worth \$150 " " " " 75
  - A Mercer Grain Binder, complete, for 85
  - A 14-inch Ensilage Cutter, with 10 feet of carriers, for 50
  - A Large Ensilage Cutter, without carriers - 45
  - A Trenton Fanning Mill, No. 1, only 12
- We want you to distinctly understand these are a job lot bought for much less than manufacturers' prices, and will be sold to the first buyer.

**THE GRANGE WHOLESALE SUPPLY CO. (Ltd.)**  
126 King Street East, TORONTO.

**NEW AMERICAN HARROW**



**SEEDER AND BEAN HARVESTER.**

The most perfect and practical machine made. Sold separately or combined. Received the highest award at the World's Columbian Exposition. As a Harrow, its work is perfect. The teeth have reversible points, and can be locked down or allowed to float. The Thistle points are a great success, cutting all the ground shallow or deep as desired. As a Cultivator, the New American has no equal. It cultivates perfectly all crops planted in rows.

By using the extension arms, two rows of beans can be cultivated at once. As a Bean Harvester, it is indispensable to bean growers, and is highly recommended by all who have used it. The Bean Harvester is an attachment which is easily put onto the New American after removing the sections. It pulls two rows of beans at once, leaving them in a perfect windrow, and harvesting from twelve to eighteen acres per day. Write for Prices and Circulars. **AMERICAN HARROW CO.,** 10 m-o DETROIT, MICH., or WINDSOR, ONT.

**A Farmer's Testimony ...**

Colchester, January 14th, 1894.

McClary Manufacturing Co., London, Ont.:

Gentlemen, I have a Cook Stove of your make; it is called the Improved Hercules; J. & O. McClary; Patented 1862; No. 8; it has been in use over 30 years steady, and it is as good as it ever was, with the exception of fire back and grate, and some of the lids are cracked. I would like to know if repairs can be got for those kind of stoves yet, and if you have the same kind of stoves yet, and what would be the price of repairs by piece, and price of stoves, if any, on hand. They cannot be excelled for baking and heating purposes.

Yours truly,

JOS. BORING, Colchester, Ont.

**THE McCLARY MFG. CO.**  
LONDON, TORONTO, MONTREAL, WINNIPEG, VANCOUVER.

ADVERTISE IN THE FARMER'S ADVOCATE.

**ULCERKURE**

A new Chemical Compound discovered by Dr. Warnock, Member of Royal College of Veterinary Surgeons, England; Fellow of the Glasgow Veterinary Medical Society.

**A NEW DISCOVERY,**

With a specific chemical action, for the immediate cure of wounds and ulcerated sores on Horses, Cattle, Dogs, etc., such as Barb Wire Cuts, Collar and Saddle Galls, Cracked Heels, Frost Bites, Foot Rot, Rope Burns, Mallenders, Sallenders, Broken Knees, Ring Worm, Scratches, Scalds, Cuts, Burns, and all foul and putrid sores of all descriptions. Recommended by the largest stock owners in Canada.

A. E. WALDON & CO., Chemist, Calgary, Alta. 5 y-o-m

**The FAVORITE CHURN**

The most simple. The most durable. The most effective. The easiest to keep clean. Water tanks specialty, and shipped to all points. Correspondence and shipments promptly attended to. All kinds of cooperage.

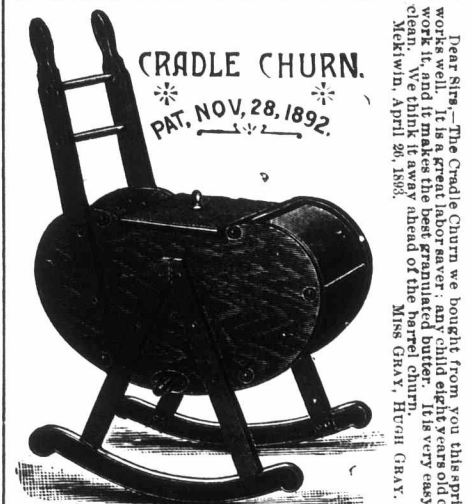
ST. MARYS COOPERAGE  
F. E. BUTCHER, St. Marys, Ont. 4-2-y-om



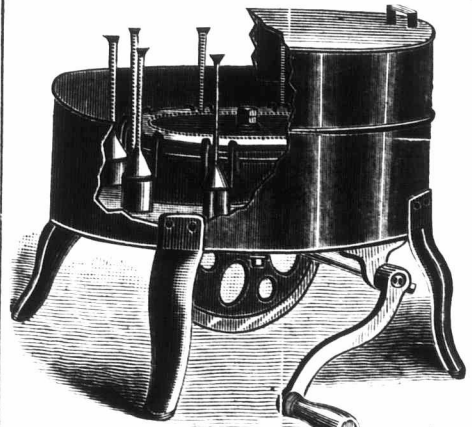
**FARMERS & SETTLERS, ATTENTION!**

British Columbia offers at the present time the best field for farmers and settlers in any part of Canada. Beautiful Climate, Productive Soil, Ready Markets, Good Prices, No Drought, No Frosts, Sure Crops. We have on our books over 10,000 acres of the best farming lands in the Province at very low prices, and on easy terms of payments, in blocks to suit purchasers, and situated in the best localities. Several islands within easy reach of Vancouver, well adapted for sheep and cattle. Settlers settled on Government lands. Call on or address,

**MACKINNON, DeBECK & CO.,**  
LAND, TIMBER AND MINERAL AGENTS,  
11 Hastings St., 9-y-om VANCOUVER, B. C.



Address: CHAS. BOECKH & SONS, Toronto, or to the WATSON MANUFACTURING CO., 477, Ont. 13-y-om



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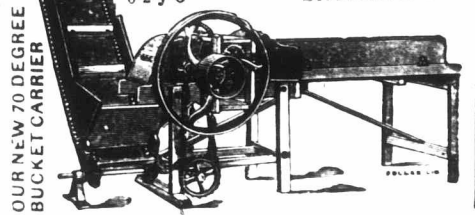
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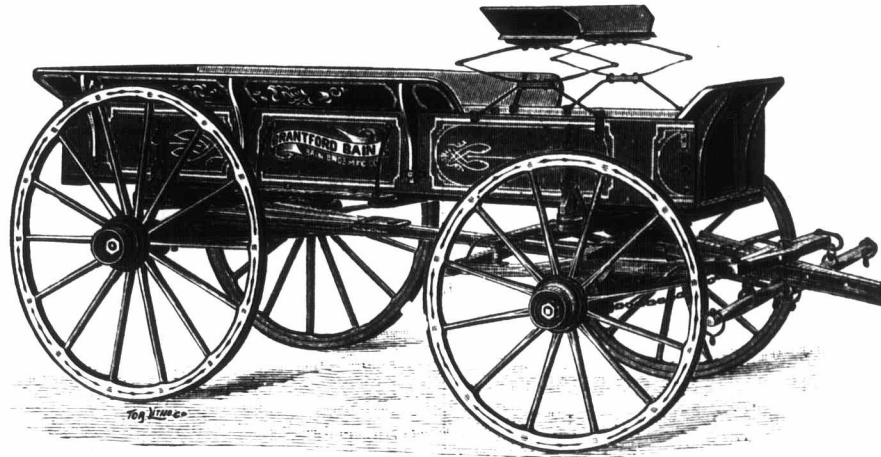
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### FARMER'S BINDER TWINE.

Prices on Binder Twine will shortly be advertised by our Company in this paper. Order forms and notes in any quantity can be had on application to President Joseph Stratford, Brantford, Ont. Terms will be same as last season, payable October 1, 1894. The duty of farmers and Patrons to this Company is very plain. If you want the principle established of buying direct, thereby saving about one or more cents a pound through middlemen or agents, unite with your neighbors, if only for a few hundred pounds of twine, and send your order straight to the Farmer's Company. You will by this means assist in establishing what you have been struggling so long for, PURELY MADE DIRECT FROM THE MANUFACTURER. Get your orders in early. Remember, goods on way freight trains are longer in reaching their destination than you figure on.

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**Many Old Farms Won't Produce a Profit.** require so much fertilizing that farms and gardens. The rich, loamy soil of Michigan Farms produces a fine crop without this expense. The near market, general healthfulness of climate and freedom from cyclones, hurricanes, together with good roads, wharves, etc., make Michigan Farms the best in the world. Write to me and I will tell you how to get the best farms on long time; low rate of interest.  
O. M. BARNES, Land Commissioner, Lansing, Mich.  
23-1

### STOCK GOSSIP.

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

The annual meeting of the American South-down Breeders' Association will be held in the Illinois National Bank, Springfield, Illinois, May 30, 1894, at 2 o'clock p.m. Those who cannot attend are requested to present by letter to the Secretary, Mr. Jno. G. Springer, any suggestions they may have to make for the good of the Association and the interest it represents.

**MESSRS. H. GEORGE & SON'S CHESTERS AND TAMWORTHS**

The above firm are among the oldest breeders of Chester White Swine in Ontario, and have been eminently successful with their stock at all the leading exhibitions during the last three or four years. They carried off the bulk of the winnings, including sweepstake prizes at Montreal, Toronto and London. They have imported from several of the leading breeders throughout that part of Ohio where the breed originated, and they have been continually adding new material and fresh blood from the best strains to be found in the herds of the leading breeders of the United States. This firm pay strict attention to the feeding and care of their stock, consequently their herd is always to be found in the most desirable and thrifty condition possible for inspection by casual visitors or intending purchasers. It is not surprising that they have made a success of their breeding operations, and that pigs of their breeding have contributed largely towards improving other herds throughout the Dominion. In order to fill the demand for leaner pork, they have added Tamworths to their stock in trade, and during our last visit we noticed several exceedingly good specimens of this breed in their yards. These were chiefly bred from stock imported from such celebrated breeders as Mr. D. W. Philip, Whitacre, England; W. H. Mitchell, Elmton, England, and others.

**MR. GEO. BENNETT'S CHESTER WHITES.**

Seven miles south east of Chatham, and about a mile and a half from the M. C. R. Station, at Charing Cross, is located the 250-acre farm of Mr. Geo. Bennett, where he is breeding Chester White swine, choice poultry, and producing small fruits and honey. The foundation stock of this herd were purchased from Mr. E. D. George, Putnam, about four years ago, to which he has since added a number of good animals of the choicest strains attainable. Mr. Bennett is a great admirer of the pure breeds of fowls, having had his pen of show birds ever since he was a boy; so that, though comparatively young in years, he is a veteran in the poultry business. Last year he won 117 prizes, only 27 of which were less than firsts. He is breeding the following varieties: Partridge Cochins, Light Brahmas, Hamburgs; Golden, Silver and White Wyandottes; Plymouth Rocks; White, Brown and Black Leghorns; Piled Indian and B. Games, three varieties of Game, Bantams, Toulouse Geese and Pekin Ducks. He considers the White Wyandotte the best all-round farmer's fowl. The Brown Leghorns are a fine lot. He has been breeding this variety of fowl for the past seventeen years. His Indian Games are also very superior. He has about sixty colonies of Italian bees, and makes a specialty of dollar queens. On this farm there is a building which is neglected on too many farms—a good workshop—in which Mr. Bennett improves his time on stormy days by manufacturing his own bee supplies. Last year he was successful in obtaining eleven first prizes on his honey.

**FAIRVIEW BERKSHIRES.**

Six miles south from Stratford is situated the stock farm of Mr. George Green, of Fairview, whose name has become identified with breeding of first-class Berkshire swine. It is fifteen years since this herd was first established, and the many winnings carried at the leading exhibitions throughout the last ten years have brought many honors home to the herd. Of the four or five boars that have been used on this herd, Queen's Own was the first shown us. Queen's Own was sired by imported Enterprise, dam Oxford Girl, by imported Gladstone. He is a capital pig, with good bone, exceptional strength and even finish. He was first bred at Montreal, Toronto and London in the class under a year.

Royal Hope, which was sired by imp. Gladstone, dam Mountain Belle, by Duke of Elm-grove, is a pig with great bone and good length, and is remarkably even. He won second premium both at Montreal and London in 1893. The imported four-year-old boar Longrange, which was bred by Mr. J. A. Feicker, Wiltshire, England, has also been used in this herd. He had been sold previous to our visit, and we therefore had no opportunity of seeing him.

Of two young boars, there was a capital pig bred in the herd; he was sired by Baldwin, dam Nellie, by imp. Rising Star, and looks like a future winner. His pen companion is an imported dam pig, that has plenty of length and quality, but has not developed quite as quickly.

Royal Sally deserves particular mention among the sows. She was sired by Lord Pollard, which was a son of imp. Last Link 1th, a sow that never left the show ring without a ribbon, including sweepstakes at Kingston in 1888. Royal Sally's dam was imp. Alton Sally, one of the celebrated swanick Sally tribe, while Royal Sally herself has been both a good breeder and frequent prize-winner.

Oxford Lady, by imp. Gladstone, is a right good one. In addition to the many prizes carried off at leading shows, she had the distinguished honor of winning the sweepstakes over all sows at the late Fat Stock Show at Guelph last winter. Two beautiful young sows are Last Link 8th and Golden Link, descended from the imported prize-winning sow, Last Link 1th, spoken of above. These are both from one farrow and sired by Golden Prince, and look like giving competitors trouble at future exhibitions. Among sows that have already farrowed is Mountain Belle, which has a fine litter by Queen's Own.

Altogether, Mr. Green has some twenty or twenty-five sows that, but of well farrow this spring, and he is in a good shape to fill orders, as he has them bred of independent lines, whereby his patrons may obtain pairs, or trios, not related when required. But we would strongly advise those who can make it convenient to call and inspect for themselves, for we can assure them that it will be a most interesting and profitable visit.



**STOCK GOSSIP.**

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

**THE BOW PARK DISPERSION SALE.**

A company of some four hundred of Ontario's prominent breeders and farmers congregated at Bow Park to witness the dispersion of the famous herd of Shorthorns which has been bred there for the last twenty-five years. The Bow Park herd, as most of our readers are aware, was founded by the late Hon. George Brown, twenty-five years ago. He afterwards formed what was known as the Canadian West Fair Association. In 1885 the Messrs. Nelson & Sons, Edinburgh, purchased the entire interest in it, and although it has been under the proprietorship of different firms, it has been better known under the management of the late Mr. John Hope, under whose supervision it has been conducted for the last eighteen years. This herd has not only gained celebrity through the fashionable breeding of the individuals of which it was comprised, but for many years it carried winnings throughout both Canada and the United States. They have gained many show yard honors both in the breeding rings and fat stock classes on both sides of the lines. About half the herd was sold at public sale last October, and the remainder, which contained many of the most fashionable families, was sold last month. Forty-nine cows and heifers and fifteen bulls were catalogued, every one of which found a purchaser, although, as several of the cows were old, the prices obtained for these were quite low. The most notable feature in connection with the sale was seen in the demand for the best individuals. As with buyers at the former sale, fashionable breeding did not cut any figure. Bulls of all ages, with a few exceptions, sold at fairly good prices, considering the lateness of the season. Lord Outwait (a son of the old imp.) show cow, Lady Isabel, and sired by Butterfly Duke (10th) was purchased by Mr. Robert Davies, Toronto, at \$520, in whose hands he will likely appear in the show ring. Mr. Davies also bought the beautiful white heifer, Isabella 5th, a granddaughter of imported Lady Isabel. This family was in great demand, as they were all good individuals.

Mr. Iddington, Stratford, purchased Duke of Hilldale 16th and several excellent Duchess females. The following is a complete list of purchasers and prices:—  
Kirklevington Duchess 2nd (imported), calved 1879—T. Robertson, Brantford, \$25.  
Wave Foam of Montrose 3rd, calved 1882—A. Armstrong, Fergus, \$45.  
Flossie Gyane, 8th (imported), calved 1883—O.L.O. Sage, Brantford, \$25.  
Duchess of Clarence 29th (and calf), calved 1883—W. S. Pettit, Freeman, \$50.  
Duchess of Clarence 32nd, calved 1888—A. Grantham, Mowhawk, \$65.  
Duchess of Brant 6th, calved 1888—J. Iddington, Stratford, \$115.  
Countess of Goodness 25th, calved 1888—Mr. McDonald, Rockwood, \$90.  
Waterloo 38th, calved 1888—H. Thompson, Morganstown, Parry Sound District, \$50.  
Countess of Goodness 26th, calved 1888—P. McKinley, Ridgeway, \$45.  
Waterloo 60th, calved 1889—J. Brethour, Burford, \$80.  
Lady Isabel (imported), calved 1881—Mr. Douglas, Oronogo, \$55.  
Isabella 9th, calved 1889—R. Davies, Toronto, \$91.  
Isabella 6th, calved 1890—T. E. Robson, Ilderton, \$95.  
Duchess of Barrington 20th, calved 1889—J. Iddington, \$90.  
Julia 28th, calved 1890—W. S. Pettit, Freeman, \$ 10.  
Ingram's Butterfly, calved 1890, J. Gibson, Bendfeld, \$85.  
Flossie Gyane 12th, calved 1890—D. Hanley, Canastota, \$55.  
Duchess of Brant 8th, calved 1890—Wm. Cowan, V. S., Galt, \$75.  
Knightly Grand Duchess 22nd, calved 1891—A. R. Snider, Humber, \$60.  
Roan Duchess 39th, calved 1891—Mr. Elmore, Springvale, \$90.  
Grand Duchess of Oxford 97th, calved 1891—Wm. Jaffray, Berlin, \$50.  
Marshall Duchess 8th, calved 1891—C. H. Chapman, Petrolia, \$75.  
Waterloo 61st, calved 1892—C. J. Davis, Freeman, \$68.  
Waterloo Lily, calved 1892—F. G. Ramsay, Duval, \$65.  
Lady Fawcley 19th, calved 1892—F. G. Ramsay, \$65.  
Countess of Goodness 30th, calved 1892—F. G. Ramsay, \$60.  
Julia 29th, calved 1892—J. R. Snider, Humber, \$60.  
Duchess of Clarence 35th, calved 1892—C. J. Davis, \$70.  
Isabella 9th, calved 1892—R. Davies, Toronto, \$85.  
Knightly Grand Duchess 23rd, calved 1892—W. Miner, Lowbank, \$40.  
Duchess of Clarence 36th, calved 1892—J. McArthur, Gobles, \$70.  
Duchess of Brant 10th, calved 1892—J. Iddington, \$90.  
Roan Duchess 61st, calved 1892—J. H. Brown, Teetersville, \$50.  
Waterloo 62nd, calved 1892—N. Clement, Vanessa, \$55.  
Roan Duchess 62nd, calved 1892—Capt. Milloy, Paris, \$80.  
Lady Fame 3rd, calved 1892—George Hardy, Ashgrove, \$55.  
Duchess of Lincoln 2nd, calved 1892—Capt. Milloy, \$65.  
Cambridge Rose 13th, calved 1892—Rev. R. Ashton, Brantford, \$45.  
Countess of Goodness 31st, calved 1892—H. Thompson, Morganstown, \$50.  
Waterloo 63rd, calved 1893—Wm. Templar, Jerseyville, \$55.  
Duchess of Barrington 22nd, calved 1893—J. Iddington, \$45.  
Julia 30th, calved 1893—Capt. Milloy, \$50.  
Lady Zoe 2nd, calved 1893—T. E. Robson, \$15.  
Ingram's Butterfly 2nd, calved 1893—W. Miner, Lowbank, \$40.  
Flossie Gyane 14th, calved 1893—J. McArthur, \$45.  
Isabella 10th, calved 1893—J. Field, Vanessa, \$40.  
Duchess of Hilldale 14th, calved 1893—J. Harper, Canington, \$40.

**BULLS.**

Duke of Hilldale 16th, calved 1888—J. Iddington, \$75.  
Lord Outwait, calved 1891—R. Davies, Toronto, \$520.  
John, calved 1892—C. H. Chapman, Petrolia, \$55.  
Kestrel, calved 1892—Capt. Milloy, \$165.  
Roan Duke 38th, calved 1893—J. Augustine, Fort Colborne, \$80.  
Isabella's Heir, calved 1893—W. Douglas, Oronogo, \$120.  
Waterloo Duke 25th, calved 1883—Alex. Edmondson, Brantford, \$90.  
Roan Duke 19th—J. Brown, Humber, \$90.  
Waterloo Duke 36th—H. Thompson, Morganstown, \$80.  
Duke of Kent 13th—J. McArthur, Humber, \$90.  
Earl of Goodness—J. Conrad, Grey Co., \$55.  
Roan Duke 40th—W. McDonald, Dutton, \$85.  
Duke of Brant 4th—Mr. Edmondson, Brantford, \$75.  
Waterloo Duke 35th—R. Dunlop, \$60.  
Duke of Brant 34th calf—W. Cowan, Galt.

In a recent business letter to the office Mr. F. A. Folger, of Rideau Stock Farm, Kingston, Ont., states that his Holstein bull calves have been taken as fast as dropped, and he has orders taken ahead.  
Mr. J. C. Snell, Edmonton, Ont., writes: "There is an increasingly active demand for good Jerseys as foundations for herds, and also as family cows for cities and towns. Ontario is fast becoming a dairying province, and the adoption of the system of buying milk by the Babcock Test for butterfat at most of the factories in the west has created an increasing demand for the blood that has made a record for richness, and for the cow that laughs at hard times."

**"For Years,"**

Says **CARRIE E. STOCKWELL**, of Chesterfield, N. H., "I was afflicted with an extremely severe pain in the lower part of the chest. The feeling was as if a ton weight was laid on a spot the size of my hand. During the attacks, the perspiration would stand in drops on my face, and it was agony for me to make sufficient effort even to whisper. They came suddenly, at any hour of the day or night, lasting from thirty minutes to half a day, leaving as suddenly; but, for several days after, I was quite prostrated and sore. Sometimes the attacks were almost daily, then less frequent. After about four years of this suffering, I was taken down with bilious typhoid fever, and when I began to recover, I had the worst attack of my old trouble I ever experienced. At the first of the fever, my mother gave me Ayer's Pills, my doctor recommending them as being better than anything he could prepare. I continued taking these Pills, and so great was the benefit derived that during nearly thirty years I have had but one attack of my former trouble, which yielded readily to the same remedy."



At the first of the fever, my mother gave me Ayer's Pills, my doctor recommending them as being better than anything he could prepare. I continued taking these Pills, and so great was the benefit derived that during nearly thirty years I have had but one attack of my former trouble, which yielded readily to the same remedy."

**AYER'S PILLS**

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**Every Dose Effective**

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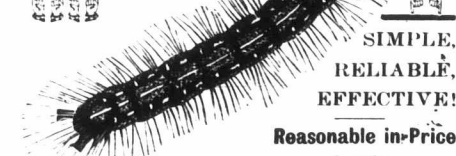
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FOUR FOR ONLY \$1.

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Concord, Worden, Moor's Early, Brighton and Vergenous GRAPE VINES, 10 for \$1 (2 years, post-paid.)  
Rocky Mountain CHERRY 2 for \$1.

Rural N. Y. Potatoes, 80c. per bush. APPLE, PEAR and PLUM TREES away down.  
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**ALL MACHINES GUARANTEED.**

Pay no attention to agents of other companies, as we sell direct to the farmer, and our method of doing business has only to be looked into to be appreciated by any intelligent farmer. Write for particulars to

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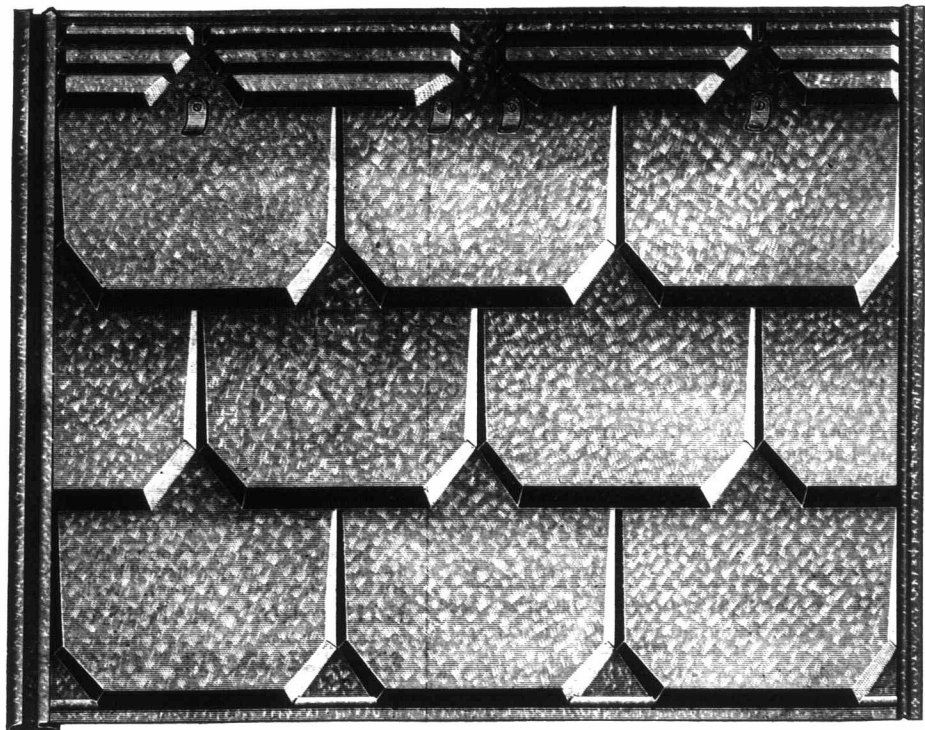
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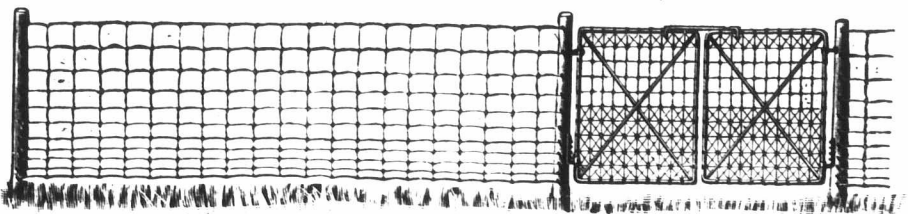
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**For All Crops, All Soils, Canadian Climate.**

Send for 1894 Catalogue, containing full particulars and testimonials from many reliable farmers. 2-2-f-om

... VERY DELIBERATE. ...



The Lake Shore & Michigan Southern R. R. Co. took a "flying trip" to the World's Fair, but didn't have time to decide on the fence question. In fact, they took SEVEN YEARS to investigate the PAGE FENCE before deciding to adopt it for use on their entire line. Besides testing it for five years, the Chief Engineer and Div. Engineers made special trips, travelling hundreds of miles to inspect the first fences built (some serving on second set of posts), and questioning owners on every point. The first order was received April 20th, and probably 150 miles will be used during the season. "Elasticity" is in it.

THE PAGE WIRE FENCE CO. OF ONT. (LTD.), WALKERVILLE, ONT.



**THE LOCKED-WIRE FENCE CO., INGERSOLL, ONT.**

The accompanying cut represents five panels of fence and gate of the LOCKED-WIRE FENCE which is now built with improved corrugated hardened steel stay and Bessemer steel clamp, a combination which is proof against the most unruly stock or designing men. The crimp in the wire, in combination with steel clamp, when locked acts as a spring, adjusting the fence to heat or cold.

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**Safe, Stronger, Better AND CHEAPER**  
 than any other fence, and without doubt the best fence on the American continent.

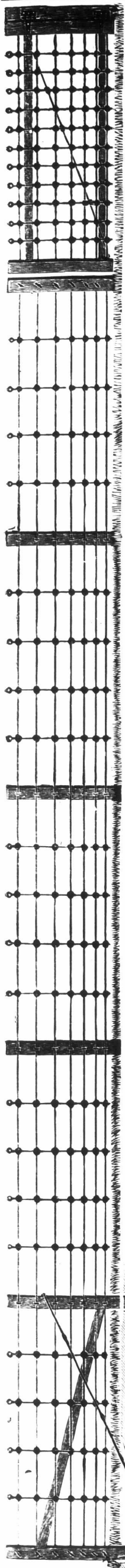
All persons having wire fences erected in the past, should use the stays and steel clamps of the Locked-Wire Fence Co. on them. The crimp consumes all the slack, makes the fence tight, and adds over 100 per cent. to its value, at a very small cost.

We desire to inform the farmers and public generally that we are prepared to supply the material or erect this fence throughout the Dominion of Canada.

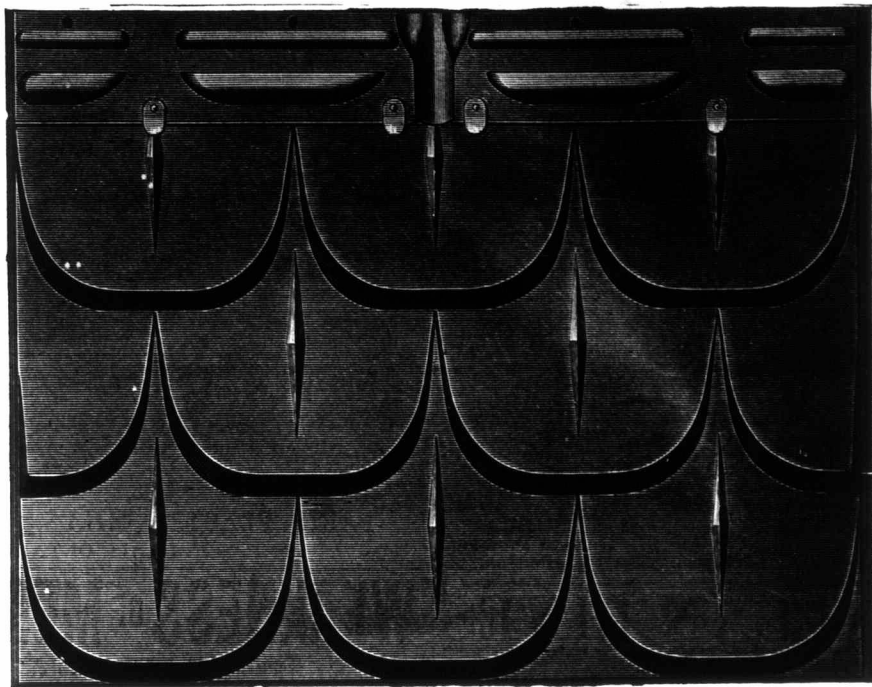
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 Address  
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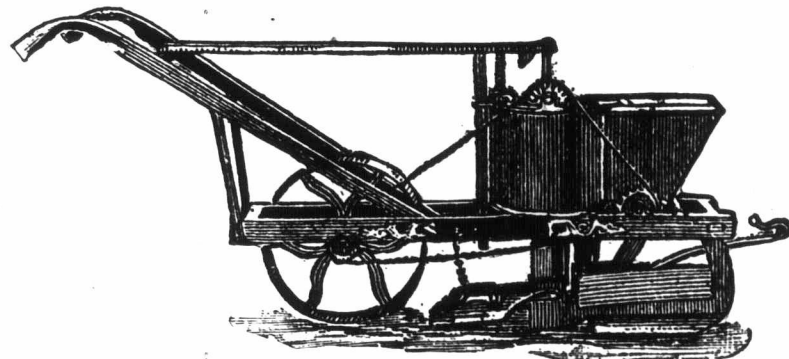
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**WILL LAST A LIFETIME.**



FIRE-PROOF, LIGHTNING-PROOF, WATER-PROOF. Nearly as Cheap as Wooden Shingles. Send for Illustrated Catalogue. Reliable Agents wanted in every vicinity.  
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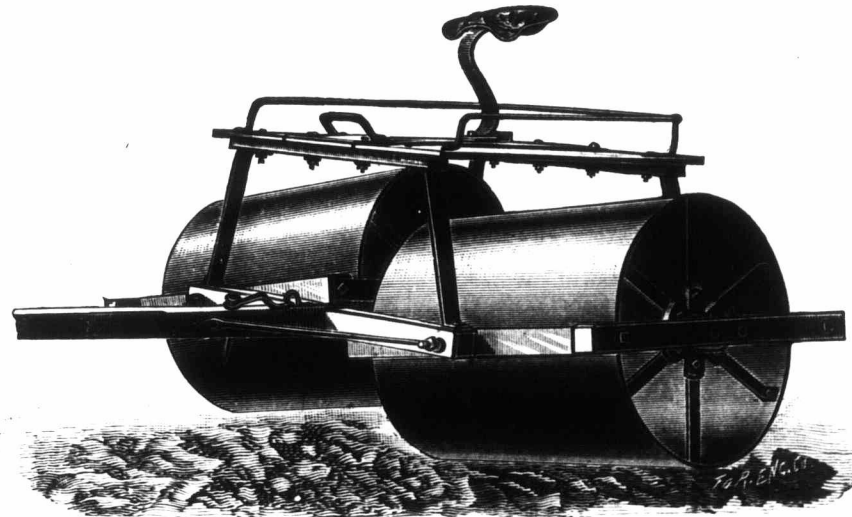
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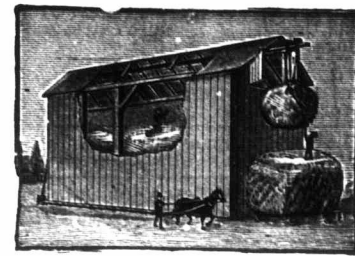
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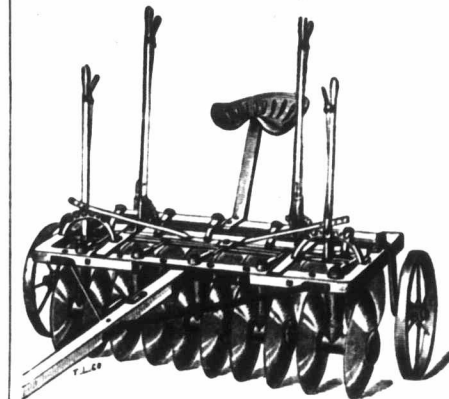
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